CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Affiliated to Bharathidasan University
Nationally Accredited (IV Cycle) with A+ grade by NAAC
Annamalainagar
Tiruchirapalli-620018

Minutes of the Eleventh Meeting of the Academic Council

Date   : 08.02.2025   Time: 11.00 a.m.
Venue : Trust Meeting Hall

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Affiliated to Bharathidasan University
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Annamalainagar, Tiruchirapalli-620018

ELEVENTH MEETING OF THE ACADEMIC COUNCIL

Date : 08.02.2025   Time: 11.00 A.M.
Venue: Trust Meeting Hall

MINUTES

WELCOME AND INTRODUCTORY REMARKS OF THE CHAIRMAN
The Chairman of the Academic Council Dr. V. Sujatha welcomed the gathering to the XI Meeting of the Academic Council

CONFIRMATION OF THE MINUTES OF THE LAST MEETING HELD ON 06.07.2024
The Member Secretary, Dr. Sinthu Janita, read the minutes of the X Meeting of the Academic Council, comprising 19 resolutions (Resolution No. 10/24/01 to Resolution No. 10/24/19). These resolutions pertained to the approval of the change in eligibility criteria for admission in BCA, introduction of Start-Up Acceleration Course, Value Added Courses for 2024-2025, confirmation of the III & IV Semester Syllabus of all undergraduate and postgraduate programs for the 2023-2024 batch, amendments in the curriculum for previous semesters, incorporation of *EMIS, UMIS,* ABC IDs in Examination Application Forms, Hall Tickets, Marksheets and other relevant certificates from the academic year 2024-2025 onwards, and the declaration of the results of April 2024 examinations.

RESOLUTION NO.11/24/01
To consider and approve the introduction of new programmes

i.   B.Com Business Analytics
ii.   B.Sc Artificial Intelligence and Machine Learning
iii.   B.Sc Fashion Technology and Costume Designing

from the academic year 2025-2026 and onwards and forward to the Governing Body for further approval and implementation

The chairman of the Board of Studies of Commerce Dr N Savithri presented the Programme Structure and syllabus of B.Com Business Analytics. The chairman of the Board of Studies of Information Technology Dr M Parveen presented the Programme Structure and syllabus of B.Sc Artificial Intelligence and Machine Learning. The syllabus for B.Sc Fashion Technology and Costume Designing will be taken from Bharathidasan University Syllabus

Considered and approved the introduction of new programmes

i.   *B.Com Business Analytics*
ii.   *B.Sc Artificial Intelligence and Machine Learning*

iii.   B.Sc Fashion Technology and Costume Designing

*from the academic year 2025-2026 and is forwarded to the Governing Body for further approval and implementation as given in **Annexure A***

RESOLUTION NO.11/24/02
To approve the introduction of the Health and Wellness course for all Undergraduate programmes in Semester III of the 2024-2025 batch and onwards

*Approved the introduction of Health and Wellness course for all Undergraduate programmes with 2 hours and 1 credit in Semester III of 2024-2025 batch and onwards as given in **Annexure B***

RESOLUTION NO.11/24/03
To consider and approve the inclusion of NCC as an Elective course for NCC cadets of all Undergraduate programmes of the 2024-2025 batch and onwards

*Considered and approved the introduction of the NCC Course as one of the Choices in Generic Elective Course-I in Semester-III for NCC cadets only, as a non-compulsory course for all Undergraduate programmes of the 2024-2025 batch and onwards **as given in Annexure C***

RESOLUTION NO.11/24/04

To consider and approve:

a. The V and VI Semester syllabus of B.A Tamil for the 2023-2024 batch and onwards.
b. The shifting of the CC Araichi Nerimuraigal to the III Semester of M.A Tamil for the 2025-2026 batch and onwards

Considered and approved

a. *The ratification of the credits of the CCIX- Nambiagapporul (23UTA5CC9) as 5, credits of Courses in DSE-I as 3 in Semester V, CCXII- Purapporulvenbamalai (23UTA6CC13) as 4, CCXIV-Sanga Illakkiyam Agam (23UTA6CC14) as 4, CCXVI- Thanippadal Illakiyam (23UTA6CC16) as 4, credits of Courses in DSE-II as 3, Project Work (23UTA6PW) as 3, the ratification of the hours and syllabus of CCXV- Sanga Illakkiyam Puram (23UTA6CC15) as 5, in Semester VI of B.A Tamil for the 2023-2024 batch and onwards.*
b. *The shifting of the CC- Araichi Nerimuraigal to the III Semester of M.A Tamil for the 2025-2026 batch and onwards*

*as recommended by the Board of Studies in Tamil and moved by the Chairman **Dr S Ramalakshmi** in the meeting and the same be approved as given in **Annexure D***

RESOLUTION NO.11/24/05

To consider and approve the V and VI Semester syllabus of B.A English for the 2023-2024 batch and onwards.

Considered and approved the ratification in the credits of the CCIX-Shakespeare (23UEN5CC9) as 5, credits of Courses in DSE-I as 3 in Semester V, CCXIII- English Language Teaching (23UEN6CC13) as 3, CCXV- Commonwealth Literature (23UEN5CC15) as 4, credits of Courses in DSE-II as 3, Project Work (23UEN6PW) as 4 and the introduction of CCIV- Canadian Literature (23UEN5CC14) with 5 hours and 3 credits in Semester VI of B.A English of the 2023-2024 batch and onwards.

as recommended by the Board of Studies in English and moved by the PG Chairman Dr P Urmila in the meeting and the same be approved as given in Annexure E

RESOLUTION NO.11/24/06

To consider and approve:

a. The V and VI Semester syllabus of BSW for the 2023-2024 batch and onwards.
b. The ratification in the syllabus of CP-I in Semester II of BSW for the 2024-2025 batch and onwards.
c. The ratification in the syllabus CCIV and CCV in Semester II of MSW for the 2024-2025 batch and onwards

Considered and approved

a. *The ratification in the credits of the CCVII - Family & Child Welfare (23USW5CC7) as 5, credits of courses in DSE-I as 3,the ratification in the title of CP-III as Field Work -III (P) (23USW5CC3P) in Semester V, CCX-Theories of Social Work (23USW6CC10) as 5 credits, CCXI-Welfare of the Persons with Disability (23USW6CC11) as 3, credits of courses in DSE-II as 3 and Project Work (23USW6PW) as 3 in Semester VI of BSW of the 2023-2024 batch and onwards*

b. *The ratification in the syllabus of CP-I- Field Work-I 24USW2CC1P in Semester II of BSW for the 2024-2025 batch and onwards.*

c. *The ratification in the syllabus CCIV- Social Work Research and Social Statistics (24PSW2CC4) and CCV- Social Welfare Administration, Social Policy and Social Legislations (24PSW2CC5) in Semester II of MSW for the 2024-2025 batch and onwards*

as recommended by the Board of Studies in Social Work and moved by the Head of the Department Dr G Mettilda Bhuvaneswari in the meeting and the same be approved as given in Annexure F

RESOLUTION NO.11/24/07

To consider and approve the V and VI Semester syllabus of B.B.A for the 2023-2024 batch and onwards.

Considered and approved the ratification in the credits of the CCVII-Entrepreneurial Development (23UBA5CC7) as 5, credits of Courses in DSE-I as 3 in Semester V, CCXI Human Resource Management (23UBA6CC11) as 4, CCXII Financial Management (23UBA6CC12) as 4, CCXIII Services Marketing (23UBA6CC13) as 3, credits of Courses in DSE-II as 3 and Project Work (23UBA6PW) as 4 in Semester VI of B.B.A of the 2023-2024 batch and onwards.

*as recommended by the Board of Studies in Business Administration and moved by the Chairman **Dr J Tamil Selvi** in the meeting and the same be approved as given in **Annexure G***

RESOLUTION NO.11/24/08

To consider and approve:

a. The V and VI Semester syllabus of B.Com for the 2023-2024 batch and onwards
b. The V and VI Semester syllabus of B.Com (CA) for the 2023-2024 batch and onwards.
c. The PSO, Curriculum Structure, I to VI Semesters Programme Structure and I Semester syllabus of B.Com Business Analytics for the 2025-2026 batch and onwards.

Considered and approved
a. *The ratification in the credits of the CCVIII- Corporate Accounting (23UCO5CC8) as 5, credits of Courses in DSE-I as 3 in Semester V, CCXII- Direct Taxation (23UCO6CC12) as 4, CCXIII- Management Accounting (23UCO6CC13) as 4, CCXIV- Auditing (23UCO6CC14) as 3, credits of Courses in DSE-II as 3 and Project Work (23UCO6PW) as 4 in Semester VI of B.Com of the 2023-2024 batch and onwards.*
b. *The ratification in the credits of the CCVIII- Accounting for Managerial Decisions (23UCC5CC8) as 5, credits of Courses in DSE-I as 3 in Semester V, CCXI- Corporate Accounting (23UCC6CC11) as 4, CCXII- Direct Taxation (23UCC6CC12) as 4, CCXIII-Entrepreneurial Development (23UCC6CC13) as 3, credits of Courses in DSE-II as 3 and Project Work (23UCC6PW) as 4 in Semester VI of B.Com(CA) for the 2023-2024 batch and onwards*
c. *The PSO, Curriculum Structure, I to VI Semesters Programme Structure and I Semester syllabus of B. Com Business Analytics for the 2025-2026 batch and onwards.*

*as recommended by the Board of Studies in Commerce and moved by the Chairman **Dr N Savithri** in the meeting and the same be approved as given in **Annexure H***

RESOLUTION NO.11/24/09

To consider and approve:

a. The V and VI Semester syllabus of B.Sc Mathematics for the 2023-2024 batch and onwards
b. Ratification of credits for Core Course-VIII Biostatistics of B.Sc Biotechnology for the 2023-2024 batch and onwards
c. The syllabus of FAC-I and FAC-II of B.Sc Artificial Intelligence and Machine Learning for the 2025-2026 batch and onwards

Considered and approved

a. *The ratification of credits for CCIX-Abstract Algebra (23UMA5CC9) as 5, CCXI- Statics (23UMA5CC11) as 4, CCXII- Discrete Mathematics (23UMA5CC12) as 4 and the credits of courses of DSE-I as 3 in Semester V and the ratification of credits for CCXIII - Linear Algebra (23UMA5CC13) as 4, CCXIV- Complex Analysis(23UMA5CC14) as 4 and the credits of courses of DSE-II as 3 in Semester VI of B.Sc Mathematics for the 2023-2024 batch and onwards*
b. *Ratification of credits for Core Course-VIII Biostatistics (23UBT5CC8) as 5 of B.Sc Biotechnology offered by the Department of Mathematics for the 2023-2024 batch and onwards*
c. *The syllabus of FAC-I Linear Algebra and Calculus (25UAM1AC1) and FAC-II Probability and Statistics (25UAM1AC2) of B.Sc Artificial Intelligence and Machine Learning for the 2025-2026 batch and onwards*

as recommended by the Board of Studies in Mathematics and moved by the Chairman **Dr S Premalatha** *in the meeting and the same be approved as given in* **Annexure I**

RESOLUTION NO.11/24/10

To consider and approve:

a. The V and VI Semester syllabus of B.Sc Physics for the 2023-2024 batch and onwards
b. Ratification of the syllabus of CPIV- Electronics(P) (23PPH4CC4P) with credits 5 and the ratification of credits of the Project Work (23PPH4PW) as 4 of M.Sc Physics for the 2023-2024 batch and onwards

Considered and approved

a. *The ratification of credits for CCVI-Optics (23UPH5CC6) as 5, CCVII- Atomic and Nuclear Physics (23UPH5CC7) as 5, CCVIII- Analog Electronics (23UPH5CC8) as 5 and the credits of courses of DSE-I as 3 in Semester V and the ratification of credits for CCIX- Fundamentals of Microprocessor (23UPH6CC9) as 5, CCX- Classical*

and Quantum Physics(23UPH6CC10) as 4 and the credits of courses of DSE-II as 3 in Semester VI of B.Sc Physics for the 2023-2024 batch and onwards

b. The ratification of the syllabus of CPIV- Electronics(P) (23PPH4CC4P) with credits 5 and ratification of credits of the Project Work (23PPH4PW) as 4 of M.Sc Physics for the 2023-2024 batch and onwards

*as moved by the Chairman **Dr G Maheswari** in the meeting and the same be approved as given in **Annexure J***

RESOLUTION NO.11/24/11

To consider and approve:

a. The V and VI Semester syllabus of B.Sc Chemistry for the 2023-2024 batch and onwards
b. Ratification of syllabus and credits of CPII and CPIII of M.Sc Chemistry for the 2023-2024 batch and onwards

Considered and approved

a. *The ratification of credits for CCVI- Inorganic Chemistry (23UCH5CC6) as 5, CCVII- Organic Chemistry-I (23UCH5CC7) as 5, CCVIII- Physical Chemistry-I (23UCH5CC8) as 5 and the credits of courses of DSE-I as 3 in Semester V and the ratification of credits for CCX-Physical Chemistry-II (23UCH6CC10) as 4, CPVI- Gravimetric Analysis and Physical Parameter(P)(23UCH6CC6P) as 3 and the credits of the courses of DSE-II as 3 in Semester VI of B.Sc Chemistry for the 2023-2024 batch and onwards*
b. *The ratification of syllabus of CPII- Organic Chemistry-II(P) (22CPH2CC2P) with 5 credits and ratification of credits of the CPIII- Inorganic Chemistry-I(P) (22CPH2CC3P) with 5 credits of M.Sc Chemistry for the 2024-2025 batch and onwards*

*as recommended by the Board of Studies in Chemistry and moved by the Chairman **Dr P. Pungayee @ Amirtham** in the meeting and the same be approved as given in **Annexure K***

RESOLUTION NO.11/24/12

To consider and approve:

a. The V and VI Semester syllabus of B.Sc Computer Science for the 2023-2024 batch and onwards
b. The V and VI Semester syllabus of B.Sc Computer Science with Cognitive Systems for the 2023-2024 batch and onwards

Considered and approved

a. *The introduction of the CCV- Programming in PHP (23UCS5CC5) and*

CPVI- Programming in PHP(P) (23UCS5CC6P), ratification of credits for CCVI-Operating Systems (23UCS5CC6) as 5, CCVII- Computer Networks (23UCS5CC7) as 5, and the credits of the courses of DSE-I as 3 in Semester V and the ratification of credits for CPVIII-Open Source Technologies(P)(23UCS6CC8P) and the credits of the courses of DSE-II as 3 in Semester VI of B.Sc Computer Science for the 2023-2024 batch and onwards

b. *The ratification of the credits of CPVIII- Software Testing(T & P) (23UCG5CC8) with 4 credits, CCIX- Introduction to Digital Technologies(T & P)(23UCG5CC9) with 5 credits, CCX- Client Relationship Management (23UCG5CC10) in Semester V and the credits of CCXII – Python Programming (T & P) (23UCG6CC12) with 5 credits, CCXIII – Data Structures & Algorithms (23UCG6CC13) with 5 credits in Semester VI of B.Sc Computer Science with Cognitive Systems for the 2023-2024 batch and onwards*

*as recommended by the Board of Studies in Computer Science and moved by the Chairman **Dr Sinthu Janita Prakash** in the meeting and the same be approved as given in **Annexure L***

RESOLUTION NO.11/24/13

To consider and approve the V and VI Semester syllabus of BCA for the 2023-2024 batch and onwards

Resolved to approve the ratification of credits for CCVI- Programming in PHP (23UCA5CC6) as 5, CPV- PHP with MySQL (23UCA5CC5P) as 3 credits, CCVII- Software Engineering (23UCA5CC7) as 5 and the credits of the courses of DSE-I as 3 in Semester V and the ratification of credits for CCIX-Computer Networks (23UCA6CC9) as 5, CCX- Operating Systems (23UCA6CC10) as 4 and the credits of the courses of DSE-II as 3 in Semester VI of BCA for the 2023-2024 batch and onwards

*as recommended by the Board of Studies in Computer Applications and moved by the Chairman **Dr R Merlin Packiam** in the meeting and the same be approved as given in **Annexure M***

RESOLUTION NO.11/24/14

To consider and approve

a. The ratification of credits of CCV in Semester IV, and the confirmation of V and VI Semester syllabus of B.Sc Information Technology for the 2023-2024 batch and onwards

b. The PSO, Curriculum Structure, I to VI Semesters Programme Structure and I Semester syllabus of B.Sc Artificial Intelligence and Machine Learning for the 2025-2026 batch and onwards

c. The syllabus of CCII and FACI of B.Com Business Analytics for the 2025-2026 batch and onwards

Considered and approved

a. *The ratification of credits of CCV- Programming in JAVA (23UIT4CC5) as 5 in Semester IV, CCVI-Operating Systems (23UIT5CC6) as 5, CCVII- Programming in Python (23UIT5CC7) as 5, CPV- Programming in Python(P) (23UIT5CC5P) as 3 and the credits of courses of DSE-I as 3 in Semester V, the credits of CCIX- Computer Networks (23UIT6CC9) as 5, CCX- Web Technologies (23UIT6CC10) as 4 and the credits of the courses of DSE-II as 3 in Semester VI for BSc Information Technology of 2023-2024 batch and onwards*
b. *The PSO, Curriculum Structure, I to VI Semesters Programme Structure and I Semester syllabus of B.Sc Artificial Intelligence and Machine Learning for the 2025-2026 batch and onwards*
c. *The syllabus of CCII- Fundamentals of Business Analytics (25UCB1CC2) and FACI- Excel for Financial Decisions(P) (25UCB1AC1P) of B.Com Business Analytics for the 2025-2026 batch and onwards*

*as recommended by the Board of Studies in Information Technology and moved by the Chairman **Dr M Parveen** in the meeting and the same be approved as given in **Annexure N***

RESOLUTION NO.11/24/15

To consider and approve the V and VI Semester syllabus of B.Sc Microbiology for the 2023-2024 batch and onwards

Resolved to approve the ratification of credits for CCVI- Medical Microbiology (23UMB5CC6) as 5, CCVII- Agricultural and Environmental Microbiology (23UMB5CC7) as 5, CCVIII- Microbial Biotechnology (23UMB5CC8) as 5, CPV- Medical Microbiology, Agricultural and Environmental Microbiology and Microbial Biotechnology as 3 and the credits of the courses of DSE-I as 3 in Semester V and the ratification of credits for CCIX- Fermentation Technology (23UMB6CC9) as 5, CCX- Food and Dairy Microbiology (23UMB6CC10) as 4 and the credits of the courses of DSE-II as 3 and the introduction of DSEII(B)- Microbial Ecology (23UMB6DSE2B) in Semester VI of B.Sc Microbiology for the 2023-2024 batch and onwards

*as recommended by the Board of Studies in Microbiology and moved by the Chairman **Dr B Thamilmaraiselvi** in the meeting and the same be approved as given in **Annexure O***

RESOLUTION NO.11/24/16
To consider and approve the V and VI Semester syllabus of B.Sc Biotechnology for the 2023-2024 batch and onwards

Resolved to approve the ratification of credits for CCVI- Plant Biotechnology (23UBT5CC6) as 5, CCVII- Animal Biotechnology (23UBT5CC7) as 5, and the credits of the courses of DSE-I as 3 in Semester V and the ratification of credits for CCIX-Microbial and Environmental Biotechnology (23UBT6CC9) as 5, CCX-

IPR, Biosafety and Bioethics (23UBT6CC10) as 4 and the credits of the courses of DSE-II as 3 in Semester VI of B.Sc Biotechnology for the 2023-2024 batch and onwards

*as recommended by the Board of Studies in Biotechnology and moved by the Chairman **Dr R Rameswari** in the meeting and the same be approved as given in **Annexure P***

RESOLUTION NO.11/24/17

To consider and approve the V and VI Semester syllabus of B.Sc Nutrition & Dietetics for the 2023-2024 batch and onwards

Resolved to approve the ratification of credits for CCVI – Food Processing and Preservation (23UND5CC6) as 5, CCVII- Basics in Research Methodology and Computer Applications (23UND5CC7) as 5, CCVIII- Community Nutrition (23UND5CC8) as 5 and the credits of the courses of DSE-I as 3 in Semester V *and the ratification of credits for CCIX- Perspectives of Home Science (23UND6CC9) as 5, CCX- Food Service Management (23UND6CC10) as 4 and the courses of DSE-II as 3 in Semester VI of B.Sc Nutrition and Dietetics for the 2023-2024 batch and onwards*

*as recommended by the Board of Studies in Food Service Management and Dietetics and moved by the Chairman **Dr B Thanuja** in the meeting and the same be approved as given in **Annexure Q***

RESOLUTION NO.11/24/18

Matters relating to the Controller of Examinations

a. *The details uploaded to the National Academic Depository (NAD) were recorded as on 08.02.2025*

   Total Marksheets Uploaded   - 24735

   APAAR ID Created   - 4367

   ABC Credit Data   - 13023

b. *Resolved to approve the Conduct of End Semester Examinations and the Results of November 2024 were confirmed as given in **Annexure R***

RESOLUTION NO.11/24/19

Resolved to approve the incorporation of SWAYAM Courses in the curriculum for all Undergraduate and Postgraduate programmes from 2025-2026 onwards

  • Students are advised to complete one course from SWAYAM in Semester III

- Hours allocated for GEC-I in Semester III will be utilized for SWAYAM Courses

- The course, marks, and 2 credits earned from Swayam courses will be incorporated for GEC-I

- Students of BA Tamil, MA Tamil and BSc Computer Science with Cognitive Systems are exempted from Swayam courses

- For Undergraduate programmes, GEC-I, the choices will be Basic Tamil/NCC/SWAYAM

Dr V Sujatha
(Chairman of the Academic Council & The Principal)

CAUVERY COLLEGE FOR WOMEN (Autonomous)

Affiliated to Bharathidasan University
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Tiruchirapalli-620018

THE MINUTES OF THE ELEVENTH MEETING OF THE ACADEMIC COUNCIL

The eleventh meeting of the Academic Council was held on Saturday, February 8ᵗʰ, 2025, at 11:00 a.m. in the Trust Meeting Hall under the Chairmanship of **Dr. V. Sujatha**. The following members were present.

S.No	Members	Designation	Signature
Chairman			
1	Dr. V. Sujatha	Chairman of Academic Council Cauvery College for Women (A)	V.Sujatha
University Nominees			
2	Dr.L.Ganesan	Professor & Chair School of Social Sciences Dept.of Economics Bharathidasan University, Trichy	8/2/25
3	Dr. P. Muruganandam	Professor Dept. of Physics Bharathidasan University, Trichy.	08/02/2025
4	Dr. T. Sivasudha	Professor Dept. of Environmental Biotechnology Bharathidasan University, Trichy.	T. Sivasudha 08/02/25
Academic Experts			
5	Dr. S. Senthilnathan	Director (FAC), UGC-HRDC Associate Professor & Deputy Coordinator UGC-SAP (DRS) Department of Educational Technology Bharathidasan University, Tiruchirappalli	08/12/2025
6	Dr. D. I. George Amalarethinam	Principal Associate Professor & Head Dept. of Computer Science Jamal Mohamed College (A), Trichy.	
Industry Expert			
7	Mr. Derrick Alex	AGM Operations V Dart Technologies. Pvt. Ltd.	
Special Invitees			
8	Dr.C. Prahalathan	Director i/c Council for College & Curriculum Development Bharathidasan University, Trichy	
Internal Members			
Heads of the Departments			
9	Dr. S. Ramalakshmi	Principal I/C & HoD of Tamil	8/2/25

10	Dr. P. Urmila	HoD of English (PG)	
11	Dr. S. Metilda Buvaneswari	HoD of Social Work	
12	Dr. J. Tamil Selvi	HoD of BBA	
13	Dr. N. Savithri	Dean of Arts & HoD of Commerce	
14	Dr. S. Premalatha	HoD of Mathematics	
15	Dr. R. Meenakshi	Asso. Prof, Dept of Physics	
16	Dr. P. Pungayee @ Amirtham	HoD of Chemistry	
17	Dr. R. Merlin Packiam	HoD of Computer Applications	
18	Dr. M. Parveen	HoD of Information Technology	
19	Dr. B. Tamilmaraiselvi	HoD of Microbiology	
20	Dr. R. Rameshwari	HoD of Biotechnology	
21	Dr. B. Thanuja	HoD of Food Service Management & Dietetics	
Senior Faculty in the College by Rotation			
22	Dr. S. Shameem	Vice Principal	
23	Dr. G. Kanaga	Dean of Alumni Relations	
24	Ms. V .Ramya	Controller of Examinations	
25	Dr. N. Sivapriya	Deputy Controller of Examinations	
26	Dr. B Baby Shakila	Director of Physical Education	
27	Ms. N. Girubagari	Head in Charge, Computer Science	
Special Invitee			
28	Major. P. Kavitha	Associate NCC Officer	
29	Dr.R.Suba	IIC Convener	
Student Representatives			
Member Secretary			
30	Dr. V. Sinthu Janita Prakash	Dean of Science, IQAC Coordinator, Professor & HoD of Computer Science	

THE FOLLOWING MEMBERS HAD EXPRESSED THEIR INABILITY TO ATTEND THE MEETING DUE TO THEIR PRE-OCCUPATION.

S.No	Members	Designation
1	Dr K.Karunakaran	Chief Executive Officer Hindustan Educational Institutions Coimbatore
2	Dr. H. Krishnaveni	Course Coordinator, B.Sc Computer Science with Cognitive Systems
3	Dr S Jeyashree Agarwal	HoD of English (UG)
4	Ms. K. Harini	III B.Sc N & D
5	Ms. M. Priyadharshini	III BBA

GPS Map Camera
Tiruchirappalli, Tamil Nadu, India
Rmmj+2h2, Tiruchirappalli, Tamil Nadu 620003, India
Lat 10.832405° Long 78.68166°
08/02/2025 11:02 AM GMT +05:30

GPS Map Camera
Tiruchirappalli, Tamil Nadu, India
Rmmj+2h2, Tiruchirappalli, Tamil Nadu 620003, India
Lat 10.832336° Long 78.681552°
08/02/2025 11:02 AM GMT +05:30

GPS Map Camera
Tiruchirappalli, Tamil Nadu, India
24, Annamalai Nagar Main Rd, Annamalai Nagar, Woraiyur, Tiruchirappalli, Tamil Nadu 620003, India
Lat 10.832254° Long 78.681573°
08/02/2025 11:33 AM GMT +05:30

ANNEXURE A

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Internal	External	Total
I	I	Language Course - I (LC)	Pothutamil - I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammer and History of Sanskrit Literature	23ULS1						
			Foundation Course : Paper I – French - I	23ULF1						
	II	English Language Course - I (ELC)	General English - I	23UE1	6	3	3	25	75	100
	III	Core Course - I (CC)	Financial Accounting - I	25UCB1CC1	6	5	3	25	75	100
		Core Course - II (CC)	Fundamentals of Business Analytics	25UCB1CC2	6	5	3	25	75	100
		First Allied Course - I (AC)	Excel for Financial Decision (P)	25UCB1AC1P	4	3	3	40	60	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal - Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**21**				**600**

II	I	Language Course - II (LC)	Pothutamil - II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	22ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French -II	22ULF2						
	II	English Language Course - II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course - III (CC)	Financial Accounting - II	25UCB2CC3	6	5	3	25	75	100
		Core Course - IV (CC)	Fundamentals of Marketing	25UCB2CC4	5	5	3	25	75	100
		First Allied Course - II (AC)	Statistics for Business Analytics	25UCB2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
	Extra Credit Course		SWAYAM Online Course	As per UGC Recommendations						
		Total			**30**	**21**				**600**

	Part	Course	Title	Code	Hours	Credits	Exam	Int.	Ext.	Total
III	I	Language Course - III (LC)	Pothutamil - III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course - III (ELC)	Learning Grammar through Literature - I	23UE3	6	3	3	25	75	100
	III	Core Course - V (CC)	Cost and Management Accounting	25UCB3CC5	5	5	3	25	75	100
		Core Course - VI (CC)	Python Programming	25UCB3CC6	5	5	3	25	75	100
		Second Allied Course – I (AC)	Goods and Services Tax	25UCB3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course – I (GEC)	Office Management	25UCB3GEC1	2	2	3	25	75	100
			Basic Tamil - I	22ULC3BT1						
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	Swayam Online Course		As per UGC Recommendations					
		Total			**30**	**22**				**700**

	Part	Course	Title	Code	Hours	Credits	Exam	Int.	Ext.	Total
IV	I	Language Course - IV (LC)	Pothutamil - IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Transalation	23ULS4						
			Intermediate French -II	22ULF4						
	II	English Language Course-IV (ELC)	Learning Grammar through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course - VII (CC)	Corporate Accounting	25UCB4CC7	5	5	3	25	75	100
		Core Practical - I (CP)	Python Programming (P)	25UCB4C1P	5	5	3	40	60	100
		Second Allied Course – II (AC)	Optimization Techniques	25UCB4AC4	4	3	3	25	75	100
		Internship		25UCB4INT	-	2	-	-	-	100
	IV	Generic Elective Course– II (GEC)	E-Business	25UCB4GEC2	2	2	3	25	75	100
			Basic Tamil - II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course– I (SEC)	Accounting Package (P)	25UCB4SEC1P	2	2	3	40	60	100
		Extra Credit Course	Swayam Online Course		As per UGC Recommendations					
		Total			**30**	**25**				**800**

V	III	Core Course – VIII (CC)	Financial Management	**25UCB5CC8**	6	**5**	3	25	75	100
		Core Course - IX (CC)	Data Mining and Business Intelligence	**25UCB5CC9**	5	5	3	25	75	100
		Core Practical -II (CP)	Data Mining and Business Intelligence (P)	**25UCB5C2P**	5	5	3	40	60	100
		Core Course – X (CC)	Human Resource Management	**25UCB5CC10**	5	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	Legal Aspects of Indian Business	**25UCB5DSE1A**	5	**3**	3	25	75	100
			Corporate Social Responsibility	**25UCB5DSE1B**						
			Mobile Applications	**25UCB5DSE1C**						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kushal Professional Skills	**22UGPS**	2	2	-	100	-	100
		Skill Enhancement Course– II (SEC)	Skills for Competitive Examination	**25UCB5SEC2**	2	2	3	-	100	100
		Extra Credit Course	Swayam Online Course	As per UGC Recommendations						
		Total			**30**	**27**				**700**

VI	III	Core Course - XI (CC)	Direct Taxation	**25UCB6CC11**	5	**4**	3	25	75	100
		Core Course – XII (CC)	Artificial Intelligence in Business Practices	**25UCB6CC12**	5	**4**	3	25	75	100
		Core Course - XIII (CC)	Data Analysis using SPSS	**25UCB6CC13**	4	**3**	3	25	75	100
		Core Course - XIV (CC)	Cyber Security	**22UGCS**	5	4	3	25	75	100
		Discipline Specific Elective– II (DSE)	Business Communication	**25UCB6DSE2A**	5	**3**	3	25	75	100
			Financial Services	**25UCB6DSE2B**						
			Organisation Dynamics	**25UCB6DSE2C**						
		Project	Project Work	**25UCB6PW**	5	**4**	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	**22UGGS**	1	1	-	100	-	100
	V	Extension Activity		**23UGEA**	-	1	-	-	-	-
		Total			**30**	**24**				**700**
		Grand Total			**180**	**140**				**4100**

Courses & Credits for B.Com. Business Analytics

Part	Course	No. of Courses	Credits	Total
I	Tamil/ Other Language	4	3	12
II	English	4	3	12
III	Core (Theory& Practical)	16	75	99
	Project Work	1	4	
	Internship	1	2	
	First Allied	2	6	
	Second Allied	2	6	
	DSE	2	6	
IV	GEC	2	4	16
	SEC	2	4	
	AECC-I Universal Human Values	1	2	
	AECC-II-Environmental Studies	1	2	
	AECC-III-Innovation and Entrepreneurship	1	1	
	AECC-IV-Professional Skills	1	2	
	Gender Studies	1	1	
V	Extension Activities	--	1	01
		4100		140

Semester I	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**		**CATAGORY**	**Hrs/ Week**	**CREDITS**
25UCB1CC1	**FINANCIAL ACCOUNTING – I**		**CORE**	**6**	**5**

Course Objective

➢ To understand the basic accounting concepts and standards.
➢ To know the basis for calculating business profits.
➢ To familiarize with the accounting treatment of depreciation.
➢ To learn the methods of calculating profit for single entry system.
➢ To gain knowledge on the accounting treatment of insurance claims.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define and outline the accounting concepts, rectification of errors and Bank Reconciliation Statement.	**K1**
CO2	Explain the purpose of financial accounting and Non-Profit Organisation	**K2**
CO3	Apply the accounting procedures for recording various financial transactions.	**K3**
CO4	Analyse the various methods of providing depreciation and Determine the royalty accounting treatment and claims from insurance companies in case of loss of stock.	**K4, K5**
CO5	Analyse and evaluate financial statements in any given context or situation	**K4, K5**

Mapping of CO with PO and PSO

COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	2	2	3
CO2	3	3	3	3	3	3	3	2	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	2	3	3	2	2	2	2	2
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation "-" Indicates there is no Correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	**Fundamentals of Financial Accounting** Financial Accounting – Meaning, Definition, Objectives, Basic Accounting Concepts and Conventions - Journal, Ledger Accounts– Subsidiary Books — Trial Balance - Classification of Errors – Rectification of Errors – Preparation of Suspense Account – Bank Reconciliation Statement - Need and Preparation.	18	CO1,CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Final Accounts** Final Accounts of Sole Trading Concern- Capital and Revenue Expenditure and Receipts – Preparation of Trading, Profit and Loss Account and Balance Sheet with Adjustments. **Accounts of Non-Profit Organisation** Receipt & Payment Accounts – Income &Expenditure Accounts – Balance Sheet – Adjustments.	21	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Depreciation and Bills of Exchange** Depreciation - Meaning – Objectives – Accounting Treatments - Types - Straight Line Method – Diminishing Balance method – Conversion method. Units of Production Method – Cost Model vs. Revaluation **Bills of Exchange** – Definition – Specimens – Discounting of Bills – Endorsement of Bill – Collection – Noting – Renewal – Retirement of Bill under rebate	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Accounting from Incomplete Records – Single Entry System** Incomplete Records – Meaning and Features – Limitations – Difference between Incomplete Records and Double Entry System – Methods of Calculation of Profit – Statement of Affairs Method – Preparation of final statements by Conversion method.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Royalty and Insurance Claims** Meaning – Minimum Rent – Short Working – Recoupment of Short Working – Lessor and Lessee – Sublease – Accounting Treatment. **Insurance Claims** – Calculation of Claim	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

	Amount-Average clause (Loss of Stock only)			
VI	**Self Study for Enrichment (Not to be included for External Examination)** Difference between Balance Sheet and Trial Balance, Adjustment and Closing Entries – Negotiable Instrument, Difference between Promissory note and Bills of Exchange.	-	**CO1, CO2, CO3, CO4, CO5**	**K1, K2, K3, K4, K5**

Distribution of Marks: Theory 20% & Problem 80%

Text Books

1. S. P. Jain and K. L. Narang Financial Accounting- I, Kalyani Publishers, New Delhi.
2. S.N. Maheshwari, Financial Accounting, Vikas Publications, Noida.
3. ShuklaGrewal and Gupta, "Advanced Accounts", volume 1, S.Chand and Sons, New Delhi.
4. Radhaswamy and R.L. Gupta: Advanced Accounting, Sultan Chand, New Delhi.
5. R.L. Gupta and V.K. Gupta, "Financial Accounting", Sultan Chand, New Delhi.

Reference Books

1. Dr.Arulanandan and Raman: Advanced Accountancy, Himalaya Publications, Mumbai.
2. Tulsian , Advanced Accounting, Tata McGraw Hills, Noida.
3. Charumathi and Vinayagam, Financial Accounting, S.Chand and Sons, New Delhi.
4. Goyal and Tiwari, Financial Accounting, Taxmann Publications, New Delhi.
5. Robert N Anthony, David Hawkins, Kenneth A. Merchant, Accounting: Textand Cases. McGraw-Hill Education, Noida.

Web References

1. https://www.slideshare.net/mcsharma1/accounting-for-depreciation-1
2. https://www.slideshare.net/ramusakha/basics-of-financial-accounting
3. https://www.accountingtools.com/articles/what-is-a-single-entry-system.html

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr. J. Lalithambigai

PG & RESEARCH DEPARTMENT OF COMMERCE
AGENDA FOR THE SPECIAL BOARD OF STUDIES

DATE   **:**   **06.02.2025**

VENUE   **:**   **Modern Lab**

TIME   **:**   **11:00 a.m.**

The Agenda for the meeting is as follows:

ITEM NO: SBOS/01/25/01

To consider and to approve the introduction of the new programme **B.Com. Business Analytics** from 2025-2026 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18.

ITEM NO: SBOS/01/25/02

To consider and to approve the PSO, Programme structure and I semester syllabus for **B.Com. Business Analytics** from 2025-2026 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18.

ITEM NO: SBOS/01/25/03

Any other matter with the permission of the chair.

PG & RESEARCH DEPARTMENT OF COMMERCE

MINUTES OF THE SPECIAL BOARD OF STUDIES

DATE: **06.02.2025**

VENUE: **Modern Lab**

TIME: **11:00 a.m.**

Members Present:

1.	Dr. N. Savithri	**Chairperson**, Professor & Head
2.	Dr. R. Sudha	**Alumna**, Thanthai Periyar Government Arts & Science College, Trichy
3.	Ms. N. Aruna	Member
4.	Dr. S. Shameem	Member
5.	Dr. S. Sudha	Member
6.	Dr. D. Ramya	Member
7.	Dr. C. Subha	Member
8.	Dr. D. Sarala	Member
9.	Ms. Shilpa A. Talreja	Member
10.	Dr. P. Banu	Member
11.	Dr. J. Praba	Member
12.	Dr. J. Lalithambigai	Member
13.	Dr. B. Lavanya	Member
14.	Dr. S. J. Sureya	Member
15.	Ms. S. Praveena	Member
16.	Dr. R. Abirami	Member
17.	Ms. R. Sivamathi	Student Representative
18.	Ms. A. Yazhini	Student Representative

The leave of absence was granted to

- Dr. P. Kavitha   - Member
- Dr. S. Jayalakshmi - Member
- Dr. G. Kanagavalli - Member
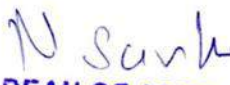
MINUTES OF THE SPECIAL BOS HELD ON 06.02.2025

RESOLUTION NO. SBOS/01/25/01

Considered and approved the introduction of the new programme **B.Com. Business Analytics from** 2025-2026 batch and onwards and is recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy – 18.

RESOLUTION NO. SBOS/01/25/02

Considered and approved the PSO, Programme Structure and **I Semester** syllabus for **Core Course I is Financial Accounting – I (25UCB1CC1)** with 6 hours and 5 credit for **B.Com. Business Analytics** from 2025-2026 batch and onwards and is recommended to the Academic Council, Cauvery **College** for Women (Autonomous), Trichy -18.

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CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with A Grade by NAAC

Annamalai Nagar, Trichy-18

DEPARTMENT OF INFORMATION TECHNOLOGY

SPECIAL BOS MEET

06.02.2025

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Nationally Accredited (IV Cycle) with "A+" Grade by NAAC
Annamalai Nagar, Trichy-18

DEPARTMENT OF INFORMATION TECHNOLOGY

Agenda for the Special BoS Meeting

DATE	:	**06.02.2025**
VENUE	:	**NET LAB**
TIME	:	**10:00 A.M**

The Agenda for the meeting is as follows:

ITEM NO: SBOS/01/25/01

To consider and to approve the PSO, the Programme structure and I Semester syllabus of **B.Sc. Artificial Intelligence & Machine Learning for 2025 -2026** batch onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18.

ITEM NO: SBOS/01/25/02

To consider and to approve the I Semester syllabi of Part III Core Course II and Allied course I of B.Com Business Analytics for 2025 -2026 batch onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18.

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (IV Cycle) with "A+" Grade by NAAC

Annamalai Nagar, Trichy-18

DEPARTMENT OF INFORMATION TECHNOLOGY

MINUTES OF THE SPECIAL BOS MEETING

Board of Studies - Department of Information Technology

DATE	:	**06.02.2025**
VENUE	:	**NET LAB**
TIME	:	**10:00 A.M**

Members Present

1) Dr. M.Parveen   Chairperson, Professor & HoD

2) Dr. J.Sangeetha   Member

3) Dr. A.Bhuvaneswari   Member

4) Dr.S.Suguna Devi   Member

5) Dr.P.Tamilselvi   Member

6) Dr.M.Thangam   Member

MINUTES OF THE SPECIAL BOS MEETING HELD ON 06.02.2025

RESOLUTION NO. SBOS/01/25/01

Considered and approved the PSO,ProgrammeStructure and syllabi of Part III Core Courses of Semester I of B.Sc. Artificial Intelligence & Machine Learning for 2025-2026 batch and onwards and is recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy. **(ANNEXURE -A)**

- In Semester I the Core Course I is Programming in C and Data Structures (25UAM1CC1) with 5 Hours with a total credit of 5

- In Semester I the Core Practical I is Programming in C(P) (25UAM1CC1P) with 3 Hours with a total credit of 3

RESOLUTION NO. SBOS/01/25/02

Considered and approved the Course Objectives, Course Outcomes and syllabi of Part III Core Course II and Allied Course I of Semester I of B.Com Business Analytics for 2025-2026 batch and onwards and is recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy. **(ANNEXURE -B)**

- In Semester I the Core Course I is Fundamentals of Business Analytics (25UCB1CC2) with 6 Instructional Hours with a total credit of 5.

- In Semester I the Allied Course I is Excel for Financial Decision (P) (25UCB1AC1P) with 4 Hours with a total credit of 3.

Signature of the External Member   **Signature of the Chairman**

                                                                                            Dr. M. Parveen

                                             Signature of the Dean

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018
Department of Information Technology
Special Board of Studies Meeting held on 06/02/2025

1. **Introduction of new courses from the academic year 2025-2026 based on the Feedback collected from various Stakeholders**

The Chairman of the Board Dr. M. Parveen, proposed the introduction of the following new course(s) in the curriculum of the B.Sc. Artificial Intelligence & Machine Learning for the year 2025-2026 batch and onwards from the academic Year 2025-2026.

Name of the Programme	Name of the Course	Course Code	Year of Introduction
B.Sc. Artificial Intelligence & Machine Learning	Programming in C and Data Structures	25UAM1CC1	2025
	Programming in C(P)	25UAM1CC1P	2025

Signature of the External Member   Signature of the Chairman

Dr. M. Parveen

Signature of the Dean

Dr.V.Sinthu Janita Prakash

Cauvery College for Women (Autonomous)

B.Sc Artificial Intelligence & Machine Learning

LEARNING OUTCOME-BASED CURRICULUM FRAMEWORK (CBCS –LOCF)

(For the Candidates admitted from the Academic year 2025-2026 and onwards)

PSO NO	Programme Specific Outcomes Students of B.Sc. Artificial Intelligence & Machine Learning will be able to	POs Addressed
PSO1	Analyze problems, identify key requirements, and define clear specifications to develop effective solutions in par with the expected quality standards for Artificial Intelligence and Machine Learning professional.	PO1
PSO2	Utilize technical skills gained from lab exercises, projects, internships, and value-added programs to tackle complex and interdisciplinary challenges.	PO4
PSO3	Design, Analyze, Interpret and execute AI problems and draw actionable conclusions for strategic decision-making.	PO2
PSO4	Develop ground-breaking ideas in artificial intelligence and machine learning domain to implement real world applications	PO4
PSO5	Adapt to modern platforms to enhance employability, foster entrepreneurship, and pursue higher education opportunities effectively	PO3

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. /	Credits	Hrs	Int.	Ex	Total
								Exam Marks		
I	I	Language Course -I (LC)	பொதுத்தமிழ் - 1	23ULT1	6	3	3	25	75	100
			Hindi Ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry,Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I- French – I	23ULF1						
	II	English Language Course- I(ELC)	General English - I	23UE1	6	3	3	25	75	100
	III	Core Course – I(CC)	Programming in C and Data Structures	25UAM1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Programming in C(P)	25UAM1CC1P	3	3	3	40	60	100
		First Allied Course-I(AC)	Mathematical Foundations for Computing	25UAM1AC1	4	3	3	25	75	100
		First Allied Course- II(AC)	Statistical Methods for Data Analysis	25UAM1AC2	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal- Universal Human Values	23UGVE	2	2		100		100
		Total			30	22				700
II	I	Language Course- II(LC)	பொதுத்தமிழ்- II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar – II	22ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French – II	22ULF2						
	II	English Language Course- II(ELC)	General English- II	23UE2	6	3	3	25	75	100

II										
	III	Core Course – II (CC)	Programming in Python	25UAM2CC2	5	5	3	25	75	100
		Core Practical - II (CP)	Programming in Python & R Lab	25UAM2CC2P	2	2	3	40	60	100
		Core Course-III(CC)	R Programming	25UAM2CC3	3	3	3	25	75	100
		First Allied Course-III (AC)	Optimization Techniques	25UAM2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II(AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course - III(AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
Total					**30**	**22**				**800**

II I										
	I	Language Course-III (LC)	பொதுத்தமிழ்-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course- II (ELC)	Learning Grammar Through Literature- I	23UE3	6	3	3	25	75	100
		Core Course– IV(CC)	RDBMS and NoSQL	25UAM3CC4	6	5	3	25	75	100

II	Core Practical - III(CP)	RDBMS and NoSQL(P)	25UAM3CC3P	3	3	3	40	60	100
	Second Allied Course-I(AC)	Principles of Electronics	25UAM3AC4	4	3	3	25	75	100
	Second Allied Course-II(AP)	Electronics(P)	25UAM3AC5P	3	3	3	40	60	100
IV	Generic Elective Course-I (GEC)	Animation (P)	25UAM3GEC1	2	2	3	40	60	100
		Basic Tamil - I	22ULC3BT1				25	75	
		Special Tamil - I	22ULC3ST1						
	Extra Credit Course	SWAYAM		As per UGC Recommendation					
	Total			**30**	**22**				**700**
15 Days INTERNSHIP during Semester Holidays									

IV	I	Language Course IV(LC)	பொதுத்தமிழ்-IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French – II	22ULF4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course – V (CC)	Artificial Intelligence	25UAM4CC5	6	5	3	25	75	100
		Core Practical – IV (CP)	Artificial Intelligence (P)	25UAM4CC4P	4	4	3	40	60	100
		Second Allied Course-III (AC)	Communication Electronics	25UAM4AC6	4	3	3	25	75	100
		Internship	Internship	25UAM4INT		2	-	-	-	100
	IV	Generic Elective Course II-(GEC)	PC Packages (P)	25UAM4GEC2P	2	2	3	40	60	100
			Basic Tamil - II	22ULC4BT2				25	75	
			Special Tamil - II	22ULC4ST2						

		Skill Enhancement	Advanced Excel (P)	25UAM4SEC1P	2	2	3	40	60	100
		Extra Credit	SWAYAM	As per UGC Recommendation						
		Total			**30**	**24**				**800**
V	III	Core Course – VI (CC)	IoT & Robotics	25UAM5CC6	6	5	3	25	75	100
		Core Course – VII (CC)	Human Computer Interaction	25UAM5CC7	6	5	3	25	75	100
		Core Practical – V (CP)	IoT & Robotics(P)	25UAM5CC5P	4	4	3	40	60	100
		Core Course – VIII (CC)	Virtual Reality and Augmented Reality	25UAM5CC8	5	4	3	25	75	100
		Discipline Specific Elective – I (DSE)	A) Cloud computing	25UAM5DSE1A	5	3	3	25	75	100
			B) Natural Language Processing	25UAM5DSE1B						
			C) Neural networks	25UAM5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	-	100	100
		Skill Enhancement Course –	Web design & Development(P)	25UAM5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**25**				**700**
VI		Core Course – X (CC)	Machine Learning	25UAM6CC9	5	5	3	25	75	100
		Core Course– X (CC)	Data Visualization Techniques	25UAM6CC10	5	4	3	25	75	100

II I	Core Course– XI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
	Core Practical – VI (CP)	Machine Learning Techniques & Data visualization Techniques (P)	25UAM6CC6P	4	3	3	40	60	100
	Discipline Specific Elective – II (DSE)	A) Natural Language Processing (P)	25UAM6DSE2PA	5	3	3	40	60	100
		B) Deep Learning (P)	25UAM6DSE2PB						
		C) Cloud Computing (P)	25UAM6DSE2PC						
	Project Work	Project Work	25UAM6PW	5	4	-	-	100	100
I V	Gender Studies	Gender Studies	22UGGS	1	1		-	100	100
V	Extension activity		22UGEA	0	1	0	-	-	-
		Total		**30**	**25**				**700**
	Grand Total			**180**	**140**				

BOS MEMBER   **DEAN OF SCIENCE**   **HOD SIGNATURE**

Semester I	Internal Mark: 25		External Mark: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs/Week**	**CREDITS**
25UAM1CC1	**Programming in C and Data Structures**	**CORE COURSE – I (CC)**	**5**	**5**

Course Objectives

- To provide a comprehensive understanding of the C programming language
- To introduce and explain key data structures and their applications
- To enhance students' problem-solving abilities in data structures.

Course Outcomes and Cognitive Level Mapping

CO Number	Course Outcome	Cognitive Level
CO1	Understand the fundamental concepts of programming in C.	K1
CO2	Learn and implement basic data structures	K2
CO3	Apply data structures to solve common computing problems	K3
CO4	Acquire knowledge in data structures by applying appropriate algorithms	K4
CO5	Develop debugging and testing skills to identify and fix issues in the C program	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	3	3	2	2	2	2	3	2
CO2	3	2	2	2	2	3	3	2	3	2
CO3	3	3	3	2	2	3	3	2	3	3
CO4	3	2	2	3	3	2	2	2	3	3
CO5	3	3	3	2	3	3	3	2	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation

"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Overview of C:** History of C- Importance of C- Basic Structure of C Programs - Executing a C Program- Constants, Variables and Data types - Operators and Expressions - **Managing Input and Output Operations - Decision Making and Branching:** Decision making with If, simple IF,IF ELSE, Nested IF ELSE, ELSE IF ladder, switch, GOTO statement.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Looping:** While, Do-While, For, Jumps in loops. **Arrays** - Character Arrays and Strings -**User Defined Functions:** Elements of User Defined Functions- Definition of Functions- Return Values and their Types- Function Call- Function Declaration -Categories of Functions- Nesting of Functions-Recursion	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Structures :** Introduction- Defining a Structure- Declaring Structure Variables Accessing Structure Members- Structure Initialization- **Pointers:** Understanding Pointers- Accessing the Address of a Variable- Declaring Pointer Variables Initializing of Pointer Variables- Accessing a Variable through its Pointer – Dynamic Memory Allocation	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Data Structures:** Introduction- Basic Terminology-Data Structures-Data Structures Operation-Abstract Data Types (ADT) - **Stacks:** Array and Linked Representation of Stack- Prefix-Infix and Postfix Arithmetic Expressions- Conversion-Evaluation of Postfix Expressions. **Queues:** Definition-Linked Representation of Queue -Circular Queues	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Linked list**: Introduction- Linked Lists – Representation of Linked Lists in Memory – Traversing a Linked List – Searching a Linked List – Insertion into and Deletion from a Linked List. **Trees**: Introduction - Binary Trees – Representing Binary Trees in Memory - Binary Tree Traversals – Searching -Linear Search - Binary Search	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** <mark>(Not included for End Semester Examinations)</mark> File management in C- Sorting algorithms in Data structures - Arrays of Structures- Arrays within Structures - Pointer and Arrays- Pointers and Character Strings- Array of Pointers- Pointer as Function Arguments- Functions Returning Pointers- Pointers to Functions	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Textbooks

1. E. Balaguruswamy, (2010), ―Programming in ANSI C‖, Fifth Edition, Tata McGraw Hill Publications.
2. Data Structures with C(2011), Seymour Lipschutz (Schaum's Outlines), , McGraw Hill Education Pvt. Ltd.,

References

1. Byron Gottfried, (2010), ―Programming with C‖, Schaums Outline Series, Tata McGraw Hill Publications
2. E. Horowitz, S. Sahni and Susan Anderson Freed, "Fundamental Data Structures in C", 2ed, Orient Black Swan Publisher, 2009.
3. E. Karthikeyan, "A Textbook on C Fundamentals, Data Structures and Problem Solving", Prentice-Hall of India Private Limited, New Delhi, 2008.
4. Yashavant Kanetkar, "Let us C", BPB Publications, Tenth Edition, New Delhi, 2010

Web References

1. https://www.learn-c.org/
2. https://www.cprogramming.com/
3. https://www.tutorialspoint.com/cprogramming/index.html
4. http://www.programiz.com/c-programming
5. http://www.programmingsimplified.com/c-program-examples

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

1. Dr.P.Tamilselvi, Associate Professor, Department of Information Technology .

BOS MEMBER   **DEAN OF SCIENCE**   **HOD SIGNATURE**

Semester I	Internal Mark: 40		External Mark: 60	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs/Week**	**CREDITS**
25UAM1CC1P	**Programming in C (P)**	**CORE COURSE- I (CP)**	**3**	**3**

Course Objectives

- To provide hands-on experience in implementing and manipulating various data structures using the C programming language.
- To enhance problem-solving skills by applying appropriate data structures
- To enable students to understand and analyse the efficiency of data structures through practical implementation and performance analysis.

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Apply the fundamental concepts of C programming	K1, K1
CO2	Implement C programming for different problems.	K3
CO3	Analyse the functionality of different data structure operations	K4
CO4	Analyse various concepts of C language to solve the problem in an efficient way.	K4
CO5	Develop a C program for a given problem and test for its correctness.	K5

Mapping with Programme Outcomes

COs \ POs	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PO 1	PO 2	PO 3	PO 4	PO5
CO1	3	3	3	2	2	2	3	2	2	3
CO2	2	2	3	2	3	3	2	2	3	3
CO3	3	2	2	2	2	3	3	1	3	2
CO4	2	3	2	3	2	3	3	2	3	3
CO5	3	3	3	2	3	3	3	3	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation"3"
Substantial (High) Correlation   "-" indicates there is no correlation.

Syllabus

1. Programs on conditional structures
2. Programs using Arrays
3. String Manipulations
4. Programs using Functions
5. Programs using Pointers
6. Programs using Structures
7. Stack Implementation
8. Queue Implementation
9. Linked List – Insertion, Deletion, Searching
10. Binary Tree Traversal

Text Book

1. E. Balagurusamy, Programming in ANSI C, Fifth Edition, Tata McGraw-Hill, 2010.

Reference Books

1. Byron Gottfried, Schaum's Outline Programming with C, Fourth Edition, Tata McGraw-Hill, 2018.
2. Kernighan and Ritchie, The C Programming Language, Second Edition, Prentice Hall, 1998.
3. Yashavant Kanetkar, Let Us C, Eighteenth Edition, BPB Publications, 2021

Web References

1. https://www.tutorialspoint.com/cprogramming
2. https://www.javatpoint.com/c-programming-language-tutorial
3. https://www.w3schools.in/category/c-tutorial

Course Designer

Dr. P.Tamilselvi, Associate Professor, Department of Information Technology

BOS MEMBER   **DEAN OF SCIENCE**   **HOD SIGNATURE**

Semester I	Internal Marks: 25		External Marks: 75		
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS./ WEEK**	**CREDITS**	
25UCB1CC2	**FUNDAMENTALS OF BUSINESS ANALYTICS**	**CORE COURSE – II**	**4**	**3**	

Course Objective

- To achieve and establish vital understanding of big data application in business intelligence
- To institute the concept of systematic transformation of process-oriented data into information of the underlying business process
- To exhibit knowledge of data analysis techniques and to apply principles of data sciences integrating enterprise reporting

Course Outcome with Cognitive Level

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Remember and understand the importance of Analytics in Decision Making and Problem Solving	K1, K2
CO2	Identify business opportunities for data-driven solutions	K3
CO3	Apply the Knowledge of Business Intelligence	K3
CO4	Examine the Business view of Information technology applications	K4
CO5	Recommend data-driven solutions to support decision-making in real-world business situations.	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	2	3	2	3	3	3	2	3	3
CO4	3	3	2	3	3	3	2	3	2	3
CO5	3	3	3	2	3	3	2	2	3	3

"1"-Slight (Low)Correlation   "2"-Moderate(Medium)Correlation

"3" –Substantial (High)Correlation   "-" - Indicates there is no Correlation

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction to Business Analytics:** Analytics Landscape – Need for Analytics – Business Analytics: The Science of Data-Driven Decision Making – Descriptive Analytics – Predictive Analytics – Prescriptive Analytics – Big Data Analytics – Machine Learning Algorithms – Framework for Data Driven Decision Making – Analytics Capability Building – Roadmap for Analytics Capability Building – Challenges in Data Driven Decision making and Future – Business Analytics in Practice.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Business view of Information Technology Applications:** Core business process – Baldrige Business Excellence framework - Key purpose of using IT in business – Characteristics - Enterprise Applications - Information users and their requirements – **Foundation of Data Science: Descriptive Analytics:** Introduction – Data Types and Scales of Variable Measurement – Types of Variable Measurement Scales – Population and Sample – Measures of Central Tendency – Percentile, Decile and Quartile – Measures of Variation – Measures of Shape.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Introduction to OLTP and OLAP:** OLTP – OLAP – Different OLAP Architectures – OLTP and OLAP – Data models for OLTP and OLAP – Role of OLAP Tools in BI Architecture. **Business Intelligence**: Business Intelligence defined – Evolution of BI and Role of DSS, EIS, MIS and Digital Dashboards – Need for BI – BI value chain. **BI Definitions and Concepts**: BI Component Framework – BI Users – Business Intelligence applications – BI roles and responsibilities – BI tools.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Basics of Data Integration**: Need for Data Warehouse – Goals – Data Mart – Extract, Transform and Load –Data Integration - Technologies – Data Quality– Data profiling. **Data Modeling**: Basics – Types – Techniques – Fact table – Dimension Table – Typical Dimensional Models – Dimensional modeling life cycle – Designing the Dimensional Model. **BI in Real world**: BI and mobility – BI and cloud computing – BI for ERP systems –Social CRM and BI.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	Data Visualization: Overview – Tables – Charts – Advanced Data Visualization – Data Dashboards. Spreadsheet Models: Building Good Spreadsheet Models – If-Analysis – Some Useful Excel Functions for Modeling – Auditing Spreadsheet Models – Predictive and Prescriptive Spreadsheet Models	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** (Not included for End Semester Examinations) Probability Theory - Analysis of Variance – Forecasting Techniques – Skills required for Industry 4.0	-	-	

Text Books

1. U. Dinesh Kumar (2022). Business Analytics: The Science of Data Driven Decision Making, 2nd Edition, Wiley India Pvt. Ltd.
2. R.N.Prasad and Seema Acharya(2016). Fundamentals of Business Analytics, 2nd Edition, Wiley India Pvt. Ltd.
3. Jeffrey D. Camm, James J. Cochran, Michael J. Fry, Jeffrey W. Ohlmann(2020). Business Analytics, 3rd Edition, Cengage.

ReferenceBooks

1. Haydn Thomas – Demonoid(2015). Business Analysis Fundamentals, Revised Edition, Pearson Education.
2. Sharada, R. Delen,D. & Turban, E (2017). Business Analytics: The Science of Data Driven Decision Making, 2nd Edition, Pearson Education.

WebReferences

1. https://books.google.co.in/books?id=dlvjDwAAQBAJ&printsec=frontcover&source=gbs_book_other_versions_r&redir_esc=y#v=onepage&q&f=false
2. https://pearson.com/en-au/media/2628253/9781292339061-toc.pdf
3. https://www.pearson.com/en-au/media/anafojmp/9781292339061.pdf?srsltid=AfmBOoqhOrZCJMkw0jIyLJjp2tCChhCcFKbX6PJ91CFH7CNF__EkeioO

Pedagogy

Chalk and talk, Power point Presentation, Demonstration, e-content

Course Designer

Dr. K. Reka

Dr. P. Muthulakshmi

BOS MEMBER   **DEAN OF SCIENCE**   **HOD SIGNATURE**

Semester I	Internal Mark: 40		External Mark: 60	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS / WEEK**	**CREDITS**
25UCB1AC1P	**EXCEL FOR FINANCIAL DECISION (P)**	**Allied-1P**	**4**	**3**

Course Objectives

- To Understand and apply advanced formatting techniques, conditional formatting, and data validation to maintain data accuracy and visual appeal.
- To Explore the financial functions for performing calculations, analysing data, and solving financial problems effectively
- To Create and implement macros to automate repetitive tasks, develop dynamic tools, and perform complex financial statement analysis.

Course Outcomes and Cognitive Level Mapping

CO Number	Course Outcome	Cognitive Level
CO1	Able to efficiently use Excel's sorting, filtering, conditional formatting, and data validation tools to organize and ensure data accuracy.	K1
CO2	Analyze and apply financial functions to solve financial problems in Excel.	K2, K3
CO3	Apply statistical techniques to interpret and analyze financial data.	K3
CO4	Integrate Excel functions and automation to streamline processes and enhance productivity.	K4
CO5	Evaluate financial data to make informed decisions regarding portfolio management and investment strategies.	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	3	3	2	2	2	3
CO2	3	3	3	2	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	2	3	3	3	3	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation"3" –
Substantial (High) Correlation   "-" indicates there is no Correlation.

Syllabus

Perform the following in Excel to explore and implement various financial functions, formulas, and macros

1. Formatting and Validation option for Excel
   a. Sorting
   b. Filtering
   c. Conditional formatting
   d. Data validation
2. Formulas and Functions
   a. Arithmetic and Logical Operator
   b. Math Function
   c. Depreciation Functions
   d. What-If the Analysis Tool
3. Financial Function
   a. Loan Calculation (PMT, RATE, NPER)
   b. Interest Calculation (IPMT, PPMT)
   c. Explore Capital Budgeting Functions (NPV, XNPV, IRR, XIRR)
   d. Implement Bond Pricing and Yield Analysis
4. Statistical Function
   a. Compute Average and Standard Deviation
   b. Perform Variance Analysis
   c. Explore Correlation and Covariance
   d. Conduct Trend Analysis and Forecasting
   e. Construct a Simple Portfolio Analysis
5. Macros
   a. Record and Write Macro
   b. Develop a Dynamic Macro
   c. Create a Financial statement Analyzer

Web References

1. https://www.youtube.com/watch?v=SPF6r7M9BLQ
2. https://www.geeksforgeeks.org/basic-math-formulas/
3. https://indiafreenotes.com/financial-functions-npv-pmt-pv-fv-rate-irr-db-sln-syd/
4. https://www.youtube.com/watch?v=GkqQoMYPFxU
5. https://www.geeksforgeeks.org/macros-in-excel/

Course Designer

Ms. R.Rita Jenifer, Associate Professor, Department of computer Science
Dr. R.Sangeetha, Assistant Professor, Department of computer Science
Ms.R.Ramya, Assistant Professor, Department of computer Science

BOS MEMBER　　　　　　**DEAN OF SCIENCE**　　　　　　**HOD SIGNATURE**

ANNEXURE B

பாரதிதாசன் பல்கலைக்கழகம்
திருச்சிராப்பள்ளி - 620024

Prof. R. Kalidasan
Registrar (i/c)

**BHARATHIDASAN
UNIVERSITY**
TIRUCHIRAPPALLI - 620 024
TAMILNADU, INDIA

(Accredited with A⁺ Grade by NAAC in the 3ʳᵈ Cycle with 3.32 CGPA: NIRF Rank: 36]

ந.க. எண்: 692/சிசிசிடி/பா.தி.கு./சி-1/2024   நாள் : **30** .12.2024

பெறுநர்

கல்லூரி முதல்வர்
இணைவு பெற்ற அனைத்து கல்லூரிகள்

அய்யா /அம்மையீர்,

பொருள்: பா.ப.க.- சிசிசிடி- இளநிலை (U.G.) பயில்திட்டங்கள் - TANSCHE -யின் Health & Wellness பாடத்திட்டத்தை 2024-2025 ஆம் கல்வியாண்டில் சேர்க்கைப்பெற்ற அனைத்து மாணாக்கர்களுக்கும் மூன்றாம் பருவத்தில் நடைமுறைப்படுத்துதல் – மின்னஞ்சல் வாயிலாக தகவல் தெரிவித்தல் - தொடர்பாக.

பார்வை: 1. தமிழ்நாடு உயர்கல்வி மன்ற உறுப்பினர் செயலர் அவர்களிடமிருந்து பெறப்பட்ட கடித நாள்: 12.12.2024.
2. G.O. (Ms) No.52 Home. Prohibition and Excise (XVI) department, dated: 14.10.2024
3. மாண்பமை துணைவேந்தர் அவர்களின் ஆணை நாள்: 22.12.2024.
4. இவ்வலுவலக கடித எண்:692/சிசிசிடி/சி-1/2024 நாள்: 26.12.2024

****

பார்வை 4-ல் காணும் இவ்வலுவலக கடிதத்தில், "TANSCHE -யின் Health & Wellness என்ற பாடத்திட்டத்தை 2023-2024-ஆம் கல்வியாண்டில் சேர்க்கைப்பெற்ற மாணாக்கர்களுக்கு மூன்றாம் பருவத்தில் நடைமுறைப்படுத்துமாறு" தெரிவிக்கப்பட்டது. அப்பாடத்திட்டத்தினை 2023-2024 ஆம் கல்வியாண்டிற்குப் பதிலாக 2024-2025 ஆம் கல்வியாண்டில் சேர்க்கைப்பெற்ற மாணாக்கர்களுக்கு மூன்றாம் பருவத்தில் 1 தரப்புள்ளியுடன் (Credit) கூடிய பாடத்திட்டமாக நடைமுறைப்படுத்துமாறு தெரிவிக்க பணிக்கப்பட்டுள்ளேன்.

தங்கள் உண்மையுள்ள,

பதிவாளர் (பொ)

நகல்: 1. தேர்வு நெறியாளர், பாரதிதாசன் பல்கலைக்கழகம், திருச்சிராப்பள்ளி-24
2. இயக்குநர், தகவலியல் மையம், பாரதிதாசன் பல்கலைக்கழகம், திருச்சிராப்பள்ளி- 620024 (மேற்கண்ட தகவலை பல்கலைக்கழக இணையதளத்தில் வெளியிடுமாறு கனிவுடன் கேட்டுக்கொள்ளப்படுகிறது)

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All Communications are to be addressed to the Registrar only.
Please quote our reference in all your replies

---- 23 - 886*			L	T	P	C**
AUDIT		HEALTH & WELLNESS	0	0	2	1

*(First four digits in the subject code is branch code and Seventh digit is Semester)

** Health & Wellness has one credit for the third semester only and it has no credits for other semesters.

Skill Areas:

Physical Fitness, Nutrition, Mental Health, Awareness on Drug addiction and its effects

Purpose:

The Health & Wellness course focuses on teaching the elements of physical, mental, emotional, social, intellectual, environmental well-being which are essential for overall development of an individual. The course also addresses the dangers of substance abuse and online risks to promote emotional and mental health.

Learning Outcomes:

Upon completion of the Health & Wellness course, students will be able to:

1. Demonstrate proficiency in sports training and physical fitness practices.
2. Improve their mental and emotional well-being, fostering a positive outlook on health and life.
3. Develop competence and commitment as professionals in the field of health and wellness.
4. Awareness on drug addiction and its ill effects

Focus:

During the conduct of the Health & Wellness course, the students will benefit from the following focus areas:

1. Stress Management.
2. Breaking Bad Habits.
3. Improving Interpersonal Relationships.
4. Building Physical Strength & Inner Strength.

Role of the Facilitator:

The faculty plays a crucial role in effectively engaging with students and guiding them towards achieving learning outcomes. Faculty participation involves the following areas:

1. **Mentorship & Motivation:** The Facilitator mentors students in wellness and self-discipline while inspiring a positive outlook on health. Faculty teach stress management, fitness, and daily well-being.

2. **Promoting a Safe and Inclusive Environment:** The facilitator ensures a safe, inclusive, and respectful learning environment for active student participation and benefit.

3. **Individualised Support and Monitoring Progress:** The facilitator plays a crucial role in providing personalized support, monitoring and guidance to students.

Guided Activities:

In this course, several general guided activities have been suggested to facilitate the achievement of desired learning outcomes. They are as follows:

1. Introduction to Holistic Well-being.
2. Holistic Wellness Program- Nurturing Body and Mind
3. Breaking Bad Habits Workshop.
4. Improving the elements of physical, emotional, social, intellectual, environmental and mental well-being.
5. Creating situational awareness, digital awareness.
6. Understanding substance abuse, consequences and the way out.

Period Distribution

The following are the guided activities suggested for this Audit course.

The Physical Director should plan the activities by the students.

Arrange the suitable Mentor / Guide for the wellness activities.

Additional activities and programs can be planned for Health and Wellness.

S.No	Guided Activities	Period
1	**Introduction to Holistic Well-being** 1. Introduce the core components of Health & Well-being namely Physical, mental and emotional well-being 2. Provide worksheets on all the four components individually and explain the interconnectedness to give an overall understanding.	
2	**Wellness Wheel Exercise (Overall Analysis)**	

	- Guide students to assess their well-being in various life dimensions through exercises on various aspects of well – being, and explain the benefits of applying wellness wheel. - Introduce Tech Tools: - Explore the use of technology to support well-being. - Introduce students to apps for meditation, sleep tracking, or healthy recipe inspiration.	
3	**Breaking Bad Habits (Overall Analysis)** - Open a discussion on bad habits and their harmful effects. - Provide a worksheet to the students to identify their personal bad habits. - Discuss the trigger, cause, consequence and solution with examples. - Guide them to replace the bad habits with good ones through worksheets.	
4	**Physical Well-being** **1. Fitness** Introduce the different types of fitness activities such as basic exercises, cardiovascular exercises, strength training exercises, flexibility exercises, so on and so forth. (Include theoretical explanations and outdoor activity). **2. Nutrition** Facilitate students to reflect on their eating habits, their body type, and to test their knowledge on nutrition, its sources and the benefits. **3. Yoga & Meditation** Discuss the benefits of Yoga and Meditation for one's overall health. Demonstrate different yoga postures and their benefits on the body through visuals (pictures or videos)	

4. Brain Health Discuss the importance of brain health for daily life. Habits that affect brain health (irregular sleep, eating, screen time). Habits that help for healthy brains (reading, proper sleep, exercises). Benefits of breathing exercises and meditation for healthy lungs. **5. Healthy Lungs** Discuss the importance of lung health for daily life. Habits that affect lung health (smoking, lack of exercises). Benefits of breathing exercises for healthy lungs. **6. Hygiene and Grooming** Discuss the importance of hygienic habits for good oral, vision, hearing and skin health. Discuss the positive effects of grooming on one's confidence level and professional growth. **Suggested Activities (sample):** **Nutrition:** Invite a nutritionist to talk among the students on the importance of nutrition to the body or show similar videos shared by experts on social media. Organize a 'Stove less/fireless cooking competition' for students where they are expected to prepare a nutritious dish and explain the nutritive values in parallel.	
5	**Emotional Well-being** **1. Stress Management** Trigger a conversation or provide self-reflective worksheets to identify the stress factors in daily life and their impact on students' performance. Introduce different relaxation techniques like deep breathing, progressive muscle relaxation, or guided imagery. (use audio recordings or visuals to guide them through these techniques). After practicing the techniques, have them reflect on how these methods can help manage stress in daily life. **2. Importance of saying 'NO'.**	

	Explain the students that saying 'NO' is important for their Physical and mental well-being, Academic Performance, Growth and Future, Confidence, Self-respect, Strong and Healthy Relationships, building reputation for self and their family (avoid earning a bad name). Factors that prevent them from saying 'NO'. How to practice saying 'NO". **3. Body Positivity and self-acceptance** Discuss the following with the students. - What is body positivity and self-acceptance? - Why is it important? - Be kind to yourself. - Understand that everyone's unique. **Suggested Activities(Sample):** (Importance of saying 'NO') Provide worksheets to self-reflect on... ...how they feel when others say 'no' to them ...the situations where they should say 'no' Challenge students to write a song or rap about the importance of saying no and how to do it effectively. Students can perform their creations for the class.	
6	**Social Well-Being** **1. Practicing Gratitude** Discuss the importance of practicing gratitude for building relationships with family, friends, relatives, mentors and colleagues. Discuss how one can show gratitude through words and deeds. Explain how practicing gratitude can create 'ripple effect'. **2. Cultivating Kindness and Compassion** Define and differentiate between kindness and compassion. Explore practices that cultivate these positive emotions. Self-Compassion as the Foundation.	

The power of small gestures.

Understanding another's perspective.

The fruits of compassion.

3. Practising Forgiveness

Discuss the concept of forgiveness and its benefits.

Forgiveness: What is it? and What it isn't?

Benefits of forgiveness.

Finding forgiveness practices.

4. Celebrating Differences

Appreciate the value of individual differences and foster inclusivity.

The World: A Tapestry of Differences (cultures, backgrounds, beliefs, abilities, and appearances).

Finding strength in differences (diverse perspectives and experiences lead to better problem-solving and innovation).

Celebrating differences, not ignoring them (respecting and appreciating the unique qualities).

Activities for celebrating differences (share culture, learn about others, embrace new experiences).

5. Digital Detox

Introduce the students to:

The concept of a digital detox and its benefits for social well-being. How to disconnect from devices more often to strengthen real-world connections.

Suggested Activities (sample):

(Practicing Gratitude)

Provide worksheets to choose the right ways to express gratitude.

Celebrate 'gratitude day' in the college and encourage the students to honour the house keeping staff in some way to express gratitude for their service.

7.	**Intellectual Well-being**	
	1. Being a lifelong Learner	
	Give students an understanding on:	
	The relevance of intellectual well-being in this 21st century to meet	

		the expectations in personal and professional well-being	
		The Importance of enhancing problem-solving skills	
		Cultivating habits to enhance the intellectual well-being (using the library extensively, participating in extra-curricular activities, reading newspaper etc.)	
		2. Digital Literacy	
		Discuss:	
		The key aspects of digital literacy and its importance in today's world.	
		It is more than just liking and sharing on social media.	
		The four major components of digital literacy (critical thinking, communication, problem-solving, digital citizenship).	
		Why is digital literacy important?	
		Boosting one's digital skills.	
		3. Transfer of Learning	
		Connections between different subjects – How knowledge gained in one area can be applied to others.	
		<u>**Suggested Activities(sample):**</u>	
		Intellectual Well-being.	
		Provide worksheets to students for teaching them how to boost intellectual well-being.	
		Ask the students to identify a long-standing problem in their locality, and come up with a solution and present it in the classroom. Also organize an event like 'Idea Expo' to display the designs, ideas, and suggestions, to motivate the students to improve their intellectual well-being.	
8	**Environmental Well-being**	
	1.The Importance of initiating a change in the environment.	
	The session could be around:	
	Defining Environmental well-being (physical, chemical, biological, social, and psychosocial factors) – People's behaviour, crime, pollution, political activities, infra-structure, family situation etc.	
	Suggesting different ways of initiating changes in the environment (taking responsibility, creating awareness, volunteering,	

	approaching administration).	
	Suggested Activities (sample):	
	Providing worksheets to self-reflect on how the environment affects their life, and the ways to initiate a change.	
	Dedicate a bulletin board or wall space (or chart work) in the classroom for students to share their ideas for improving environmental well-being.	
	Creating a volunteers' club in the college and carrying out monthly activities like campus cleaning, awareness campaigns against noise pollution, (loud speakers in public places), addressing anti-social behaviour on the campus or in their locality.	
9	**Mental Well-being**	
	1. Importance of self-reflection	
	Discuss:	
	Steps involved in achieving mental well-being (self-reflection, self-awareness, applying actions, achieving mental well-being).	
	Different ways to achieve mental well-being (finding purpose, coping with stress, moral compass, connecting for a common cause).	
	The role of journaling in mental well-being.	
	2. Mindfulness and Meditation Practices	
	Benefits of practicing mindful habits and meditation for overall well-being.	
	1. Connecting with nature	
	Practising to be in the present moment – Nature walk, feeling the sun, listening to the natural sounds.	
	Exploring with intention – Hiking, gardening to observe the nature.	
	Reflecting on the emotions, and feeling kindled by nature.	
	2. Serving people	
	Identifying the needs of others.	
	Helping others.	
	Volunteering your time, skills and listening ear.	
	Finding joy in giving.	
	3. Creative Expressions	

	Indulging in writing poems, stories, music making/listening, creating visual arts to connect with inner selves. **Suggested Activities(Sample):** (Mindfulness and Meditation) – Conducting guided meditation every day for 10 minutes and directing the students to record the changes they observe.	
10	**Situational Awareness (Developing Life skills)** **1. Being street smart** **Discuss:** Who are street smarts? Why is it important to be street smart? Characteristics of a street smart person: Importance of acquiring life skills to become street smart – (General First-aid procedure, CPR Procedure, Handling emergency situations like fire, flood etc). **2. Digital Awareness** **Discuss:** Cyber Security Information Literacy Digital Privacy Fraud Detection **Suggested Activities** (sample): (Street Smart) Inviting professionals to demonstrate the CPR Procedure Conducting a quiz on Emergency Numbers	
11	**Understanding Addiction** **Plan this session around:** Identifying the environmental cues, triggers that lead to picking up this habit. Knowing the impact of substance abuse – Adverse health conditions, social isolation, ruined future, hidden financial loss and damaging the family reputation. Seeking help to get out of this addiction. **Suggested Activities**:	

	Provide Worksheets to check the students' level of understanding about substance addiction and their impacts.	
	Share case studies with students from real-life.	
	Play/share awareness videos on addiction/de-addiction, experts talk.	
	*Conduct awareness programmes on Drugs and its ill effects. (Arrange Experts from the concerned government departments and NGOs working in drug addiction issues) and maintain the documents of the program.	

Closure:

Each student should submit a Handwritten Summary of their Learnings & Action Plan for the future.

Assessments:

- Use Self-reflective worksheets to assess their understanding.
- Submit the worksheets to internal audit/external audit.
- Every student's activities report should be documented and the same have to be assessed by the Physical Director with the mentor. The evaluation should be for 100 marks. No examination is required.

Scheme of Evaluation

Part	Description	Marks
A	Report	40
B	Attendance	20
C	Activities (Observation During Practice)	40
	Total	100

References/Resource Materials:

The course acknowledges that individual needs for references and resources may vary. However, here are some general reference materials and resources that may be helpful:

1. **The Well-Being Wheel:**

2. **Facilities & Spaces:** Some activities may require access to specific facilities, resources or spaces. Students may need to coordinate with the college administration to reserve these as required.

3. **Online Resources:**
   1. United Nations Sustainable Development Goals - Goal 3 - Good Health & Well-Being: https://www.un.org/sustainabledevelopment/health/
   2. Mindfulness and Meditation: Stanford Health Library offers mindfulness and meditation resources: https://healthlibrary.stanford.edu/books-resources/mindfulness-meditation.html

3. Breaking Bad Habits: James Clear provides a guide on how to build good habits and break bad ones: https://jamesclear.com/habits
4. 6 Ways to Keep Your Brain Sharp
   https://www.lorman.com/blog/post/how-to-keep-your-brain-sharp
5. What Is Social Wellbeing? 12+ Activities for Social Wellness
   https://positivepsychology.com/social-wellbeing/
6. How Does Your Environment Affect Your Mental Health?
   https://www.verywellmind.com/how-your-environment-affects-your-mental-health-5093687
7. How to say no to others (and why you shouldn't feel guilty)
   https://www.betterup.com/blog/how-to-say-no

ANNEXURE C

CAUVERY COLLEGE FOR WOMEN, TIRUCHIRAPPALLI - 620018

UG DEGREE

GENERIC ELECTIVE COURSE - NCC
(Applicable to the candidates admitted from the academic year 2024-2025 onwards)

Sem.	Part	Types of the Courses	Title of the Paper	Hours	Credits	Exam. Hours	Total Marks
III	**IV**	Generic Elective Course – I (GEC) 24UNC3GEC1	Introduction to NCC	2	2	2	100
IV	**IV**	Generic Elective Course – II (GEC) 24UNC4GEC2	Specialization in Army	2	2	2	100

NCC Course is one of the Choices in Generic Elective Courses. Only the NCC cadets are eligible to choose this course. However, NCC Course is not a Compulsory Course for the NCC Cadets.

Semester-III				Total Marks : 100	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs. / Week**	**CREDITS**	
24UNC3GEC1	**INTRODUCTION TO NCC**	**GENERIC ELECTIVE COURSE-I**	**2**	**2**	

COURSE OBJECTIVES:
- To acquaint cadets with the aims and objectives of NCC
- To train Cadets to assist Civil Administration in performance of selective duties during disasters.
- To develop an all-round dynamic personality with adequate leadership traits to deal / contribute effectively in all walks of life.
- To teach cadets the values and skills involved in providing voluntary Social Service.
- To know respect and responsibility towards personal health and hygiene.

COURSE OUTCOME

After completion of this Course Cadets will be able to

CO No.	CO Statement	COGNITIVE LEVEL
CO1	Understand aims and objectives of NCC, the sense of patriotism and secular values	**K1, K2**
CO2	Contribute towards nation building through national unity and social cohesion.	**K1, K2**
CO3	Develop personality with adequate leadership traits.	**K1, K2**
CO4	Understand the responsibility towards personal health and hygiene.	**K1, K2**
CO5	Sensitize the cadets on natural resource conservation and protection of environment.	**K1, K2**

Syllabus
UNIT –I   THE NCC, NATIONAL INTEGRATION AND AWARENESS   (6 Hours)
NCC - History, aim and Objectives- Organization and Training - Incentives of Joining NCC, Duties of NCC Cadets, Types of NCC Camps. National Integration - Religions, Culture, Traditions and Customs of India, Importance and necessity of National Integration, Problems/ Challenges/Threats of National Integration, Unity in Diversity. Famous Leaders of India. Slogans for National Integration. Contribution of Youth to Nation Building and Role of NCC in Nation Building.

UNIT –II CIVIL AFFAIRS AND SOCIAL AWARENESS COMMUNITY DEVELOPMENT(6 Hours)
Civil Defence Organization and its duties (NDMA, SDMA, DDMA, NDRF) Types of Natural Hazards-Role of NCC during Natural Hazards/ Calamities - Essential services. Social Services – Basics and Needs of Social Service - Social awareness - Social/ Rural Development Projects. Contribution of youth towards social welfare, Civic responsibilities. Role of Youth in Corruption, dowry, female feticide, Drug abuse and causes and prevention of HIV/AIDS, NGOs and their contribution in social Welfare.

UNIT –III PERSONALITY DEVELOPMENT (6 Hours)

Personality development – Introduction, Physical, Social, Psychological and philosophical Factors influencing personality. Self-Awareness – know yourself, Thinking- meaning and Concepts - Critical and creative thinking. Problem solving skills - Interview skills - Importance of group and team work - Coping with stress / emotions - Characteristics of healthy personalities – ethics/values

UNIT- IV   HEALTH AND HYGIENE (6 Hours)

Structure and functioning of the human body - Hygiene and sanitation (Personal and Food Hygiene) - Physical and mental health - Infectious and contagious diseases and its prevention - Basics of first aid in common medical emergencies - Wounds and fractures - Introduction to yoga (Purpose and benefits of Padmasana, Surya Namaskar, Vajrasana, Sarvangasana, Siddhasana).

UNIT -V ENVIRONMENT AWARENESS AND CONSERVATION (6 Hours)

Natural resources – conservation and management - Water conservation and rain water harvesting - Waste management - Pollution – types and its control, water, air, noise, soil- Wildlife conservation: projects in India

UNIT – VI CURRENT CONTOURS: (SELF STUDY)

Students are allowed to practice Drill, word of Commands. Instruct the students to understand current affairs by reading leading newspapers.

REFERENCES:

1. Cadet Hand Book (Common Subjects), published by DGNCC.
2. Cadet Hand Book (Specialized Subjects), published by DGNCC.
3. R Guptas NCC Army wing. Ramesh Publishing House, New Delhi, 2021

WEBSITES:

1. https://modernschoolnagpur.edu.in/ncc-study-material/
2. https://nccorissa.org/old/Doc/Ncc-CadetHandbook.pdf
3. https://indiancc.nic.in/anos-handbook/

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Semester-IV				Total Marks : 100	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs. / Week**	**CREDITS**	
24UNC4GEC2	Specialization in Army	**GENERIC ELECTIVE COURSE-II**	2	2	

COURSE OBJECTIVES:

- To acquaint cadets with the Armed Forces
- To provide knowledge of renowned Military Generals, PVCs and Indo-Pak Wars
- To teach cadets elementary map reading
- To teach cadets elementary field craft and battle craft
- To introduce cadets to the latest trends in the field of communications

COURSE OUTCOME

After completion of this Course Cadets will be able to

CO No.	CO Statement	COGNITIVE LEVEL
CO1	Acquaint cadets with the Armed forces.	K1, K2
CO2	Understand the role of renowned Military Generals, PVCs and Indo-Pak Wars	K1, K2
CO3	Understand the process of map reading and conventional signs.	K1, K2
CO4	Understand elementary field craft and battle craft	K1, K2
CO5	Understand the latest trends in the field of communication, leadership and its traits	K1, K2

Syllabus

UNIT –I ARMED FORCES (6 Hours)

Basic organization of Armed Forces - Organisation of the Army - Badges and Ranks - Honours and Awards - Modes of entry into Army -Fighting Arms - Supporting Arms and Services

UNIT- II MAP READING (6 Hours)

Introduction to types of Maps and Conventional signs. - Scales and grid system - Topographical forms and technical terms - Relief, Contours and Gradients - Cardinal points and Types of North. Types of bearing- Use of service Protractor –Prismatic Compass – setting up of a Map, Finding north and own position.

UNIT- III FIELD CRAFT AND BATTLE CRAFT (6 Hours)

Introduction - Judging distance - Description of ground - Recognition, description and indication of land marks and targets - Observation, Camouflage and Concealment - Field signals - Use of ground and movement - Selection of formations - Knots and Lashing.

UNIT –IV COMMUNICATION AND LEADERSHIP   **(6 Hours)**

Introduction – Types and Importance of communication - Means of communication - Modern methods of communication- radio telephony – Characteristics of Walkie talkie- The military alphabets in communication- Latest trends in communication – Leadership – types of leadership-Qualities of a leader – Leadership traits - Working in Teams & Groups. Case study – Swami Vivekananda, Rattan Tata, Rabindranath Tagore.

UNIT –V MILITARY HISTORY   **(6 Hours)**

Freedom Struggle and Nationalist Movement in India. Biographies of renowned generals (Carriappa/ Manekshaw) - Indian Army War Heroes -Study of battles of Indo - Pak war 1965, 1971 and Kargil. Role of NCC in 1965 War.

UNIT – VI CURRENT CONTOURS: (SELF STUDY):

Provide basic information on weapon and weapon training

REFERENCES:

1. Cadet Hand Book (Common Subjects), published by DGNCC.
2. Cadet Hand Book (Specialized Subjects), published by DGNCC.
3. R Guptas NCC Army wing. Ramesh Publishing House, New Delhi, 2021

WEBSITES:

1. https://modernschoolnagpur.edu.in/ncc-study-material/
2. https://nccorissa.org/old/Doc/Ncc-CadetHandbook.pdf
3. https://indiancc.nic.in/anos-handbook/

ANNEXURE D

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY - 18
PG & RESEARCH DEPARTMENT OF TAMIL
B.A. TAMIL – PROGRAMME STRUCTURE
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS – LOCF)
(For the Candidates admitted from the Academic year 2023-2024 and onwards)
I-VI SEMESTER

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Marks Int	Marks Ext	Total
I	I	Language Course-I (LC)	தமிழியல் வள ஆதாரங்கள்	23ULTA1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Foundation Course Paper – I – French I	23ULF1						
			Poetry Grammar and History of Sanskrit Literature	23ULS1						
	II	English Language Course - I (ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	இக்கால இலக்கியம்	23UTA1CC1	6	5	3	25	75	100
		Core Course- II (CC)	தமிழக வரலாறும் பண்பாடும்	23UTA1CC2	6	5	3	25	75	100
		First Allied Course- I (AC)	தமிழ் மரபு மருத்துவம்	23UTA1AC1	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			30	21	-	-	-	600

Semester	PART	Course	Course Title	Course Code	Inst. Hrs./	Credits	Exam			Total
								Int MARKS	Ext MARKS	
II	I	Language Course-II(LC)	பொதுத்தமிழ் -II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar -II	22ULH2						
			Basic French- II	22ULF2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
	II	English Language Course-II(ELC)	General English -II	23UE2	6	3	3	25	75	100
	III	Core Course – III(CC)	நன்னூல் – எழுத்ததிகாரம் (காண்டிகையுரை)	23UTA2CC3	6	5	3	25	75	100
		Core Course-IV(CC)	இலக்கியத் திறனாய்வு	23UTA2CC4	5	5	3	25	75	100
		First Allied Course – II (AC)	தமிழர் நுண்கலைகள்	23UTA2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		TOTAL			30	21	-	-	-	600

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Exam Marks Int	Exam Marks Ext	Total
III	I	Language Course-III (LC)	பொதுத்தமிழ்-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar-III	22ULH3						
			Intermediate French – I	22ULF3						
			Drama Grammar And History Of Sanskrit Literature	23ULS3						
	II	English Language Course- III(ELC)	Learning Grammar Through Literature -I	23UE3	6	3	3	25	75	100
	III	Core Course–V(CC)	நன்னூல் – சொல்லதிகாரம் (காண்டிகையுரை)	23UTA3CC5	5	5	3	25	75	100
		Core Course - VI(CC)	சிற்றிலக்கியம்	22UTA3CC6	5	5	3	25	75	100
		Second Allied Course-I (AC)	தமிழ் இலக்கிய வரலாறு	23UTA3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course- I (GEC)	அறிவியல் தமிழ்	22UTA3GEC1	2	2	3	25	75	100
			Basic Tamil-I	22ULC3BT1						
			Special Tamil-I	22ULC3ST1						
		Total			30	22	-	-	-	700

15 Days Internship During Semester Holidays

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. /	Credits	Exam Hrs.	Exam Int MAR	Exam Ext MA	Total
IV	I	Language Course - IV (LC)	பொதுத்தமிழ்-IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Intermediate French – II	22ULF4						
			Alankara Didactic And Modern Literatures And Translation	23ULS4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature- II	23UE4	6	3	3	25	75	100
	III	Core Course –VII(CC)	யாப்பருங்கலக்காரிகை	23UTA4CC7	5	5	3	25	75	100
		Core Course –VIII(CC)	சமய இலக்கியம்	22UTA4CC8	5	5	3	25	75	100
		Second Allied Course- II (AC)	கணினித் தமிழ்	22UTA4AC4	4	3	3	25	75	100
		Internship	Internship	22UTA4INT	-	2	-	-	-	100
	IV	Generic Elective Course- II (GEC)	இதழியல்	22UTA4GEC2	2	2	3	25	75	100
			Basic Tamil - II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill EnhancementCourse – I (SEC)	ஆட்சித் தமிழ்	22UTA4SEC1	2	2	3	25	75	100
			Total		30	25				800

V	III	Core Course – IX(CC)	நம்பியகப்பொருள்	22UTA5CC9	6	5	3	25	75	100
		Core Course – X(CC)	பதினெண் கீழ்க்கணக்கு – அறம்	22UTA5CC10	5	5	3	25	75	100
		Core Course - XI(CC)	காப்பிய இலக்கியம்	22UTA5CC11	5	5	3	25	75	100
		Core Course – XII(CC)	மொழி வரலாறு	22UTA5CC12	5	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A.கோயிற்கலை	22UTA5DSE1A	5	3	3	25	75	100
			B.ஊடகத் தமிழ்	22UTA5DSE1B						
			C.பயண இலக்கியம்	22UTA5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV(AECC)	UGC Jeevan Kaushal -Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	பயன்பாட்டுத் தமிழ்	22UTA5SEC2	2	2	3	25	75	100
		Total			30	27	-	-	-	700

Semester	Part	Course	Course Title	Course Code	Inst. Hrs./ week	Credits	Hrs.	Int	Ext	Total
								Exam		
								Marks		
VI	III	Core Course – XIII(CC)	புறப்பொருள் வெண்பாமாலை	22UTA6CC13	5	4	3	25	75	100
		Core Course – XIV(CC)	சங்க இலக்கியம் – அகம்	22UTA6CC14	5	4	3	25	75	100
		Core Course – XV(CC)	சங்கஇலக்கியம் – புறம்	23UTA6CC15	5	4	3	25	75	100
		Core Course – XVI(CC)	தனிப்பாடல் இலக்கியம்	22UTA6CC16	4	3	3	25	75	100
		Discipline Specific Elective – II (DSE)	A.பணித்தேர்வுத் தமிழ்	23UTA6DSE2A	5	3	3	25	75	100
			B. தன் வரலாற்று இலக்கியம் – உ.வே.சா.	23UTA6DSE2B						
			C. தொல்லியல்	23UTA6DSE2C						
		Project	Project Work	22UTA6PW	5	4	-	-	100	100
	IV	Gender Studies	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity	Extension activity	22UGEA	0	1	0	-	-	-
		TOTAL			30	24	-	-	-	700
		Grand total			180	140				4100

B.A TAMIL-VI SEMESTER

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Int	Ext	Total
VI	III	Core Course – XIII(CC)	புறப்பொருள் வெண்பாமாலை	22UTA6CC13	5	4	3	25	75	100
		Core Course – XIV(CC)	சங்க இலக்கியம் – அகம்	22UTA6CC14	5	4	3	25	75	100
		Core Course – XV(CC)	சங்கஇலக்கியம் – புறம்	23UTA6CC15	5	4	3	25	75	100
		Core Course – XVI(CC)	தனிப்பாடல் இலக்கியம்	22UTA6CC16	4	3	3	25	75	100
		Discipline Specific Elective – II (DSE)	A.பணித்தேர்வுத் தமிழ்	23UTA6DSE2A	5	3	3	25	75	100
			B. தன் வரலாற்று இலக்கியம் – உ.வே.சா.	23UTA6DSE2B						
			C. தொல்லியல்	23UTA6DSE2C						
		Project	Project Work	22UTA6PW	5	4	-	-	100	100
	IV	Gender Studies	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity	Extension activity	22UGEA	0	1	0	-	-	-
		TOTAL			30	24	-	-	-	700

Semester : VI	Internal Mark: 25		External Mark: 75		
COURSE CODE	COURSE TITLE	CATEGORY	Hrs/Week		CREDITS
22UTA6CC13	புறப்பொருள் வெண்பாமலை	CC	5		4

நோக்கம்

❖ தமிழரின் புறப்பொருள் இலக்கணத்தைக் கற்பித்தல்

❖ தமிழரது போர்நெறிகளைப் பயிற்றுவித்தல்

❖ தொல்காப்பியப் புறத்திணைகளில் நிகழ்ந்த மாற்றங்களை அறிவுறுத்தல்

COURSE OUTCOMES

இப்பாடத்தினைப் பயில்வதால் மாணவியர் பெறும் திறன்கள்

CO No.	CO Statement	Cognitive Level
CO1	தமிழரின் புறவாழ்வு நெறிகளை அறிவதன்வழி, சமூகச் சூழலைப் புரிந்துகொள்ளல்	K1
CO2	புறநூல்களில் உள்ள புறத்திணைக் கூறுகளை விளக்குதல்	K2
CO3	தமிழ்ப் புறமரபினை ஆராய்ந்தறிதலின் வழி புறக்கோட்பாட்டினைக் கண்டறிந்து பயன்படுத்துதல்	K3
CO4	புறத்திணைப் படலங்களை அறிவியல் நோக்கில் பகுத்தறிதல்	K4
CO5	போட்டித் தேர்வுகளுக்கேற்ப புற இலக்கணக் கூறுகளைப் பகுத்தாராய்தல்	K5

Mapping of CO with Po and PSO

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் - SYLLABUS				
UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	வெட்சிப்படலம், கரந்தைப்படலம்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
II	வஞ்சிப்படலம், காஞ்சிப்படலம்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
III	நொச்சிப்படலம், உழிஞைப் படலம்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
IV	தும்பைப் படலம், வாகைப்படலம்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
V	பாடாண்படலம், புறநானூற்றில் உள்ள செவியறிவுறூஉ பாடல்கள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
VI	(சுய கற்றல்) இப்பகுதி பருவத்தேர்விற்கு உரியதல்ல புறப்பொருள் வெண்பாமாலையின் வழி தமிழர்களின் போர்த் திறனை அறிதல்	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

பாட நூல் :

▪ பொ.வே.சோமசுந்தரனார் (உ.ஆ), (1975), புறப்பொருள் வெண்பாமாலை, கழக வெளியீடு, சென்னை – 18.

▪

பார்வை நூல்கள் :

➢ புலியூர்க்கேசிகன், (2009), புறப்பொருள் வெண்பாமாலை, சாரதா பதிப்பகம், சென்னை - 14

➢ சோநா.கந்தசாமி., (1994), புறத்திணை வாழ்வியல், தமிழ்ப் பல்கலைக்கழகம்,

➢ சென்னை

கற்பித்தல் முறைகள்

கலந்தாய்வு, வினாடிவினா, திட்டக்கட்டுரை, கரும்பலகை, குழு விவாதம்

Web Resources

https://www.tamilvu.org/courses/degree/d021/d0213/html/d0213113.htm

பாடத்திட்ட வடிவமைப்பாளர்

முனைவர் செ.புனிதா

Semester VI	Internal Mark: 25		External Mark: 75		
COURSE CODE	COURSE TITLE	CATEGORY	Hrs/Week	CREDITS	
22UTA6CC14	சங்க இலக்கியம் -அகம்	CC	5	4	

நோக்கம்

➢ தமிழ் மொழியின் தொன்மையை சங்க இலக்கியங்கள் வழி மாணவர்களை உணரச் செய்தல்

➢ .அக்காலச் சமூக நிலை, பண்பாடு, நாகரிகம் குறித்த அறிவினைப் பெறச் செய்தல்.

➢ சங்க இலக்கியங்களின் அமைப்பு முறை, உள்ளடக்கம் பற்றி அறியச் செய்தல்

COURSE OUTCOMES

இப்பாடத்தினைப் பயில்வதால் மாணவியர் பெறும் திறன்கள்

CO No.	CO Statement	Cognitive Level
CO1	சங்க இலக்கியங்களின் வழி அக்கால மொழிச் சூழலையும் சமூகச் சூழலையும் கண்டறிதல்	K3
CO2	சங்க இலக்கியங்களின் சிறப்புகளைக் கண்டறிந்து அகப்புறக் கோட்பாடுகளை விளக்கி அறிதல்	K4
CO3	பழந்தமிழர் வரலாறு பண்பாடு ஆகியவற்றை அறிவியல் நோக்குடன் மதிப்பிடல்	K5
CO4	சங்க இலக்கியங்கள் உணர்த்தும் வாழ்வியல் விழுமியங்களை இன்றைய சூழலோடு ஒப்பிட்டு நோக்குதல்	K6
CO5	போட்டித் தேர்வுகளுக்கு ஏற்ப சங்க இலக்கிய நூல்களைக் கற்றறிதல்	K6

Mapping withCO, PO & PSO :

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் - SYLLABUS				
UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	நற்றிணை –(61 முதல் 70 வரை) ஐங்குறுநூறு அன்னாய்வாழிப் பத்து தோழிக்குரைத்த பத்து	15	CO1 CO2 CO3 CO4 CO5	K3 K4 K5 K6
II	குறுந்தொகை -(51 முதல் 75 வரை)	15	CO1 CO2 CO3 CO4 CO5	K3 K4 K5 K6
III	கலித்தொகை - பாலைக்கலி முதல் 5 பாடல்கள் குறிஞ்சிக்கலி முதல் 5 பாடல்கள்	15	CO1 CO2 CO3 CO4 CO5	K3 K4 K5 K6
IV	அகநானூறு -களிற்றியானைநிரை 41-50 வரை பரிபாடல் - திருமால் 4, செவ்வேள் 21	15	CO1 CO2 CO3 CO4 CO5	K3 K4 K5 K6
V	பத்துப்பாட்டு-பட்டினப்பாலை	15	CO1 CO2 CO3 CO4 CO5	K3 K4 K5 K6
VI	(சுய கற்றல்) இப்பகுதி பருவத்தேர்விற்கு உரியதல்ல பதிப்பு முயற்சிகள்	-	CO1 CO2 CO3 CO4 CO5	K3 K4 K5 K6

பார்வை நூல்கள்

1. ஒளவை சுதுரைசாமிப்பிள்ளை (உ.ஆ).2008 நற்றிணை கழக வெளியீடு, சென்னை.

2. இரா இராகவையங்கார் (உ.ஆ) .2016 குறுந்தொகை சாரதா பதிப்பகம், ஸ்ரீகிருஷ்ணாபுரம், ராயப்பேட்டை, சென்னை.

3. ஒளவை சு துரைசாமிப்பிள்ளை (உ.ஆ).2008 ஐங்குறுநூறு கழக வெளியீடு, சென்னை.

4. இரா சரவணமுத்து (உ.ஆ) .2008 கலித்தொகை, சாரதா பதிப்பகம், ஸ்ரீகிருஷ்ணாபுரம், ராயப்பேட்டை, சென்னை

5. நமு. வேங்கடசாமி. நாட்டார் (உ (ஆ.2008 அகநானூறு, கழக வெளியீடு, சென்னை.

6. சாமிநாதையர் உ .வே. (உ(.ஆ., 2018, பத்துப்பாட்டு மூலமும் நச்சினார்க்கினியர் உரையும், டாக்டர் உ வே. சாமிநாதையர் நூல் நிலையம்.

7. இராச மாணிக்கனார்.மா, 2018, பத்துப்பாட்டு ஆராய்ச்சி, சாகித்ய அகாடமி வெளியீடு,சென்னை

கற்பித்தல் முறைகள்

கலந்தாய்வு, வினாடி வினா, திட்டக்கட்டுரை, கரும்பலகை, குழுவிவாதம், **PPT,GOOGLE MEET,GOOGLE CLASS ROOM**

Web Resources

1. **https://www.tamilvu.org/ta/courses-degree-d011-d0112-html-d01124l1-18735**
2. https://www.tamilvu.org/library/nationalized/scholars/pdf/others/tcl/ainkurunuru.pdf
3. https://www.chennailibrary.com/ettuthogai/kalithogai.html

பாடப்பகுதி வடிவமைப்பாளர்

முனைவர் த.மணிமொழி.

Semester VI	Internal Mark : 25		External Mark : 75		
பாடக்குறியீடு	பாடம்	Category	Hrs/Week		Credits
23UTA6CC15	சங்க இலக்கியம் - புறம்	CC	5		4

நோக்கம் :

1.தமிழரின் புற வாழ்வியலை அறிதல்

2.மன்னர் வரலாறு, மக்கள் பண்பாடு இயற்கையோடு ஆன வாழ்வை எடுத்துரைத்தல்

3.பழந் தமிழரின் வீரம், கொடை, அறம் போன்ற பண்புகளை எடுத்துரைத்தல்

Coures Outcomes

இப்பாடத்திட்டத்தைப் பயில்வதால் மாணவியர் பெறும் திறன்

CO. NO	Co Statment	Cognitive Level
CO1	சங்க இலக்கிய புறப் பாடல்களின் வழியாக சமூகச் சூழலையும் மொழி அமைப்பையும் அறிதல்	K3
CO2	புறத்திணைகளுக்கான கொள்கைகள் மற்றும் கோட்பாடுகளைப் பகுத்தறிதல்	K4
CO3	சங்க காலக் கலாச்சாரம் மற்றும் வாழ்வியல் விழுமியங்களை ஆராய்ந்தறிதல்	K4
CO4	சங்கப் புலவர்களின் படைப்புகள் வழி அவர்களின் ஆளுமைத் திறன் நுண்ணறிவினை மதிப்பிடுதல்	K4
CO5	போட்டித் தேர்வுகளுக்கேற்ப பழந்தமிழர் மரபுகள் பண்பாடுகளைப் பகுத்தராய்தல்	K3

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் - SYLLABUS				
UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	புறநானூறு: ஒளவையார் பாடல்கள்.	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
II	புறநானூறு: (181 முதல் 200 வரை) 20 பாடல்கள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
III	பதிற்றுப்பத்து - நான்காம் பத்து (களங்காய்க்கண்ணி நார்முடிச்சேரலை காப்பியாற்றுக் காப்பியனார் பாடியது)	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
IV	பத்துப்பாட்டு - பெரும்பாணாற்றுப்படை	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
V	பத்துப்பாட்டு - சிறுபாணாற்றுப்படை	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

				-	K1
VI	<mark>சுயகற்றல் (இப்பகுதி பருவத்தேர்வுக்கு உரியதல்ல)</mark> பண்டைய மன்னர் ஆட்சி சிறப்பு, வீரம்,தமிழர் பண்பாடு மற்றும் பழக்க வழக்கம்				K2 K3 K4

பாட நூல்கள் :

- ஒளவை.துரைசாமி பிள்ளை(உ.ஆ),(2015) புறநானூறு, சாரதா பதிப்பகம், சென்னை.

- ஒளவை. துரைசாமி பிள்ளை (உ.ஆ),(2017) பதிற்றுப்பத்து, கழக வெளியீடு ,சென்னை.

- ஞா.மாணிக்கவாசகன் (உ.ஆ), (2021) பத்துப்பாட்டு, உமா பதிப்பகம், சென்னை.

பார்வை நூல்கள்:

- சி.சுப்பிரமணியன், (2008),சங்க இலக்கியம் சில பார்வைகள், பாரி நிலையம், சென்னை.

- எஸ் . வையாபுரி பிள்ளை, (2004),புறநானூறு தமிழரும், வ. உ .சி நூலகம், சென்னை.

- பெ.மாதையன் ,(2004) சங்க கால இனக்குழு சமுதாயமும் அரசு உருவாக்கமும், பாவை பப்ளிகேஷன், சென்னை.

 இணையதள முகவரி:

- www.tamildigitallibrary.in

கற்பித்தல் முறைகள் :

கலந்தாய்வு, வினாடி வினா, திட்டக்கட்டுரை, கரும்பலகை, குழுவிவாதம், PPT, GOOGLE MEET, GOOGLE CLASSROOM

பாடப்பகுதி வடிவமைப்பாளர் : முனைவர் ச.தீபா

Semester VI	Internal Mark: 25		External Mark: 75		
COURSE CODE	COURSE TITLE	CATEGORY	Hrs/Week	CREDITS	
22UTA6CC16	தனிப்பாடல் இலக்கியம்	CC	4	3	

நோக்கம் :

1. தனிப்பாடலின் தொன்மை. சிறப்பு. இலக்கியச் செழுமையை அறியச் செய்தல்

2. தனிப்பாடல் இலக்கியங்களின் தனித் தன்மைகளை எடுத்துரைத்தல்

COURSE OUTCOMES

இப்பாடத்தினைப் பயில்வதால் மாணவியர் பெறும் திறன்கள்

CO No.	CO Statement	Cognitive Level
CO1	தனிப் பாடலின் வாயிலாக அக்கால மொழி அமைப்பையும் சமூகச் சூழலையும் கண்டறிதல்	K1, K2
CO2	தனிப்பாடல்கள் சுட்டும் சிந்தனைக் கோட்பாடுகளைப் பகுத்துணர்தல்	K2
CO3	தனிப்பாடலின் வாயிலாக வாழ்வியல் விழுமியங்களை அறிதல்	K3
CO4	தனிப்பாடல்களை அறிவியல் நோக்கில் பகுத்தறிதல்	K4
CO5	போட்டித் தேர்வுகளுக்கேற்ப தனிப்பாடல்களைப் பகுத்தாராய்தல்	K4

Mapping of CO with Po and PSO

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் - SYLLABUS				
UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	ஒளவையார் – (20 -29 பாடல்கள்) திருமழிசையாழ்வார்–1பாடல்கள் மதுரை சொக்கநாதர் – 4 பாடல்கள் திருவள்ளுவநாயனார் – 1 – 10 பாடல்கள்	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	காளமேகப்புலவர் -1- 5 பாடல்கள் சத்திமுத்தப் புலவர் – 1 பாடல் பொற்களந்தை படிக்காசுத் தம்பிரான் – 1- 5 பாடல்கள் ஏகம்பவாணர் – 1- 5 பாடல்கள்	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	சீர்காழி அருணாசலக் கவிராயர் – 6 – 15 பாடல்கள் தொட்டிக் கலை சுப்பிரமணியத் தம்பிரான் – 1- 2 பாடல்கள் குரு நமச்சிவாய தேவர் – 1 – 9 பாடல்கள்	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	முத்து வீரப்பிள்ளை – 1-10 பாடல்கள் வேதநாயகம் பிள்ளை – 34 – 40 பாடல்கள் அருணாசலம் பிள்ளை – 1 – 3 பாடல்கள்	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	அழகியசொக்கநாதபிள்ளை–2–6 பாடல்கள் அந்தகக் கவி வீரராகவ முதலியார் – 1- 6 பாடல்கள் பல வித்துவான் பாடியது – 44 – 54 பாடல்கள்	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	(சுய கற்றல்) <mark>இப்பகுதி பருவத்தேர்விற்கு உரியதல்ல</mark> கம்பர் தனிப்பாடல்கள்	-	CO1, CO2, CO3, CO4,	K1, K2, K3, K4

			CO5	

பாட நூல் :

- கா.சு, பிள்ளை (உ.ஆ.), தனிப்பாடல் திரட்டு மூலமும் உரையும், சாரதா பதிப்பகம், சென்னை-600 014

பார்வை நூல்கள் :

- புலவர் அ.மாணிக்கம். (உ.ஆ.), தனிப்பாடல் திரட்டு, பூம்புகார் பதிப்பகம், சென்னன – 600 108

- சிவ. கன்னியப்பன் (உ.ஆ.), தனிப்பாடல் திரட்டு, பாரி நிலையம், சென்னை – 600 001

கற்பித்தல் முறைகள்

கலந்தாய்வு, வினாடிவினா, திட்டக்கட்டுரை, கரும்பலகை, குழு விவாதம்

Web Resources

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பாடத்திட்ட வடிவமைப்பாளர்

முனைவர் க.ராதிகா

Semester VI	Internal Mark: 25		External Mark: 75		
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs/Week**	**CREDITS**	
23UTA6DSE2A	பணித்தேர்வுத் தமிழ்	DSE	**5**	**3**	

நோக்கம்

➢ இந்திய மொழிக் குடும்பங்களின் வரலாற்றினை அறிதல்

➢ பழந்தமிழ் இலக்கியங்களின் வழி தமிழர்களின் வாழ்வியலை அறிதல்

➢ திறனாய்வு அணுகுமுறைகளைக் கற்று உணர்தல்

➢ அரசு போட்டித் தேர்வுகளுக்கு மாணவர்களைத் தயார் செய்தல்

COURSE OUTCOMES

இப்பாடத்தினைப் பயில்வதால் மாணவியர் பெறும் திறன்கள்

CO No.	CO Statement	Cognitive Level
CO1	அரசு தேர்வுப் பாடங்கள் குறித்து மாணவர்கள் புரிந்து கொள்ளல்	K1
CO2	தமிழ் இலக்கியச் சூழல் இலக்கணச் சூழல்களை அறிந்து விளக்கி அறிதல்	K2
CO3	தமிழ் இலக்கியச் செய்திகளைப் புரிந்து கொண்டு பயன்படுத்துதல்	K3
CO4	பணித்தேர்வுக்குரிய கூறுகளைப் பகுத்தறிதல்	K4
CO5	பணித் தேர்வுகளுக்கு ஏற்ப இலக்கணக் கூறுகளைப் பகுத்தாராய்தல்	K4

Mapping of CO with Po and PSO

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3

CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் – SYLLABUS				
UNIT	**CONTENT**	**HOURS**	**COs**	**COGNITIVE LEVEL**
I	எழுத்துக்களின் பிறப்பு - குற்றியலுகரம் - ஒரெழுத்து ஒரு மொழி - போலி - வழக்கு - இலக்கிய வகைச் சொற்கள் - வேற்றுமை - தொகாநிலைத் தொடர்கள் - வழு,வழாநிலை, வழுவமைதி – வினா, விடைகள் - எச்சம் – வினைமுற்று - வினையாலணையும் பெயர்-தொழிற்பெயர்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
II	அகப்பொருள் இலக்கணம் - அலகிடுதல் - தமிழில் எழுதுவோம் - நால்வகைப் பொருத்தங்கள் - பொருள் மயக்கம் - இலக்கணக் குறிப்புகள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
III	சங்க இலக்கிய தகவல்கள் - எட்டுத்தொகை முதல் முத்தொள்ளாயிரம் வரையிலானவை - நாலடியார் - பழமொழி முதலான கீழ்க்கணக்கு நூல்கள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
IV	இக்கால இலக்கியத் தகவல்கள் – கவிதை, புதுக்கவிதை, சிறுகதை, நாவல், உரைநடை	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

V	பல்கலைக்கழகங்கள், மாநாடுகள், விருதுகள் பற்றிய தகவல்கள், செம்மொழித் தமிழ்த் தகவல்கள், இலக்கிய இயக்கங்கள் பற்றிய தகவல்கள், இலக்கிய உத்திகள் பற்றிய தகவல்கள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
VI	(சுய கற்றல்) <mark>**இப்பகுதி பருவத்தேர்விற்கு உரியதல்ல**</mark> <mark>சாகித்ய அகாடமி நூல்கள் - ஞானபீட பரிசு நூல்கள் - தமிழக நாட்டுடைமையாகிய நூல்கள்</mark>		CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

பாட நூல்கள்

1. ஜோ. பாலசுப்பிரமணி, இன்பத்தமிழ் இலக்கணமும் ஈராயிரம் குறிப்புகளும், அபர்ணா ஆப்செட் பரிண்டர்ஸ், இராமநாதபுரம்.

2. முனைவர் தேவிரா, (2020), தமிழ் இலக்கியத் தகவல் களஞ்சியம், ஸ்ரீ நந்தினி பதிப்பகம், சென்னை - 101

பார்வை நூல்கள்

1. முனைவர் பாக்யமேரி, வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு, நியு செஞ்சுரி புக் ஹவுஸ், அம்பத்தூர், சென்னை – 98

2. முனைவர் பாக்யமேரி, வெற்றி நோக்கில் இலக்கணம் இலக்கிய வரலாறு மொழித்திறன், பூவேந்தன் பதிப்பகம், மைலாப்பூர்,சென்னை

கற்பித்தல்முறைகள்

குழுக்கலந்தாய்வு, வினாடிவினா, திட்டக்கட்டுரை,கரும்பலகை, விவாதம்

Web Resources

https://www.tamilvu.org/ta/library-libcontnt-273141

பாடத்திட்ட வடிவமைப்பாளர்

முனைவர் க.அகல்யா

Semester VI	Internal Mark: 25		External Mark: 75		
COURSE CODE	COURSE TITLE		CATEGORY	Hrs/Week	CREDITS
23UTA6DSE2B	வாழ்க்கை வரலாற்று இலக்கியம் (உ.வே.சா)		DSE	5	3

நோக்கம்

1. வாழ்க்கை வரலாற்று நூல்கள் குறித்து அறிந்து கொள்ளுதல்.

2. உ.வே.சாவின் வாழ்க்கை வரலாற்றைத் தெரிந்து கொள்ளுதல்.

3. உ.வே.சாவின் தமிழ்ப் பணியினைப் பற்றி அறிந்து கொள்ளுதல்.

COURSE OUTCOMES

இப்பாடத்தினைப் பயில்வதால் மாணவியர் பெறும்திறன்கள்

CO No.	CO Statement	Cognitive Level
CO1	வாழ்க்கை வரலாற்று இலக்கியங்கள் பற்றி அறிதல்	K1
CO2	உ.வே.சா.வின் இளமைப் பருவம் மற்றும் கல்வி கற்றமையைப் பற்றி தெரிந்து கொள்ளுதல்	K2
CO3	மீனாட்சி சுந்தரம்பிள்ளையின் மீது உ.வே.சாவின் பக்தியின் தன்மையினை உணர்தல்	K3
CO4	உ.வே.சாவின் வளர்ச்சி நிலையைப் பற்றி ஆராய்தல்.	K4
CO5	உ.வே.சாவின் பணிகளைப் பற்றி ஆராய்ந்தறிதல்	K4

Mapping of CO with Po and PSO

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	2	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	2	3	3	3
CO4	2	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் – SYLLABUS				
UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	வாழ்க்கை வரலாற்று இலக்கியம் விளக்கம் --- வாழ்க்கை வரலாறு – தன் வரலாறு	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
II	இளமைப்பருவம் - ஊர் - முன்னோர்கள் - பிறப்பு- இளமைக் கல்வி – தமிழும்சங்கீதமும் - குன்னம் சிதம்பரம்பிள்ளை திருமணம் - காரிகைப் பாடம் - செங்கணம் வாழ்க்கை	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
III	மாயூர வாழ்க்கை – மாயூரப் பிரயாணம் - மகாவித்துவான் உடன் முதல்நாள்தமிழே துணை- பட்டீஸ்வரத்தில் பாடம் - திருவாவடுதுறைக் காட்சிகள் - திருப்பெருந்துறைப் புராணம் இயற்றிய பாடல்கள் - திருவிளையாடல் பிரசங்கம் - தேசிகர் - திரிசிரபுரம் - கோவிந்தபிள்ளை – சிறப்புப் பாடல்கள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

				CO1	K1
IV	புதுவீடு – சிறப்புப் பாடல்கள் – பெற்ற சன்மானங்கள் – நானே உதாரணம் - ஸ்தல தரிசனம் – சமயோசித பாடல்கள் – குறை நிவர்த்தி - பாடும் பணி	15		CO2 CO3 CO4 CO5	K2 K3 K4
V	பதிப்பு வாழ்க்கை – பதிப்பித்த முதல் நூல் – கல்லூரி வாழ்க்கை - இரண்டாவது வெளியீடு – சிந்தாமணிப் பதிப்பு திருநெல்வேலி பிரயாணம் - பத்துப்பாட்டுப் பிரதிகள் - பத்துப்பாட்டு பதிப்பு – சிலப்பதிகார ஆராய்ச்சி – புறநானூறு – மணிமேகலை பதிப்புகள்	15		CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
VI	<mark>மனப்பாடப் பகுதி (சுய கற்றல்) இப்பகுதி இறுதி பருவத்தேர்விற்கு உரியதல்ல</mark> உ.வே.சாவின் பட்டயங்கள், பேச்சுத் திறன், நினைவு இல்லம்	-		CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

பாட நூல் :

- என் சரித்திரம் *(2020), (உ.வே.சா.)* படித்துறை புத்தக அறக்கட்டளை ஜோலார் பேட்டை, திருப்பத்தூர்

இணைய தள முகவரிகள் :

- https://tamildigitallibrary.in/book-detail?id=jZY9lup2kZl6TuXGlZQdjZt1lZUe&tag=%E0%AE%8E%E0%AE%A9%E0%AF%8D%20%E0%AE%9A%E0%AE%B0%E0%AE%BF%E0%AE%A4%E0%AF%8D%E0%AE%A4%E0%AE%BF%E0%AE%B0%E0%AE%AE%E0%AF%8D
- https://www.commonfolks.in/books/d/en-kathai-naamakkal-ramalingampillai

கற்பித்தல் முறைகள்

குழுக் கலந்தாய்வு, வினாடி வினா, திட்டக்கட்டுரை, கரும்பலகை, விவாதம்

பாடத்திட்ட வடிவமைப்பாளர்

திருமதி பொ. அபிராமி

Semester VI	Internal Marks: 25	External Mark 75		
பாடக்குறியீடு	பாடம்	Category	Hrs/Week	Credits
23UTA6DSE2C	தொல்லியல்	DSE	5	3

நோக்கம்

- தொல்லியல் கலையை அறிமுகம் செய்தல்.

- இலக்கியத்தை தொல்லியல் பின்புலத்தில் படிக்கத் தூண்டல்.

- தமிழக வரலாற்றை ஆதாரங்களுடன் வாசித்துப் புரிந்து கொள்தல்.

COURSE OUTCOME

இப்பாடத்தினைப் பயில்வதால் மாணவியர் பெறும் திறன்கள்

CO No.	CO Statement	Knowledge Level
CO1	தொல்லியல் கலையின் வழி தமிழரின் தொன்மையைக் கண்டறிதல்	K1
CO2	தொல்லியல் துறையில் பணிக்குச் செல்ல வாய்ப்பை உருவாக்குதல்	K3 K2
CO3	தொல்லியல் ஆதாரங்களைப் பகுத்துணர்ந்து, சமுதாய நோக்குகளுக்கு கருதுகோளை வடிவமைத்தல்	K4
CO4	தொல்லியல் எச்சங்களைச் சேகரிக்கும் முறையினை கண்டறிதல்	K1
CO5	தொல்லியல் தரவுகளை ஆராய்ந்து புதிய படிநிலைகளை ஆராய்ந்தறிதல்	K4

Mapping with CO, PO & PSO:

	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	3	3	3	2	3	3	3	3
CO4	3	3	2	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

பாடத்திட்டம் – SYLLABUS				
UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	தொல்லியல் தோற்றம் வளர்ச்சி – ஆங்கிலேய அறிஞர்களின் பங்கு – தமிழ்த் தொல்லியல் அறிஞர்கள் – தொல்லியலின் பல்வேறு முறைகள் – தொல்லியலாளரின் தகுதிகள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
II	தமிழ் எழுத்துக்களின் வளர்ச்சி – கல்வெட்டுக்கள் அறிமுகம் – தமிழ்ப்பிராமியும் - வடஇந்திய பிராமியும் – கிரந்த எழுத்து – வட்டெழுத்து – பிற்கால எழுத்துக்களின் மாற்றமும் வளர்ச்சியும்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
III	அகழ்வாய்வுக் கொள்கைகள் – வகைகள் – கருவிகள் - மட்பாண்டங்கள் ஆய்வு – பெருங்கற்காலம் – காலக் கணிப்பு முறை – பொருட்களைப் பாதுகாத்தல்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4
IV	நடுகற்கள் – கோவிற்கலைகள் – நாணயவியல் – செப்பேடுகள் – சுவடிகள் அறிமுகம் – ஓவியங்கள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4

V	அகழ்வாய்வுகள் அறிமுகம் – சிந்து சமவெளி – பூம்புகார், ஆதிச்சநல்லூர், பொருந்தல் – கீழடி ஆய்வு முறைகள்	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4	
VI	<mark>(சுய கற்றல்) இப்பகுதி பருவத்தேர்விற்கு உரியதல்ல</mark> குடைவரைக் கோவில் - பாண்டியர்காலக் கோவில்கள் – மீனாட்சியம்மன் கோவில்	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4	

பாட நூல் :

- மனோன்மணி.தி, செல்வநாயகி.தி., (2009) தொல்லியல் நாம் தமிழர் பதிப்பகம்
- செல்வராஜ்.ச., (2008) தொல்லியல் ஓர் அறிமுகம் கௌரா பதிப்பகக் குழுமம்

பார்வை நூல்கள் :

- சாந்தலிங்கம் சொ (தொகுப்பாசிரியர்)., (2022) நகரம் தொல்லியலும் வரலாற்றியலும் கருத்துப்பட்டறை
- செல்வராஜ்.ச., (2008) தொல்லியல் தொல்பொருள் கலைக்களஞ்சியம் நாம் தமிழர் பதிப்பகம்
- இராசா., (2007) தொல்லியல் சுவடுகள் கௌரா பதிப்பகக் குழுமம்

இணையதள முகவரிகள் :

- www.tamilvu.org
- www.noolaham.in
- www.projectmadurai.org
- www.chennailibrary.com
- http://kalithogai.blogspot.in

கற்பித்தல் முறைகள்

கலந்தாய்வு, வினாடி வினா, திட்டக்கட்டுரை, கரும்பலகை, குழுவிவாதம், PPT, Google Meet, Google Class Room.

பாடப்பகுதி வடிவமைப்பாளர்

முனைவர் இர. கீர்த்தனா

தமிழாய்வுத்துறை

பாடத்திட்டக் குழுக் கூட்டம் - நிகழ்ச்சி நிரல்

தமிழாய்வுத்துறையின் பதினொன்றாவது பாடத்திட்டக் குழுக் கூட்டத்தின் நிகழ்ச்சி நிரல் :

நாள்   : 15.10.2024

நேரம் : காலை 10.30 மணி

இடம் : E8 அறை

பகுதி எண்.பா.தி.கு.11/24/01

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியம் ஐந்து மற்றும் ஆறாம் பருவங்களுக்கான பாட வரையறையில் மணிநேரம், கிரெடிட் மற்றும் பாடக்குறியீட்டு எண் மாற்றங்களை ஆலோசித்து அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்தல்

பகுதி எண்.பா.தி.கு.11/24/02

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியத்திற்கான ஆறாம் பருவத்திற்கான பாடத்திட்ட மாற்றங்களை ஆலோசித்து அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்தல்

பகுதி எண்.பா.தி.கு.11/24/03

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் முதுகலைத் தமிழிலக்கியம் இரண்டாம் பருவத்திற்கான ஆராய்ச்சி நெறிமுறைகள் (22PTA2DSE2A) தாளை மூன்றாம் பருவத்தில் வைக்க முந்தைய கல்விக் குழுவில் கூறப்பட்டது. அம்மாற்றத்தினை 2025-2026 கல்வியாண்டு முதல் செயல்படுத்த ஆலோசித்து அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்தல்

பகுதி எண்.பா.தி.கு.11/24/04

பாடத்திட்டம் உருவாக்கிய குழுவினரைப் பாராட்டுதல்

<u>தமிழாய்வுத்துறையின் பதினொன்றாவது பாடத்திட்டக் குழுக் கூட்டத்தின் நிகழ்ச்சி நிரல்</u> :

நாள்   : 15.10.2024

நேரம் : காலை 10.30 மணி

இடம் : E8 அறை

பாடத்திட்டக் குழுக் கூட்டத்தில் பங்கேற்ற உறுப்பினர்கள்

1.முனைவர் ச.இராமலட்சுமி	தலைவர்
	பேராசிரியர் & துறைத்தலைவர்
2. முனைவர் அ.இரா.கோமதி	உறுப்பினர்
3. முனைவர் அ.யசோதா	உறுப்பினர்
4. முனைவர் ந.சுபா	உறுப்பினர்
5. முனைவர் வி.கவிதா	உறுப்பினர்
6. முனைவர் மு.ஜெயலெட்சுமி	உறுப்பினர்
7. முனைவர் தி.மணிமொழி	உறுப்பினர்
8. முனைவர் மே.க.வசந்தி	உறுப்பினர்
9. முனைவர் இரா.வனிதா	உறுப்பினர்
10. முனைவர் வி.சத்யவதி	உறுப்பினர்
11. முனைவர் க.ராதிகா	உறுப்பினர்
12. முனைவர் மு.அனு	உறுப்பினர்
13. முனைவர் ப.சசிரேகா	உறுப்பினர்
14. முனைவர் மா.ஆசியாதாரா	உறுப்பினர்
15. முனைவர் ச.தீபா	உறுப்பினர்
16. முனைவர் க.அகல்யா	உறுப்பினர்
17. முனைவர் இர.கீர்த்தனா	உறுப்பினர்
18. திருமதி பொ.அபிராமி	உறுப்பினர்

பாடத்திட்டக் குழுக்கூட்டத்திலிருந்து விலக்கு அளிக்கப்பட்டவர்கள்:

முனைவர் பா.கவிதா, உறுப்பினர், இணைப் பேராசிரியர், தமிழாய்வுத்துறை, காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சி – 18

முனைவர் செ.புனிதா, உறுப்பினர், உதவிப் பேராசிரியர், தமிழாய்வுத்துறை, காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சி – 18

01.04.2024 அன்று நடைபெற்ற பாடத்திட்டக்குழுக் கூட்டத்தில் நிறைவேற்றப்பட்ட தீர்மானங்கள் :

பத்தாவது பாடத்திட்டக்குழுக் கூட்டம் 01.04.2024 அன்று பகல் 10.30 மணியளவில் நடைபெற்றது. பாடத்திட்டக்குழுத் தலைவர் அறிக்கையினை வாசித்தார். பின்வரும் தீர்மானங்கள் நிறைவேற்றப்பட்டன :

- தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் மூன்றாம் பருவத்திற்கான பகுதி 1 தமிழ் பாடத் தலைப்பு 'காப்பியமும் நாடகமும்' என்றிருப்பது 'பொதுத்தமிழ் III' என்றும்; நான்காம் பருவத்திற்கான பகுதி 1 தமிழ் பாடத் தலைப்பு 'பண்டைய இலக்கியமும் உரைநடையும்' என்றிருப்பது 'பொதுத்தமிழ் IV' என்றும் மாற்றப்பட்டுள்ளன; பகுதி 1 தமிழுக்கான மணிநேரம் ஆறு மணி நேரமாக மாற்றப்பட்டுள்ளது. பாடக் குறியீடு 22ULT3 என்றிருந்தது 23ULT3 எனவும், 22ULT4 என்றிருந்தது 23ULT4 எனவும் மாற்றப்பட்டுள்ளன. இம்மாற்றங்கள் ஆலோசிக்கப்பட்டு அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்யப்பட்டது.

- தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியம் மூன்று மற்றும் நான்காம் பருவங்களுக்கான பாட வரையறையில் பாடத்தாள், மணிநேர மாற்றம் மற்றும் கிரெடிட் மாற்றங்களை ஆலோசித்து அங்கீகாரமளிக்கத் தீர்மானிக்கப்பட்டது.

- தமிழாய்வுத்துறையில் 2022-2023 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியத்திற்கான ஆறாம் பருவத்திற்கான பாடத்திட்டங்களை ஆலோசித்து அங்கீகாரமளிக்கத் தீர்மானிக்கப்பட்டது.

- தமிழாய்வுத்துறையில் 2024-2025 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியம் முதல் பருவத்திற்கான பகுதி 1 தமிழ் பாடத்தாள் மாற்றத்தை ஆலோசித்து அங்கீகாரமளிக்கத் தீர்மானிக்கப்பட்டது.

- தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் முதுகலைத் தமிழிலக்கியம் மூன்று மற்றும் நான்காம் பருவங்களுக்கான பாட

வரையறையில் பாடத் தலைப்பு மற்றும் கிரெடிட் மாற்றங்களை ஆலோசித்து அங்கீகாரமளிக்கத் தீர்மானிக்கப்பட்டது.

- தமிழாய்வுத்துறையில் 2024-2025 கல்வியாண்டு முதல் வழங்கப்படும் மதிப்பு கூட்டப்பட்ட படிப்பின் பாடத்திட்டத்தை ஆலோசித்து அங்கீகாரமளிக்கத் தீர்மானிக்கப்பட்டது.

15.10.2024 அன்று நடைபெற்ற பதினொன்றாவது பாடத்திட்டக் குழு நடவடிக்கைகள்: பகுதி எண்.பா.தி.கு.11/24/01

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியம் ஐந்தாம் பருவத்தில் செய்யப்பட்டுள்ள மாற்றங்கள் :

முதன்மைப் பாடம் - IX – நம்பியகப்பொருள் (22UTA5CC9) தாளின் கிரெடிட் புள்ளிகள் 6 என்பது 5 என மாற்றம் செய்யப்பட்டுள்ளது.

துறைசார் விருப்பத் தேர்வுப் பாடம் – I தாள்களின் (22UTA5DSE1A, 22UTA5DSE1B, 22UTA5DSE1C) கிரெடிட் புள்ளிகள் 4 என்பது 3 என மாற்றம் செய்யப்பட்டுள்ளது.

ஐந்தாம் பருவத்தின் மொத்தக் கிரெடிட் புள்ளிகள் 29 என்பது 27 என மாற்றம் செய்யப்பட்டுள்ளது.

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியம் ஆறாம் பருவத்தில் செய்யப்பட்டுள்ள மாற்றங்கள் :

முதன்மைப் பாடம் – XIII – புறப்பொருள் வெண்பாமாலை (22UTA6CC13) தாளின் கிரெடிட் புள்ளிகள் 5 என்பது 4 என மாற்றம் செய்யப்பட்டுள்ளது.

முதன்மைப் பாடம் – XIV – சங்க இலக்கியம் – அகம் (22UTA6CC14) தாளின் கிரெடிட் புள்ளிகள் 5 என்பது 4 என மாற்றம் செய்யப்பட்டுள்ளது.

முதன்மைப் பாடம் – XV – சங்க இலக்கியம் – புறம் தாளின் மணி நேரம் 4 என்பது 5 என மாற்றம் செய்யப்பட்டுள்ளது. பாடக் குறியீட்டு எண் 22UTA6CC15 என்பது 23UTA6CC15 என மாற்றம் செய்யப்பட்டுள்ளது.

முதன்மைப் பாடம் – XVI – தனிப்பாடல் இலக்கியம் (22UTA6CC16) தாளின் கிரெடிட் புள்ளிகள் 4 என்பது 3 என மாற்றம் செய்யப்பட்டுள்ளது.

துறைசார் விருப்பத் தேர்வுப் பாடம் – II – பணித்தேர்வுத் தமிழ், தன் வரலாற்று இலக்கியம் – உ.வே.சா., தொல்லியல் தாள்களின் கிரெடிட் புள்ளிகள் 4 என்பது 3 எனவும் மணிநேரம் 6 என்பது 5 எனவும் மாற்றம் செய்யப்பட்டுள்ளன. பணித்தேர்வுத் தமிழ் தாளின் பாடக் குறியீட்டு எண் 22UTA6DSE2A என்பது 23UTA6DSE2A என மாற்றம் செய்யப்பட்டுள்ளது. தன் வரலாற்று இலக்கியம் தாளின் பாடக் குறியீட்டு எண்

22UTA6DSE2B என்பது 23UTA6DSE2B என மாற்றம் செய்யப்பட்டுள்ளது. தொல்லியல் தாளின் பாடக் குறியீட்டு எண் 22UTA6DSE2C என்பது 23UTA6DSE2C என மாற்றம் செய்யப்பட்டுள்ளது.

ஆய்வேடு தாளின் கிரெடிட் புள்ளிகள் 5 என்பது 4 என மாற்றம் செய்யப்பட்டுள்ளது.

ஆறாம் பருவத்தின் மொத்தக் கிரெடிட் புள்ளிகள் 27 என்பது 24 என மாற்றம் செய்யப்பட்டுள்ளது.

ஆறு பருவங்களின் மொத்தக் கிரெடிட் புள்ளிகள் 150 என்பது 140 என மாற்றம் செய்யப்பட்டுள்ளது.

பின்வரும் தீர்மானம் ஏற்கப்பட்டது :

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியத்திற்கான ஐந்து மற்றும் ஆறாம் பருவங்களுக்கான பாட வரையறையில் மணிநேரம், கிரெடிட் மற்றும் பாடக்குறியீட்டு எண் மாற்றங்களை ஆலோசித்து அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்யப்படுகிறது.

பகுதி எண்.பா.தி.கு.11/24/02

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியத்திற்கான ஆறாம் பருவத்திற்கான பாடத்திட்டத்தில் செய்யப்பட்டுள்ள மாற்றங்கள் :

முதன்மைப் பாடம் – XV – சங்க இலக்கியம் – புறம் (23UTA6CC15) தாளின் அலகு 3 முழுவதுமாக மாற்றப்பட்டுள்ளது.

துறைசார் விருப்பத் தேர்வுப் பாடம் – II – பணித்தேர்வுத் தமிழ் (23UTA6DSE2A) தாளில் அலகு 4, அலகு 5 பாடங்களில் மாற்றங்கள் செய்யப்பட்டுள்ளன.

துறைசார் விருப்பத் தேர்வுப் பாடம் – II – தன் வரலாற்று இலக்கியம் (23UTA6DSE2B) தாளின் அலகு 4 முழுவதுமாக மாற்றப்பட்டுள்ளது.

துறைசார் விருப்பத் தேர்வுப் பாடம் – II – தொல்லியல் (23UTA6DSE2C) தாளில் தாளின் அலகு 3 முழுவதுமாக மாற்றப்பட்டுள்ளது.

பின்வரும் தீர்மானம் ஏற்கப்பட்டது :

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் இளங்கலைத் தமிழிலக்கியத்திற்கான ஆறாம் பருவத்திற்கான பாடத்திட்ட மாற்றங்களை ஆலோசித்து அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்தல்

பகுதி எண்.பா.தி.கு.11/24/03

பின்வரும் தீர்மானம் ஏற்கப்பட்டது :

தமிழாய்வுத்துறையில் 2023-2024 கல்வியாண்டு முதல் வழங்கப்படும் முதுகலைத் தமிழிலக்கியம் இரண்டாம் பருவத்திற்கான ஆராய்ச்சி நெறிமுறைகள் (22PTA2DSE2A) தாளை மூன்றாம் பருவத்தில் வைக்க முந்தைய கல்விக் குழுவில் கூறப்பட்டது. அம்மாற்றத்தினை 2025-2026 கல்வியாண்டு முதல் செயல்படுத்த ஆலோசித்து அங்கீகாரமளித்துத் திருச்சிராப்பள்ளி காவேரி மகளிர் கல்லூரி (தன்னாட்சி) கல்விக்குழுவுக்குப் பரிந்துரை செய்தல்

பகுதி எண்.பா.தி.கு.11/24/04

பாடத்திட்டம் உருவாக்கிய குழுவினரைப் பாராட்டுதல்

பாடத்திட்டத்தைச் சிறப்பான முறையில் உருவாக்கிய பாடத்திட்டக் குழுவினருக்குப் பாராட்டு தெரிவிக்கப்பட்டது.

தமிழாய்வுத்துறை இணைப்பேராசிரியர் முனைவர் அ.இரா.கோமதி அவர்களின் நன்றியுடன் பதினொன்றாவது பாடத்திட்டக் குழுக்கூட்டம் நிறைவு பெற்றது.

தலைவர்

பாடத்திட்டக் குழுக் கூட்டம்

கலைப்புலத் தலைவர்

காவேரி மகளிர் கல்லூரி (தன்னாட்சி), திருச்சிராப்பள்ளி – 620018.

தமிழாய்வுத்துறை

15.10.2024 அன்று நடைபெற்ற பாடத்திட்டக் குழுக் கூட்டம்

1. 2024-2025ஆம் கல்வியாண்டில் முந்தைய பாடத்திட்டத்திலிருந்து செய்யப்பட்டுள்ள மாற்றங்கள்:

பாடத்திட்டக் குழுத் தலைவர் முனைவர் ச.இராமலட்சுமி 2024-2025ஆம் கல்வியாண்டில் இளங்கலைத் தமிழ் வகுப்பின் பாடத்திட்டங்களில் செய்யப்பட்டுள்ள மாற்றங்களை முன்மொழிந்தார்.

வகுப்பு	பாடம்	பாடக் குறியீடு	முதன்மை / விருப்பத் தேர்வு	மாற்றம் செய்யப்பட்டுள்ள சதவீதம் %
இளங்கலை	சங்க இலக்கியம் – புறம்	23UTA6CC15	முதன்மை	20%
	பணித்தேர்வுத் தமிழ்	23UTA6DSE2A	விருப்பத் தேர்வு	20%
	தன் வரலாற்று இலக்கியம் (உ.வே.சா)	23UTA6DSE2B	விருப்பத் தேர்வு	20%
	தொல்லியல்	23UTA6DSE2C	விருப்பத் தேர்வு	20%

தலைவர்

பாடத்திட்டக் குழுக் கூட்டம்

கலைப்புலத் தலைவர்

ANNEXURE E

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC

ISO 9001: 2015 CERTIFIED

TIRUCHIRAPALLI

PG DEPARTMENT OF ENGLISH

BA ENGLISH

SYLLABUS

2023- 2024 AND ONWARDS

SEMESTER – V & VI

CAUVERY COLLEGE FOR WOMEN, AUTONOMOUS, TRICHY - 18.
PG DEPARTMENT OF ENGLISH
BA ENGLISH - Programme Structure
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS - LOCF)
(For the Candidates admitted from the Academic Year 2023 – 2024 Batch and onwards)

SEMESTER - I

Semester	Part	Course	Title	Subject Code	Inst. Hrs/ Week	Credits	Hours	Int	Ext	Total
I	I	Language Course - I (LC) - Tamil*/Other Languages*	பொதுத்தமிழ் – I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper – I - French -I	23ULF1						
	II	English Language Course - I (ELC)	General English – I	23UE1	6	3	3	25	75	100
	III	Core Course - I (CC)	Introduction to Literature	23UEN1CC1	6	5	3	25	75	100
		Core Course - II (CC)	Indian Writing in English	23UEN1CC2	6	5	3	25	75	100
		First Allied Course - I (AC)	Social History of England	23UEN1AC1	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course - I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**21**				**600**

SEMESTER - II

Semester	Part	Course	Course Title	Subject Code	Inst. Hrs/ Week	Credits	Hours	Int	Ext	Total
II	I	Language Course - II (LC) - Tamil*/ Other Languages*	பொதுத்தமிழ் – II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French - II	22ULF2						
	II	English Language Course - II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course - III (CC)	Poetry - I	23UEN2CC3	6	5	3	25	75	100
		Core Course - IV (CC)	Fiction	23UEN2CC4	5	5	3	25	75	100
		First Allied Course - II(AC)	Literary Forms	23UEN2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course - II(AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Extra Credit Course	**SWAYAM**	**As per UGC Recommendation**						
		Total			**30**	**21**				**600**

CAUVERY COLLEGE FOR WOMEN, AUTONOMOUS, TRICHY - 18.
PG DEPARTMENT OF ENGLISH
BA ENGLISH - Programme Structure
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS - LOCF)
(For the Candidates admitted from the Academic Year 2023 – 2024 Batch and onwards)
SEMESTER - III

Semester	Part	Course	Course Title	Subject Code	Inst. Hrs / Week	Credits	Exam Hours	Exam Marks Int	Exam Marks Ext	Total
III	I	Language Course - III (LC) - Tamil*/ Other Languages*	பொதுத்தமிழ் – III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course - III (ELC)	Learning Grammar Through Literature - I	23UE3	6	3	3	25	75	100
	III	Core Course - V (CC)	One Act Plays	23UEN3CC5	5	5	3	25	75	100
		Core Course - VI (CC)	Poetry - II	23UEN3CC6	5	5	3	25	75	100
		Second Allied Course - I (AC)	History of English Literature - I	23UEN3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course - I (GEC)	Presentation Skills in English	23UEN3GEC1	2	2	3	25	75	100
			Basic Tamil - I	22ULC3BT1						
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**22**				**700**
		15 DAYS INTERNSHIP DURING SEMESTER HOLIDAYS								

SEMESTER - IV

Semester	Part	Course	Course Title	Subject Code	Inst. Hrs / Week	Credits	Exam Hours	Exam Marks Int	Exam Marks Ext	Total
IV	I	Language Course - IV (LC) - Tamil*/ Other Languages*	பொதுத்தமிழ் – IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French - II	22ULF4						
	II	English Language Course - IV (ELC)	Learning Grammar Through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course - VII (CC)	Drama	23UEN4CC7	5	5	3	25	75	100
		Core Course - VIII (CC)	Introduction to Language and Linguistics	23UEN4CC8	5	5	3	25	75	100
		Second Allied Course - II (AC)	History of English Literature -II	23UEN4AC4	4	3	3	25	75	100
		Internship	Internship	22UEN4INT	-	2	-	-	-	100
	IV	Generic Elective Course - II (GEC)	Communication Skills in English	23UEN4GEC2	2	2	3	25	75	100
			Basic Tamil - II	22ULC4BT2						
			Special Tamil -II	22ULC4ST2						
		Skill Enhancement Course - I (SEC)	Public Speaking (P)	23UEN4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**25**				**800**

SEMESTER - V

Semester	Part	Course	Course Title	Subject Code	Inst. Hrs / Week	Credits	Exam Hours	Marks Int	Marks Ext	Total
V	III	Core Course IX (CC)	Shakespeare	23UEN5CC9	6	5	3	25	75	100
		Core Course X (CC)	Principles of Literary Criticism	23UEN5CC10	5	5	3	25	75	100
		Core Course XI (CC)	American Literature	23UEN5CC11	5	5	3	25	75	100
		Core Course XII (CC)	Women's Writing in English	23UEN5CC12	5	5	3	25	75	100
		Discipline Specific Elective - I (DSE)	A. Diasporic Literature	23UEN5DSE1A	5	3	3	25	75	100
			B. Translation: Theory and Practice	23UEN5DSE1B						
			C. World Classics in Translation	23UEN5DSE1C						
	IV	Ability Enhancement Compulsory Course - IV (AECC)	UGC Jeevan Kaushal Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course - II (SEC)	English for BPO	23UEN5SEC2	2	2	3	25	75	100
		Extra Credit Course	SWAYAM	As per UGC Recommendations						
		Total			**30**	**27**				**700**

SEMESTER - VI

Semester	Part	Course	Course Title	Subject Code	Inst. Hrs / Week	Credits	Exam Hours	Marks Int	Marks Ext	Total
VI	III	Core Course XIII (CC)	English Language Teaching	23UEN6CC13	4	4	3	25	75	100
		Core Course XIV (CC)	Canadian Literature	23UEN6CC14	5	4	3	25	75	100
		Core Course XV (CC)	Commonwealth Literature	23UEN6CC15	5	3	3	25	75	100
		Core Course XVI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective - II (DSE)	A. Journalism	23UEN6DSE2A	5	3	3	25	75	100
			B. Content Writing	23UEN6DSE2B						
			C. Phonetics	23UEN6DSE2C						
		Project	Project Work	23UEN6PW	5	4	-	-	100	100
	V	Ability Enhancement Compulsory Course - V(AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
		Extension Activity		22UGEA	-	1	-	-	-	-
		Total			**30**	**24**				**700**
		GRAND TOTAL			**180**	**140**				**4100**

COURSES & CREDITS FOR UG PROGRAMME

Part	Course	No. of Courses	Credits	Total Credits
I	Tamil/Other Languages	4	12	12
II	English	4	12	12
III	Core Courses	16	75	99
	Project Work	1	4	
	Internship	1	2	
	First Allied–Allied Course (AC)	2	6	
	Second Allied–Allied Course (AC)	2	6	
	Discipline Specific Elective (DSE)	2	6	
IV	Generic Elective Course (GEC)	2	4	15
	Skill Enhancement Course (SEC)	2	4	
	AECC-I -Universal Human Values	1	2	
	AECC-II- Environmental Studies	1	2	
	AECC-III-Innovation and Entrepreneurship	1	1	
	AECC-IV-Professional Skills	1	2	
V	AECC-V-Gender Studies	1	1	02
	Extension Activities	-	1	
	Total	**41**		**140**

Signature		
Name & Designation	**Dr. S. Jayashree Agarwal** **HOD**	**Dr. N. Savithri** **Dean**

Semester -V	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS / WEEK	CREDITS
23UEN5CC9	SHAKESPEARE	CORE COURSE – IX	6	5

COURSE OBJECTIVES

➢ To introduce the dramatic techniques to the learners.

➢ To make the learners understand the characterization, dramatic and poetic techniques in Shakespearean plays.

➢ To enhance the learner's appreciation of select plays of Shakespeare

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING
On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate and recall details of the Age of Shakespeare and his works	K1
CO2	Demonstrate the settings of Shakespearean Theatre	K2
CO3	Identify the aesthetics and uniqueness of Shakespeare both as a dramatist and poet for higher learning.	K3
CO4	Built the characters portrayed by Shakespeare to be explored in-depth for better prospects	K3
CO5	Analyse the style and techniques of Shakespearean Plays	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	2	2	2	2
CO2	3	2	3	2	2	3	2	3	2	2
CO3	2	2	2	2	2	2	2	2	2	2
CO4	2	2	2	3	2	2	2	2	3	2
CO5	2	2	2	2	2	2	2	2	2	2

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	Cos	COGNITIVE LEVEL
I	Shakespearean Theatre and Audience. Supernatural Elements in Shakespearean Plays. Shakespearean Soliloquies.	18	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	Sonnets: 53, 104, 116,130	18	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	*Hamlet*	18	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	*Antony and Cleopatra*	18	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	*The Tempest*	18	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study For Enrichment (Not to be Included for End Semester Examination)** *A Midsummer Night's Dream*.	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Shakespeare, William. *The Complete Works of Shakespeare*. Wilco Publishing House, 2018.

REFERENCE BOOKS

Bradely, A.C. *Shakespearean Tragedy: Lectures on Hamlet, Othello, King Lear, Macbeth*. Macmillan and Co, 1905.

Charlton, H.B. *Shakespearean Comedy*. Mathew, 1938.

Ford, Boris. *The Age of Shakespeare*. Penguin Books, 1982.

WEB REFERENCES

http://shakespeare.mit.edu/tempest/full.html https://shakespeare.folger.edu/shakespeares-works/julius-caesar/entire-play/
https://www.shakespeare.org.uk/explore-shakespeare/shakespedia/shakespeares-plays/as-you-like-it/
https://standardebooks.org/ebooks/william-shakespeare/antony-and-cleopatra/text/single-page

PEDAGOGY - Group Discussion, Assignments, Quiz

COURSE DESIGNER – Dr. S. Ramalakshmi

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – V	Internal Marks:25			External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS/ WEEK**	**CREDITS**	
23UEN5CC10	**PRINCIPLES OF LITERARY CRITICISM**	**CORE COURSE - X**	**5**	**5**	

COURSE OBJECTIVES

➢ To identify the difference and the advancement in critical terms and concept - from classical criticism to the present age.

➢ To enable the learners use critical tools and demonstrate the critical understanding of literary criticism.

➢ To appreciate various approaches in literary criticism.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate the mode of criticism in literary works.	**K1**
CO2	Interpret the literary texts with the given criticism	**K2**
CO3	Illustrate the features of literary text with reference to literary criticism for higher learning.	**K2**
CO4	Apply various literary approaches in literary works	**K3**
CO5	Analyze the critical works of art for higher learning and better prospects.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	2	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	2	3	3	3	3	2	3
CO5	3	3	3	2	3	3	3	3	2	3

"1" – Slight (Low) Correlation　　　　　**"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation　　　**"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	Cos	COGNITIVE LEVEL
I	Plato - Theory of Ideas, Indictment of Poetry Aristotle - Six Elements of Tragedy Horace Precepts concerning the Art of Poetry and Drama Longinus - On the Sublime - Definition - True and False Sublime - Distinction between True and False Sublime	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	Sir Philip Sidney - An Apology for Poetry	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	Samuel Johnson - Preface to Shakespeare William Wordsworth – Preface to Lyrical Ballads	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	S.T. Coleridge - Biographia Literaria (Chapter XIV) T.S. Eliot - Tradition and Individual Talent	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	Five Approaches to Literary Criticism: Moralistic Approach, Psychological Approach, Sociological Approach, Formalistic Approach and Archetypal Approach	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study For Enrichment** **(Not to be Included for End Semester Examination)** Alexander Pope - An Essay on Criticism John Dryden **-** An Essay on Dramatic Poesy	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Mundra, S.C., and Agarwal, S.C. *Principles & History of Literary Criticism*. Prakash Book Depot, 2009.

Scott, Wilbur. *Five Approaches to Literary Criticism*. Macmillan, 1963.

Dryden, John. *An Essay on Dramatic Poesy*. Oxford University Press, 1918.

REFERENCE BOOKS

Enright, D.J., and J.A. de Chickera. *English Critical Texts*. Oxford University Press, 1975.

Habib, Rafey. *A History of Literary Criticism: From Plato to the Present*. Blackwell Publishing Ltd, 2005.

Arul, S. Joseph, S. Paul Pragash, and M. John Britto. *Literary Criticism*. Lambert Academic Publishing, 2010.

Prasad, Birjadish. *An Introduction to English Criticism*. Macmillan India Ltd, 1965.

WEB REFERENCES

https://drdevika.files.wordpress.com/2017/08/abrams-orientation-of-critical-theories.pdf

http://socrates.acadiau.ca/courses/engl/rcunningham/Winter2020/engl5013_poetics/texts/eliot_tradition.pdf http://www.letras.ufmg.br/padrao_cms/documentos/profs/marcel/LyricalBallads.pdfhttp://public-library.uk/pdfs/8/865.pdf

http://www.letras.ufmg.br/padrao_cms/documentos/profs/marcel/LyricalBallads.pdf

PEDAGOGY - Group Discussion**,** Quiz**,** Assignment

COURSE DESIGNER - Ms. P.K. Durgadevi

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS/ WEEK**	**CREDITS**
23UEN5CC11	**AMERICAN LITERATURE**	**CORE COURSE - XI**	**5**	**5**

COURSE OBJECTIVES

➢ Identify representations of American authors and works, significant historical orcultural events.

➢ Analyze American literary works of individuals and communal values within social, political, religious contexts of different literary periods.

➢ Develop an understanding of the progress of American characteristic forms or styles of expression in different periods.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate the understanding about American Transcendentalism.	**K1**
CO2	Illustrate the key ideas and works with major and minor poets of America.	**K2**
CO3	Interpret the American history and social conditions with the referred text for higher learning.	**K2**
CO4	Construct to develop the literary dramas in terms of cultural and social issues.	**K3**
CO5	Analyse the elements such as imagery, theme, motif & style in literature for critical and for better prospects.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	3	3	3	3	2	3	3	3	3
CO4	3	3	3	2	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Poetry** Emily Dickinson - "Success is Counted Sweetest" Langston Hughes - "Dreams" Sylvia Plath - "Mirror" E.E. Cummings - "Somewhere I have Never Travelled, Gladly Beyond"	15	**CO1, CO2, CO3, CO4, CO5**	**K1, K2 K3, K4**
II	**Prose** Ralph Waldo Emerson - "Self-Reliance" Martin Luther King - "I Have a Dream"	15	**CO1, CO2, CO3, CO4, CO5**	**K1, K2 K3, K4**
III	**Short Story** Mark Twain - "Ghost Story" James Thurber - "Secret Life of Walter Mitty"	15	**CO1, CO2, CO3, CO4, CO5**	**K1, K2 K3, K4**
IV	**Drama** Samuel Shepard - *Curse of Starving Class* Arthur Miller - *All My Sons*	15	**CO1, CO2, CO3, CO4, CO5**	**K1, K2 K3, K4**
V	**Fiction** Earnest Hemingway - *The Old Man and the Sea* Toni Morrison - *The Bluest Eye*	15	**CO1, CO2, CO3, CO4, CO5**	**K1, K2 K3, K4**
VI	**Self-study For Enrichment** **(Not to be Included for End Semester Examination)** Reading from Emily Dickinson: Hope is the thing with feathers Robert Frost - "West Running Brooks". Nathaniel Hawthrone - *The Scarlet Letter* John Steinbeck - *The Grapes of Wrath*.	-	**CO1, CO2, CO3, CO4, CO5**	**K1, K2 K3, K4**

TEXT BOOKS

Cummings, E. E. *Somewhere I Have Never Travelled, Gladly Beyond*. Great Neck Publishing, 2013.

Hemingway, Ernest. *The Old Man and the Sea*. RHUK, 1994.

Shepard, Sam. *Curse of the Starving Class*. Dramatists Play Service, Inc.

Wolfe, Thomas. *The Complete Short Stories of Thomas Wolfe*. Collier Books, 1989.

Emerson, Ralph Waldo. *Selected Essays*. Penguin American Library, 1982.

REFERENCE BOOKS

Fisher, William J., K. B. Vaid, H. Willard Reninger, and Ralph Samuelson. *American Literature of the Nineteenth Century: An Anthology*. Eurasia.

Hawthorne, Nathaniel. *The Scarlet Letter*. Maple Press, 2010.

Ellison, Ralph. *Invisible Man*. Penguin UK, 2009.

Das, Ajay. *Great American Poets*. 1st ed., Bhasker Publications, 2010.

Subbian, C. *American Literature: An Anthology of Poems*. Emerald Publishers, 2010.

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https://research.lib.buffalo.edu/american-literature-research/primary-sources

https://www.poetryfoundation.org/poems/153877/somewhere-i-have-never-travelledgladly-beyond

https://beta.poetryfoundation.org/poems/150995/dreams-5d767850da976

https://frielingretc.files.wordpress.com/2013/03/all-my-sons-script.pdf

https://www.wtps.org/cms/lib/NJ01912980/Centricity/Domain/741/The%20Bluest%20Eye.pdf

PEDAGOGY - Group Discussion, Seminar, Quiz and Assignment.

COURSE DESIGNER - Ms. Irudhaya Pushpam. M

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – V	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS / WEEK	CREDITS
23UEN5CC12	WOMEN'S WRITING IN ENGLISH	COURE COURSE - XII	5	5

COURSE OBJECTIVES

➢ To enrich the knowledge of women's lives in the global world as silent sufferers, toil, pain and the atrocities faced by men.

➢ To enhance and empower women's literature and understand feminism from social and cultural background of the society.

➢ To differentiate and appreciate the works of women writers of various countries and ages.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING
On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Recall and relate the woes and miseries faced by women with emphasis on class, race, gender in the world.	K1
CO2	Illustrate and interpret the difficulties of women and empowerment	K2
CO3	Identify the problems and highlight solutions by education and empowerment for higher learning.	K3
CO4	Compare and contrast the lives of the women in today's world and the past.	K4
CO5	Analyse the works of the women writers with critics thinking and empower with moral and social responsibility aiming for better future.	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	3	3	3	3	3	3	2	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	2	2	2	3	3	2	3	3	2	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	2	3	3	2	3	3	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Poetry** Maya Angelou – "I Know Why the Caged Bird Sings" Sylvia Plath **–** "Poppies in October" Christina Rossetti – "Remember"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Prose** Alice Munro – "Boys and Girls" Chimamanda Ngozi Adichie – "We Should All Be Feminists"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**Short Stories** Toni Cade Bambara – "Raymond's Run" Kate Chopin – "The Story of an Hour"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Drama** Lorraine Hansberry- *A Raisin in the Sun* Susan Glaspell - *The Outside*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Fiction** Patricia Highsmith - *The Price of Salt* Maggie O Farrell - *The Marriage Portrait*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study For Enrichment** **(Not to be Included for End Semester Examination)** Alice Munro - *Save the Reaper* Kamala Das - *The Losing Battle* Susan Glaspell - *Trifles*, Character Sketch, Themes	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Angelou, Maya. *I Know Why the Caged Bird Sings*. Random House, 2009.

Adichie, Chimamanda Ngozi. *We Should All Be Feminists*. 2014.

Chopin, Kate. "The Story of an Hour." *The Norton Introduction to Literature*, edited by Kelly J.

Mays, shorter 14th ed., W. W. Norton, 2022.

Highsmith, Patricia, and Claire Morgan. *The Price of Salt*. Dover Publications, Inc., 2015.

REFERENCE BOOKS

Bauermeister, Erica. *500 Great Books by Women Writers: A Reader's Guide*. Penguin, 1994.

WEB REFERENCES

https://allpoetry.com/Poppies-In-October

https://nmi.org/wp- content/uploads/PublicDomain/TheOutsideDrama.pdf

https://www.litcharts.com/lit/a-raisin-in-the-sun/summary

https://www.supersummary.com/the-marriage-portrait/summary/

https://studycorgi.com/the-short-story-raymonds-run-by-toni-cade-bambara/

PEDAGOGY - Group Discussion, Debate, Paper presentation, Extensive reading, Seminar with PPT

COURSE DESIGNER - Ms. A. Edel Flora Mary

SIGNATURE OF THE COURSE DESIGNER   SIGNATURE OF THE HOD

Semester – V	Internal Marks: 25		External Marks: 75		
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**HRS / WEEK**	**CREDITS**
23UEN5DSE1A	**DIASPORIC LITERATURE**		**DISCIPLINE SPECIFIC ELECTIVE - I**	**5**	**3**

COURSE OBJECTIVES

- ➢ Expose the students to the Diasporic life and experience.
- ➢ Make the students aware of the process of emigration and the impact of cultural displacement.
- ➢ To enhance the learners, understand and infer Diasporic Literature from the representative works.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate the elements of alienation, quest of identity and displacement and disintegration of cultures in real life.	**K1**
CO2	Compare and contrast the concern of individual's community attachment to the homeland and the new land from social cultural background.	**K2**
CO3	Identify mass migration, improved economic status, values, and cultures as depicted in Diasporic literature.	**K3**
CO4	Apply knowledge of critical thinking sensitivity to regional and global perspectives to identify and solve problems.	**K3**
CO5	Analyse cross cultural issues of migrations, loss of homeland, resettlement struggle of the inner mind for enrichment of ideas for better prospects.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	2
CO2	3	3	3	3	2	3	3	3	2	3
CO3	2	3	3	3	2	3	3	3	2	3
CO4	3	3	2	3	3	3	3	3	3	3
CO5	3	3	3	2	3	3	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Definition of the terms "Diaspora"- Birth of Diasporic Literature and its Modern Meaning - Colonialism and Diaspora - Classification of "Diaspora". Concept of Diaspora, Ethnicity, Issues of location, Nostalgia and Memory Loss Cultural Hybridism	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Poetry** Rick Barot - "Bonnard's Garden" Derek Walcott - "A Far Cry from Africa"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**Short Story** Jhumpa Lahiri – "This Blessed House" (*Interpreter of Maladies*, Chapter – VII) Chitra Banerjee Divakaruni - "Clothes" (*Arranged Marriage*, Chapter - II)	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Drama** David Henry Hwang - *M. Butterfly*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Novel** Salman Rushdie - *Midnight's Children* Zadie Smith - *White Teeth*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study For Enrichment** **(Not to be Included for End Semester Examination)** Self-identity, Expatriation, Exuberance of Immigration, Hybridity, Nostalgia for Home Displacement, Rootlessness	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

John, B. Alphonso - Karkala. Indo- English Literature in the Nineteenth Century. Mysore, 1970. Print.

Peeradina, Saleem. Ed. Contemporary Indian Poetry in English: An Assessment and Selection.

Chennai: Macmillan Pub. Pvt. Ltd. 2010. Print

Smith, Zadie. White Teeth. Random House, 2000.

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Cohen, Robin 1997. Global Diaspora: An Introduction. London: UCL Press. [Introduction] Eleonore Kofman, Annie Phizacklea, Parvati Raghuram, Rosemary Sales. 2000. Gender and International Migration in Europe: Employment, Welfare and Politics. London: Routledge. [Introduction]**.**

Jain, Jasbir. *Writers of the Indian Diaspora*. Delhi: Rawat Publications,2003. Print.

Lal, Brij Vilash. *The Encyclopedia of the Indian Diaspora*. Delhi: Oxford University Press, 2006. Print.

Natarajan, Nalini. *Handbook of Twentieth-Century Literatures of India.*Delhi: Greenwood Publishing Group, 1996. Print.

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https://xpressenglish.com/our-stories/blessed-house/

PEDAGOGY - Group Discussion, Debate, Paper presentation, Extensive reading, Seminar with PPT

COURSE DESIGNER – Dr.R.Shanthi

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – V	Internal Marks: 25		External Marks: 75		
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS / WEEK**	**CREDITS**	
23UEN5DSE1B	**TRANSLATION: THEORY AND PRACTICE**	**DISCIPLINE SPECIFIC ELECTIVE - I**	5	3	

COURSE OBJECTIVES

➢ To provide students with a thorough knowledge of the history of translation and its issues.

➢ To verify the validity and applicability of the theoretical paradigms through the analysis of a number of existing translations.

➢ To identify and highlight the comparative differences in literary traditions through the linguistic and literary analysis of original and translated texts.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Define various theories of translation and apply in translation by possessing thorough knowledge	K1
CO2	Illustrate the relationship between theory & practice of some text by applying scientific and social approaches	K2
CO3	Construct knowledge of historical development of translation theory and translating classics from Source Language to Target Language for research and higher learning	K3
CO4	Analyse the knowledge of various views of translation theorists, problems faced by the translators in Prose, Poetry, Drama and other genres to solve various problems	K3
CO5	Examine concepts of translation principles and methods in translating one text to another as in Thirukkural for personal and societal development for better prospects	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	3	3	3	3	2	3	3
CO2	3	3	3	3	3	3	3	2	3	2
CO3	3	3	3	3	3	3	3	3	3	3
CO4	2	3	2	3	3	2	2	3	3	3
CO5	3	3	3	3	3	3	3	2	3	3

"1" – Slight (Low) Correlation **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation **"-" indicates there is no Correlation**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Define Translation - History of Translation - History of Translation in India - Do's and Don'ts of Translation - Scope of Translation Studies	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	Types of Translation - Methods of Translation - Principles of Translation - Principles of Translator	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	Dryden on Translation - J.C. Catford's view on Translation - Eugene Nida - Peter Newmark - Susan Bassnett - Theodore Savory	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	Equivalence and Untranslatability in Literary Texts (Translation of Poem, Translation of Prose, Translation of Drama)	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K
V	Ramachander Krishna - *Home* Thirukkural Chapter XXIX (19), LXXX (80) & CXXII (122)	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study For Enrichment** **(Not to be Included for EndSemester Examination)** Translating verse translation in Thirukkural, Paragraph Translation Based on Comprehension Passages, Translation of Roman Jacobson, Mc-Guire, Horst Frenz, Translation of Bharathiyar Poems, Perumal Murugan – *Poonachi*	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

*Note: Passage for Translation should be taken only from Unit - V

TEXT BOOKS

Bassnett - McGuire, Susan. *Translation Studies*. Methuen & Co., 1980.

Catford, J.C. *A Linguistic Theory of Translation*. Oxford University Press, 1974.

Lefevere, André. *Translating Literature: Practice and Theory in a Comparative Literature Context*. Modern Language Association, 1992.

Newmark, Peter. *Approaches to Translation*. Pergamon Press, 1988.

Steiner, George. *After Babel*. 3rd ed., Oxford University Press, 1999.

Pope, George Uglow. *Thirukkural: English Translation and Commentary*. CreateSpace Independent Publishing Platform, 2017.

REFERENCE BOOKS

Bassnett-McGuire, Susan, and André Lefevere, editors. *Translation, History and Culture*. Pinter Publishers, 1991.

Belloc, Hilaire. *On Translation*. Oxford University Press, 1931.

Savory, Theodore. *The Art of Translation*. The Writer Inc., 1968.

Frost, William, editor. *Dryden and the Art of Translation*. Yale University Press, 1955.

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 www.catranslation.org

http://www.lai.com/companion.html

http://www.mcelhearn.com/lit.html

http://fuzzy.arts.kuleuven.ac.be/cetra/people.htm

http://www.erudit.org/erudit/meta/ Meta

http://www.translatum.gr/trjournal.ht

https://ramctheatheist.medium.com/home-short-story-cc67fb09f8b7

https://www.projectmadurai.org/pm_etexts/utf8/pmuni0153.html

PEDAGOGY - Group Discussion, Quiz, Assignment, Translation Practice

COURSE DESIGNER - Ms. A. Edel Flora Mary

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – V	Internal Marks:25			External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HRS / WEEK**	**CREDITS**
23UEN5DSE1C	**WORLD CLASSICS IN TRANSLATION**	**DISCIPLINE SPECIFIC ELECTIVE - I**		**5**	**3**

COURSE OBJECTIVES

➢ To introduce the learners the World's best Classics in translations.

➢ To generate a broad vision of life by making the learners gain an understanding of early human experiences, the universal problems and varied life situations.

➢ To enable the learners to excel in learning various genres such as poetry, fiction, short stories and drama of World Classics.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING
On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate to recall the contemporary relevance with World Classics	**K1**
CO2	Illustrate a deep insight into the famous Classical Poems and Epics and cultivate judicious appreciation.	**K2**
CO3	Apply the knowledge gained to various real-life situations and human experiences for higher learning.	**K3**
CO4	Analyse the preliminary understanding of the Classical literature.	**K4**
CO5	Examine and correlate the ideals to one's own life and in various situation for higher learning.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	2	3	2	3	2	2	3
CO2	3	3	2	2	3	3	3	2	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	2	3	2	2	3	2	3	2	2	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Poetry** Kalidasa - "Megha Duta or the Cloud Messenger" (Argument and Lines 01- 48) Dante Alighieri - "The Gate of Hell": Canto III (Inferno) Bertolt Brecht - "The Burning of the Books" Anna Akhmatova - "Lot's Wife" Tao Yuanming - "Returning to Live in the Country"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Prose** Introduction to Greek Classical Literature A.K.Ramanujan - "On Ancient Tamil Poetics"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**Drama** Sophocles - *Oedipus Rex*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Short Story** Alexander Pushkin - "The Blizzard" Guy de Maupassant - "The Convert" Leo Tolstoy - "The Empty Drum" Fyodor Dostoyevsky - "A Christmas Tree and a Wedding"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Fiction** Hermann Hesse – *Siddhartha*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study For Enrichment** **(Not to be Included for End Semester Examination)** Gothe - "The Reunion" Dostoevsky - "Notes from Underground" Maxim Gorky - "One Autumn Night" Bhasha - *Karnabharam* Miguel Cervantes - *Don Quixote* Henrik Ibsen - *A Doll's House*	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Homer. *The Odyssey*. Penguin Classics.

Devy, G. N. *Indian Literary Criticism*. Orient Black Swan, pp. 346-374.

Wilson, Horace Hayman. *The Mégha Dúta, Or, Cloud Messenger: A Poem in the Sanskrit Language*. Calcutta, 1813.

Chandran, K. Narayana. *Texts and Their Worlds - II*. Foundation Books, 2005.

Sophocles. *The Theban Plays*. Penguin Classics.

Maupassant, Guy de. *Masterpieces of World Fiction: Selected Stories*.

Tolstoy, Leo. *Selected Stories*. *Masterpieces of World Fiction*.

REFERENCE BOOKS

D'haen, Theo, César Domínguez, and Mads Rosendahl Thomsen, editors. *World Literature Reader: A Reader*.

Lawall, Sarah, editor. *Reading World Literature: Theory, History, Practice*.

Cohen, J. M. *A History of Western Literature*.

Blackman, R. *1789: The French Revolution Begins*. Cambridge University Press.

Cohen, Walter. *A History of European Literature: The West and the World from Antiquity to the Present*. Edinburgh University Press.

Bradbury, Malcolm, and James McFarlane, editors. *Modernism: A Guide to European Literature, 1890-1930*.

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https://archive.org/details/mghadtaorcloudm00wilsgoog/page/n136/mode/2up
https://www.thefreshreads.com/the-blizzard/ https://www.berfrois.com/2013/12/two-christmas-short-stories-fyodor-dostoyevsky/
https://www.britannica.com/art/Greek-literature/Classical-period-5th-and-4th-centuries-bc
https://www.thoughtco.com/inferno-canto-iii-divine-comedy-dante-alighieri-4098791
https://www.britannica.com/biography/Sophocles
https://www.britannica.com/art/French-literature/The-reaction-against-reason
https://www.britannica.com/art/Russian-literature
https://manybooks.net/book/124249/read#epubcfi(/6/2[titlepage]!/4/1:0)

RECOMMENDED MOOC

NPTEL: Introduction to World Literature https://nptel.ac.in/courses/109/106/109106147/edX-
Harvard University: Modern Masterpieces of world Literature https://www.edx.org/course/modern-masterpieces-of-world-literature

TED TALKS

Why Read the Classics? Valdir Chagas | TEDx Youth@ACS
https://www.youtube.com/watch?v=Ss36LZ5xoPA
What if everyone had a classical education? | Rebekah Hagstrom | TEDx Mahtomedi
https://www.youtube.com/watch?v=0m5yDZCy2pE

PEDAGOGY - Quiz, Assignment, Activity, Powerpoint Presentation
COURSE DESIGNER – Dr. S. Ramalakshmi

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester - V	Internal Mark: 100			
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS / WEEK**	**CREDITS**
22UGPS	**UGC – JEEVAN KAUSHAL PROFESSIONAL SKILLS**	**ABILITY ENHANCEMENT COMPULSORY COURSE – IV**	**2**	**2**

COURSE OBJECTIVES

➢ To prepare students to become viable entrepreneurs or employees with necessary professional skills with sound knowledge of Indian and Tamil Culture and Heritage.

➢ To enhance the comprehensive skills required for a work environment leading them competent and confident.

➢ To motivate the learners to excel in a challenging environment for organization and personal growth with a professional touch.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING
On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENTS	COGNITIVE LEVEL
CO1	Relate and define communication skills in good technical writing, presentation skills with professional touch.	**K1**
CO2	Develop confidence and competence in professional skills to understand ambitions and goals to achieve the target.	**K2**
CO3	Build professional skills with a practical approach and enhance critical thinking abilities in various situation of life for lifelong learning.	**K3**
CO4	Examine the cultural heritage of Tamil Nadu and India to develop an understanding of cultural nuances and practices, to navigate diverse workplaces with sensitivity and respect.	**K4**
CO5	Analyze the acquired skills to pursue successful career path with an assertive attitude for better prospects in the global world.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	3	3	3	2	2	3
CO2	3	3	3	3	3	3	3	2	2	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	3	3	3	2	2	3	3	3	2	3
CO5	3	3	3	2	3	3	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**
"3" – Substantial (High) Correlation **"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Resume Skills** Preparation and Presentation. Avoiding Common Errors in Resume Writing Preparing Resumes for Specific Purposes	6	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Interview Skills** Useful Vocabulary Preparation and Presentation. Avoid Fear and Stress Observation of a Simulated Interview	6	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Body Language and Personal Grooming** Importance of Body Language Postures, Eye Contact, Expressions & Etiquette Good Grooming is Being Clean	6	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Social and Cultural Etiquette** **Existing Traditional Tamil and Indian Culture** Introduction to Tamil Culture Introduction to Indian Culture and Etiquette **Pls. Note: (Subjected to inclusions based on the requirements of the respective disciplines)** Good Manners and Etiquette Table Manners Manners in Public Places	6	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Group Discussion Skills** Meaning and Methods of Group Discussion. Procedure of Group Discussion. The Do's and Don'ts of a Group Discussion	6	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4,
VI	**Self-Study for Enrichment** **(Not to be included in End Semester Examination)** Time Management - Personality Development - Problem Solving - Public Speaking - Leadership Skills	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4,

TEXTBOOK

A Handbook of Professional Skills by Dr. Rita Shanthakumar and Dr. S. JayashreeAgarwal

REFERENCE BOOKS

Gorden. L Raymond, *Basic Interviewing Skills,* Waveland Press, Inc, US, 1992

Dr. Rashmi Achmare, Handbook of Communication Skills for Professional Students,Publisher: IPH Edition: First-2021

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https://graphicdesign.sfcc.spokane.edu/dZine/projects/Q3-%20typographic%20resume/resume_basics.pdf

http://worldwideuniversity.org/library/bookboon/the-art-%20of-interview-skills.pdf

https://www.tutorialsmark.com/positive_body_language/positive_body_language_tuto%20rial.pdf

http://egyankosh.ac.in/bitstream/123456789/35846/5/Unit-10.pdf

https://www.etiquettescholar.com/dining_etiquette/table_manners.html

http://languagemanuals.weebly.com/uploads/4/8/5/3/4853169/final_tamil_manual.pdf

PEDAGOGY - Seminar, Simulation Quiz, Assignment and Role Play

ASSESSMENT RUBRICS FOR 100 MARK

- **Group Discussion (25)**
- **Interview Skills (25)**
- **Resume Writing Evaluation Rubric (40)**
- **Role Play (10)**

Group Discussion Evaluation Rubric (25 Marks)
Criteria 1: Communication Skills (5 Marks)

- Clarity
- Conciseness
- Fluency
- Articulation
- Confidence

Criteria 2: Content and Knowledge (5 Marks)

- Relevance
- Depth of Knowledge
- Accuracy
- Creativity
- Coherence

Criteria 3: Critical Thinking (5 Marks)

- Analytical Skills
- Problem-Solving Skills
- Logical Flow
- Body Language
- Summarization

Criteria 4: Team Dynamics and Interaction (5 Marks)
- Leadership
- Teamwork
- Respect and Tolerance
- Listening Skills
- Speaking Skills

Criteria 5: Participation (5 Marks)
- Engagement
- Initiative
- Balance
- Confidence
- Gestures

Interview Skills Evaluation Rubric (25 Marks)
Criteria 1: Communication Skills (5 Marks)
- Clarity
- Conciseness
- Fluency
- Articulation
- Confidence

Criteria 2: Content and Knowledge (5 Marks)
- Relevance
- Depth of Knowledge
- Accuracy
- Creativity
- Coherence

Criteria 3: Interpersonal Skills (5 Marks)
- Active Listening
- Style of Expression
- Body Language
- Composure
- Confidence

Criteria 4: Problem Solving and Critical Thinking (5 Marks)
- Analysis
- Knowledge Application
- Presence of Mind
- Reasoning
- Articulation

Criteria 5: Self-Presentation (5 Marks)
- Appearance
- Grooming
- Energy and Enthusiasm
- Presentation
- Politeness

Resume Writing Evaluation Rubric (40 Marks)

Criteria 1: Content (10 Marks)
- Relevance of Information
- Detail and Specificity
- Accuracy and Honesty

Criteria 2: Organization (10 Marks)
- Logical Flow
- Section Headings and Structure

Criteria 3: Formatting (10 Marks)
- Visual Appeal
- Consistency

Criteria 4: Language and Style (10 Marks)
- Grammar and Spelling
- Professional Tone

Role Play (10 Marks)
- Tamil Culture and Indian Culture
- Table Manners and Etiquette

There will be no end-semester exam for this course. The subject teacher will make an assessment of the student's performance based on the above-mentioned components and marks will be awarded and submitted to COE in the prescribed format specified by the Controller of Examinations with the approval of the Heads of the respective departments.

COURSE DESIGNERS - Dr. Rita Shanthakumar & Dr. S. Jayashree Agarwal

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester - V	Internal Marks:25		External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS / WEEK**	**CREDITS**
23UEN5SEC2	ENGLISH FOR BPO	SKILL ENHANCEMENT COURSE – II	2	2

COURSE OBJECTIVES

➢ To enable students to learn the significance of communication in business.

➢ To help them expand their vocabulary related to different business communications.

➢ To make them learn the techniques of interviews and group discussion.

COURSE OUTCOMES AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate the learner's ability to use grammar both in spoken and written form.	K1
CO2	Explain the basic grammar used in constructing a sentence as well as in speaking.	K2
CO3	Develop their speaking ability in English, both in terms of fluency and comprehension.	K3
CO4	Inspect their reading speed and comprehension level.	K4
CO5	Examine their correct usage of English grammar in speaking and writing	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	2	3	3	3	2	2	3	3	3
CO3	3	2	2	3	3	3	3	3	3	3
CO4	3	3	2	3	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	2

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is no Correlation.**

<div align="center">**SYLLABUS**</div>

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introductory Session** Introducing BPO The Importance of English for BPOs Skills required for BPOs	6	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Accent Neutralization** Pronunciation of Consonants and Vowels Intonation and Stress Basics of British and American Accents	6	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**Personality Enhancement** Avoiding Nervousness and Building Confidence Body Language Mirror Practice	6	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Cover Letter and Resume Writing** Drafting of Cover Letters Content of Resume Design, Layout of Resume	6	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Interview Skills** Short Conversation Listening and Answering the Queries Telephone Etiquettes	6	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-Study for Enrichment** **(Not to be included for the End Semester Examination)** Smart Skills for the Job Market The most Common Mistakes made in Group Discussions Mock Call Practice	--	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Kulkarni, Sarika. *Business Process Outsourcing*. Jaico Publishing House, 2005.

Binkowski, Donna Deans. *Learn to Speak English: Workbook*. BPP Publication, 2005.

Bhaskar, W. W. S., and N. S. Prabhu. *English Through Reading*. Macmillan, 2008.

REFERENCE BOOKS

Laguna, John. *College Writing Skills: Media Edition*. Macmillan, 1998.

Baug, H. L. S., Frayer, M., and Thomas, D. *Handbook for Business Writing*. NTC Business Books, 1987.

Berry, Thomas Elliott. *The Most Common Mistakes in English Usage*. Tata McGraw-Hill, 2007.

Alex, K. *Soft Skills*. S. Chand and Company Ltd, 2009.

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https://pdfroom.com/books/learn-to-speak-english-deluxe-workbook/0K2ll8Yz2ap

https://www.javatpoint.com/group-discussion#:~:text=Group%20Discussion%2020GD%20is,group%20represents%20his%2Fher% 20perspective.

https://www.businessnewsdaily.com/3207-resume-writing-tips.html

PEDAGOGY - Activity, Classroom interaction, Role play, Group discussion

COURSE DESIGNER - Ms. N.Yoga

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HRS / WEEK**	**CREDITS**
23UEN6CC13	ENGLISH LANGUAGE TEACHING	CORE COURSE - XIII		4	4

COURSE OBJECTIVES

➢ To expose learners to various approaches & methods, aspects and strategies ofteaching English.

➢ To help the learners understand the essential components & concepts of Language teaching.

➢ To Learn the pedagogical principles and develop their professional skills.

COURSE OUTCOME AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate the methodologies in the teaching of various forms of literature (Poetry, Grammar, Vocabulary, Composition, Pronunciation, LSRW Skills)	K1
CO2	Explain the various approaches, methods and techniques of teaching English.	K2
CO3	Demonstrate the use of Audio-visual aids in the teaching of language.	K2
CO4	Apply the knowledge in preparing and designing curriculum, syllabus and course.	K3
CO5	Analyze the essential components and concepts of ELT	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	2	3	3	3	3	3	3	3	3
CO3	3	3	2	3	3	3	2	2	3	3
CO4	3	3	3	3	3	3	3	2	3	3
CO5	3	3	3	3	3	2	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is No Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Teaching English as a Second Language, Issues Involved in the Teaching of English, Explanation of Curriculum, Syllabus, Course, Methods, Techniques.	12	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	Approaches and Methods Grammar Translation Method Audio-lingual Method Communicative Language Teaching Approach Natural Approach Structural Approach Total Physical Response	12	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	Teaching of Grammar and Vocabulary Teaching of Poetry Teaching of Prose Teaching of Drama Teaching of Fiction.	12	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	Teaching EFL Teaching LSRW and their sub skills Hands on Experience, Types of Tests and their Purposes Objectives - Lesson Plans and Material Production	12	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	Use of Audio -Visual Aids in Teaching EnglishLanguage and ICT Tools, Blended Learning, Assessment and Evaluation, Critical Thinking, Reflective Skills	12	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study for Enrichment** **(Not to be included for End Semester Examination)** Tasks for Language Learning Writing and Reading Facilitative e-tools. Managing Teaching Through Virtual Learning Environment	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Brown, H. Douglas. Language Assessment: Principles and Classroom Practice. Pearson Education, 3rd ed., 2018.

Brown, H. Douglas. Principles of Language Learning and Teaching. Pearson Education, 6th ed., 2007.

Richards, Jack C., and Theodore S. Rodgers. Approaches and Methods in Language Teaching. Cambridge University Press, 3rd ed., 2014.

Baruah, T. C. The English Teacher's Handbook. Sterling Publishers, 1991.

Varghese, Paul. Teaching English as a Second Language. Sterling Publishers, 1990.

Bright, John Ambrose, and G. P. McGregor. Teaching English as a Second Language: Theory and Techniques for the Secondary Stage. Longman, 1970.

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https://avys.omu.edu.tr/storage/app/public/dbuyukahiska/134963/Approaches-and-Methods-in-Language-Teaching.pdf
https://www.professorjackrichards.com/wp-content/uploads/Richards-Communicative-Language.pdf
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http://www.sfsmahavidyalaya.ac.in/studyMaterial/4576SEM-4.-SEC-2.-STRUCTURAL-APPROACH-13-05-2020.pdf

PEDAGOGY - Quiz, Assignment, Seminar, Discussion.

COURSE DESIGNER - Dr. R. Uma Maheswari

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – VI	Internal Marks: 25			External Marks: 75	

COURSE CODE	COURSETITLE	CATEGORY	HRS / WEEK	CREDITS
23UEN6CC14	CANADIAN LITERATURE	CORE COURSE - XIV	5	4

COURSE OBJECTIVES

➢ To enable the students to understand and appreciate the uniqueness of Canadian Literature.

➢ To create awareness about Canadian culture and literary imagination of Canada.

➢ To explore the language landscapes, cultural heritage and nationality of Canadian Literature.

COURSE OUTCOME AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Relate the themes and styles of Canadian writers from social and political background.	K1
CO2	Illustrate the themes of Canadian Literature that are directly related to the landscape of Canada and the experiences of the first settlers in today's scenario.	K2
CO3	Identify the various perspectives of First Nation aboriginal Canadian literature for critical thinking and higher learning levels.	K3
CO4	Analyse the narrative techniques used by Canadian writers to bring out man's relationship with nature and man.	K4
CO5	Examine the various writers of Canadian Literature and texts for critical thinking and better prospects.	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	3	3	2	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	2	2	2	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   "2" - Moderate (Medium) Correlation

"3" – Substantial (High) Correlation   "-" indicates there is No Correlation.

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction to Canadian Literature** Characteristics of Canadian Literature. Elements in Poetry, Prose, Drama, Fiction in Canadian Literature.	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Poetry** John Mc Crae - "In Flanders Fields" Robert Service - "The Spell of the Yukon" Michael Ondaaatje – "To a Sad Daughter"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**Short Stories** Alice Munro - "The Bear Came over the Mountain" Sinclair Ross - "The Lamp at Noon"	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Drama** George Ryga - *The Ecstasy of Rita Joe* Tomson Highway - *The Rez Sisters*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Fiction** Margaret Atwood - *The Blind Assassin* M.G Vassangi - *No New Land*	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study for Enrichment (Not to be included for End Semester Examination)** Immigration and Multiculturalism A.M.Klein - "Portrait of the Poet as a Landscape" William Moris - "Love is Enough" Gabrielle Roy - *Enchantment and Sorrow*	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

New, W. H. *History of Canadian Literature*. New Amsterdam Books, 1998.

Ryga, George. *The Ecstasy of Rita Joe*. Talonbooks, 1970.

Highway, Tomson. *The Rez Sisters*. Fifth House Publishers, 1992.

Atwood, Margaret. *The Blind Assassin*. Anchor, 2001.

Munro, Alice. *Hateship, Friendship, Courtship, Loveship, Marriage*. Vintage, 2001.

REFERENCE BOOKS

Cameron, Elspeth. *Canadian Culture: An Introductory Reader*. Canadian Scholars, 1996.

Narasimhiah, C. D. *An Anthology of Commonwealth Poetry*. Lakshmi Publications, 2016.

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https://www.canadiantheatre.com/dict.pl?term=The%20Ecstasy%20of%20Rita%20Joe

https://canlitguides.ca/canlit-guides-editorial-team/the-rez-sisters-by-tomson-highway/

PEDAGOGY - Quiz, Assignment, Seminar, PowerPoint Presentation, Discussion.

COURSE DESIGNER - Ms. Diana Betty Garrett

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HRS / WEEK**	**CREDITS**
23UEN6CC15	COMMONWEALTH LITERATURE	CORE COURSE - XV		5	3

COURSE OBJECTIVES

➢ To acquaint the learners to a new literature written in English by writers belonging to the Commonwealth countries.

➢ To understand the significance of Commonwealth writings in the age of globalization.

➢ To provide insight towards literary, linguistic, cultural and socio – political aspects within Commonwealth writing.

COURSE OUTCOME AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Explain the global relevance of Commonwealth Literature.	K1
CO2	Interpret diverse voices and perspectives of Commonwealth Countries.	K2
CO3	Relate the works of different Commonwealth regions by exploring the local cultures' influence on literary expression.	K3
CO4	Illustrate the distinct literary characteristics of Commonwealth Literature of that period.	K4
CO5	Appraise the narrative techniques of Commonwealth writings in explaining its cultural expression.	K5

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	2	3	3	2
CO2	3	2	2	3	3	2	3	2	2	3
CO3	3	3	3	3	3	3	3	3	2	3
CO4	3	3	2	2	3	3	3	2	3	3
CO5	3	3	2	3	3	3	3	2	3	3

"1" – Slight (Low) Correlation　　　　**"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation　　　　**"-" indicates there is No Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Poetry** A.D.Hope (Australia) - "The Wandering Island" and "The Death of the Bird" Derek Walcott (Caribbean) - "Ruins of a Great House" and "Goats and Monkeys" Cyril Wong (Singapore) - "The Apples" and "Arrival"	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Prose** Margaret Atwood (Canada) - "Nature as a Monster" (Chapter - 2, *Survival* - A Thematic Study) Chinua Achebe (Nigerian) – "The Novelist as a Teacher"	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Short Stories** Rabindranath Tagore (Indian) - "The Editor" Niaz Zaman (Bangladesh) - "The Daily Woman"	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Drama** Wole Soyinka (Nigeria) – *The Lion and the Jewel* Judith Thompson (Canadian) – *Lion in the Street*	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Fiction** Alan Paton (South Africa) – *Cry, the Beloved County* J.M.Coetzee (South African-Australian) - *Disgrace*	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self-study for Enrichment** **(Not to be included for End Semester Examination)** E. J. Pratt - "The Dying Eagle" Mariam Waddington - "The Drug Addict" Alice Munro - "Sunday Afternoon" Manjula Padmanabhan (Indian) - *Harvest*	-	CO1, CO2, CO3, CO4,CO5	K1, K2, K3, K4

TEXT BOOKS

Narasimhaiah, C. D. *An Anthology of Commonwealth Poetry*. Macmillan, 2014.

Tagore, Rabindranath. *The Editor*. CreateSpace Independent Publishing Platform, 2014.

Soyinka, Wole. *The Lion and the Jewel.* Oxford University Press, 1967.

Coetzee, J. M. *Disgrace*. Penguin, 2000.

Thompson, Judith – *Lion in the Street.* Playwright Canada Press, 2015

Salkey, Andrew. *Riot*. Oxford University Press, 1966.

REFERENCE BOOKS

Pokhrel Suman. *Jeevanko Chheubaata*, Vani Publication 2017.

Howells, Coral Ann. *The Cambridge Companion to Margaret Atwood,* Cambridge University Press 2006.

Carrington I.D. *Art Journal of the Short Story in English*. M.Clark Art 1996.

Tagore Rabindranath. *The Editor*, Create Space Independent Publishing Platform 2014.

Hayward Helen. *The Enigma of V S Naipaul: Sources and Contexts*. Palgrave Macmillan 2002.

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PEDAGOGY - Quiz, Assignment, Seminar, Discussion.

COURSE DESIGNER - Ms. P.K. Durgadevi

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HRS / WEEK**	**CREDITS**
23UEN6DSE2A	JOURNALISM	DISCIPLINE SPECIFIC ELECTIVE - II		5	3

COURSE OBJECTIVES

➢ To educate the learners about the history of journalism in India.

➢ To inculcate the spirit of journalist.

➢ To master the nuances of editing, reporting, article writing etc. with a professional touch

COURSE OUTCOME AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Recall the history of Journalism in India by understanding the needs of the society.	**K1**
CO2	Explain the role of press and various news agencies in relation with the society and the world.	**K2**
CO3	Identify the nuances of editing, reporting, review, article and column writing for higher learning.	**K3**
CO4	Develop interest and prepare the learners to take up journalism as a profession.	**K3**
CO5	Analyze the various types of news story and elements of News in a critical manner for higher thinking and better prospects.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	3	3	3	2	3	3	3	3
CO2	3	3	2	3	3	3	3	2	3	3
CO3	3	3	2	3	3	3	3	2	3	3
CO4	2	3	2	3	3	2	3	2	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is No Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	Journalism: Definition - Functions - The Press in Democracy -The Role of Press as a Communicator - History of Journalism in India	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	Press Council - Set Up, Prior to Emergency, Revived Press Council - Language of Journalism - Style of Writing - Editing	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	Business and Economic Journalism: What makes a good business story? - How to Take Effective Conference Notes? - Interviewing experts. - How to Take Effective Conference Notes?	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	Opinion Pieces - Editorial- Review - Articles - Letters to the Editor - Column Writing - Blog Writing.	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	The Mass Media - History, practices, values. Functions of Mass Media role in the democracy, Media Laws.	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study for Enrichment** **(Not to be included for End Semester Examination)** i)Advertising ii) Copy-reading, Copy Editing and Proof-reading for accuracy	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Parthasarathy, Rangaswami. *Journalism in India*. Sterling Publications Pvt. Limited, 1997.

Bond, Frank Fraser. *An Introduction to Journalism*. The Macmillan Company, 1982.

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Clerk, Wesley C., ed., *Journalism Tomorrow*, Syracuse, New York: Syracuse University Press.

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https://learn.org/articles/What_are_the_Duties_of_a_Newspaper_Editor.html

https://www.ideminstitute.org/downloads/introductiontobusinessandeconomicjournalism.pdf

PEDAGOGY - Quiz, Assignment, Seminar, Discussion.

COURSE DESIGNER - Dr. S. Ramalakshmi

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HRS / WEEK**	**CREDITS**
23UEN6DSE2B	**CONTENT WRITING**	**DISCIPLINE SPECIFIC ELECTIVE - II**		5	3

COURSE OBJECTIVES

➢ To introduce learners to the basic concepts and skills of content writing

➢ To make them learn the various styles and techniques of writing and editing to enhance creativity

➢ To create an industry-academia interface through institutional support

COURSE OUTCOME AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Define content writing and its basic concepts for learners to gain competence.	**K1**
CO2	Compare and contrast the content required for different purposes in writing	**K2**
CO3	Explain various styles and techniques of writing and editing for higher learning.	**K2**
CO4	Understand different types of writing to nourish creative skill.	**K3**
CO5	Analyze the required skills to pursue a successful writing process professionally for better prospects.	**K4**

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	3	3	3	3	2	3
CO2	3	3	3	3	2	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	2	3	3	3	3	3	3	2
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation　　　　　**"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation　　　　**"-" indicates there is no Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**The Basics of Content Writing** The Concept of Content Writing The Importance of Content Writing	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Processes of Content Writing** Getting the Brief, Ideating, Researching, Structuring and Formatting	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**Types of Content Writing** Print Content Writing Web Content Writing	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Plagiarism in Content Writing** What is Plagiarism? - How to avoid Plagiarism? Editing and Proof Reading	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Scope of Content Writing** Role and Functions of Content Writers Skills Required for Writing Quality Content	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-Study for Enrichment** **(Not to be Included for the End -Semester Examination)** Writing Fundamentals: Developing Effective Writing Habits and Techniques Professional Writing: Business Aspects of Content Writing	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Handley, Anna. *Everybody Writes*. Pan Macmillan India, 2016.

Dev, Anjana Neira. *Creative Writing: A Beginner's Manual*. Pearson, 2008.

REFERENCE BOOKS

Raman, Usha. *Writing for the Media*. Oxford University Press, 2010.

WEB REFERENCES

https://www.mindler.com/blog/how-to-become-a-content-writer-in-india/

https://bestaccreditedcolleges.org/articles/what-is-a-content-writer.html

https://narrato.io/blog/the-perfect-content-writing-process-exists-heres-your-guide-to-it/

https://www.demandjump.com/blog/types-of-content-writing

https://www.copypress.com/kb/copy/all-about-content-writing/

https://ect.co.in/what-is-plagiarism-in-professional-content-writing-how-to-avoid-it/

PEDAGOGY - Assignment, Quiz, Seminar and Activity

COURSE DESIGNER – Ms. N. Yoga

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

Semester – VI	Internal Marks: 25			External Marks: 75

COURSE CODE	COURSE TITLE	CATEGORY	HRS / WEEK	CREDITS
23UEN6DSE2C	PHONETICS	DISCIPLINE SPECIFIC ELECTIVE - II	5	3

COURSE OBJECTIVES

➢ To introduce basics concepts of phonetic and phonological aspects.

➢ To classify sounds and their units in a word.

➢ To develop skills in sound identification, discrimination and the control of speech productionabilities.

COURSE OUTCOME AND COGNITIVE LEVEL MAPPING

On the successful completion of this course, the students will be able to

CO NUMBER	CO STATEMENT	COGNITIVE LEVEL
CO1	Identify the study of Phonetics and its purpose in language.	K1
CO2	Explain the mechanism of organs involved in speech production with a scientific and literary approach	K2
CO3	Classify the theories of speech and writing for higher learning.	K3
CO4	Examine to determine speech sounds into stress patterns, with a professional touch.	K4
CO5	Analyze the syntax of a sentence and transcribe the spoken language text for better self and society.	K4

MAPPING OF CO WITH PO AND PSO

CO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	2	3
CO2	3	3	3	3	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   **"2" - Moderate (Medium) Correlation**

"3" – Substantial (High) Correlation   **"-" indicates there is No Correlation.**

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction to Phonetics** Definition of Phonetics Types of Phonetics - Articulatory Phonetics, Acoustic Phonetics, Auditory Phonetics	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
II	**Description of Consonants** Definition Manner of Articulation Place of Articulation	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
III	**The Vowels** Definition - Classification of Vowels - Pure Vowels - Diphthongs	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
IV	**Phoneme** Definition Allophones Syllables	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
V	**Dimensions of Speech** Accent, Intonation, Stress Phonetic Transcription	15	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4
VI	**Self-study for Enrichment** **(Not to be included for End Semester Examination)** Morphemes, Phonetic transcription	-	CO1, CO2, CO3, CO4, CO5	K1, K2 K3, K4

TEXT BOOKS

Balasubramanian, T. A. *Textbook of English Phonetics for Indian Students*. Low Price Edition, Macmillan, 1997.

Hornby, A. S. *Oxford Advanced Learner's Dictionary of Current English*. Oxford University Press.

Jones, Daniel. *English Pronouncing Dictionary*. 15th ed., Cambridge University Press, 1997.

REFERENCE BOOKS

Bansal, R. K., and Harrison, J. B. *Spoken English for Indian Students*. Orient Longman.

Allen, W. Stannard. *Living English Speech*. Orient Longman.

WEB REFERENCES

https://www.londonschool.com/blog/phonetic-alphabet/

https://scholar.harvard.edu/files/adam/files/phonetics.ppt.pdf

PEDAGOGY - Quiz, Assignment, Seminar, Discussion.

COURSE DESIGNER - Ms. L.Samyuktha

SIGNATURE OF THE COURSE DESIGNER   **SIGNATURE OF THE HOD**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with "A" Grade by NAAC

Annamalai Nagar, Trichy – 620 018.

PG DEPARTMENT OF ENGLISH

ELEVENTH BOARD OF STUDIES MEET

2024-2025

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with "A" Grade by NAAC

Annamalai Nagar, Trichy – 620 018.

PG DEPARTMENT OF ENGLISH

THE AGENDA FOR THE ELEVENTH MEETING OF THE BOARD OF STUDIES

DATE : 17.10.2024

VENUE : PG Department of English

TIME : 9.30 AM

The Agenda for the Meet is as follows:

1) **ITEM NO. BOS 11/24/01**

- To consider and approve the changes made in the Credits of BA English Programme Structure in Semester V for 2023 – 2024 Batch and Onwards for Core Course IX to be given as 5 Credits and in Discipline Specific Elective – I (DSE) with 3 Credits.

- To consider and approve the changes made in BA English Syllabus and Course Codes of Semester V for 2023 – 2024 Batch and Onwards for Core Course – IX, Core Course – X, Core Course – XI, Core Course – XII, Discipline Specific Elective – I (DSE) and Skill Enhancement Course – II (SEC) and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy

2) **ITEM NO. BOS 11/24/02**

- To consider and approve the changes made in the Credits of BA English Programme Structure in Semester VI for 2023 – 2024 Batch and Onwards in the new introduced Core Course XIV with 4 Credits, Core Course XV with 3 Credits, Discipline Specific Elective – II (DSE) with 3 Credits and Project Work with 4 Credits.

- To consider and approve the revision made in BA English Syllabus and Course Codes of Semester VI for 2023 – 2024 Batch and Onwards for Core Course XIII, Core Course XIV, Core Course XV, Discipline Specific Elective – II (DSE) and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
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ISO 9001: 2015 Certified
Annamalai Nagar, Trichy-18.
Members Present for the Eleventh Board of Studies Meet

DATE: 17.10.2024
VENUE: PG Department of English
TIME: 9.30 AM

MEMBERS PRESENT FOR THE BOARD OF STUDIES MEET

S. No	Name	Designation
1	Dr. P. Urmila	PG Chairperson and Professor
2	Dr. S.Jayashree Agarwal	UG Chairperson and Associate Professor
3	Dr. R. Uma Maheswari	Member
4	Dr. Rita Shanthakumar	Member
5	Dr. P. Helan Jona	Member
6	Dr. G.Gayathri	Member
7	Dr. Cecilia Merlin Wilton	Member
8	Ms. A. Violet Pangaja Bai	Member
9	Dr. J.Jenifer Nancy	Member
10	Ms. M.Irudhaya Pushpam	Member
11	Ms. Dianna Betty Garret	Member
12	Dr. S. Ramalakshmi	Member
13	Dr. R. Shanthi	Member
14	Ms. P. K. Durgadevi	Member
15	Ms. T. Haseena Banu	Member
16	Dr. V. Sudhandra Devi	Member
17	Ms. A. Edel Flora Mary	Member
18	Ms. N. Yoga	Member
19	Ms. L. Samyuktha	Member
20	Dr. S. Senthil kumari	Member
21	Dr. R. Vanitha	Member
22	Ms. Vanmathi. Siva	Member
23	Ms. S.Aishwarya	Two Students Representatives
24	Ms. V.Deepika	

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PG DEPARTMENT OF ENGLISH

ACTION TAKEN REPORT OF THE TENTH MEETING OF THE BOARD OF STUDIES HELD ON 02.04.2024

The Tenth Board of Studies Meeting was held on 02.04.2024 at 10.00AM. The Chairperson of the BOS read the Minutes of the Meeting and the following resolutions were confirmed.

- In Semester VI of BA English Syllabus for 2022 – 2023 Batch, the Core Course titled English Language Teaching 22UEN6CC13 the topic ICT has been implemented in Unit V.

- In Semester IV of BA English Syllabus for 2023 – 2024 Batch and Onwards, the Skill Enhancement Course – I titled Public Speaking (P) 23UEN4SEC1P in Unit V, the topic Abraham Lincoln's Gettysburg Speech is replaced with Aaron Beverley's "An Unbelievable Story" (2019 Toastmasters)

- In Semester IV of MA English Syllabus for 2023 – 2024 Batch and Onwards, the Core Course III titled Dalit Literature 23PEN4CCC3C, the Autobiography book titled, "A Life Uprooted: A Bengali Refugee Remembers" by Jatin Bala is included for Self-study in Unit VI

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PG   DEPARTMENT OF ENGLISH

MINUTES OF THE ELEVENTH BOARD OF STUDIES MEETING HELD (INTERNALLY) ON 17.10.2024

The following Resolutions were passed by the Board of Studies Members in the Department of English

1. RESOLUTION NO. BOS 11/24/01

- Resolved to approve the changes made in the credits of BA English Programme Structure in Semester V for the 2023 – 2024 Batch and Onwards in the Core Course IX titled Shakespeare 23UEN5CC9 as 5 Credits and in Discipline Specific Elective – I (DSE) as 3 Credits for A.Diasporic Literature 23UEN5DSE1A, B. Translation: Theory and Practice 23UEN5DSE1B, C.World Classics in Translation 23UEN5DSE1C

- Resolved to approve the changes made in the Syllabus and Course Codes of Semester V for BA English 2023 – 2024 Batch and Onwards in Core Courses, Discipline Specific Elective – I (DSE), Skill Enhancement Course – II (SEC) and recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy with the following revision made in the Syllabus.

CORE COURSES

Core Course IX - Shakespeare - 23UEN5CC9

Topic Included:

Unit V: Shakespeare - *Antony and Cleopatra*

Topic Deleted:

Unit V: Shakespeare – *Julius Caesar*

Core Course X - Principles of Literary Criticism - 23UEN5CC10

Topic Included:

Unit – VI: John Dryden – "An Essay on Dramatic Poesy"

Topic Deleted:

Unit III: Mathew Arnold – "The Study of Poetry"

Unit – IV – M.H.Abrams – "Orientation of Critical Theories"

Topic Shifted:

Unit - II to Unit – III: Samuel Johnson – "Preface to Shakespeare"

Unit – VI to Unit – IV: S.T. Coleridge – "Biographia Literaria"

Core Course XI American Literature -23UEN5CC11

Topic Included:

Unit – I: Langston Hughes – "Dreams"

        E.E. Cummings – "Somewhere I have Never Travelled, Gladly Beyond"

Unit – II: Ralph Waldo Emerson – "Self-Reliance"

Topic Deleted:

Unit – I: James Russell Lowell – "The Cathedral"

Unit – II: Edgar Allan Poe – "Philosophy of Composition"

Core Course XII Women's Writing in English - 23UEN5CC12

Topic Included:

Unit – III - Toni Cade Bambara – "Raymond's Run"

Unit – V - Patricia Highsmith - *The Price of Salt*

Topic Deleted:

Unit – III – Virginia Woolf – "The Mark on the Wall"

Unit – V – Doris Lessing – *The Grass is Singing*

DISCIPLINE SPECIFIC ELECTIVE – I (DSE)

A. Diasporic Literature - 23UEN5DSE1A

Topic Included:

Unit – II: Derek Walcott – "A Far Cry from Africa"

Unit – V: Zadie Smith - *White Teeth*

Topic Deleted:

Unit – II: Imtiaz Dharker – "The Right Word"

Unit – V: Bharathi Mukerji – *Tiger's Daughter*

B. Translation: Theory and Practice - 23UEN5DSE1B

Topic Included:

Unit – V: Ramachander Krishna- *Home*

        Thirukkural Chapter XXIX (19), LXXX (80) & CXXII (122)

Topic Deleted:

Unit – V: N.Kalyana Raman – *The Story of a Black Goat*

        Thirukkural LXXIX, LXXXII & LXXXIII

Units Interchanged:

Units II to Unit III and Unit III to Unit II

<u>C. World Classics in Translation 23UEN5DSE1C</u>

Topic Included:

Unit – V: Hermann Hesse - *Siddhartha*

Topic Deleted:

Unit – V: Alexander Dumas – *The Count of Monte Cristo*

SKILL ENHANCEMENT COURSE – II (SEC)

<u>English for BPO - 23UEN5SEC2</u>

Topic Included:

Unit – IV: **Cover Letter and Resume Writing**

       Drafting of Cover Letters

       Content of Resume

       Design, Layout of Resume

Unit – V: **Interview Skills**

       Short Conversation

       Listening and Answering the Quires

       Telephone Etiquettes

Topic Deleted:

Unit – III: **Emphasis on LSW Skills**

       Listening Process and Comprehension Practice

       Accent Training, Voice Modulation and Short Conversation

       Practice Transcription (Listening and Converting into Text) and Error Correction

Unit – V: **Preparation for the Interview**

       Interview Process at BPOs and Various Job Interview Round

       Listening and Answering the Queries

       Preparing for the personal interview

Topics Shifted:

Unit – IV is shifted to Unit - III

2. RESOLUTION NO. BOS 11/24/02

- Resolved to approve the changes made in the Credits of BA English Programme Structure in Semester VI for 2023 – 2024 Batch and Onwards in the newly introduced Core Course XIV titled Canadian Literature 23UEN6CC14 with 4 Credits and 5 Teaching Hours, Core Course XV titled Commonwealth Literature 23UEN6CC15 is changed to 3 Credits. In Discipline Specific Elective– II (DSE), the Credits is given as 3 in A. Journalism – 23UEN6DSE2A, B. Content Writing – 23UEN6DSE2B, C. Phonetics – 23UEN6DSE2C.

The Credits for Project Work 23UEN6PW is changed to 4 Credits in the Programme Structure.

- Resolved to approve the revision made in Semester VI Syllabus and Course Codes of BA English 2023 – 2024 Batch and Onwards in Core Courses, Discipline Specific Elective – II (DSE) and recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

CORE COURSES

Core Course XIII English Language Teaching - 23UEN6CC13

Topic Included:

Unit – II: Structural Approach

Unit – V: Types of Tests and their purposes - Reflective Skills

Topic Deleted:

Unit – II: Content-based Instruction

Unit – IV: Peer and Practice

Core Course XIV Canadian Literature - 23UEN6CC14

Core Course XIV titled Canadian Literature 23UEN6CC14 is newly introduced Course in Semester VI with full framed Syllabus.

Core Course XV Commonwealth Literature - 23UEN6CC15

Topic Included:

Unit – I: A.D.Hope (Australia) - "The Death of the Bird"

       Derek Walcott (Caribbean) - "Ruins of a Great House" and "Goats and Monkeys"

       Cyril Wong (Singapore) - "The Apples"

Unit – II: Chinua Achebe (Nigerian) – "The Novelist as a Teacher"

Unit – III: Rabindranath Tagore (Indian) - "The Editor"

Unit – IV: Judith Thompson (Canadian) – *Lion in the Street*

Topic Deleted:

Unit – I: Dennis Brutus (South Africa) - "Letters to Martha"

       Suman Pokhrel (Nepal) – "The Taj Mahal and My Love"

Unit – III: Rabindranath Tagore (Indian) - "Subha"

Unit – II: Samuel Selvon's (Caribbean) – "The Lonely Londoners" (Chapter - 1- *Trinidadian Native*)

Unit – V: Manjula Padmanabhan (Indian) – *Harvest*

Topic Shifted:

Unit – VI to Unit – V: J.M. Coetzee (South African - Australian) – *Disgrace*

DISCIPLINE SPECIFIC ELECTIVE – II (DSE)

A. Journalism – 23UEN6DSE2A

Topic Included:

Unit – III - Business and Economic Journalism: What makes a good business story? - How to Take Effective Conference Notes? - Interviewing experts. - How to Take Effective Conference Notes?

Topic Deleted:

Unit – III - Journalism as a Profession, Understanding the Public taste, Press as a tool in Social Service, The Reporter – Responsibilities and qualities, Covering Responsibilities and qualities.

B. Content Writing - 23UEN6DSE2B

Topic Deleted:

Unit – I: Scope of Content Writing

Unit – II: Techniques for Writing Effective Content

Unit – III: Writing Style – Non-fiction (Essays, Reports)

Articles, Newspaper Content Writing – Writing Blogs – email Newsletters, Social Media Posts and Website Content

Unit – V: Content Writing as a Career Option

C. Phonetics - 23UEN6DSE2C

Topic Included:

Unit – I: Articulatory Phonetics, Acoustic Phonetics, Auditory Phonetics

Unit – V: Accent

Topic Deleted:

Unit – I: Phoneme
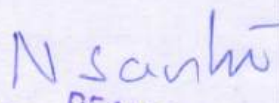
Unit – II: State of the Glottis – Description of Consonant Phonemes

Unit – VI: Strong and Weak Syllables – Consonant Clusters

Unit – V: Stress in Simple and Complex Words – Intonation – Pronunciation Difficulties for Indian Speakers

Dr. S.Jayashree Agarwal, Associate Professor and Chairperson of UG BOS and Dr.P.Urmila, Professor and Chairperson of PG BOS conducted the Board of Studies Meet internally and expressed their gratitude to the Members of the Department of English, Cauvery College for Women (Autonomous) present for the Eleventh Board of Studies Meet.

The Eleventh Board of Studies Meeting was resolved and concluded recommending the BA English Programme Structure and Syllabus for Semester V and Semester VI for 2023 – 2024 Batch and Onwards is forwarded to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

Dr.P.Urmila	Dr.S.Jayashree Agarwal	Dr. N.Savithri
PG Chairperson	UG Chairperson	Dean of Arts
Professor and PG Head	Associate Professor and UG Head	Cauvery College for
Department of English	Department of English	Women (Autonomous)
Cauvery College for Women	Cauvery College for Women	Trichy – 620 018
(Autonomous)	(Autonomous)	
Trichy – 620 018	Trichy – 620 018	

Eleventh Board of Studies Meeting Held on 17.10.2024

Introduction of New Course in Semester VI from the Academic Year 2025 – 2026 to expand the learner's literary knowledge in Canadian Literature.
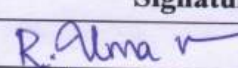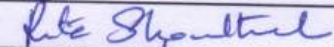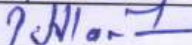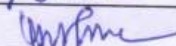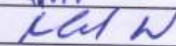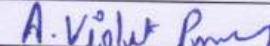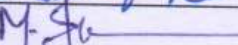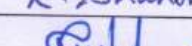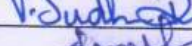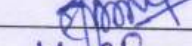
The UG Chairperson of the Board Dr. S.Jayashree Agarwal, proposed the introduction of the following New Course in the Curriculum of BA English in the Eleventh Board of Studies Meet.

Name of the Programme	Name of the Course	Course Code	Year of Introduction
BA English	Canadian Literature	23UEN6CC14	2025
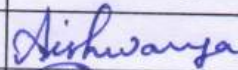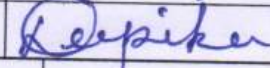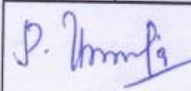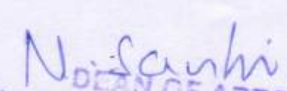
Members of the Eleventh Board of Studies Meet

Dr.P.Urmila	Professor and PG Head Department of English Cauvery College for Women (Autonomous) Trichy – 18	
Dr.S.Jayashree Agarwal	Associate Professor and UG Head, Department of English, Cauvery College for Women (Autonomous) Trichy-18	

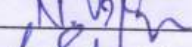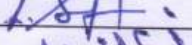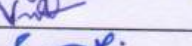| S. No	Name	Designation	Signature
1	Dr.R.Uma Maheswari	Member	
2	Dr.Rita Shanthakumar	Member	
3	Dr.P.Helan Jona	Member	
4	Dr. G. Gayathri	Member	
5	Dr.Cecilia Merlin Wilton	Member	
6	Ms.A.Violet Pangaja Bai	Member	
7	Dr.J.Jenifer Nancy	Member	
8	Ms.M.Irudhaya Pushpam	Member	
9	Ms. Diana Betty Garret	Member	
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14	Dr. V.Sudhandra Devi	Member	
15	Ms.A.Edel Flora Mary	Member	
16	Ms.N. Yoga	Member	
17	Ms.L.Samyuktha	Member	
18	Dr.S.Senthilkumari	Member	
19	Dr.R.Vanitha	Member	
20	Ms.Vanmathi. Siva	Member	

Student Representatives

S. No	Name	Class	Signature
1	S. Aishwarya	II MA English	
2	V. Deepika	II MA English	

Dr. P URMILA Dr.P.Urmila Head (PG) PG Department of English Cauvery College for Women (Autonomous) PG Chairperson Professor & PG Head Department of English Cauvery College for Women (Autonomous) Trichy – 620 018	H.O.D - UG DEPT. OF ENGLISH CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS) **Dr.S.Jayashree Agarwal** UG Chairperson Associate Professor & UG Head Department of English Cauvery College for Women (Autonomous) Trichy – 620 018	N.Savithri DEAN OF ARTS CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS) ANNA MALAI NAGAR TIRUCHIRAPPALLI - 620 018 TAMILNADU **Dr. N.Savithri** Dean of Arts Cauvery College for Women (Autonomous) Trichy – 620 018

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018

PG Department of English

XI - Board of Studies Meeting Held on 17. 10. 2024

1. Introduction of new courses from the academic year 2024-2025 based on the feedback collected from various stakeholders.

The Chairman of the Board Dr. P. Urmila, PG, HOD & Dr. S. Jayashree Agarwal UG, HOD proposed the introduction of the following new course(s) in the curriculum of the BA English & MA English from the academic year 2024-2025.

Name of the Programme	Name of the Course	Course Code	Year of Introduction
BA English (SEM – VI)	Canadian Literature	23UEN6CC14	2024-2025
M.A. English	-	-	-

2. Revision of syllabus of the existing courses from the academic year 2024 -2025 based on the feedback collected from various stakeholders.

The Chairman of the Board, Dr. P. Urmila, PG, HOD & Dr. S. Jayashree Agarwal UG, HOD, proposed the revision of syllabus in the curriculum of the BA English & MA English from the academic year 2024-2025.

Name of the Programme	Name of the Course	Course Code	Core/Elective	% of Content added or replaced
B.A. English (SEM - V)	Shakespeare	23UEN5CC9	Core Course	20%
	Principles of Literary Criticism	23UEN5CC10	Core Course	30%
	American Literature	23UEN5CC11	Core Course	20%
	Women's Writing in English	23UEN5CC12	Core Course	20%
	Diasporic Literature	23UEN5DSE1A	Discipline Specific Elective	20%
	Translation: Theory and Practice	23UEN5DSE1B	Discipline Specific Elective	20%
	World Classics in Translation	23UEN5DSE1C	Discipline Specific Elective	20%
	English for BPO	23UEN5SEC2	Skill Enhancement Course	40%

	English Language Teaching	23UEN6CC13	Core Course	20%
	Commonwealth Literature	23UEN6CC15	Core Course	20%
B.A. English (SEM - VI)	Journalism	23UEN6DSE2A	Discipline Specific Elective	20%
	Content Writing	23UEN6DSE2B	Discipline Specific Elective	30%
	Phonetics	23UEN6DSE2C	Discipline Specific Elective	50%
M.A. English	-	-	-	-

Chairman of the Board

Dean of Arts

Principal

ANNEXURE F

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited with "A" Grade by NAAC

ISO 9001: 2015 Certified

TIRUCHIRAPPALLI

PG & RESEARCH DEPARTMENT OF SOCIAL WORK

SYLLABUS

BACHELOR OF SOCIAL WORK

2023-2024 and onwards

SEMESTER -I

Semest	Part	Course	Course Title	Course Code	Inst. Hrs.	Credits	Exam Hrs	Int	Ext	Total
I	I	Language Course-I (LC)	Pothu Tamil-I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I-French-I	23ULF1						
	II	English Language Course-I(ELC)	General English-1	23UE1	6	3	3	25	75	100
	III	Core Course – I(CC)	Introduction to Social Work	23USW1CC1	6	5	3	25	75	100
		Core Practicum - I (CP)	Field Work -I (P)	23USW1CC1P	6	5	3	40	60	100
		First Allied Course- I (AC)	Sociology for Social Work	23USW1AC1	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**21**				**600**

SEMESTER-II

Semest	Part	Course	Course Title	Course Code	Inst. Hrs.	Credits	Exam Hrs	Int	Ext	Total
II	I	Language Course-II (LC)	Pothu Tamil-II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar-II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French-II	22ULF2						
	II	English Language Course- II(ELC)	General English-II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Communication in Social Work Practice	23USW2CC2	6	5	3	25	75	100
		Core Course III (CC)	Methods of Social Work	23USW2CC3	5	5	3	25	75	100
		First Allied Course – II (AC)	Basics of Economics and Political System	23USW2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**21**				**600**

SEMESTER-III

Semester	Part	Course	Course Title	Course Code	Inst. Hrs.	Credits	Hrs	Int	Ext	Total
III	I	Language Course-III (LC)	Pothu Tamil-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar-III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French – I	22ULF3						
	II	English Language Course-III(ELC)	Learning Grammar through Literature– I	23UE3	6	3	3	25	75	100
	III	Core Course– IV(CC)	Human Growth and Development	22USW3CC4	5	5	3	25	75	100
		Core Practicum – II (CP)	Field work -II **(P)**	23USW3CC2P	5	5	3	40	60	100
		Second Allied Course-I (AC)	Social Legislations	22USW3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-III(AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course- I (GEC)	Human Rights	22USW3GEC1	2	2	3	25	75	100
			Basic Tamil-I	22ULC3BT1						
			Special Tamil-I	22ULC3ST1						
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

SEMESTER-IV

Semester	Part	Course	Course Title	Course Code	Inst. Hrs.	Credits	Hrs	Int	Ext	Total
IV	I	Language Course - IV (LC)	Pothu Tamil-IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alnakara, Didactic and Modern Literature and Translation	23ULS4						
			Intermediate French-II	22ULF4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature – II	23UE4	6	3	3	25	75	100
	III	Core Course – V(CC)	Introduction to Social Work Research	22USW4CC5	5	5	3	25	75	100
		Core Course – VI(CC)	Social Welfare Administration	22USW4CC6	5	5	3	25	75	100
		Second Allied Course- II (AC)	Health Care Services	22USW4AC4	4	3	3	25	75	100
		Internship	Internship	22USW4INT	-	2	-	-	100	100
	IV	Generic Elective Course- II (GEC)	Women Rights and Laws	22USW4GEC2	2	2	3	25	75	100
			Basic Tamil -II	22ULC4BT2						
			Special Tamil -II	22ULC4ST2						
		Skill Enhancement Course – I (SEC)	Life Skills **(P)**	22USW4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**25**				**800**

			SEMESTER-V							
V	III	Core Course – VII(CC)	Family and Child Welfare	23USW5CC7	6	5	3	25	75	100
		Core Course –VIII(CC)	Community Development	22USW5CC8	5	5	3	25	75	100
		Core Course -IX(CC)	Introduction to Counselling and Guidance	22USW5CC9	5	5	3	25	75	100
		Core Practicum –III(CP)	Field Work -III (P)	23USW5CC3P	5	5	3	40	60	100
		Discipline Specific Elective – I (DSE)	A.Disaster Management	23USW5DSE1A	5	3	3	25	75	100
			B. Welfare of the Vulnerable	23USW5DSE1B						
			C. Human Rights and Social Work	23USW5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV(AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	Social Entrepreneurship (P)	22USW5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**27**				**700**
			SEMESTER-VI							
VI	III	Core Course X	Theories of Social Work	23USW6CC10	6	5	3	25	75	100
		Core course XI	Welfare of the Persons with disability	23USW6CC11	5	3	3	25	75	100
		Core course XII	Correctional Social Work	22USW6CC12	3	3	3	25	75	100
		Core course XIII	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective – II (DSE)	A. Gerontological Social Work	23USW6DSE2A	5	3	3	25	75	100
			B. Youth Welfare	23USW6DSE2B						
			C. Social Work in Industry	23USW6DSE2C						
		Project Work	Project Work	23USW6PW	5	4	-	-	100	100
	V	Ability Enhancement compulsory Course-V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
		Extension activity		22UGEA	0	1	0		-	-
		Total			**30**	**24**				**700**
		Grand Total			**180**	**140**				**4100**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

(Nationally Accredited (III cycle) with 'A' Grade by NAAC

PG & RESEARCH DEPARTMENT OF SOCIAL WORK

BACHELOR OF SOCIAL WORK PROGRAMME STRUCTURE

UNDER CHOICE BASED CREDIT SYSTEM

(For the candidates admitted from the academic year 2024-2025 onwards)

Sem	Part	Course	Course Title	Course Code	Ins Hrs/ week	Credits	Exam			Total
							Hrs	Internal	External	
II	I	Language course II (LC)	Pothu Tamil-II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammer	22ULH2						
			Prose, Grammer and History of Sanskrit Literature	23ULS2						
			Basic French – II	22ULF2						
	II	English language course II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Practicum I (CP)	Field Work -1 (P)	24USW2CC1P	6	5	3	40	60	100
		Core Course III (CC)	Methods of Social Work	23USW2CC3	5	5	3	25	75	100
		First Allied Course - II (AC)	Basics of Economics and Political System	23USW2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course (AECC)-II	Environmental Studies	22UGEVS	2	2	-	100	-	100
Extra Credit Course		SWAYAM	As per UGC Recommendation							
Total					30	21				600

SEMESTER II	Internal Marks: 40			External Marks: 60	
COURSE CODE	COURSETITLE	CATEGORY	HOURS/WEEK	CREDITS	
24USW2CC1P	FIELD WORK-I (P)	CORE	6	5	

Course objectives

▪ To provide exposure to various NGO's and Government organisations
▪ To Acquire skills of observation and understand the social work intervention invarious Institutions

Prerequisites

Basic understanding of fields of Social Work

Course outcome and Cognitive Level Mapping

On successful completion of this course, Student will be able to

CO Number	CO Statement	Cognitive Level
CO1	Name the organisations working for women, children, Industries,old age homes, psychiatry settings, hospitals and De-addiction Centres	K1
CO2	Explain organizational structure, funding and functions	K2
CO3	Develop knowledge on welfare programmes implemented by organizations	K3
CO4	Discover scope of social work in various settings	K4
CO5	Assess the Report writing skills	K5

Mapping of CO with PSO and PO

Cos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	2	3	2	3	3	3	3	2
CO2	2	3	2	3	2	3	3	3	3	3
CO3	3	3	3	3	3	3	2	3	3	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	3	3	3	2	3	3	3	2	3

"1"- Slight (Low) Correlation –"2" – Moderate (Medium) Correlation -"3" – Substantial (High) Correlation – "-" indicates there is no correlation.

Visits to the institutions working for

Differently abled, Elderly, Vulnerable children, Drug-addiction, Health, Environment Women, Human Trafficking, Human Resources.
At least 8 visits to the above mentioned settings to be made in the II Semester.

Students to be given classroom orientation regarding the agency/ setting prior to the field visit. Students are expected to write and submit detailed reports of their observation & remarks for each visit. Analysis and discussion to be held following report submission.

METHOD OF ASSESSMENT

INTERNAL

COMPONENTS	MARKS
Attendance	10
Regularity in submitting reports	10
Participation	10
Observation during the visit	10
TOTAL	**40**

COMPONENTS	MARKS
Reporting	20
VIVAVOCE	
i) Theoretical Knowledge	20
ii) Reflection on the visits	10
(iii) Communication	10
TOTAL	60

Pedagogy: Observation visits, Interaction, Documentation

Course Designer: Ms.S. Hema

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

(Nationally Accredited (III cycle) with 'A' Grade by NAAC

PG & RESEARCH DEPARTMENT OF SOCIAL WORK

MASTER OF SOCIAL WORK PROGRAMME STRUCTURE

UNDER CHOICE BASED CREDIT SYSTEM

(For the candidates admitted from the academic year 2024-2025 and onwards)

Sem	Course	Course Title	Course Code	Ins Hrs/ week	Credits	Exam Hrs	Internal	External	Total
II	Core Course - I (CC)	Social Work Research and Social Statistics	24PSW2CC4	6	5	3	25	75	100
	Core Course - II (CC)	Social Welfare Administration, Social Policy and Social Legislations	24PSW2CC5	6	5	3	25	75	100
	Core Practicum -II (CC)	Field Work - II (P)	23PSW2CC2P	6	5	3	40	60	100
	Core Choice Course - I (CCC)	Counselling:Theory and Practice	22PSW2CCC1A	6	4	3	25	75	100
		Psychology for Social Workers	22PSW2CCC1B						
		Youth and Marginalized Sections	22PSW2CCC1C						
	Discipline Specific Elective Course-II (DSE)	Family Social Work	22PSW2DSE2A	6	3	3	25	75	100
		Disaster Management	22PSW2DSE2B						
		Health and Hygiene	22PSW2DSE2C						
	Internship	Internship	22PSW2INT	-	2	3	-	100	100
	Extra Credit Course	**Swayam Online Course**	To be fixed later	To be fixed later					
			Total	**30**	**24**				**600**

Semester II	Internal Marks :25		External Marks:75	
Course Code	COURSE TITLE	CATEGORY	HRS/WEEK	CREDIT
24PSW2CC4	SOCIAL WORK RESEARCH ANDSOCIAL STATISTICS	CORE	6	5

Course Objectives

• To conduct research using research Process
• To understand the steps of doing research

Prerequisites

Basic understanding of Research and Statistics

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Remember and understand the basic concepts of Social Work Research and Social Statistics	K1,K2
CO2	Apply the tools and techniques of Social Work Research and Social Statistics	K3
CO3	Analyse the types and methods of various concepts of Social Work Research	K4
CO4	Evaluate the approaches Social Work Research	K5
CO5	Elaborate process of Social Work Research	K6

Mapping of Co with PO

CO/PO	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	2	2	3	3	3
CO2	2	3	2	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	2	3	2	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1"- Slight (Low) Correlation –"2" – Moderate (Medium) Correlation - "3" – Substantial (High) Correlation – "-" indicates there is no correlation.

SYLLABUS

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Social Research**: Meaning, definition, objectives, characteristics **Social Work Research**: Meaning and definition; Difference between social research and social work research; **Scientific method**: meaning, characteristics; scientific attitude. **Types of Research**: pure, applied, and action research; participatory and evaluation research; **Qualitative research**: Meaning, scope, characteristics, types- Case study, Focused Group Discussion, difference between qualitative and quantitative research.	18	CO1 CO2 CO3 CO4 CO5	K1,K2,K3, K4,K5,K6
II	**Problem Formulation**: Selection of problem - criteria and sources defining the problem; **Variables:** Meaning; types of variables; Operationalization; **Measurement:** meaning, levels of measurement ; nominal ordinal, interval, and ratio; **Hypothesis**: Meaning, sources, characteristics, functions and types; attributes of a sound hypothesis; hypothesis testing; level of significance; Type-I and Type-II errors. Theory: meaning and use; inductive and deductive theory construction	18	CO1 CO2 CO3 CO4 CO5	K1,K2,K3, K4,K5,K6
III	**Design and Sampling**: Research design: meaning and types- exploratory, descriptive, diagnostic, experimental. Universe and sampling: meaning, principles, types and techniques of sampling; Advantages and disadvantages of Sampling Methods; **Tools/instruments:** Types and steps involved in tool construction; **Validity and Reliability:** Meaning and types; Pilot study and Pre-test	18	CO1 CO2 CO3 CO4 CO5	K1,K2,K3, K4,K5,K6
IV	**Sources and Methods of data collection**: Primary and Secondary Sources; Methods: Interview meaning and types; questionnaires; observation: Meaning and definition; types of observation. Advantages and disadvantages of using Interview, questionnaire and observation methods. **Data processing:** Editing, Sorting,	18	CO1 CO2 CO3 CO4 CO5	K1,K2,K3, K4,K5,K6

	coding, transcription. **Presentation of data:** tabular and graphical presentation; **Report writing:** content, format and types; footnotes, referencing, and bibliography: meaning and differences; methods of referencing; Plagiarism; ethics, and qualities of good researcher; Agencies involved in social work research.			
V	**Social Statistics:** Meaning, definition, use and its limitations in Social Work Research: Measures of Central tendency: Arithmetic mean, Median and Mode. Merits and Demerits of Arithmetic mean, Median and Mode. Measures of Dispersion: Range, quartile deviation, standard deviation and co-efficient of variation; Tests of significance: "t" test, F- test and chi-square test; **Correlation:** Meaning, types, and uses; Karl Pearson's coefficient of correlation and rank correlation.	18	CO1 CO2 CO3 CO4 CO5	K1,K2,K3, K4,K5,K6
VI	Self-study for Enrichment (Not included for End Semester Examinations) Preparation and Presentation of Research Proposal; **Computer Applications:** Use and Application of Computer in Social Work; Case study and Focused Group Discussion need to be carried out. Inventories on different dimensions can be administered. Statistical package for Social sciences	18	CO1 CO2 CO3 CO4 CO5	K1,K2,K3, K4,K5,K6

Text Book

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Web Resources

https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=xN+GvFnx4ockQG2FkhaD+w==
https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=xN+GvFnx4ockQG2FkhaD+w==
https://www.scribbr.com/dissertation/methodology/

Pedagogy : Lectures, Group discussion, PPT presentation, Case study and

Students led seminars.

Course Designer: Dr.G.Mettilda Buvaneswari

Semester II	Internal Marks:25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hours/Week**	**CREDITS**	
24PSW2CC5	**Social Welfare Administration, Social Policy and Social Legislations**	**CORE**	**6**	**5**	

Course Objectives

1. To equip students with knowledge on Social Welfare Administration

2. To assist the learners to learn about Social Welfare agencies and Social Welfare Programmes

3. To develop an understanding on Social Planning, Social Development, NITI Aayog

4. To enhance skills of learners to work effectively in Welfare Agencies

5. To provide necessary knowledge on Social Policy Process, Social Legislations and problems

Pre -requisite:

Basic knowledge on Weaker Sections and Administrative Concepts

Course Outcomes and Cognitive Level Mapping

CO NUMBER	CO STATEMENT On the successful completion of the course,the students will be able to	COGNITIVE LEVEL
CO1	Define, explain, enumerate, describe, outline Social Welfare Administration, Social Work Administration, Functions and Areas of Administration, Social Welfare Programmes and Agencies, NITI Ayog, Social Policy, Social Legislations and Process	K1
CO2	Classify, compare, Differentiate, Distinguish, Explain Government Departments, Boards, Directorates, Roles of NGOs, Functioning of Societies, Trusts, Committees, Executives.	K2
CO3	Apply, Ascertain, Determine, Express, Illustrate, Sketch Administration on different levels, concept of Indicators of Social Development, Sources and instrument of Social Policy, Social Legisltations for the welfare of weaker sections	K3
CO4	Analyze, Characterize, Classify, Compare, Examine, Explore,Point out Policy making Processes and Structures of India, different Policies and Legislations of Central and State Governments	K4

	Determine, Evaluate, Explain, Summarize, Categorize, Develop, Explain, Outline the functions of NITI Ayog, Policies and Programmes for Weaker Sections, Policy Advocacy, Budget Analysis, Functions of Governmental and Non-Governmental Organizations and Citizens participation	
CO5		**K5, K6**

Mapping of CO with PSO and PO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	3	3	2	2	3	3	3
CO2	3	2	3	2	3	2	2	3	2	3
CO3	3	3	3	2	3	2	3	3	3	3
CO4	3	3	3	3	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1"- Slight (Low) Correlation –"2" – Moderate (Medium) Correlation - "3" – substantial (High)

Correlation–"-"indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Social Welfare Administration**: Meaning and definition of Social Welfare Administration and Social Work administration; Purpose, historical development. Principles ,functions and areas -Policy making, planning, personnel administration, supervision, budgeting, financial administration, fund raising, accounting, auditing, purchase and stock keeping, record maintenance, co-ordination, public relation, monitoring and evaluation, research ,annual report. Social Welfare Administration at National, State and local levels; - Central Social Welfare Board (CSWB), State Social Welfare Board (SSWB), Directorate of Social Welfare	**18**	CO1 CO2 CO3 CO4 CO5	K1, K2, K3,K4,K5, K6

II	**Registration and functions of Social Welfare Agencies:** Voluntary Social Work, Social Agencies: Meaning, definition, type and models of NGOs; Roles of NGOs in National Development. Concept of Grant in Aid, Agency registration: Methods, advantages, preparation of bye laws, memorandum of association, rules, Regulation and registration procedures; Registration of Societies and Trusts. Governing Board, Committees, Executives: Roles and Functions	18	CO1 CO2 CO3 CO4 CO5	K1, K2, K3,K4,K5, K6
III	**Social Planning and Policy making:** Social planning and community planning, Need and importance. NITI (National Institute For Transforming India) Aayog: Introduction, Structure, Aims and Objectives, Features, Functions. Policy making processes and structures in India, The role of Executive, Legislature and judiciary in policy making and budget analysis. Policy implementation : role of Governmental agencies, participation of non-governmental organizations and citizens. participation.	18	CO1 CO2 CO3 CO4 CO5	K1, K2, K3, K4, K5, K6
IV	**Social Policy and Social Welfare Programmes:** Definition, need, evolution and constitutional base; Sources and instrument of social policy, policies and programmes for other backward castes (OBCs), Scheduled Castes (SCs), Scheduled Tribes (STs) and Denotified Communities. National Policies and programmes for women, Children,Youth, Senior Citizens and Disabled.	18	CO1 CO2 CO3 CO4 CO5	K1, K2, K3,K4,K5, K6
V	**Social Legislations:** Meaning, Importance. Indian Constitution: Fundamental Rights, Fundamental Duties, Directive Principles of State Policy. Laws Related to Marriage: Hindu, Muslim, Christian, and Personal Laws Relating to Marriage. Laws Relating to Divorce, Minority, and Guardianship; Adoption, Succession, and Inheritance. Legislation Relating to Social Problems such as Dowry,	18	CO1 CO2 CO3 CO4 CO5	K1, K2, K3,K4,K5, K6

	Prostitution, Juvenile Delinquency, Women Harassment. Child Labour and Child sexual abuse				
VI	**Self-study for Enrichment (Not to be included for End Semester Examinations)** Learners need to carry out a thorough study on Programmes of a Non-Governmental Organization and Administrative functions, Highlighting the unique features of Non-Governmental Organization in Administering Welfare Programmes with effective people participation.	**-**	CO1 CO2 CO3 CO4 CO5	K1, K2, K3,K4 K5, K6	

Text Book:

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3. https://sirdodisha.nic.in/download/Social_Welfare_Schemes_Reference_English.pdf

4. https://www.niti.gov.in/objectives-and-features

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2. https://www.youtube.com/watch?v=x25wMZB2zkM
3. https://www.youtube.com/watch?v=Kf4tpdPx2V0

Pedagogy : Lectures, Group discussion, PPT presentation, Case study and Students led seminars.

Course Designer: Dr.R.Anitha

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with A Grade by NAAC
Annamalai Nagar, Tiruchirappalli
PG & RESEARCH DEPARTMENT OF SOCIAL WORK

Agenda for the Eleventh Meeting of

BoS Date   **: 16/10/2024**

Venue   **: F 8**

Time   **: 9.30 am**

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01

To consider and to approve the ratification of II Semester syllabus of Core Practicum - I (CP) Field Work – I (P) of BSW for 2024-2025 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02

To Consider and to approve the ratification of V and VI Semester change of credits for Core Courses VII, X & XI, Discipline Specific Elective Courses I & II and for VI semester Project Work of BSW 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/03

To consider and to approve the ratification of II Semester syllabus of Core Courses IV &V of MSW 2024-2025 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO.BOS /11/24/04

Any other matter with the permission of the chair

PG &RESEARCH DEPARTMENT OF SOCIAL WORK

MINUTES OF THE ELEVENTH MEETING OF THE BOS

DATE   :   **16.04.2024**
VENUE :   **F8**
TIME   :   **09.30 a.m.**

Members Present:

1.Dr.G.Mettilda Buvaneswari	Chairman, Associate Professor & HOD
2.Dr.G.Kanaga	Member
3.Ms.PL.Rani	Member
4.Dr.O.Aisha Manju	Member
5.Ms.S.Hema	Member
6.Dr.R.Anitha	Member
7.Ms.P.Meenakshi	Member

ACTION TAKEN REPORT OF THE BOS HELD ON   16.10.2024

The BoS Meeting was held on 16.10.2024 at 09.30 a.m. The Chairman of the BoS read the minutes of the meeting and the following Resolutions were confirmed

➢ Confirmation of II Semester C o r e P r a c t i c u m - I I syllabus of BSW for 2024-2025 batch andonwards
➢ Confirmation of V a n d V I semester Credits of Core Courses VII, X & XI, Discipline Specific Elective Courses I & II and Project Work of BSW for 2023-2024 batch and onwards
➢ Confirmation of II semester syllabus of Core Courses I V **& V** of MSW for 2024-2025 batch and onwards

II SEMESTER OF BSW 2024-2025 BATCH AND ONWARDS

RESOLUTION NO.BOS/11/24/01

Resolved to approve the ratification of II Semester syllabus, the I semester Core Practicum I (CP) - Field Work – I (P) Course Code 23USW1C1P of 2023-2024 batch Shifted to II semester Core Practicum I (CP) - Field Work – I (P) with course code 24USW2CC1P for 2024- 2025 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18 with the following revision of syllabus Core Practicum- I (CP) Field Work Practicum (P) 22USW2CC1P for

Core Practicum I (CP) - 24USW2CC1P - Field Work – I (P)

Topics Included:
Vulnerable children 8 Visits during observation visits inside Trichy

METHOD OF ASSESSMENT :
Internal Components : Attendance (10),Regularity in Submitting (10) , reports, Participation(10), Observation during the Visit (10)
External Components: Reporting (20), Viva Voce (Theoretical Knowledge -20, Reflection on the Visits -10, Communication (10)
Topics Deleted :
Unit- 1 : Interpersonal Relationships (Concept, skills, importance and relevance to social
work) Activity: Brainstorming sessions for improving interpersonal relationship and free expression of ideas among learners.
Unit- 2 : Communication Skills (Concept, type, importance and relevance to social Work)
Listening Skills (Concept, Types of listening ,importance and relevance to Social Work) Activity: Students will be organized to work in pairs or small groups in classroom to promote thinking and doing and improving skills- Communication, listening etc
Unit - 3 : Societal Analysis (Concept, Tools and techniques, importance and relevance to social work) Activity: Learners can conduct a case study
Unit - 4 : Understanding Group Behavior (Concept, importance and relevance to social
work) Activity: Learners can visit a rural camp for understanding the group behaviour.
Unit - 5: Documentation & Report Writing Skills. (Concept, Types of Report, importance and
relevance to social work) Activity: Learners should document and submit a report of a field visit
METHOD OF ASSESSMENT:
Internal Components : Attendance in field Work(5),Regularity in Submitting (5) , reports,Participation in camp & Study Tour Activities (30)
 External Components: Reporting (10), Viva Voce :Theoretical Knowledge -10, Communication and Presentation(10) ,Individual Participation and initiative (30)

V & VI SEMESTERS OF BSW 2023-2024 BATCH AND ONWARDS

RESOLUTION NO:BOS/11/24/02
Resolved to approve the ratification of V and VI Semester change of credits for Core Courses VII- Family & Child Welfare 22USW5CC7 and Core Course X Theories Social Work 22USW6CC10 of 2022-2023 batch credits changes from 6 credits to 5 credits with the Course codes Family & Child Welfare 23USW5CC7, Theories Social Work 23USW6CC10, the credits for the XI Welfare of the

Persons with Disability 22USW6CC11 of 2022-2023 batch credits 5 changes to 3 with the course code Welfare of the Persons with Disability 23USW6CC11 BSW 2023-2024 batch and onwards, Discipline Specific Elective -I (DSE) Disaster Management -22USW5DSE1A, Welfare of the Vulnerable 22USW5DSE1B and Human Rights & Social Work 22USW5DSE1C and Discipline Specific Elective -II (DSE) Gerontological Social Work 22USW6DSE2A,Youth Welfare 22USW6DSE2B, Industrial Social Work 22USW6DSE2C of 2022-2023 batch credits changes from 4 credits to 3 credits with the course codes Disaster Management -23USW5DSE1A,Welfare of the Vulnerable 23USW5DSE1B and Human Rights & Social Work 23USW5DSE1C and Discipline Specific Elective - II (DSE) Gerontological Social Work 23USW6DSE2A,Youth Welfare 23USW6DSE2B, Industrial Social Work 23USW6DSE2C for BSW 2023-2024 batch and onwards and Project - Project Work 22USW6PW of 2022-2023 batch credits 3 changes to 4 credits with the course code 23USW6PW for BSW 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

II SEMESTER OF MSW 2024-2025 BATCH AND ONWARDS

RESOLUTION NO: BOS/11/24/03
Resolved to approve the ratification of II Semester core course syllabus title Core Course – IV Community Organization and Social Policy 23PSW2CC4 of MSW 2023-2024 batch shifted to I semester replaced by Core Course– IV (CC) Social work Research and Social Statistics 22PSW2CC4 taken from 2022 2023 batch changed as Core Course IV(CC) - Social Work Research and Social Statistics with the course code 24PSW2CC4 with 6 hours and 5 credits for 2024-2025 batch and onwards and Core Course V (CC) Indirect Methods of Social Work 23PSW2CC5 of MSW 2023-2024 batch with 6 hours 5 credits removed and is replaced by Core Course – V (CC) Social Welfare Administration and Social Policy 22PSW2CC5 of 2022-2023 batch with the change of title as Social Welfare Administration, Social Policy and Social Legislations with the course code 24PSW2CC5 and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy with the following revision for

Core Course IV(CC) - Social Work Research and Social Statistics 24PSW2CC4
Topics Included:
Unit I : scientific attitude.
Unit II: Theory: meaning and use; inductive and deductive theory construction
Unit III : techniques of sampling
Unit IV: Advantages and disadvantages of using Interview, questionnaire and observation methods.
Unit V: Measures of Dispersion: Merits and Demerits of Arithmetic mean, Median and Mode. Range, quartile deviation, standard deviation and co-efficient of variation; Tests of significance: "t" test, F-test and chi-square test; **Correlation:** Meaning, types, and uses; Karl Pearson's coefficient of correlation and rank correlation.

Topics Removed :
Unit IV: preparation of research project proposal
Unit V: **Computer Applications:** Use and Application of Computer in Social Work

Core Course -V (CC) – Social Welfare Administration, Social Policy and Social Legislations

Topics Included:
Unit I: administration, financial administration
Unit II: Registration and functions of Social Welfare Agencies
Unit III: Policy making
Unit IV: Social Welfare Programmes, National Policies
Unit V: Social Legislation: Meaning, Importance. Indian Constitution: Fundamental Rights, Fundamental Duties, Directive Principles of State Policy.

Laws Related to Marriage: Hindu, Muslim, Christian, and Personal Laws Relating to Marriage. Laws Relating to Divorce, Minority, and Guardianship; Adoption, Succession, and Inheritance. Legislation Relating to Social Problems such as Dowry, Prostitution, Juvenile Delinquency, Women Harassment. Child Labour and Child sexual abuse

Topics Deleted:

Unit I: office administration, Department of Empowerment of Persons with Disabilities, Functions of DDRO

Unit II: Social Welfare Programme and Agencies, Evaluation of Social Welfare in India; Governmental Schemes on Social Welfare
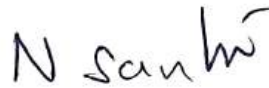
Unit III: Social Development, Concept and indicators for social change and social development in India

Unit IV: Central and State Governments programme for weaker sections.

Unit V: Social Policy Process and Problems, Policy advocacy, budget analysis, Problems in implementation of policy-Analysis of different policies of the Central and State Governments and changing nature of social policy in India.

Chairman

Dean of Arts

Principal

25-1-25

S.No	Name and Designation	Signature
1	Dr.G.Mettilda Buvaneswari Chairman & Associate Professor PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	
2	Dr.G.Kanaga Member Professor & Dean of Alumnae Relations PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	
3	Ms.PL.Rani Member Assistant Professor PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	
4	Dr.O.Aisha Manju Member Assistant Professor PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	
5	Ms.S.Hema Member Assistant Professor PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	
6	Dr.R.Anitha Member Assistant Professor PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	
7	Ms.P.Meenakshi Member Assistant Professor PG & Research Department of Social Work Cauvery College For Women (Autonomous) Trichy-18	

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018

PG & Research Department of Social Work
XI Board of Studies Meeting Held on 16.10.2024
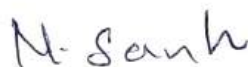
1. Introduction of new courses for the academic year 2024-2025 : Nil

2. Revision of syllabus of the existing courses for the academic year 2024-2025.

The Chairman of the Board, Dr.G.Mettilda Buvaneswari proposed the revision of syllabus in the curriculum of the BSW and MSW from the academic Year 2024-2025.

Name of the programme	Name of the Course	Course Code	Core / Elective	% of Content added or replaced
BSW	Field Work – I (P)	24USW2CC1P	Core Practicum	100 %
MSW	Social Work Research and Social Statistics	24PSW2CC4	Core	20.07 %
MSW	Social Welfare Administration and Social Policy and Social Legislations	24PSW2CC5	Core	32.58 %

Chairman

Dean of Arts

DEAN OF ARTS
CAUVERY COLLEGE FOR WOMEN
(AUTONOMOUS)
ANNAMALAI NAGAR
TIRUCHIRAPPALLI – 620 018
TAMILNADU

Principal

25.1.25

ANNEXURE G

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III cycle) with 'A' Grade by NAAC

ISO 9001:2015 Certified

TIRUCHIRAPPALLI

DEPARTMENT OF BUSINESS ADMINISTRATION

BBA

SYLLABUS

2023 -2024 and Onwards

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Marks Internal	Marks External	Total
I	I	Language Course - I (LC)	Pothutamil - I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I - French – I	23ULF1						
	II	English Language Course - I (ELC)	General English – I	23UE1	6	3	3	25	75	100
	III	Core Course - I (CC)	Principles of Management	23UBA1CC1	6	5	3	25	75	100
		Core Course - II (CC)	Accounting for Managers - I	23UBA1CC2	6	5	3	25	75	100
		Allied Course - I (AC)	Managerial Economics	23UBA1AC1	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**21**				**600**

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Marks Internal	Marks External	Total
II	I	Language Course - II (LC)	Pothutamil - II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	22ULH2						
			Prose Grammar and History of Sanskrit Literature	23ULS2						
			Basic French – II	22ULF2						
	II	English Language Course – II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course - III (CC)	Elements of Marketing	23UBA2CC3	6	5	3	25	75	100
		Core Course – IV (CC)	Business Statistics	23UBA2CC4	5	5	3	25	75	100
		Allied Course - II (AC)	Business Environment	23UBA2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course- II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
	V	Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**21**				**600**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY – 18
DEPATMENT OF BUSINESS ADMINISTRATION
BBA
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS - LOCF)
(For the candidates admitted from the academic year 2023 – 2024 onwards)

Semester	Part	Course	Title	SubjectCode	Hours	Credit	ExamHours	Internal	External	Total
III	I	Language Course- III (LC)	Podhutamil - III	23ULT3	6	3	3	25	75	100
			Hindi Literature &Grammar – III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French – I	22ULF3						
	II	English Language Course III (ELC)	Learning Grammar Through Literature - I	23UE3	6	3	3	25	75	100
	III	Core Course - V (CC)	Organizational Behaviour	23UBA3CC5	5	5	3	25	75	100
		Core Practical - I (CP)	Computer Applications Package for Managers - MS-Office (P)	22UBA3CC1P	5	5	3	40	60	100
		Allied Course - III (AC)	Business Law	22UBA3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course –III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course - I (GEC)	Stock Exchange Practices	22UBA3GEC1	2	2	3	25	75	100
			Basic Tamil -I	22ULC3BT1						
			Special Tamil -I	22ULC3ST1						
	V	Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY – 18

DEPATMENT OF BUSINESS ADMINISTRATION
BBA
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS - LOCF)
(For the candidates admitted from the academic year 2023 – 2024 onwards)

Semester	Part	Course	Title	SubjectCode	Hours	Credit	ExamHours	Marks Internal	Marks External	Total
IV	I	Language Course - IV (LC)	Podhutamil - IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French – II	22ULF4						
	II	English Language Course-IV (ELC)	Learning Grammar Through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course - VI (CC)	Cost Accounting	22UBA4CC6	5	5	3	25	75	100
		Core Practical - II (CP)	Computer Applications Package for Managers -Tally (P)	22UBA4CC2P	5	5	3	40	60	100
		Allied Course - IV (AC)	Company Law	22UBA4AC4	4	3	3	25	75	100
			Internship	22UBA4INT	-	2	-	-	-	100
	IV	Generic Elective Course– (GE) II	Export Management	22UBA4GEC2	2	2	3	25	75	100
			Basic Tamil -II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course – I(SEC)	Stress Management	22UBA4SEC1	2	2	3	25	75	100
	V	Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			30	25				800

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY – 18
DEPATMENT OF BUSINESS ADMINISTRATION
BBA
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS - LOCF)
(For the candidates admitted from the academic year 2023 – 2024 onwards)

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Internal	External	Total
								Marks		
V	III	Core Course - VII (CC)	Entrepreneurial Development	23UBA5CC7	6	5	3	25	75	100
		Core Course – VIII (CC)	Research methods in Management	22UBA5CC8	5	5	3	25	75	100
		Core Course - IX (CC)	Management Accounting	22UBA5CC9	5	5	3	25	75	100
		Core Course - X (CC)	Digital Marketing	22UBA5CC10	5	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	Basics of Income Tax	23UBA5DSE1A	5	3	3	25	75	100
			Managerial Communication	23UBA5DSE1B						
			Retail Management	23UBA5DSE1C						
	IV	Ability Enhancement Compulsory Course- IV (AECC)	UGC Jeevan Kaushal Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	Statistical Package for Managers – SPSS (P)	22UBA5SEC2P	2	2	3	40	60	100
	V	Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**27**				**700**

VI	III	Core Course - XI (CC)	Human Resource Management	23UBA6CC11	5	4	3	25	75	100
		Core Course - XII (CC)	Financial Management	23UBA6CC12	5	4	3	25	75	100
		Core Course - XIII (CC)	Services Marketing	23UBA6CC13	4	3	3	25	75	100
		Core Course - XIV (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective – II (DSE)	Business Analytics	23UBA6DSE2A	5	3	3	25	75	100
			Global Business Management	23UBA6DSE2B						
			Business Ethics	23UBA6DSE2C						
		Project	Project work	23UBA6PW	5	4	-	-	-	100
	V		Gender Studies	22UGGS	1	1	-	100	-	100
			Extension Activities	22UGEA	0	1	0	--	--	--
		Total			**30**	**24**				**700**
		Grand Total			**180**	**140**				**4100**

MINUTES OF THE ELEVENTH MEETING OF THE BOS

DATE **:** **15.10.2024**
VENUE **:** **EDC BOOT STRAP**
TIME **:** **1.30 p.m.**

Members Present:

1) Dr. J. Tamilselvi	**Chairperson,** Professor & Head.	
2) Dr. S. ThamaraiSelvi	Member	
3) Dr. M. Neela	Member	
4) Dr. A. Sivaranjani	Member	
5) Dr. M. Gayathri	Member	
6) Mrs. P. Thangamani	Member	
7) Mrs. S. Yalini	Member	
8) Ms. A. Suganya	Member	
9) Ms. S. Nivethika	Student Representative	
10) Ms. D.T. Keerthana	Student Representative	

ACTION TAKEN REPORT OF THE BOS HELD ON 05.04.2024

The BoS Meeting was held on 05.04.2024 at 10.00 a.m. The Chairman of the BoS read the minutes of the previous meeting and the following Resolutions were confirmed

- Confirmation of VI Semester Syllabus of Bachelor of Business Administration for 2022 - 2023batch and onwards
- Confirmation of the syllabus of the Value-Added Course for the Academic Year 2024 –2025
- Ratification of Syllabus, Course Code and Course Title of Core Course – II of Semester I of Bachelor of Business Administration for 2024-2025 batch and onwards
- Ratification of the Syllabus and the Credits of Core Course – V of III Semester of Bachelor of Business Administration for 2023-2024 batch and onwards

MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 10.10.2024

RESOLUTION NO.BOS/11/24/01

Resolved to approve the ratification of the Credits and Course Code of CC – VII and DSE - I of Semester V and CC – XI, CC – XII, CC-XIII, DSE – II and Project work of Semester VI of Business Administration for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

1. CC-VII – Entrepreneurial Development is changed as 5 credits with Course Code 23UBA5CC7.
2. Credits of DSE – I changed as 3 with Course Code of
   - Basics of Income Tax is changed as 23UBA5DSE1A
   - Managerial Communication is changed as 23UBA5DSE1B
   - Retail Management is changed as 23UBA5DSE1C
3. CC-XI – Human ResourceManagement is changed as 4 credits with Course Code 23UBA6CC11
4. CC-XII – Financial Management is changed as 4 credits with Course Code 23UBA6CC12
5. CC-XIII – Services Marketing is changed as 3 credits with Course Code 23UBA6CC13
6. Credits of DSE – I changed as 3 with Course Code of
   Business Analytics is changed as 23UBA6DSE2A
   Global BusinessManagement is changed as 23UBA6DSE2B
   Business Ethics is changed as 23UBA6DSE2C
7. Project work is changed as 4 credits with Course Code 23UBA6PW

The Chairman Dr. J. Tamilselvi, Professor and Head, proposed the Vote of Thanks and expressed her gratitudefor the valuable suggestions given by the internal BoS members during the BoS meeting for the period 2024 - 2025 and thanked all the members of BOS

Chairman of the Board

ANNEXURE H

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Internal	External	Total
								Marks		
I	I	Language Course - I (LC)	Pothutamil - I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammer and History of Sanskrit Literature	23ULS1						
			Foundation Course : Paper I – French - I	23ULF1						
	II	English Language Course - I (ELC)	General English - I	23UE1	6	3	3	25	75	100
	III	Core Course - I (CC)	Financial Accounting - I	23UCO1CC1	6	5	3	25	75	100
		Core Course - II (CC)	Principles of Management	23UCO1CC2	6	5	3	25	75	100
		First Allied Course - I (AC)	Business Economics	23UCO1AC1	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal - Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**21**				**600**

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Internal	External	Total
II	I	Language Course - II (LC)	Pothutamil - II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	22ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French -II	22ULF2						
	II	English Language Course - II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course - III (CC)	Financial Accounting - II	23UCO2CC3	6	5	3	25	75	100
		Core Course - IV (CC)	Fundamentals of Marketing	23UCO2CC4	5	5	3	25	75	100
		First Allied Course - II (AC)	Banking Theory Law and Practice	22UCO2AC2	5	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
	Extra Credit Course	SWAYAM Online Course		As per UGC Recommendations						
		Total			**30**	**21**				**600**

Part		Course	Title	Code	Hours	Credit	Exam Hrs	Int	Ext	Total
III	I	Language Course - III (LC)	Pothutamil - III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course - III (ELC)	Learning Grammar through Literature - I	23UE3	6	3	3	25	75	100
	III	Core Course - V (CC)	Cost Accounting	23UCO3CC5	5	5	3	25	75	100
		Core Course - VI (CC)	Business Correspondence and Reporting	22UCO3CC6	5	5	3	25	75	100
		Second Allied Course – I (AC)	Business Law	22UCO3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course – I (GEC)	Elements of Insurance	22UCO3GEC1	2	2	3	25	75	100
			Basic Tamil - I	22ULC3BT1						
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	Swayam Online Course		As per UGC Recommendations					
		Total			30	22				700

*15 Days INTERNSHIP during Semester Holidays.

Part		Course	Title	Code	Hours	Credit	Exam Hrs	Int	Ext	Total
IV	I	Language Course - IV (LC)	Pothutamil - IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Transalation	23ULS4						
			Intermediate French -II	22ULF4						
	II	English Language Course-IV (ELC)	Learning Grammar through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course - VII (CC)	Business Statistics	22UCO4CC7	5	5	3	25	75	100
		Core Practical - I (CP)	Accounting Package (P)	22UCO4CC1P	5	5	3	40	60	100
		Second Allied Course – II (AC)	E-Commerce and Web Designing	22UCO4AC4	4	3	3	25	75	100
		Internship		22UCO4INT	-	2	-	-	-	100
	IV	Generic Elective Course– II (GEC)	Advertisement Management	22UCO4GEC2	2	2	3	25	75	100
			Basic Tamil - II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course– I (SEC)	Introduction to MS-Office (P)	22UCO4SEC1P	2	2	3	40	60	100
		Extra Credit Course	Swayam Online Course		As per UGC Recommendations					
		Total			30	25				800

V	III	Core Course – VIII (CC)	Corporate Accounting	**23UCO5CC8**	6	**5**	3	25	75	100
		Core Course - IX (CC)	Financial Management	**22UCO5CC9**	5	5	3	25	75	100
		Core Course - X (CC)	Entrepreneurship and Small Business Management	**22UCO5CC10**	5	5	3	25	75	100
		Core Course – XI (CC)	Fundamentals of Research	**22UCO5CC11**	5	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A. Human Resource Management	**23UCO5DSE1A**	5	3	3	25	75	100
			B. Marketing Research	**23UCO5DSE1B**						
			C. Industrial Relations and Labour Law	**23UCO5DSE1C**						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal - Professional Skills	**22UGPS**	2	2	-	100	-	100
		Skill Enhancement Course– II (SEC)	Skills for Competitive Examination	**22UCO5SEC2**	2	2	3	-	100	100
		Extra Credit Course	Swayam Online Course	As per UGC Recommendations						
		Total			**30**	**27**				**700**

VI	III	Core Course - XII (CC)	Direct Taxation	**23UCO6CC12**	5	**4**	3	25	75	100
		Core Course - XIII (CC)	Management Accounting	**23UCO6CC13**	5	**4**	3	25	75	100
		Core Course - XIV (CC)	Auditing	**23UCO6CC14**	4	**3**	3	25	75	100
		Core Course - XV (CC)	Cyber Security	**22UGCS**	5	4	3	25	75	100
		Discipline Specific Elective– II (DSE)	A. Financial Services	**23UCO6DSE2A**	5	**3**	3	25	75	100
			B. Retail Management	**23UCO6DSE2B**						
			C. Organisational Dynamics	**23UCO6DSE2C**						
		Project	Project Work	**23UCO6PW**	5	**4**	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	**22UGGS**	1	1	-	100	-	100
	V	Extension Activity		**23UGEA**	-	1	-	-	-	-
		Total			**30**	**24**				**700**
		Grand Total			**180**	**140**				**4100**

B.Com

BATCH (2023-2026)

V & VI Semester

Course Structure and Syllabus

Sem	Part	Course	Title	Code	Hours	Credit	Exam Hrs	Int	Ext	Total
V	III	Core Course – VIII (CC)	Corporate Accounting	23UCO5CC8	6	5	3	25	75	100
		Core Course - IX (CC)	Financial Management	22UCO5CC9	5	5	3	25	75	100
		Core Course - X (CC)	Entrepreneurship and Small Business Management	22UCO5CC10	5	5	3	25	75	100
		Core Course – XI (CC)	Fundamentals of Research	22UCO5CC11	5	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A. Human Resource Management	23UCO5DSE1A	5	3	3	25	75	100
			B. Marketing Research	23UCO5DSE1B						
			C. Industrial Relations and Labour Law	23UCO5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course– II (SEC)	Skills for Competitive Examination	22UCO5SEC2	2	2	3	-	100	100
		Extra Credit Course	Swayam Online Course	As per UGC Recommendations						
		Total			**30**	**27**				**700**

Sem	Part	Course	Title	Code	Hours	Credit	Exam Hrs	Int	Ext	Total
VI	III	Core Course - XII (CC)	Direct Taxation	23UCO6CC12	5	4	3	25	75	100
		Core Course - XIII (CC)	Management Accounting	23UCO6CC13	5	4	3	25	75	100
		Core Course - XIV (CC)	Auditing	23UCO6CC14	4	3	3	25	75	100
		Core Course - XV (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective– II (DSE)	A. Financial Services	23UCO6DSE2A	5	3	3	25	75	100
			B. Retail Management	23UCO6DSE2B						
			C. Organisational Dynamics	23UCO6DSE2C						
		Project	Project Work	23UCO6PW	5	4	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension Activity		23UGEA	-	1	-	-	-	-
		Total			**30**	**24**				**700**
		Grand Total			**180**	**140**				**4100**

Semester V	Internal Marks: 25		External Marks: 75		
COURSE CODE	COURSE TITLE		CATEGORY	HRS / WEEK	CREDITS
23UCO5CC8	CORPORATE ACCOUNTING		CORE	6	5

Course Objectives

- To understand various adjustments related to share capital.
- To help the students to acquire conceptual knowledge of the fundamentals of the corporate accounting and the techniques of preparing the financial statements.
- To know the provisions of the Company Act and to build accountability in corporate sector.

CourseOutcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Recall the conceptual background of Company Accounts.	K1
CO2	Explain the concepts and techniques on the issue and redemption of Debentures.	K2
CO3	Build knowledge on value of goodwill and shares of business firm.	K3
CO4	Apply and Examine with the legal formats, special items and adjustments pertaining to Banking companies.	K3,K4
CO5	Analyze the accounts of Holding Company.	K4

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	2	2	3	2	3	3	3	3
CO3	3	2	3	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial (High) Correlation"-"Indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Accounting for Share Capital - Issue of shares: Par, Premium and Discount, Forfeiture and Reissue of Shares, Issue of rights and bonus shares.	18	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	Issue and Redemption of debentures-Accounting Treatment for Debentures Issued at Par at a Discount and at a Premium and repayable at a par and at premium.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Valuation of goodwill and shares – Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Accounts of Holding Companies (excluding Inter Company Holdings).	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Accounts of Banking Companies (new format) - Preparation of Profit and Loss Account – Balance Sheet.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination).** Company Final Accounts- Provisions of the Companies Act, 2013.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Distribution of Marks: Theory 20%and Problems 80%

Text Books

1. Reddy. T S, MurthyA, (2023). *Corporate Accounting*. Margham Publications.
2. S.P. Jain, K.L. Narang (2017).*Corporate Accounting*. Kalyani Publishers.
3. Tulsain, P.C:(2023). *Corporate Accounting*, S. Chand Publication. New Delhi.

Reference Books

1. Maheshwari S.N (2018). *Corporate Accountancy*. Vikas Publishing House,NewDelhi.
2. Gupta. R L, Radhasamy M, (2021). *Corporate Accounting*. Sultan Chand & Sons.
3. M.C.Shukla, T.S.Grewal (2016). *Advanced Accountancy*. Sultan Chand & Sons.

Web Reference

1. https://www.gacwrmd.in/learning/Commerce/Corporate%20Accounting1.pdf
2. https://www.icsi.edu/media/webmodules/Corporate%20and%20Management%20Accounting.pdf.
3. https://testbook.com/objective-questions/mcq-on-corporate-accounting--5f9168bba03904a227ce6338
4. https://ddceutkal.ac.in/Downloads/UG_SLM/Commerce/Corporate_Accounting.pdf
5. https://www.drnishikantjha.com/booksCollection/Corporate%20Accounting%20.pdf

Pedagogy

Lecture, Power Point Presentation, Assignment, Quiz, Seminar, Group Discussions & Activity.

Course Designer

Dr. P. Banu

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS. / WEEK**	**CREDITS**
23UCO5DSE1A	**HUMAN RESOURCE MANAGEMENT**	**DISCIPLINE SPECIFIC ELECTIVE**	**5**	**3**

Course Objective

- To familiarize the students with concepts and principles of Human Resource Management.
- To understand the Human Resource Management System at various levels.
- To develop relevant skills necessary for application in Human Resource related issues.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the basic concepts, functions and processes of HRM.	**K1**
CO2	Summarize the steps for recruitment and selection.	**K2**
CO3	Apply the procedures for performance appraisal and fixation of compensation.	**K3**
CO4	Identify and analyse the various ways and methods of developing, maintaining and Integrating human resources.	**K3,K4**
CO5	Explain the Human Resource Management in a Changing Environment.	**K4**

Mapping of CO with PO and PSO

COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	2	3	3	3	3
CO5	3	3	3	3	3	3	3	2	3	3

"1"- Slight (Low) Correlation – "2"- Moderate (Medium) Correlation

"3" – Substantial (High) Correlation "-" Indicates there is no Correlation.

Syllabus .

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	HRM Introduction – Characteristics – Scope – Objectives – Importance and Functions of HRM - Qualities - Role of Human Resource Manager – Human Resource Planning – Concept – Objective - Importance - Process -Levels - Problems - Guidelines for effective Human Resource Planning.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
II	Job analysis – Meaning – Objectives – Advantages – Process – Techniques – Job Specification – Recruitment – Meaning – Methods – Selection – Concept – Steps in Selection Process – Problem involved in Placement. Induction – Meaning – Objective and Purpose of Induction.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
III	Training- Need for training - Benefits of training- Identification of training needs and methods of training. Human Resource Development - Meaning and Role of training in HRD- Impact of Globalization on Human Resource Management.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
IV	Performance Appraisal – Objectives – Methods – Factors affecting Performance Appraisal. Job Evaluation – Meaning – Methods: Quantitative and Non - Quantitative. Wages and Salary Administration – Meaning – Objectives – Factors influencing wages – Different patterns of wage payment – Incentives – Bonus.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
V	Human Resource Management in a changing Environment : Downsizing Plan- Exit Policy- National Renewal Fund - Voluntary Retirement Scheme and Sexual Harassment . Ethical Issues in HRM . Emerging Trends in HRM- Changing role of Human Resource Management – Impact of Globalization on HRM.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for End Semester Examination)** Career Planning and Development – Management of Stress – Motivation – Absenteeism and Labour Turnover.		CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4

Text Books

1. C.B.Gupta, (2018). *Human Resource Management Text & Cases*. 19th Revised Edition. Sultan Chand & Sons.
2. R.Subba Rao (2018). *Human Resource Management*. Revised Edition. Himalaya Publishing House.
3. C.D. Balaji, (2015). *Human Resource Management*. Revised Edition. Margham Publications.

Reference Books

1. Dr. S.S. Khanka (2003). *Human Resource Management Text & Cases.*, Revised Edition. S.Chand.
2. R.S. Dwivedi (2009). *A Textbook of Human Resource Management*. Revised Edition. Vikas Publishing House.
3. V.S.P. Rao (2015). *Human Resource Management*. Revised Edition.Vikas Publishing House.

Web References

1. https://www.drnishikantjha.com/booksCollection/hrm-basic-notes.pdf
2. https://www.rccmindore.com/wp-content/uploads/2020/12/hrm-notes-hons-iii-1.pdf
3. https://www.youtube.com/watch?v=anTWkj2yIH8
4. https://www.slideshare.net/versatileBschool/human-resource-management-full-notes
5. https://oms.bdu.ac.in/ec/admin/contents/86_16MBECM3-16CCCAC12-16MBECA5_2020052103563773.pdf

Pedogogy

Chalk and Talk, Power point presentations, Group Discussion, Seminar, Quiz , Assignment.

Course Designer

Dr. J.Praba

Semester V	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS. / WEEK	CREDITS
23UCO5DSE1B	MARKETING RESEARCH	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objectives

- To enable the students to understand the concept of marketing research.
- To provide students with research and managerial knowledge, tools and skills for identifying, tackling, judging and using evidence to solve marketing problems in business.
- To Identify marketing problem(s) to assist in decision making

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Recall and explain the concepts about contemporary marketing Research.	K1,K2
CO2	Outline the research process to explain various methods that will be proposed through a marketing research proposal	K2
CO3	Apply a Research in the marketing area to gather, code analyze and arrange the data	K3
CO4	Identify and examine the methodologies to acquire evidence in an ethical manner to address the marketing problem.	K3,K4
CO5	Analyze all types of relevant evidence towards finding solutions to the marketing problem	K4

Mapping of CO with PO and PSO

COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	3	2	3	3	2	3	3
CO2	3	3	2	3	3	3	3	2	3	3
CO3	3	3	2	3	2	3	3	2	3	3
CO4	3	3	2	3	2	3	3	2	3	3
CO5	3	3	2	3	3	3	3	2	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Marketing Research Definition – Concepts and Objectives – Advantages and Limitations of Marketing Research - Problems and Precautions in Research – Analysing competition and Consumer Market – Market Research Methodology.	15	CO1,CO2, CO3, CO4 CO5	K1,K2, K3,K4
II	Market Research Proposal – Meaning and Elements of Research Proposal – Marketing Research Design – Concepts – Importance – Types. Hypothesis – Concept – Importance – Types. Sampling – Concepts – Terms in Sampling – Techniques of Sampling – Essential of Good Sampling	15	CO1,CO2, CO3, CO4 CO5	K1,K2, K3,K4
III	Data Collection – Primary Data and Secondary Data – Concept – Merits and Demerits – Methods – Sources. Qualitative and Quantitative Research – Concept – Features – Difference.	15	CO1, CO2, CO3, CO4 CO5	K1,K2, K3,K4
IV	Data Processing – Editing – Meaning – Objectives – Types. Coding – Meaning – Guidelines. Classification – Meaning – Methods. Tabulation – Meaning – Methods. Data Analysis and Interpretation: Data Analysis – Meaning – Steps – Use of Statistical Tools (SPSS, SAS, MS Excel, MINITAB). Data Interpretation – Meaning – Importance – Stages.	15	CO1, CO2, CO3, CO4 CO5	K1,K2, K3,K4
V	Market Research Reports – Presentation – Return Report – Format – Common Problems in Preparing Reports – Critical Nature of the Reports – Graphical Presentation – Ethical Issues in Marketing Research – Ethical Issues Related to Clients, Respondents, Sampling, Questionnaire, Questionnaire Design and Reporting.	15	CO1, CO2, CO3, CO4 CO5	K1,K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for End Semester Examination)** Market Trends - Advertising research – Rural marketing research – Consumer and Product research.		CO1, CO2, CO3, CO4 CO5	K1,K2, K3,K4

Text Book

1. Naresh K Malhotra, (2019). *Marketing Research: An Applied Orientation.* 7th Edition. Pearson Education. Asia.

2. Paul E. Green, Donald S. Tull. (2009). *Research for Marketing Decisions*. 5th Edition. PHI Learning Private Limited. New Delhi.

3. S.K Gupta, Praneet Rangi, (2014). *Marketing Research.* Revised Edition. Kalyani publishers.

References Book

1. Donald R. Cooper, Schindler,(2016). *Marketing Research Concept & Cases*. Tata McGraw – Hill Publishing Company Limited.2006

2. Dr. Prabha Deena, Sridevi M,(2019). *Marketing Research and Metrics,* Revised Edition. Thakur Publication Private Limited

3. Rajendra Nargundkar,(2019). *Marketing Research Text and Cases*. 4th Edition. Mc Graw-hill.

Web References

1. https://onlinemkt.org/marketing-research/

2. https://www.driveresearch.com/market-research-company-blog/7-components-of-a-market-research-proposal/

3. https://www.simplilearn.com/what-is-data-collection-article#:~:text=Data%20collection%20is%20the%20process%20of%20collecting%20and%20analyzing%20information,test%20hypotheses%2C%20and%20assess%20results.

4. https://databox.com/marketing-research-report

5. https://www.qualtrics.com/au/experience-management/research/market-research-types/

Pedagogy

Lecture, Power Point Presentation, Assignment, Seminar, Group Discussions

Course Designer

Ms. N. Aruna

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS / WEEK	CREDITS
23UCO5DSE1C	INDUSTRIAL RELATIONS AND LABOUR LAW	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objectives

- To safeguard workers right, promote trade union activities and make employment more secure.
- To minimise the labour turnover rate and absenteeism.
- To understanding of constitutional provisions and industrial relations legislation relating to labour.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the laws relating to industrial relations, labor legislation and social securities.	K1
CO2	Explain various process and procedures of handling employee relations.	K2
CO3	Apply the concepts of industrial disputes, strikes and lockouts with reference to concerned legislations.	K3
CO4	Examine the concept of industrial relation and the role of trade union in the industrial setup.	K4
CO5	Analyze the labour problems in the organization and have better decision-making and conflict resolution skills.	K4

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	3	3	2	2	3	2	3
CO2	3	3	3	3	3	3	2	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial (High) Correlation"-"Indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Overview of Industrial Relations - Concept - Nature – Objective – Parties of Industrial Relations.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	Trade Unionism - Origin and Growth – Unions After Independence – Concept - Objective – Function – Problems of Trade Union.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
III	Workers Participation in Management - Meaning of Workers Participation in Management – Collective Bargaining , Nature and Methods – ILO and Its role Tripartite Approach in Industrial Relations .	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
IV	Labour legislation - The industrial Relation Code 2019 - An Introduction and Overview of Factories Act: Industrial disputes Act , Payment of Wages Act , Payment of Bonus Act , ESI Act , Payment of Gratuity Act, Minimum Wages Act , PF Act and Workmen's Compensation Act.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
V	Industrial safety - Meaning – Important - Causes of Accidents – Prevention – Safety Provisions –Industrial Health and Hygiene – Important –Problems- Occupational Hazards Diseases – Psychological Problems – Counselling – Statutory Provisions.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Socio - Economic Background of Indian labour: Economic Problems of Labour - Wages and Standard of Living- Unemployment and Employment - Social Security and State Policy.		CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4

Text Books

1. Sreenivasan, M R, (2015). *Industrial Relations & Labor Legislation*. Revised Edition. Margham Publication Chennai.
2. Nandhakumar.B, (2015). *Industrial Relation Labour Welfare and Labour laws*. Revised Edition. Vijay Nicole imprinters Pvt Ltd. Chennai.
3. Venkata Ratnam, C S, (2017), *Industrial Relation*, 2nd edition. Oxford University , New Delhi.

Reference Books

1. Srivastava, S C, (2020). *Industrial Relations and Labour Laws*, 8th edition, Noida Vikas PublishingHouse Private Limited.
2. Sarma, A M ,(2019). *Industrial Jurisprudence and Labour Legislation*. 9th edition, Himalaya Publishing House. Mumbai.
3. Tripathi,P C Gupta, C P Kapoor, N D (2012). *Industrial Relation Labour Law*. 5th Edition. Sultan Chand. New Delhi.

Web Reference

1. https://baou.edu.in/assets/pdf/PGDHR_201_slm.pdf
2. https://www.mlsu.ac.in/econtents/1185_Industrial%20Relations%20and%20Labour%20Laws.pdf
3. https://www.sultanchandandsons.com/Images/BookImages/EBook/399_ISBN978935161660.pdf
4. http://www.mbaexamnotes.com/industrial-relations-and-labour-laws.html
5. https://www.academia.edu/33220728/BA7034_Industrial_Relations_and_Labour_welfare_A_Course_Material_on

Pedagogy

Lecture, Power Point Presentations, Group Discussion, Seminar, Quiz, Assignment, Experience Discussion, Brain Storming, Activity.

Course Designer

Dr.S.Sudha,

VI	III	Core Course - XII (CC)	Direct Taxation	**23UCO6CC12**	5	**4**	3	25	75	100
		Core Course - XIII (CC)	Management Accounting	**23UCO6CC13**	5	**4**	3	25	75	100
		Core Course - XIV (CC)	Auditing	**23UCO6CC14**	4	**3**	3	25	75	100
		Core Course - XV (CC)	Cyber Security	**22UGCS**	5	4	3	25	75	100
		Discipline Specific Elective– II (DSE)	A. Financial Services	**23UCO6DSE2A**	5	**3**	3	25	75	100
			B. Retail Management	**23UCO6DSE2B**						
			C. Organisational Dynamics	**23UCO6DSE2C**						
		Project	Project Work	**23UCO6PW**	5	**4**	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	**22UGGS**	1	1	-	100	-	100
	V	Extension Activity		**23UGEA**	-	1	-	-	-	-
		Total			30	24				**700**
		Grand Total			180	140				**4100**

Semester VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**Hrs / Week**	**Credits**
23UCO6CC12	**DIRECT TAXATION**		**CORE**	**5**	**4**

Course Objective

- To help the students to understand and apply the basic concepts and provisions of Income Tax Act 1961.
- To apply various deduction and exemptions in the computation of total income of Assessee.
- To gain procedural knowledge about Income Tax law in force for the relevant assessment year.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the basic concepts of Income Tax, Residential Status of an Individual Assessee and Incidence of Tax.	**K1**
CO2	Explain the computation of Income from Salary, House Property, Business or Profession, Capital Gain and Income from Other Sources.	**K2**
CO3	Apply the exemption and deduction under various heads of income.	**K3**
CO4	Analyze the total tax liability of individual Assessee.	**K4**
CO5	Evaluate the legal obligations and requirements of e filing of the Income Tax	**K5**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	2	3	2	2
CO4	3	3	2	3	3	2	S	2	2	2
CO5	3	3	2	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	History of Income Tax - Canons of Taxation – Assessee - Types – Person – Income – Agricultural Income – Assessment Year – Previous Year – Capital and Revenue Receipts and Expenditure - Total Income – Residential status of Individual – Incidence of Tax – Income Exempted under section 10.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
II	Income from Salary – Features – Advance Salary - Arrear of Salary – Allowances – Perquisites - Retirement Benefits – Deduction under section 16 – Deduction under section 80C	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
III	Income from House Property – Exempted Income from House Property – Determination of Gross Annual Value and Net Annual Value – Partly Let Out and Partly Self Occupied House - Sub-letting – Calculation of Interest on Borrowed Capital –Deduction under section 24.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
IV	Income from Business – Important terms - Expenses Expressly Allowed and Disallowed – Treatment of Bad Debts Recovered, Under and Over valuation of Stock. Income from Profession.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
V	Income from Capital Gain –Types of Capital Assets – Computation of Long Term and Short Term Capital Gain – Exemption under section 54. Income from Other Sources –Various Kinds of Securities -Deduction under section 57 – Computation of Total Tax Liability – E - filing .	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Advance Payment of Tax - Tax Deducted at Source –Income Tax Authorities.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5

Distribution of Marks: Theory 20% & Problem 80%

Text Books

1. Dr.T.Srinivasan (2024), *Income Tax Law and Practice,* Vijay Nicole Imprints Private Ltd , Chennai.
2. T.S.Reddy and Y.Hari Prasad Reddy (2024), *Income Tax Law and Practice,* Margham Publication.Chennai.
3. Dr.H.C.Mehrotra (2024), *Income Tax Law and Practice,* Shithya Bhavan Publication. Agra, Uttar Pradesh.

Reference Books

1. Dr. Vinod K.Singhania, Dr.Kapil Singhania (2024), Income Tax *Law and Practice,* Taxmann Publications, Chennai.
2. K.Rajavelu, (2024), Income Tax Law and Practice,SVP Publication.Chennai.
3. CA. Raj K Agrawal, (2024) Handbook on Income Tax, Bharat Law House, Delhi.

Web Reference

1. https://www.taxmann.com/post/blog/tax-concept
2. https://cleartax.in/paytax/TaxCalculator
3. https://tax2win.in/guide/house-property
4. https://www.icai.org/post.html?post_id=19576
5. https://www.incometax.gov.in/iec/foportal/

Pedagogy

Chalk and Talk, Powerpoint Presentation, Assignment, Seminar and Quiz

Course Designer

Dr.C.Subha.

Semester VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	COURSE TITLE		CATEGORY	Hrs. / Week	Credits
23UCO6CC13	MANAGEMENT ACCOUNTING		CORE	5	4

Course Objective

- To provide conceptual understanding of Management Accounting techniques, practices for business analysis and decision making.
- To acquire skills needed to analyse and interpret the performance of the firm through preparation of financial statement.
- To learn the process of preparing budgets and writing management report for decision making.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	List out the concepts of Management Accounting and explain the tools and techniques used to make various management decisions.	K1, K2
CO2	Explain the role of management accounting in undertaking planning, performance measurement, controlling and decision-making and develop the ability to apply contemporary management techniques to business problems.	K2, K3
CO3	Apply the techniques of ratio analysis, standard costing and variance analysis for effective managerial decision making.	K3
CO4	Analyse and interpret the performance of the firm through the preparation of financial statements and develop the knowledge to present a good management report.	K3, K4
CO5	Analyse and prepare budgets for planning and controlling in practical situations.	K4

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	3	3	3	3	3	3
CO2	3	3	3	3	3	2	3	3	3	3
CO3	3	3	3	3	3	2	3	3	3	3
CO4	3	3	3	3	3	2	2	2	2	2
CO5	3	3	3	3	3	2	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Management Accounting – Meaning, Scope, Objectives, Relationship between Financial, Cost and Management Accounting – Financial Statement Analysis – Comparative Statement – Common Size Statement – Trend Analysis. Ratio Analysis – Meaning – Classification of Ratios – Computation of Ratios (excluding preparation of financial statements from ratios) – Liquidity Ratios, Solvency Ratios, Profitability Ratios, Activity or Turnover Ratios – Capital Gearing Ratios.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
II	Fund Flow Statement –Meaning – Uses – Parties interested in Fund Flow Statement – Preparation – Schedule of changes in Working Capital – Funds from Operations – Sources and Applications.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Cash Flow Statement – Meaning – Difference between Fund Flow and Cash Flow Analysis - Preparation of Cash Flow Statement (only indirect method) according to Accounting Standard 3.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Marginal Costing: Basic Concepts - Marginal and Absorption Costing - Cost Volume Profit Analysis – Break Even Analysis – Margin of Safety. Application of Marginal costing in Decision Making – Make or Buy – Shutdown or Continue – Exploring New Markets.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Budget and Budgetary Control – Meaning – Advantages – Preparation of Production, Purchase, Sales, Cash and Flexible Budget. Standard Costing – Meaning, Advantages and Limitations – Variance Analysis – Material and Labour Variance only.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

| VI | **Self-Study for Enrichment (Not to be included for External Examination)** Functions, Advantages and Disadvantages of Management Accounting – Advantages and Limitations of Ratio Analysis - Advantages and Limitations of Fund Flow Statement – Utility and Limitation of Cash Flow Analysis–Merits and Demerits of Marginal Costing – Requirements of good budgetary control system – Distinction between budgetary control and standard costing. | - | **CO1, CO2,CO3, CO4,CO5** | **K1, K2, K3,K4** |

Distribution of Marks: Theory – 20% & Problem – 80%

Text Books

1. Khan M.Y.&Jain P.K. (2021). *Management Accounting*.8thedition, Tata McGraw Hill.
2. Maheswari S.N. (2018). *Principles ofManagement Accounting*. Sultan Chand & Sons, New Delhi.
3. Arora N. (2012).*A Text Book of Cost & Management Accounting*, 11thEdition, S.Chand and Company Ltd.

Reference Books

1. 1.Ramachandran R. & Srinivasan R.(2020). *Management Accounting*.17thRevised Edition,Sriram Publications.
2. R.K. Sharma, Shashi K Gupta (2015). *Cost & Management Accounting*. Kalyani Publishers, New Delhi.
3. Reddy T.S. & Hari Prasad Reddy Y. (2020). *Management Accounting*, Margham Publications.

Web Reference

1. https://www.yourarticlelibrary.com/accounting/management-accounting/management-accounting-concept-functions-and-scope/61276
2. https://images.topperlearning.com/topper/revisionnotes/7998_Topper_21_101_504_551_9837_Analysis_of_Financial_Statements_up201904241124_1556085290_1129.pdf?v=0.0.1
3. https://www.vintti.com/blog/cash-flow-statement-vs-funds-flow-statement/
4. https://www.jkshahclasses.com/announcement/4_MarginalCosting.pdf
5. https://umeschandracollege.ac.in/pdf/study-material/accountancy/Budget-Budgetary-Control-Sem-IV.pdf

Pedagogy

Chalk and Talk, Powerpoint Presentation, Assignment, Seminar and Quiz.

Course Designer

Dr. J. Lalithambigai.

Semester VI	Internal Marks: 25			External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs / Week	Credits	
23UCO6CC14	AUDITING	CORE	4	3	

Course Objective

- To provide in-depth study of auditing principles, concepts and its practices.

- To know the meaning of internal control, internal check and audit.

- To impart knowledge about the methods of auditing and their applications.

Course Outcome and Cognitive Level Mapping

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define the concepts of auditing framework systems	K1
CO2	Illustrate the roles and responsibilities of a company auditor	K2
CO3	Apply the latest technological procedures in auditing	K3
CO4	Categorize the different types of vouchers and gain an awareness regarding verification of documentary evidence.	K4
CO5	Examine the methods of investigation, Rights, duties and liabilities of an auditor regarding Investigation.	K4

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	3	3	2	3	2	2	2	3
CO2	2	2	2	2	2	2	2	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	2	3	3	3	2	4	2	3	3	3
CO5	3	3	3	3	3	2	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Introduction to Auditing **-** Definition, Features, Importance, Elements, Differences between Accountancy, Auditing and Book- keeping, Scope of Auditing – Independent Auditing – Materiality in Auditing – Efficiency Audit – Property Audit – Techniques of Auditing – Stages – Standards of Auditing.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
II	Vouching **-** Meaning – Significance – Important factors obtained from Vouchers – Features - Difference between Checking and Vouching – Vouching of Cash Transactions – Audit Payments – Vouching of Trading Transactions – Service Transactions – Audit of Purchases – Purchase Returns – Credit Sales	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Verification and Valuation of Assets and Liabilities – Meaning of Verification – Problems in the Valuation of Assets – Audit of Fixed Assets – Current Assets – Debtors, Bills Receivables, Advances, Loans, Securities, Bank Balances – Verification of Liabilities, Share Capital, Trade Creditors, Outstanding Expenses.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Investigation - Scope and Objectives - Approaches – Procedure - Investigation under the provision of the Companies Act – Duties and powers of investigator – Content of Investigation Report.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	EDP Auditing – Definition – Need for Control – Effects of EDP Auditing – Foundation of EDP Auditing – Steps in EDP Audit – E-Auditing – Objectives – Features – E-filing - Audit Report – Procedure for E- filing of the Tax Audit Report.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)**		CO1, CO2,CO3,	K1, K2, K3,K4

		Audit of Joint Stock Companies – Qualification and Disqualification – Powers and Duties of an Auditor – Auditors Lien – Law of Agency – Liability of an Auditor to third parties.		**CO4,CO5**	

Text Books

1. S. Vengadamani (2013), Practical Auditing, Margham Publications

2. B.N.Tandon (2000), Principles of Auditing, S.Chand and Company, New Delhi.
3. Pradeep Kumar, Baldev Sachdeva, Jagwant Singh. (2022). *Auditing*, 15th Edition. Kalyani Publishers.

Reference Books

1. Ravinder Kumar and Virendar Sharma (2009), Auditing Principles and Practices, PHI Learning Pvt. Ltd., Revised Edition, New Delhi

2. Dr. L. Natarajan (2018), Practical Auditing, Margham Publications

3. Dicksee (2000), Principles of Auditing, Vikas Publishing House, New Delhi.

Web Reference
1. https://www.slideshare.net/gopikrishz/auditing-46200775

2. https://www.slideshare.net/AjayNazarene/unit-4-vouching

3. https://www.slideshare.net/vinayvp5/appointment-of-auditor-248444232

4. https://www.slideshare.net/AbdelhadiLoukili/introduction-to-investigation-73089906

5. https://www.slideshare.net/MohanRajR33/e-audit

Pedagogy

Lecture, Power Point Presentation, Assignment, Quiz, Seminar & Group Discussions, Experience Discussions & Brain Storming Activity.

Course Designer

Ms. Shilpa A. Talreja

Semester VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**Hrs / Week**	**Credits**
23UCO6DSE2A	**FINANCIAL SERVICES**		DISCIPLINE SPECIFIC ELECTIVE – II	5	3

Course Objective

- To enable the students to know the concepts of Financial Services.
- To Enrich their knowledge on key areas relating to management of Financial Products and Services
- To enhance the students on Recent Trends in Financial services like Mutual Funds and De-mat Services.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Recall the basics of various financial services sector concepts and financing methodologies.	**K1**
CO2	Outline the classification of the various banking services and the Technical evolution in financial sector.	**K2**
CO3	Apply the process of banking, merchandising and leasing services in the digital platforms	**K3**
CO4	Analyse the concepts of financial services and identify the opportunities in investment	**K4**
CO5	Examine the relevant SEBI guidelines	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	2	2	3
CO2	3	3	3	3	3	3	3	2	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	2	3	3	3	3	2	2	2
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium)Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Financial Services – Meaning – Features – Importance – Types – Scope of Financial Services – Traditional and Modern Activities – New Financial Products and Services - Innovative Financial Instruments - Challenges faced in the Financial Service Sector .	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	Merchant Banking - Meaning –Types - Functions - Merchant banker's code of conduct – Scope of merchant banking in India. Mutual Fund – Meaning – Objectives – Types – Importance - Mutual Fund Risks – Operation of Mutual Funds – Reasons for Slow Growth of Mutual Funds in India.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Leasing – Meaning - Concept - Types – Contents of Lease Agreement - Difference between financial lease and operating lease - Leasing process - Services of the lessor – Advantages of leasing - Limitation of leasing – Indian leasing scenario. Hire purchase – Meaning – Features - Rights of hirer – Difference between Hire Purchase and Leasing.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Venture Capital - Concept – Features - Scope – Stages of Venture Capital Financing - Methods - Advantages of Venture Capital - Venture Capital in India.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Factoring - Concept – Objectives - Features - Types – Process - Functions – Advantages and Limitations. Forfeiting – Concept – Characteristics – Advantages - Difference between Factoring and Forfeiting.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Markets for Corporate Securities – New Issue Markets – Functions Issue Mechanism of Securitization – Securitization in India.	-	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Text Books

1. E. Gordon and K. Natarajan (2016), *Financial Markets and Services*, 11th Revised Edition ,Himalaya Publishing House, Chennai.

2. Joseph Anbarasu,,Boominathan.V.K, Manoharan.P(2007), *Financial Services,* 2nd Edition, Sultan Chand & Sons, New Delhi.

3. B.Santhanam (2016), Financial Services, Margham Publications,Chennai.

Reference Books

1. S. Gurusamy (2015), *Financial Markets & Institutions*, 4 th Edition, Vijay Nicole Imprints Pvt. Ltd, Chennai.

2. M.Y. Khan (2019), *Financial Services*, 10th Edition, Tata McGraw – Hill, New Delhi,

3. L.M Bhole Jitendra Mahakud(2017) , 6th Edition *, Financial Institutions and Markets*, McGraw – Hill, New Delhi.

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1. https://vskub.ac.in/wp-content/uploads/2020/04/FINANCIAL-SERVICES-6th-Sem.pdf

2. https://oms.bdu.ac.in/ec/admin/contents/316_P16MBA4EF6_2020052401560627.pdf

3. https://www.slideshare.net/SETHUMADHAVANB3/leasing-255446080

4. https://www.lkouniv.ac.in/site/writereaddata/siteContent/202004241009363724geetika_ LEASING_AND_HIRE_PURCHASE.pdf

5. https://www.vivekanandcollege.ac.in/uploads/dpteconomics/syllabus/cm%20ii,%20mo dule%20i.pdf

6. https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SBAA1403.pdf

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Quiz and Seminar.

Course Designer

Dr.J.Praba

Semester VI	Internal Marks: 25			External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs / Week**	**Credits**	
22UCO6DSE2B	**RETAIL MANAGEMENT**	**DISCIPLINE SPECIFIC ELECTIVE– II**	**5**	**3**	

Course Objective

- To enhance the students with the skills required to be directly employed as a sales or marketing executive manager or to start a retail business of their own.
- To prepare the students for positions in the retail sector or positions in the retail divisions of consulting companies.
- The course is designed to foster the development of student's critical and creative thinking skills.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define and identify the retail industry and retail formats based on ownership and store-based strategy mix.	**K1, K3**
CO2	Identify trading areas, assess their characteristics, and Analyse site selection for retail stores, considering different types of locations and design effective retail store layouts	**K2,K3**
CO3	Explain and identify retail marketing mix and buying organization formats and processes, devise merchandise plans, and manage shrinkage, markup, and markdown in merchandise management.	**K2,K3**
CO4	Apply the concept of merchandise pricing, pricing objectives and examine the external factors affecting retail pricing strategies, and different types of pricing.	**K3,K4**
CO5	Classify the operations-oriented policies, methods, and procedures used by successful retailers in today's global economy.	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	2	3	2	2	2	2
CO2	2	3	3	3	3	3	3	2	3	3
CO3	2	3	3	3	3	3	3	2	3	3
CO4	2	3	2	3	3	3	3	3	3	3
CO5	2	3	2	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation "2" – Moderate (Medium)Correlation
"3"–Substantial (High) Correlation"-"Indicates the reisno correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Introduction to Retailing: Definition, Characteristics, emerging trends in retailing, Evolution of retailing in India, Factors behind the change of Indian retail industry. Retail Formats: Retail institutions by ownership, Retail institutions by Store-Based Strategy Mix, Web, Non-store based, and other forms of Non-traditional Retailing.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	Choosing a Store Location: Trading-Area analysis, characteristics of trading areas, Site selection, Types of locations, location and site evaluation. Store Planning: Design & Layout, Retail Image Mix, effective retail space management, floor space management.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Retail Marketing: Retail Marketing Mix, Advertising & Sales Promotion, Store Positioning, CRM. Retail Merchandising: Buying Organization Formats and Processes, Devising Merchandise Plans, Shrinkage in retail merchandise management, Mark-up & Mark-down in merchandise management.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Merchandise Pricing: Concept of Merchandise Pricing, Pricing Objectives, External factors affecting a retail price strategy, Pricing Strategies, Types of Pricing.	10	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Retail Operation: Elements/Components of Retail Store Operation, Store Administration, Store Manager – Responsibilities, Inventory Management, Customer Service, Management of Retail Outlet/Store, Store Maintenance, Store Security.	14	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Modern Retail Formats, Mall System, Challenges Faced by the Retail Sector, Ethics in Retailing. Technologies: Use of Technologies in retailing - Electronic Data Interchange (EDI), Radio Frequency Identification (RFI), Data Base		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Management system. E-Retailing: Formats, Challenges, Green Retailing - Concept and Importance. Retail as a Career: Various Career Options, Responsibilities of Store Manager, Functions of Merchandising Manager			

Text Books

1. Berman et al.,(2017), Retail Management, Pearson Education, ISBN-13.
2. Berman & Evarv (2013) : Retail Management: A Strategic Approach, Pearson; 12th edition, ISBN-10 : : 0132720825,ISBN-13 0132720823-978
3. Gibson G Vedamani: Retail Management: Functional principles & practices, Jaico Publishing House.

Reference Books

1. Michael. L etal., (2017) Retailing Management, McGraw-Hill Education, ISBN-1259269205, 9781259269202.

2. Berman, B, Joel R. Evans & Chatterjee, P (2017) Retail Management: A strategic Approach, Pearson Education Asia, ISBN-0133796841.

3. Hammond, R (2013) Modern Retail Management: Practical Retail Fundamentals in the Connected Age, Kogan Page, ISBN-0749465867.

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1. https://mu.ac.in/wp-content/uploads/2023/02/M.Com-IV-Retail-Management.pdf
2. https://sim.edu.in/wp-content/uploads/2018/02/RETAIL-MANAGEMENT-Notes.pdf
3. https://egyankosh.ac.in/bitstream/123456789/15116/1/Unit-3.pdf
4. https://www.ddegjust.ac.in/2021/bcom/BC%20606%20Retail%20Management.pdf
5. https://oms.bdu.ac.in/ec/admin/contents/316_P16MBA4EM6_2020052502003145.pdf

Pedagogy

Lecture, Power Point Presentations, Class Discussions, Seminar, Assignment.

Course Designer

Dr. S. J. Sureya

Semester VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HRS / WEEK**	**CREDITS**
23UCO6DSE2C	**ORGANISATIONAL DYNAMICS**	**DISCIPLINE SPECIFIC ELECTIVE- II**		5	3

Course Objectives

- To provide the students with knowledge on concepts, theories, decision-making techniques and business practices at national and global level.
- To develop human relation skills (group dynamics, team building and leadership).
- To analyse the impact of personality, values, perception, and motivation and attitudes on behaviour within organizations.
.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the basic concepts of organisational behaviour.	**K1**
CO2	Explain the managerial competencies required for positive behaviour in contemporary organizations.	**K2**
CO3	Apply the theories of behavior in the organizational dynamics.	**K3**
CO4	Identify the behavioural challenges in the organisation .	**K3**
CO5	Analyse the self development skills in the work environment.	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	2	2	3	2	3	3	3	3
CO3	3	2	3	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial (High) Correlation"-"Indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Nature and importance of Organisational Behaviour (OB) – concept and relevance of OB in Modern Management - Models of OB - Challenges and Opportunities faced by Managers applying OB.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	Perception - process, importance, factors influencing perception, Managerial and Behavioural applications of Perception. Motivation - Concept, Theories (Maslow, Herzberg and McGregor).	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Attitudes: characteristics, components, measurement of attitude, attitude surveys. Personality, meaning, self concept, self - esteem, major determinants of personality – personality tests	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Group Dynamics - Definition, types of Groups, Stages of Group development, Team Building, Group processes and group decision Making, Transactional Analysis.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Leadership - Leader Vs Manager, Leadership styles, Concepts and Theories, Transformational vs. Transactional Leadership	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination).** Contemporary Developments Organisational Behaviour – Organisational Effectiveness – Bench Marking- TQM – Six Sigma.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Text Books

1. P.K. Saxena (2021) *Organisation Theory And Behaviour* Laxmi Publicationspvt Ltd

2. L.M.Prasad,(2019) *Organizational Behaviour*–5thedition, Sultan Chand Sons.

3. V.S.P.Rao&Amp;D.S.Narayana, *Organization Theory and Behaviour* –2nd Edition,.

Reference Books

1. K. Aswathappa)2014)*Organizational Behavior* Himalaya Publishing House Pvt. Ltd.

2. Shashi K. Gupta & Rosy Joshi(2014) *Organizational Behavior* Kalyani publishers.

3. C.B.Guptha,(2014) A Text book Of *Organisational Behaviours*, S.Chand& Company.

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1. https://egyankosh.ac.in/bitstream/123456789/61464/1/Unit-6.pdf
2. https://granite.pressbooks.pub/ld820/chapter/1/
3. https://www.tutorialspoint.com/organizational_behavior/organizational_behavior
   motivation.html
4. https://www.himpub.com./
5. https://www.iedunote.com/organizational-behavior
   https://www.yourarticlelibrary.com/organisation/#google_vignette

Pedagogy

Lecture,Power Point Presentation, Assignment, Quiz, Seminar, Group Discussions & Activity.

Course Designer

Dr. B.Lavanya

0CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY – 18
PG & RESEARCH DEPARTMENT OF COMMERCE
B.Com. CA – PROGRAMME STRUCTURE
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS - LOCF)
(For the candidates admitted from the academic year 2023 – 2024 onwards)

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Marks Internal	Marks External	Total
I	I	Language Course - I (LC)	Pothutamil - I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course : Paper I – French - I	23ULF1						
	II	English Language Course - I (ELC)	General English - I	23UE1	6	3	3	25	75	100
	III	Core Course - I (CC)	Financial Accounting -I	23UCC1CC1	6	5	3	25	75	100
		Core Course - II (CC)	Principles of Management	23UCC1CC2	6	5	3	25	75	100
		First Allied Course- I (AC)	Python Programming and Lab	23UCC1AC1	4	3	3	50	50	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal - Value Education	23UGVE	2	2	-	100	-	100
		Total			30	21				600

Semester	Part	Course	Title	Subject Code	Hours	Credit	Exam Hours	Marks Internal	Marks External	Total
II	I	Language Course - II (LC)	Pothutamil - II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French -II	22ULF2						
	II	English Language Course - II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course - III (CC)	Modern Marketing	23UCC2CC3	6	5	3	25	75	100
		Core Course -IV (CC)	Web Design	23UCC2CC4	6	5	3	25	75	100
		First Allied Course - II (AP)	HTML (P)	23UCC2AC1 P	4	3	3	40	60	100
	IV	Ability Enhancement Compulsory Course – II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
	Extra Credit Course		SWAYAM Online Course	As per UGC Recommendations						
		Total			30	21				600

Sem	Part	Course	Title	Code	Hours	Credit	Exam	Int	Ext	Total
III	I	Language Course - III (LC)	Pothutamil - III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course - III (ELC)	Learning Grammar through Literature - I	23UE3	6	3	3	25	75	100
	III	Core Course - V (CC)	Business Accounting	23UCC3CC5	5	5	3	25	75	100
		Core Course - VI (CC)	Database Management Systems	22UCC3CC6	5	5	3	25	75	100
		Second Allied Course – I (AC)	Business Law	22UCC3AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Generic Elective Course – I (GEC)	Office Management	22UCC3GEC1	2	2	3	25	75	100
			Basic Tamil - I	22ULC3BT1						
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	Swayam Online Course		As per UGC Recommendations					
		Total			**30**	**22**				**700**

*15 Days INTERNSHIP during Semester Holidays.

Sem	Part	Course	Title	Code	Hours	Credit	Exam	Int	Ext	Total
IV	I	Language Course - IV (LC)	Pothutamil - IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Transalation	23ULS4						
			Intermediate French -II	22ULF4						
	II	English Language Course-IV (ELC)	Learning Grammar through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course - VII (CC)	Cost Accounting	22UCC4CC7	5	5	3	25	75	100
		Core Practical - I (CP)	Database Management Systems (P)	22UCC4CC1P	5	5	3	40	60	100
		Second Allied Course – II (AC)	Business Tools for Decision Making	22UCC4AC4	4	3	3	25	75	100
		Internship		22UCC4INT	-	2	-	-	-	100
	IV	Generic Elective Course– II (GEC)	E-Business	22UCC4GEC2	2	2	3	25	75	100
			Basic Tamil - II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course– I (SEC)	Accounting Package (P)	22UCC4SEC1P	2	2	3	40	60	100
		Extra Credit Course	Swayam Online Course		As per UGC Recommendations					
		Total			**30**	**25**				**800**

V	III	Core Course – VIII (CC)	Accounting for Managerial Decisions	**23UCC5CC8**	6	**5**	3	25	75	100
		Core Course - IX (CC)	R Programming	**22UCC5CC9**	5	5	3	25	75	100
		Core Course - X (CC)	Digital Marketing	**22UCC5CC10**	5	5	3	25	75	100
		Core Practical - II (CP)	R Programming (P)	**22UCC5CC2P**	5	5	3	40	60	100
		Discipline Specific Elective– I (DSE)	A. Business Correspondence and Reporting	**23UCC5DSE1A**	5	**3**	3	25	75	100
			B. E-Retailing	**23UCC5DSE1B**						
			C. Mobile Applications	**23UCC5DSE1C**						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal - Professional Skills	**22UGPS**	2	2	-	100	-	100
		Skill Enhancement Course– II (SEC)	Skills for Competitive Examination	**22UCC5SEC2**	2	2	3	-	100	100
		Extra Credit Course	Swayam Online Course	As per UGC Recommendations						
		Total			30	**27**				**700**

VI	III	Core Course – XI (CC)	Corporate Accounting	**23UCC6CC11**	5	**4**	3	25	75	100
		Core Course - XII (CC)	Direct Taxation	**23UCC6CC12**	5	**4**	3	25	75	100
		Core Course – XIII (CC)	Entrepreneurial Development	**23UCC6CC13**	4	**3**	3	25	75	100
		Core Course - XIV (CC)	Cyber Security	**22UGCS**	5	4	3	25	75	100
		Discipline Specific Elective– II (DSE)	A. Management Information System	**23UCC6DSE2A**	5	**3**	3	25	75	100
			B. Auditing	**23UCC6DSE2B**						
			C. Corporate Social Responsibility	**23UCC6DSE2C**						
		Project	Project Work	**23UCC6PW**	5	**4**	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	**22UGGS**	1	1	-	100	-	100
	V	Extension Activity		**22UGEA**	-	1	-	-	-	-
		Total			30	**24**				**700**
		Grand Total			180	140				4100

B.ComCA

BATCH (2023-2026)

V & VI Semester

Course Structure and Syllabus

V	III	Core Course – VIII (CC)	Accounting for Managerial Decisions	**23UCC5CC8**	6	**5**	3	25	75	100
		Core Course - IX (CC)	R Programming	**22UCC5CC9**	5	5	3	25	75	100
		Core Course - X (CC)	Digital Marketing	**22UCC5CC10**	5	5	3	25	75	100
		Core Practical - II (CP)	R Programming (P)	**22UCC5CC2P**	5	5	3	40	60	100
		Discipline Specific Elective– I (DSE)	A. Business Correspondence and Reporting	**23UCC5DSE1A**	5	**3**	3	25	75	100
			B. E-Retailing	**23UCC5DSE1B**						
			C. Mobile Applications	**23UCC5DSE1C**						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal - Professional Skills	**22UGPS**	2	2	-	100	-	100
		Skill Enhancement Course– II (SEC)	Skills for Competitive Examination	**22UCC5SEC2**	2	2	3	-	100	100
		Extra Credit Course	Swayam Online Course	As per UGC Recommendations						
		Total			**30**	**27**				**700**

Semester V	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS / WEEK**	**CREDITS**	
23UCC5CC8	**ACCOUNTING FOR MANAGERIAL DECISIONS**	**CORE**	6	5	

Course Objectives

- To understand the concepts and techniques of Management Accounting.
- To enhances a manager's ability to make effective Economic Decisions
- To understand and analyse accounting information for Decision making, Planning and Control

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	List out the concepts of Accounting and to show the performance of the firm through preparation of Financial Statements.	K1
CO2	Infer on the financial statements and develop knowledge to prepare the fund flow and cash flow statement.	K2
CO3	Construct to prepare the various types of Budgets.	K3
CO4	Apply cost volume profit analysis in Decision Making.	K4
CO5	Categorize the process of making investment decisions regarding capital expenditure.	K4

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	2	3	2	2	2	2
CO2	3	3	2	2	3	3	3	2	3	2
CO3	3	3	2	3	2	3	3	2	3	3
CO4	3	3	2	3	3	2	3	3	3	3
CO5	3	3	2	3	3	2	3	3	3	3

"1" – Slight (Low) Correlation □ "2" – Moderate (Medium) Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Management Accounting: Meaning – Definition – Objectives – Nature and Scope – Role of Management Accountant – Relationship between Financial Accounting, Management Accounting and Cost Accounting. Analysis of Financial Statements: Types of Analysis – Methods of Financial Analysis – Problems on Comparative Statement analysis, Common Size and Trend Analysis.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
II	Fund Flow Statement - Meaning - Concept of Fund - Uses and Limitations of Fund Flow Statement – Differences between Cash Flow Statement and Fund Flow Statement - Procedure for preparation of Fund Flow Statement - Cash Flow Statement - Preparation of Cash Flow Statement according to AS 3.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Ratio Analysis (Liquidity, Solvency, Profitability, Activity Turnover and Capital Structure). (Simple problems only), Marginal Costing – CVP analysis – Break Even Analysis – BEP.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Budget and Budgetary control – Meaning – Advantages – Preparation of Sales, Production, Purchase, Overhead Cost, Cash and Flexible Budgets.	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Capital Budgeting – Payback Period- Accounting Rate of Return (ARR) – Discounted Cash Flow Method - Net Present Value Method – Present Value Index Method – Internal Rate of Method (IRR).	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Meaning ofManagement Reporting – Requisites ofa Good Reporting System– Principles of Good Reporting System – Methods of Reporting – Kinds of Reports – Process of Report Writing – Drafting of Reports under different Situations.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Text Books
1. M.N Arora(2015), Cost and Management Accounting, Himalaya Publishing House.
2. S.N.Maheshwari (2015), Advanced Cost Accounting, Sultan Chand & Sons.
3. Ramachandran, Srinivasan (2015), Management Accounting, Sri Ram Publications.

Reference Books
1. R.S.N.Pillai, Bhagavati (2015), Management Accounting, S.Chand Publications.
2. Khan and Jain (2015), Management Accounting, Tata McGraw Hill.
3. Atrill, Petere Eddie Mc Laney (2014), Management Accounting for Decision Makers, Prentice Hall.

Web Reference
1. https://www.ddegjust.ac.in/studymaterial/mcom/mc-105.pdf.
2. https://www.lkouniv.ac.in/site/writereaddata/siteContent/202003291608409504audhesh_cash_flows_and_fund_flows.pdf.
3. https://www.dynamictutorialsandservices.org/2018/10/management-accounting-notes-budget-and.html.
4. https://dde.pondiuni.edu.in/files/StudyMaterials/MBA/MBA3Semester/Finance/5AccountingManagement.pdf
5. https://www.lkouniv.ac.in/site/writereaddata/siteContent/202003291623594854nimisha_capital_budgeting.pdf.

Pedagogy
Chalk and Talk, PPT, Discussion, Assignment, Quiz, Seminar

Course Designer
Capt. Dr. P. Kavitha

Semester - V	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**HRS / WEEK**	**CREDITS**
23UCC5DSE1A	**BUSINESS CORRESPONDENCE AND REPORTING**		**DISCIPLINE SPECIFIC ELECTIVE**	**5**	**3**

Course Objective

- To acquire good communication skills requisite for business correspondence and reporting.
- To provide an overview of prerequisites to Business Communication.
- To impart the correct practices of the strategies of Effective Business writing.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the basic concept of business communication.	**K1**
CO2	Explain the skill of ethical, legal, cultural and global issues affecting business communication.	**K2**
CO3	Identify appropriate organizational formats and channels used to develop business communication.	**K3**
CO4	Analyze the situation of writing various types of business letters and reports.	**K4**
CO5	Examine the problem solving skills appropriate to business communication.	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	3	3	3	3	2	3	3
CO2	2	3	3	2	2	3	2	3	2	2
CO3	3	2	3	3	3	2	2	3	3	3
CO4	3	3	3	2	3	3	3	2	2	3
CO5	3	3	3	2	2	3	3	2	3	2

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium)Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Definition of business Communication - meaning – objectives – Process - Characteristics of effective communication – Types of communication - Barriers to communication, Steps to overcome the barriers. Commercial terms and abbreviations.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4,K5
II	Meaning of Business letter – Need - Functions - kinds of Business letters – Essentials of an effective Business Letter – Layout – Appearance – Size – Style – Form and punctuation – Routine request letters – Responses to letters – Refusal letters – Claim letters – Collection letters – Job application letter –Curriculum vitae	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
III	Letters of Enquiry – Opening and closing sentences in letters of enquiry – Quotations – Voluntary offers and quotations – Sentences regarding offers and quotations – Placing an order – Cancellation, Acknowledgement, Refusal and execution of order - Complaint letters, claims and adjustments - follow-up.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
IV	Meaning of Circular letters – Objectives – Situations that need Circular letters – Sales letters – Meaning - Objectives – Advantages – Three P's functions, Bank Correspondence – Correspondence with customers, Head Office and with other banks.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3,K4
V	Report Writing: Formal Reports – the elements of clear writing – writing effective letters – different layouts of business letters – informal reports – writing good news and bad news – meetings and oral presentations. Online Communication - Communication network, Intranet, Internet - Teleconferences, Voicemail - Video Conferencing – SMS - Telephone Answering Machine.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4

VI	**Self-Study for Enrichment (Not to be included for External Examination)** Verbal and Non – Verbal communication - Spoken Communication - Body Language – Facial Expression – Para language.	**CO1,CO2, CO3,CO4, CO5**	**K1, K2, K3,K4**

Text Books

1. Rajendra Pal, Korlahalli.J.S. (2015). *Essentials of Business Communication*. Revised Edition. Sultan Chand & Sons
2. Gupta.C.P.(2018). *Business Correspondence and Report Writing*, Revised Edition. Taxmann
3. Sharma. (2017). *Business Correspondence and Report Writing*, Revised Edition. Tata Mc-Graw Hill

Reference Books

1. Sekar.G, Saravana Prasath.B. (2023). *Business Law and Business Correspondence and Reporting*. Current Edition. Commercial Law House
2. Sharma.RC, Krishna Mohan, Virendra Singh and Nirban (2020). *Business Correspondence and Report Writing*. Current Revised. McGraw Hill
3. Bharat. (2023). *Business Correspondence and Report Writing*. Revised Edition. Bharath Law house

Web References

1. https://www.icai.org/post.html?post_id=13826
2. https://www.srinivasaacademy.com/downloads/219/15_Paper2RTPMay2019.pdf
3. https://castudynotes.com/2022/01/15/ca-foundation-paper-2b-business-correspondence-and-reporting-bcr-notes-charts-lectures-all-compilation-at-one-place-in-pdf/
4. https://cablogindia.com/business-correspondence-and-reporting-bcr-notes-for-ca-foundation/
5. https://www.scribd.com/document/427573064/Business-Correspondence-and-Reporting-Compiled-pdf

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr. G.Kanagavalli

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS / WEEK**	**CREDITS**
23UCC5DSE1B	**E – RETAILING**	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objective

- To introduces e-retailing frameworks, and technological foundations.
- To examines basic concepts such as strategic formulation for e retailing enterprises, management of their capital structures and marketing an online store.
- To familiarize students with innovative ideas in e- retailing.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the theoretical concepts of e – retailing.	**K1**
CO2	Outline current and emerging electronic retailing changes.	**K2**
CO3	Explain online merchandise techniques and apply e – retailing pricing strategies.	**K2, K3**
CO4	Identify the methods of online pricing and payment process.	**K3**
CO5	Examine the effectiveness of e – retailing.	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	2	3	3	2	2	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial (High) Correlation"-"Indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Meaning – Definition – Transition from Traditional Marketing to e-marketing – Demographics and Targeting – Adaptability and Closed – Loop marketing – Advantages of e-Retailing – Short comings of e-Retailing.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
II	Understanding on e-consumer – Normal Consumer – Communicating with e-consumer – E-application Perspective – Building Customer Loyalty – CRM implementation – Customer Service – gift Reminder Services, Contests and Promotions, Online Communities – Loyalty Programs, Personalization.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
III	Impact of Information Technology in Retailing – Integrated System and Networking – EDI – Bar Coding – Electronic Article Surveillance – Electronic Shelf Labels – E-Service. Online Payment Processing – Internet Payment Gateways – Internet Security Issues.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3,K4
IV	E-retailing and Supply Chain Management System – Concept of Online Pricing – Factors affecting Online Pricing – Different methods of Online Pricing – Price discrimination in E-retailing – Pricing Strategies for Information Goods – Dynamics Pricing for E-retailing.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3,K4
V	**Inventory Based Model – Market Place Model – Vendor Development – Business Expansion and Legal Implications.**	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** E-retailing Online Merchandising Techniques – E-Malls – Future Of E-Retailing **–** The roles of Cyber Intermediaries in E-retailing – Promotional Strategies of E-retail Business.		CO1, CO2, CO3,CO4, CO5	K1, K2, K3,K4

Text Books
1. Michael Levy, Barton A. Weitz, Dhruv Grewal**.** (2023). *Retailing Management*. Standard Edition. McGraw Hill.
2. Rama Mohana Rao.K, Chandra Sekhar Patro (2022). *E-Retailing and Consumer Behaviour*. Kindle Edition.
3. Tawfik Jelassi, Albrecht Enders. (2014). *Strategies for e – business*. Springer.

Reference Books
1. Vijay Kumar.A. (2011). *Retailing in India - Trends and Challenges*. Discovery Publishing House Pvt Ltd.
2. Sharma**.**D.P (2015). *e-Retailing Principles and Practice*. First Edition. Himalaya Publishing House.
3. Gibson. (2017). *Retail Management*. 5th edition. Pearson Education.

Web Reference
1. https://businessjargons.com/electronic-retailing.html
2. https://egyankosh.ac.in/bitstream/123456789/15063/1/Unit-13.pdf
3. https://theecommmanager.com/ecommerce/what-is-ecommerce-crm/
4. https://www.getastra.com/blog/knowledge-base/ecommerce-security/
5. https://www.cloudways.com/blog/latest-ecommerce-trends/

Pedagogy
Lecture, Power Point Presentation, Group Discussion, Seminar, Experience

Discussion and Assignment.

Course Designer
Ms. S. Praveena

Semester V	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**HRS / WEEK**	**CREDITS**
23UCC5DSE1C	**MOBILE APPLICATIONS**		**DISCIPLINE SPECIFIC ELECTIVE**	5	3

Course Objectives

- To understand the basic concepts of mobile application development.
- To know the characteristics of mobile applications, user-interface design, basics of graphics and multimedia.
- To gain knowledge about testing and publishing of Android application.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Relate various concepts of mobile programming that make it unique from programming for other platforms.	**K1**
CO2	Explain the basics of mobile application development.	**K2**
CO3	Apply Android application with user interface, networking and animation.	**K3**
CO4	Identify and analyze simulator tools to test and publish the application.	**K3.K4**
CO5	Examine the mobile applications on their design pros and cons.	**K4**

Mapping of CO with PO and PSO

Cos/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial (High) Correlation"-"Indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Mobile Applications and Device Platforms – Alternatives for Building Mobile Apps – Comparing Native Vs. Hybrid Applications – Mobile Application Development Lifecycle – Mobile Application Front - End and Back - End – Key Mobile Application Services. Android version - Obtaining the required tools – Launching the application – Exploring the IDE – Debugging and publishing application.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3, K4
II	Linking Activities using intents – Fragments – Displaying notification – Understanding the component of a screen – Adapting to display orientation – Managing changes to screen orientation – Utilizing the action bar – Creating the user interface programmatically listening for UI notification.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3, K4
III	Using basic views – Picker views - list view to display long list – Understanding specialized fragments- Image views to display pictures – Using menus with views – Using web view – Saving and loading user preferences – Persisting Data to files - Creating and using database.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3, K4
IV	Sharing Data in android – Creating your own content providers – using the content provider – SMS messaging – sending email – Displaying maps – Getting location data – Monitoring a location.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3, K4
V	Consuming web services using HTTP – consuming JSON services – Creating your own services – Binding activities to services – Understanding threading.	15	CO1, CO2, CO3,CO4, CO5	K1, K2, K3, K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Android terminology – Android Manifest File – Using Intent Filter – Different types of resources**.**		CO1, CO2, CO3,CO4, CO5	K1, K2, K3, K4

Text Books

1. Lauren Darcey, Shane Conder . (2013). *Android Wireless Application Development*. Revised Edition. Pearson Education.
2. Sydhani Begum.S. (2019). *Mobile App Development*. Revised Edition.Notion Press.
3. Virat.V.Giri, Sagar Chavan, Ashwin Mane. (2019). *Mobile Application Development*, Revised Edition. TechKnowledge.

Reference Books

1. Bagad.V.S. (2023). *Mobile Application Development*. Current Edition.Technical Publication.
2. Barry Burd, John Paul Mueller (2021). *Android Application Development*, Revised Edition. Wiley.
3. Pradeep Kothari. (2014). *Android Application Development*. Revised Edition. Dreamtech Press.

Web Reference

1. https://developer.android.com/guide
2. https://www.wideskills.com/android/building-user-interface/listening-to-ui-notifications-in-android
3. https://www.geeksforgeeks.org/imageview-in-android-with-example/
4. https://developer.android.com/training/sharing/send
5. https://vkinfotek.com/webservice/consume-web-service.html

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr.C.Subha.

VI	III	Core Course – XI (CC)	Corporate Accounting	**23UCC6CC11**	5	**4**	3	25	75	100
		Core Course - XII (CC)	Direct Taxation	**23UCC6CC12**	5	**4**	3	25	75	100
		Core Course – XIII (CC)	Entrepreneurial Development	**23UCC6CC13**	4	**3**	3	25	75	100
		Core Course - XIV (CC)	Cyber Security	**22UGCS**	5	4	3	25	75	100
		Discipline Specific Elective–II (DSE)	A. Management Information System	**23UCC6DSE2A**	5	**3**	3	25	75	100
			B. Auditing	**23UCC6DSE2B**						
			C. Corporate Social Responsibility	**23UCC6DSE2C**						
		Project	Project Work	**23UCC6PW**	5	**4**	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	**22UGGS**	1	1	-	100	-	100
	V	Extension Activity		**22UGEA**	-	1	-	-	-	-
		Total			**30**	**24**				**700**
		Grand Total			**180**	**140**				**4100**

Semester VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS / WEEK**	**CREDITS**	
23UCC6CC11	**CORPORATE ACCOUNTING**	**CORE**	**5**	**4**	

Course Objectives

- To understand the various adjustments related to share capital.
- To help the students to acquire conceptual knowledge of the fundamentals of the corporate accounting and the techniques of preparing the financial statements.
- To know the provisions of the Company Act and to build accountability in corporate sector.

Course Outcome and Cognitive Level Mapping

CO Number	**CO Statement** On the successful completion of the course, students will be able to	Cognitive Level
CO1	Recall the conceptual background of Company Accounts.	**K1**
CO2	Explain the concepts and techniques on the issue and redemption of Debentures.	**K2**
CO3	Build the knowledge on the valuation of goodwill of business firm.	**K3**
CO4	Apply and Examine with the legal formats, special items and adjustments pertaining to Banking companies.	**K3,K4**
CO5	Analyze the Consolidated Financial Statement As per AS 21	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	2	2	3	2	3	3	3	3
CO3	3	2	3	3	3	3	3	2	3	3
CO4	3	3	3	3	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial (High) Correlation"-"Indicates there is no correlation.

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Accounting for Share Capital - Issue of shares: Par, Premium and Discount - Forfeiture and Reissue of Shares.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	Redemptions of Preference Shares- Issue and Redemption of debentures: Accounting Treatment for Debentures - Issued at Par, Discount and Premium - Repayable at par and premium.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Valuation of Goodwill – Needs – Methods: Average Profit Method, Super Profits Method, Capitalization Method and Annuity Method.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	Accounts of Holding Companies – Steps involved in the preparation of Consolidated Financial Statement As per AS 21 (excluding Inter Company Holdings).	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Accounts of Banking Companies (new format) – Non Performing Assets- Rebate on Bills Discounted- Preparation of Profit and Loss Account – Balance Sheet (simple adjustments).	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination).** Company Final Accounts - Provisions of the Companies Act, 2013- Preparation of Profit and Loss and Balance Sheet.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Distribution of Marks: Theory 20% and Problems 80%

Text Books

1. Reddy. T S, MurthyA, (2023).*Corporate Accounting*. Margham Publications.
2. S.P. Jain, K.L. Narang (2017).*Corporate Accounting*. Kalyani Publishers.
3. Tulsain, P.C, (2023).*Corporate Accounting*, S. Chand Publication. New Delhi

Reference Books

1. Maheshwari S.N (2018).*Corporate Accountancy*.Vikas Publishing House, New Delhi.
2. Gupta. R L, Radhasamy M, (2021). *Corporate Accounting*. Sultan Chand & Sons.
3. M.C.Shukla, T.S.Grewal (2016). *Advanced Accountancy*. Sultan Chand & Sons.

Web Reference

1. https://www.gacwrmd.in/learning/Commerce/Corporate%20Accounting1.pdf
2. https://www.icsi.edu/media/webmodules/Corporate%20and%20Management%20Accounting.pdf.
3. https://testbook.com/objective-questions/mcq-on-corporate-accounting--5f9168bba03904a227ce6338
4. https://ddceutkal.ac.in/Downloads/UG_SLM/Commerce/Corporate_Accounting.pdf
5. https://www.drnishikantjha.com/booksCollection/Corporate%20Accounting%20.pdf

Pedagogy

      Lecture, Power Point Presentation, Assignment, Quiz, Seminar, Group Discussions & Activity.

Course Designer

      Dr. P. Banu

Semester VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs / Week**	**Credits**	
23UCC6CC12	**DIRECT TAXATION**	**CORE**	**5**	**4**	

Course Objective

- To help the students to understand and apply the basic concepts and provisions of Income Tax Act 1961.
- To apply various deduction and exemptions in the computation of total income of an Assessee.
- To gain procedural knowledge about Income Tax law in force for the relevant assessment year.

Course Outcome and Cognitive Level Mapping

CO Number	**CO Statement** On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the basic concepts of Income Tax, Residential Status of an Individual Assessee and Incidence of Tax.	K1
CO2	Explain the computation of Income from Salary, House Property, Business or Profession, Capital Gain and Income from Other Sources.	K2
CO3	Apply the exemption and deduction under various heads of income.	K3
CO4	Analyze the total tax liability of individual assessee.	K4
CO5	Evaluate the legal obligations and requirements of e filing of the Income Tax	K5

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	2	3	2	2
CO4	3	3	2	3	3	2	S	2	2	2
CO5	3	3	2	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation
"3"–Substantial(High)Correlation"-"Indicatesthereisnocorrelation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	History of Income Tax - Canons of Taxation – Assessee - Types – Person – Income – Agricultural Income – Assessment Year – Previous Year – Capital and Revenue Receipts and Expenditure - Total Income – Residential status of Individual – Incidence of Tax – Income Exempted under section 10.	12	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
II	Income from Salary – Features – Advance Salary - Arrear of Salary – Allowances – Perquisites- Retirement Benefits – Deduction under section 16 – Deduction under section 80C	18	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
III	Income from House Property – Exempted Income from House Property – Determination of Gross Annual Value and Net Annual Value – Partly Let Out and Partly Self Occupied House - Sub-letting – Calculation of Interest on borrowed Capital –Deduction under section 24.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
IV	Income from Business – Important terms - Expenses Expressly Allowed and Disallowed – Treatment of Bad Debts Recovered, Under and Over valuation of Stock. Income from Profession.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
V	Income from Capital Gain –Types of Capital Assets – Computation of Long Term and Short Term Capital Gain – Exemption under section 54. Income from Other Sources –Various Kinds of Securities -Deduction under section 57 – Computation of Total Tax Liability – E - filing .	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Advance Payment of Tax - Tax Deducted at Source –Income Tax Authorities.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4,K5

Distribution of Marks: Theory 20% and Problems 80%

Text Books
1. Dr.T.Srinivasan (2024), *Income Tax Law and Practice,*Vijay Nicole Imprints Private Ltd , Chennai.
2. T.S.Reddy and Y.Hari Prasad Reddy (2024), *Income Tax Law and Practice,* Margham Publication.Chennai.
3. Dr.H.C.Mehrotra (2024), *Income Tax Law and Practice,* Shithya Bhavan Publication. Agra, Uttar Pradesh.

Reference Books

1. Dr. Vinod K.Singhania, Dr.Kapil Singhania (2024), Income Tax *Law and Practice,* Taxmann Publications, Chennai.

2. K.Rajavelu, (2024), Income Tax Law and Practice,SVP Publication.Chennai.

3. CA. Raj K Agrawal, (2024) Handbook on Income Tax, Bharat Law House, Delhi.

Web Reference

1. https://www.taxmann.com/post/blog/tax-concept
2. https://cleartax.in/paytax/TaxCalculator
3. https://tax2win.in/guide/house-property
4. https://www.icai.org/post.html?post_id=19576
5. https://www.incometax.gov.in/iec/foportal/

Pedagogy
Chalk and Talk, Powerpoint Presentation, Assignment, Seminar and Quiz

Course Designer

Dr.C.Subha.

Semester VI	Internal Marks:25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS / WEEK**	**CREDITS**	
23UCC6CC13	ENTREPRENEURIAL DEVELOPMENT	CORE	4	3	

Course Objectives

- To enrich the students for acquiring of entrepreneurial skills and to attain the goals of the Business.
- To adopting of the key steps in the elaboration of Business Ideas
- To understand the role and importance of entrepreneurship for Economic Development.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the various concepts, features and kinds of entrepreneurship	K1
CO2	Explain business plan that can be used to run a new small business enterprise	K2
CO3	Identify the need for EDPs, their objectives, phases, and evaluation criteria.	K3
CO4	Categorize the various entrepreneurship development schemes offered by government agencies, financial institutions, and industry bodies, and understand their eligibility criteria, benefits, and application procedures.	K4
CO5	Examine the project reports based on their clarity, comprehensiveness, realism, and alignment with organizational objectives	K4

Mapping of CO with PO and PSO

COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	3	3	3	3	2	2	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	2	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	2	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Entrepreneurship – Meaning – Definition – Types – Entrepreneur – Definition – Entrepreneur and Entrepreneurship– Characteristics – Types – Functions – Factors influencing Entrepreneurship – Role of Entrepreneur in Economic Development - Women Entrepreneur - Rural Entrepreneurs.	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	Business idea generation technique - Sources of business idea - Methods of generating ideas - Method of evaluating ideas – Project Formulation.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	Entrepreneurship Development Programmes (EDP) – Meaning- Need of EDP – Objectives of EDP – Course content EDP -Phases of EDP – Evaluation of EDP – Problems of EDP.	10	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	EDP Schemes – Commercial banks – DIC - NSIC- SIDO - IFCI – SISI- IDBI- IIBI- NIDC – SIDBI - UTI- SFC- SIPCOT – TIIC - MSME - PM Schemes.	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	Project Report - Meaning - Purposes - Content - Phases - Formulation of business plan - Characteristics of a successful business plan - Criticisms.	10	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
	Self-Study for Enrichment (Not to be included for End Semester Examination) Economic Development and Entrepreneurial Growth - Geographic Concentration – Franchising and Dealership.			

Text Book

1. Dr.S.S.Khanka (2014). *Entrepreneurial Development*. Latest Edition. Sultan Chand and Company Pvt.Ltd.
2. Dr.C.B.Gupta, Dr.N.P.Srinivasan(2022). *Entrepreneurial Development*. Latest Edition. Sultan Chand and Company Pvt.Ltd.
3. Dr.Renu Arora, Dr.S.K.Sood(2018). *Entrepreneurial Development*. Latest Edition. Kalyani Publishers.

Reference Books

1. Dr.Radha (2010).*Entrepreneurial Development*. Prasanna Publishers and Distribution.
2. Robert D Hisrich, Michael P.Peters, Dean A Shepherd, Sabyasachi Sinha.(2020) *Entrepreneuship*. 11th Edition. McGrawHill.
3. Saravanavel.(2015). *Entrepreneurial Development*. Latest Edition. Himalaya Publications.
4. Srinivasan N.P(2015).*Entrepreneurial Development*. Latest Edition. Margham Publications.

Web References

1. https://www.slideshare.net/PrajeeshMenon/entrepreneurship-development-42111038
2. https://www.slideshare.net/udayjoshi35/business-idea-generation-method
3. https://www.slideshare.net/slideshow/entrpreneurial-development-programme/51953701
4. https://www.slideshare.net/slideshow/incentives-for-small-scale-business/252247891
5. https://www.slideshare.net/ManojReddy1/project-report-39676742

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr.S.Jayalakshmi

Semester VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs / Week	Credits
23UCC6DSE2A	MANAGEMENT INFORMATION SYSTEM	DISCIPLINE SPECIFIC ELECTIVE – II	5	3

Course Objective

- To integrate the knowledge and skills in the field of Management Information System.
- To cope up with the emerging challenges of management in the upcoming Technology Scenario.
- To improve business decision making and gain competitive advantage.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	List out the theoretical concepts of Management Information System	K1
CO2	Explain the security risks associated with Managerial Information Systems	K2
CO3	Apply the concepts of information system in various Managerial Functions	K3
CO4	Analyse the application of information system in Planning and Decision Making	K4
CO5	Examine the role of Decision Support System in the current competitive business environment.	K4

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	3	2	2	2	2
CO2	3	3	2	2	2	3	3	2	3	2
CO3	3	2	2	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	2	2	3	3	3	3	2	2	3

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"3"–Substantial (High)Correlation"-"Indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Management Information System – Meaning – Features – Requisites of an effective MIS – MIS Model – Components – Sub system of MIS - Role and Importance – Corporate Planning for MIS – Growth of MIS in an organization – Limitations of MIS.	15	CO1,CO2, CO3,CO4, CO5	K1, K2, K3,K4
II	System concepts – Elements – Characteristics- Types of System – Information System: Meaning – Definition – Features – Needs – Roles – Major challenges of Information System – System Development Life Cycle.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
III	Functional Management Information System - Financial – Marketing – Personnel – Production – Sales – Accounting. Input – Output – Model – Advantages and Disadvantages.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
IV	System Investigation – System Analysis – System Design – System Implementation – System Maintenance – Database Management System – Features – Components – Functions.	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
V	Decision Making Process - Programmed and Non - Programmed decisions, Decision Support Systems, Benefits, types and components of Decision Support Systems (DSS).	15	CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4
VI	**Self-Study for Enrichment (Not to be included for External Examination)** Enterprise Resource Planning(ERP): An overview – Meaning – Characteristics – Benefits and Limitations – ERP and related technologies – Business Process Re-engineering – Data Warehousing – Data Mining – Decision Support System.		CO1, CO2,CO3, CO4,CO5	K1, K2, K3,K4

Text Books

1. Mr.Murthy C.S.V. (2016). *Management Information System* . 3rd Edition. Himalaya Publications . Chennai.
2. Sadagopan S. (2014). *Management Information System.* 2nd Edition. PHI Learning. New Delhi.
3. Gordan. B Davis and Margrethe H. Osan.(2017). *Management Information System.* 2nd Edition. Tata McGraw Hill Publication. New Delhi.
4. James A. O'Brien, George M. Marakas. (2011) *Management Information System.* 10th Edition. Tata McGraw Hill Publication. New Delhi.

Reference Books

1. Aman Jindel. (2012). *Management Information System.* 1st Edition. Kalyani Publications. New Delhi.
2. Kenneth C. Laudon Jane P. Laudon. (2019). *Management Information System* . 16th Edition. Pearson Education. Noida UP.
3. James A. O'Brien, George M. Marakas. Ramesh Behl (2017). *Management Information System.* 10th Edition. Tata McGraw Hill Publication. New Delhi.

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3. https://www.fao.org/3/w3241e/w3241e0a.htm
4. https://www.tutorialspoint.com/system_analysis_and_design/system_analysis_and_design_quick_guide.htm
5. https://corporatefinanceinstitute.com/resources/management/decision-support-system-dss/

Pedagogy

Lecture, Power Point Presentation, Assignment, Quiz, Seminar & Group Discussion

Course Designer

Dr. D.Sarala

Semester VI	Internal Marks:25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS / WEEK	CREDITS
23UCC6DSE2B	AUDITING	DISCIPLINE SPECIFIC ELECTIVE - II	5	3

Course Objectives

- To provide in-depth study of auditing principles, concepts and its practices.
- To know the meaning of internal control, internal check and audit.
- To impart knowledge about the methods of auditing and their applications.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	List out the concepts of auditing framework systems.	K1
CO2	Outline the importance of vouching, cash transactions, verifying and valuation of assets and liabilities.	K2
CO3	Plan the procedure of the appointment of auditors in the limited companies.	K3
CO4	Examine the functions of an internal control, evaluate internal control systems, and assess the effectiveness of internal checks in preventing errors and fraud.	K4
CO5	Analyze the types and contents of audit reports.	K4

Mapping of CO with PO and PSO

COs / PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	2	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	2	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	2	3	3	3
CO5	3	2	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Introduction to Audit – Meaning and Definition – Objectives of Audit – Classification of Audit – Internal and External Audit – Types – Advantages and Limitations – Internal Check Advantages and Disadvantages – Procedure of Audit	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
II	Vouching, meaning and importance – Vouching of Credit and Cash Transactions – Verification and Valuation of assets and liabilities – Objectives – Vouching of Impersonal Ledgers – Vouching of debit and credit side of cash book	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
III	Appointment of auditor - Auditors duty regarding depreciation – Audit of limited companies – Auditors qualification and disqualification – Rights, duties and power of Auditor – Auditor Financial Statements – Auditors liability.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
IV	Internal Control – Meaning - Importance – Internal Check – Evaluative criteria for good internal Check – Internal Audit – Internal audit and statutory audit – Limitations of Internal Control – Evaluation of Internal Control	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
V	Audit Reports – Types – Contents of Audit Reports – Importance – Elements – Features - Audit report of a limited company – Audit Report and Auditors Certificate	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4
	Self-Study for Enrichment (Not to be included for End Semester Examination) EDP Auditing – Definition – Need for control – Effects of EDP Auditing – Steps in EDP Audit – Legal influences of EDP Audit – Division of Auditing in EDP Environment – Control in EDP Environment.		CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4

Text Book

1. Dr.B.N.Tandon, Dr.S.Sudharsanam, S.Sundharabahu. (2016).*Practical Auditing*. Revised Edition.Sultan Chand and Company Pvt.Ltd.

2. Pradeep Kumar, Baldev Sachdeva, Jagwant Singh. (2022). *Auditing*, 15th Edition. Kalyani Publishers.

3. S.Vengadamani.(2013).*Practical Auditing*. Revised Edition. Margham Publications.

Reference Books

1. Ravinder Kumar and Virendar Sharma(2009). *Auditing Principles and Practices*. Revised Edition. PHI Learning Pvt. Ltd. New Delhi.

2. Dr. L. Natarajan(2018).*Practical Auditing*. Revised Edition. Margham Publications.

3. Dicksee(2000).*Principles of Auditing*. Latest Edition.Vikas Publishing House.New Delhi.

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2. https://www.slideshare.net/AjayNazarene/unit-4-vouching
3. https://www.slideshare.net/vinayvp5/appointment-of-auditor-248444232
4. https://www.slideshare.net/manuhnatesh/chapter-2-internal-control-58710604
5. https://www.slideshare.net/rakshitporwal1/audit-report-auditing-243734004

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr.S.Jayalakshmi

Semester - VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs / Week**	**Credits**
23UCC6DSE2C	**CORPORATE SOCIAL RESPONSIBILITY**	**DISCIPLINE SPECIFIC ELECTIVE– II**	5	3

Course Objective

- To provide in depth and practical knowledge in Corporate Social Responsibility and Social Governance.
- To know the impact of CSR on the environment, stakeholders, consumers, suppliers, employees and all members of society.
- To demonstrate students that CSR is viable, when integrated into a global business strategy.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the CSR theoretical framework and its ethical development among SMEs and international corporations.	**K1**
CO2	Classify the stakeholder expectations, sustainability goals, and engagement tactics in a comprehensive strategy.	**K2**
CO3	Develop strategies to address social, environmental, and economic risks in business, integrating CSR plans with core business goals, and customizing initiatives to fit local cultural and environmental nuances for maximum impact.	**K3**
CO4	Identify the primary instruments, initiatives, and tools employed for measuring corporate social responsibility (CSR) effectiveness	**K3**
CO5	Examine the value of ethical and emphatic behavior in business decisions.	**K4**

Mapping of CO with PO and PSO

COs/ PSOs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	2	2	3
CO2	3	3	3	3	3	3	3	2	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	2	3	3	2	2	2	2	2
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation "2" – Moderate (Medium) Correlation
"3"–Substantial(High)Correlation "-"Indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	CO'S	COGNITIVE LEVEL
I	Introduction – Definition – Historical Background of CSR – Concept of Corporate Social Responsibility – Characteristics of Corporate Social Responsibility – Principles of CSR – Elements of CSR – Types of CSR – Benefits of CSR.	15	**CO1, CO2, CO3,CO4, CO5**	**K1, K2, K3,K4**
II	CSR Projects and Implementation Agency: Identification – Evaluation & Monitoring – Leveraging Technology & IT Tools.	15	**CO1, CO2, CO3,CO4, CO5**	**K1, K2, K3,K4**
III	Social Impact Assessment & CSR Audit: GST issues and challenges – Accounting and Taxation Aspects – Impact Measurements.	15	**CO1, CO2, CO3,CO4, CO5**	**K1, K2, K3,K4**
IV	Guidelines on CSR: Guidelines on CSR and Sustainability for central public sector enterprises (CPSEs) – CSR in insurance companies – CSR in banking companies.	15	**CO1, CO2, CO3,CO4, CO5**	**K1, K2, K3,K4**
V	CSR and Sustainable Development Goals: CSR and Corporate Governance – CSR as organizational brand building – factors influencing CSR.	15	**CO1, CO2, CO3,CO4, CO5**	**K1, K2, K3,K4**
VI	**Self-Study for Enrichment (Not to be included for External Examination)** CSR Policy: CSR & Permissible Activities: A Detailed Study – CSR Policy – CSR Committee.	-	-	-

Text Books

1. A.C. Fernando, K.P. Muraleedharan, E.K. Satheesh. (2018). *Corporate Governance principles, polices and practices*, 3rd Edition. Pearson Education in south Asia Pvt. Ltd.

2. J.P. Sharma. (2018). *Corporate Governance Business Ethics and CSR*, 2nd Edition. Ane Book.New Delhi

3. Khanka.S.S. (2014). *Business Ethics and Corporate Social Responsibility*. 6th Edition Sultan Chand & Company.

Reference Books

1. H.R. Machiraju., *Corporate Governance*, Himalaya Publishing House.
2. Anil Kumar, Lovleen Gupta, Jyotsna Rajan Arora.(2021), *Auditing and Corporate Governance*, 4th Edition. Taxman publishers.
3. Kamal Garg CA. (2023) . *Corporate Social Responsibility*. 4th Edition, Bharat's Publihers.

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4. https://online.hbs.edu/blog/post/types-of-corporate-social-responsibility
5. https://corporatefinanceinstitute.com/resources/esg/corporate-social-responsibility-csr/
6. https://online.vu.edu.au/blog/what-is-corporate-social-responsibility

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr.D.Ramya

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with A Grade by NAAC
Annamalainagar, Trichy-18

PG & RESEARCH DEPARTMENT OF COMMERCE
Agenda for the Eleventh Meeting of BOS

DATE :   15.10.2024
VENUE :   D16
TIME :   11:00 a.m.

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01

To consider and to approve the Ratification of V Semester syllabus of the Core Course (CC) – VIII and Discipline Specific Elective (DSE) – I change of credits for **B.Com.** 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02

To consider and to approve the Ratification of VI Semester syllabus of the Core Course (CC) –XII, XIII and XIV, Discipline Specific Elective (DSE) – II and Project Work change of credits for **B.Com.** 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/03

To consider and to approve the Ratification of V Semester syllabus of the Core Course (CC) – VIII and Discipline Specific Elective (DSE) – I change of credits for **B.Com.CA** 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/04

To consider and to approve the Ratification of VI Semester syllabus of the Core Course (CC) – XI,XII and XIII, Discipline Specific Elective (DSE) –II and Project Work change of credits for **B.Com.CA** 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/05

Any other matter with the permission of the chair.

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Nationally Accredited (III Cycle) with A Grade by NAAC
Annamalai Nagar, Tiruchirappalli -18.

PG & RESEARCH DEPARTMENT OF COMMERCE

MINUTES OF THE ELEVENTH MEETING OF THE BOARD OF STUDIES

DATE: 15.10.2024

VENUE: D16

TIME: 11:00 a.m.

Members Present:

1.	Dr. N. Savithri	**Chairperson**, Professor & Head
2.	Ms. N. Aruna	Member
3.	Dr. S. Shameem	Member
4.	Dr. S. Sudha	Member
5.	Dr. P. Kavitha	Member
6.	Dr. D. Ramya	Member
7.	Dr. C. Subha	Member
8.	Dr. S. Jayalakshmi	Member
9.	Dr. D. Sarala	Member
10.	Ms. Shilpa A. Talreja	Member
11.	Dr. P. Banu	Member
12.	Dr. J. Praba	Member
13.	Dr. B. Lavanya	Member
14.	Dr. S. J. Sureya	Member
15.	Dr. G. Kanagavalli	Member
16.	Ms. S. Praveena	Member
17.	Dr. R. Abirami	Member
18.	Ms. R. Sivamathi	Student Representative
19.	Ms. A. Yazhini	Student Representative

The leave of absence was granted to

- Dr. J. Lalithambigai - Member

<u>**ACTION TAKEN REPORT OF THE BOS HELD ON 03.04.2024**</u>

The BOS Meeting was held on 03.04.2024 at 10.30 a.m. The Chairman of the BOS read the minutes of the meeting and the following Resolutions were confirmed.

- Confirmation of VI Semester syllabus of B.Com. B.Com.CA for 2022- 2023 batch and onwards.

- Ratification of the III Semester Programme Structure and Syllabus of Part III Core Course of B.Com. 2023-2024 batch and onwards.

- Ratification of the V Semester Programme Structure and Syllabus of Part III Core Course of B.Com. 2022-2023 batch and onwards.

- Ratification of the III Semester Programme Structure and Syllabus of Part III Core Course B.Com CA 2023-2024 batch and onwards.

- Ratification of the IV Semester Project Work of M.Com. 2023-2024 batch and onwards.

<u>**MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 15.10.2024**</u>

RESOLUTION NO. BOS/11/24/01

Resolved to approve the Ratification of **V Semester syllabus** of **B.Com**. for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18, with the following changes of credit for **Core Course (CC) – VIII**: 23UCO5CC8 - Corporate Accounting from 6 to 5 credit and **Discipline Specific Elective (DSE) – I**: 23UCO5DSE1A - Human Resource Management; 23UCO5DSE1B - Marketing Research; 23UCO5DSE1C - Industrial Relations and Labour Law from 4 to 3 credit**.**

RESOLUTION NO. BOS/11/24/02

Resolved to approve the Ratification of **VI Semester syllabus** of **B.Com.** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18, with the following changes of credit for **Core Course (CC) - XII** : 23UCO6CC12 - **Direct Taxation** from 3 to 4 credit. **Core Course (CC) - XIII:** 23UCO6CC13 - **Management Accounting** from 5 to 4 credits. **Core Course (CC) - XIV:** 23UCO6CC14 - **Auditing** from 4 to 3 credit, **Discipline Specific Elective– II** (DSE): 23UCO6DSE2AB - Financial Services; 23UCO6DSE2BC - Retail Management; 23UCO6DSE2C - Organizational Dynamics from 4 to 3 credit and 23UCO6PW - Project **Work** from 3 to 4 credit.
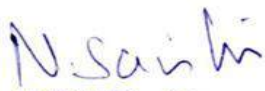
RESOLUTION NO. BOS/11/24/03

Resolved to approve the Ratification of **V Semester syllabus** of **B.Com. CA** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18, with the following changes of credit for **Core Course (CC) – VIII :** 23UCC5CC8 - Accounting for Managerial Decisions from 6 to 5 credit and **Discipline Specific Elective (DSE) – I** : 23UCC5DSE1A - Business Correspondence and Reporting ; 23UCC5DSE1B - E - Retailing; 23UCC5DSE1C - Mobile Applications from 4 to 3 credit.

RESOLUTION NO. BOS/11/24/04

Resolved to approve the Ratification of **VI Semester syllabus** of **B.Com. CA** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18, with the following changes of credit for **Core Course (CC) – XI :** 23UCC6CC11 - Corporate Accounting from 5 to 4, **Core Course (CC) - XII :** 23UCC6CC12 - Direct Taxation from 3 to 4 credit, **Core Course (CC) – XIII :** 23UCC6CC13 - Entrepreneurial Development from 4 to 3 credit, **Discipline Specific Elective (DSE) – II** : 23UCC6DSE2A - Management Information System; 23UCC6DSE2B – Auditing ; 23UCC6DSE2C - Corporate Social Responsibility from 4 to 3 credit and 23UCC6PW - **Project Work** from 3 to 4 credit.

Dr.S.Sudha, PG Head In-charge, Associate Professor, proposed the Vote of Thanks and expressed her gratitude to all the internal members of BoS.

<table>
<tr><td>(Dr. N. Savithri)
Chairman of the Board</td><td>(Dr.N.Savithri)
Dean of Arts</td></tr>
</table>

ANNEXURE I

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited with 'A' Grade by NAAC

ISO 9001:2015 Certified

PG AND RESEARCH DEPARTMENT OF MATHEMATICS

B.Sc., MATHEMATICS

AUTONOMOUS SYLLABUS

(2023-2024 and ONWARDS)

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
PG AND RESEARCH DEPARTMENT OF MATHEMATICS

<u>VISION</u>

To strive for excellence in the mathematical sciences in addition to encourage people to undertake opportunities in transdisciplinary domains.

<u>MISSION</u>

- To enhance analytical and logical problem-solving capabilities.
- To provide excellent mathematical science knowledge for a suitable career and to groom students for national prominence.
- To teach students how to use data analytics.
- To prepare students for transdisciplinary research and applications.
- Value-based education and service-oriented training programmes are used to acquire life skills.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEOs	Statements
PEO1	**LEARNING ENVIRONMENT** To facilitate value-based holistic and comprehensive learning by integrating innovative learning practices to match the highest quality standards and train the students to be effective leaders in their chosen fields.
PEO2	**ACADEMIC EXCELLENCE** To provide a conducive environment to unleash their hidden talents and to nurture the spirit of critical thinking and encourage them to achieve their goal.
PEO3	**EMPLOYABILITY** To equip students with the required skills in order to adapt to the changing global scenario and gain access to versatile career opportunities in multidisciplinary domains.
PEO4	**PROFESSIONAL ETHICS AND SOCIAL RESPONSIBILITY** To develop a sense of social responsibility by formulating ethics and equity to transform students into committed professionals with a strong attitude towards the development of the nation.
PEO5	**GREEN SUSTAINABILITY** To understand the impact of professional solutions in societal and environmental contexts and demonstrate the knowledge for an overall sustainable development.

PROGRAMME OUTCOMES FOR B.Sc Mathematics, B.Sc Physics, B.Sc Chemistry PROGRAMME

After completing a B.Sc., programme, a learner will be able to

PO NO.	On completion of B.Sc Mathematics / B.Sc Physics / B.Sc Chemistry Programme, the students will be able to
PO1	**DOMAIN KNOWLEDGE** Analyse, design and develop solutions by applying from fundamental concepts of basic sciences and expertise in discipline.
PO2	**PROBLEM SOLVING** Ability to think abstractly, to evaluate and concentrates effectively on problem-solving, as well as knowledge of global challenges.
PO3	**CREATIVE THINKING AND TEAM WORK** Develop prudent decision-making skills and mobility to work in teams to solve multifaceted problems.
PO4	**EMPLOYABILITY** Self-study acclimatize them to observe effective interactive practices for practical learning enabling them to be a successful science graduate.
PO5	**LIFE LONG LEARNING** Assure consistent improvement in the performance and arouse interest to pursue higher studies in premium institutions.

PROGRAMME SPECIFIC OUTCOMES FOR B.Sc MATHEMATICS

PSO NO.	The Students of B.Sc Mathematics will be able to	POs Addressed
PSO1	Procure a precise understanding of the mathematical concepts.	PO1, PO3
PSO2	Excel by enhancing interpersonal skills, overcoming procedural challenges and intending career paths.	PO3, PO4
PSO3	Recognize, strengthen and analyse mathematical problems in order to acquire better conclusion.	PO4, PO5
PSO4	Manipulate numerical abilities across a variety of domains.	PO2, PO5
PSO5	Develop and desire to learn more about advanced mathematics and its applications.	PO5

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
PG AND RESEARCH DEPARTMENT OF MATHEMATICS
B.Sc MATHEMATICS PROGRAMME STRUCTURE
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS-LOCF)
(For the candidates admitted from the Academic year 2023-2024 Onwards)

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Int	Ext	Total
I	I	Language Course – I (LC)	பொதுத்தமிழ் - I	23ULT1	6	3	3	25	75	100
			Hindi Ka Samanya Gyan Aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I-French I	23ULF1						
	II	English Language Course – I (ELC)	General English-I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	Algebra and Trigonometry	23UMA1CC1	4	4	3	25	75	100
		Core Course – II (CC)	Differential Calculus	23UMA1CC2	5	4	3	25	75	100
		First Allied Course – I (AC)	Mathematical Statistics	23UMA1AC1	5	4	3	25	75	100
		First Allied Course – II (AP)	Programming Language using MATLAB (P)	23UMA1AC2P	2	2	3	40	60	100
	IV	Ability Enhancement Compulsory Course – I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
				Total	**30**	**22**				**700**
II	I	Language Course – II (LC)	பொதுத்தமிழ் -II	23ULT2	6	3	3	25	75	100
			Hindi Literature and Grammar II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French-II	22ULF2						
	II	English Language Course – II (ELC)	General English-II	23UE2	6	3	3	25	75	100
	III	Core Course – III (CC)	Differential Equations and Laplace Transforms	23UMA2CC3	4	4	3	25	75	100
		Core Course – IV (CC)	Integral Calculus	23UMA2CC4	4	4	3	25	75	100
		Core Practical –I (CP)	Statistics with Excel (P)	23UMA2CC1P	2	2	3	40	60	100
		First Allied Course – III (AC)	Applied Statistics	23UMA2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course–II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course-III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**800**

					Hours	Credits	Exam	CIA	ESE	Total
III	I	Language Course – III (LC)	பொதுத்தமிழ் -III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French – I	22ULF3						
	II	English Language Course – II (ELC)	Learning Grammar Through Literature – I	23UE3	6	3	3	25	75	100
	III	Core Course – V (CC)	Analytical Geometry (3D)	22UMA3CC5	4	4	3	25	75	100
		Core Course – VI (CC)	Vector Calculus and Fourier Series	23UMA3CC6	5	4	3	25	75	100
		Second Allied Course – I (AC)	Python Programming	23UMA3AC4	4	3	3	25	75	100
		Second Allied Course–II (AP)	Python Programming (P)	23UMA3AC5P	3	3	3	40	60	100
	IV	Generic Elective Course – I (GEC)	Mathematics for Competitive Examinations – I	22UMA3GEC1	2	2	3	25	75	100
			Basic Tamil-I	22ULC3BT1						
			Special Tamil-I	22ULC3ST1						
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

					Hours	Credits	Exam	CIA	ESE	Total
IV	I	Language Course-IV (LC)	பொதுத்தமிழ் –IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French - II	22ULF4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature – II	23UE4	6	3	3	25	75	100
	III	Core Course – VII (CC)	Sequences and Series	22UMA4CC7	5	5	3	25	75	100
		Core Course – VIII (CC)	Methods in Numerical Analysis	23UMA4CC8	5	4	3	25	75	100
		Second Allied Course – III (AC)	Internet of Things	22UMA4AC6	4	3	3	25	75	100
		Internship	Internship	22UMA4INT	-	2	-	-	100	100
	IV	Generic Elective Course – II (GEC)	Mathematics for Competitive Examinations – II	22UMA4GEC2	2	2	3	25	75	100
			Basic Tamil-II	22ULC4BT2						
			Special Tamil-II	22ULC4ST2						
		Skill Enhancement Course – I (SEC)	Statistical Tools and Techniques - R Programming (P)	22UMA4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**24**				**800**

		Core Course – IX (CC)	Abstract Algebra	23UMA5CC9	6	5	3	25	75	100
		Core Course – X (CC)	Real Analysis	22UMA5CC10	5	5	3	25	75	100
		Core Course – XI (CC)	Statics	23UMA5CC11	5	4	3	25	75	100
	III	Core Course – XII (CC)	Discrete Mathematics	23UMA5CC12	5	4	3	25	75	100
V		Discipline Specific Elective – I (DSE)	A. Operations Research	23UMA5DSE1A	5	3	3	25	75	100
			B. Astronomy	23UMA5DSE1B						
			C. Artificial Intelligence	23UMA5DSE1C						
	IV	Ability Enhancement Compulsory Course – IV (AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	LaTeX (P)	22UMA5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**25**				**700**
		Core Course – XIII (CC)	Linear Algebra	23UMA6CC13	5	4	3	25	75	100
		Core Course – XIV(CC)	Complex Analysis	23UMA6CC14	5	4	3	25	75	100
		Core Course –XV (CC)	Dynamics	22UMA6CC15	4	4	3	25	75	100
	III	Core Course –XVI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
VI		Discipline Specific Elective –II (DSE)	A. Graph Theory	23UMA6DSE2A	5	3	3	25	75	100
			B. Number Theory	23UMA6DSE2B						
			C. Fundamentals of Big Data Analytics	23UMA6DSE2C						
		Project	Project Work	22UMA6PW	5	4	-	-	100	100
	V	Ability Enhancement Compulsory Course – V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
		Extension activity		22UGEA	0	1	-	-	-	-
		Total			**30**	**25**				**700**
		Grand Total			**180**	**140**				**4400**

Note:

Part – I-Language – Tamil/Hindi/French/Sanskrit

Part – II- English

List of Allied Courses:

Allied Course I- Mathematical Statistics

Allied Course II- Computer Science

Part	Course	No. of Courses	Credits	Total Credits
I	Tamil/ Other Language	4	12	12
II	English	4	12	12
III	Core (Theory& Practical)	16+1	69	99
	Project Work	1	4	
	Internship	1	2	
	First Allied	3	9	
	Second Allied	3	9	
	DSE	2	6	
IV	GEC	2	4	15
	SEC	2	4	
	AECC-I -Universal Human Values	1	2	
	AECC-II-Environmental Studies	1	2	
	AECC-III-Innovation and Entrepreneurship	1	1	
	AECC-IV- Professional Skills	1	2	
V	Gender Studies	1	1	02
	Extension Activities	_	1	
		44		**140**

The Internal and External marks for Theory and practical papers are as follows:

Subject	Internal Marks	External Marks
Theory	25	75
Practical	40	60

FOR THEORY:

The passing minimum for CIA shall be 40% out of 25 marks [i.e. 10 marks].

The passing minimum for University Examinations shall be 40% out of 75 marks [i.e. 30 marks].

FOR PRACTICAL:

The passing minimum for CIA shall be 40% out of 40 marks [i.e. 16 marks].

The passing minimum for University Examinations shall be 40% out of 60 marks [i.e. 24 marks].

V SEMESTER

ABSTRACT ALGEBRA

(2023-2024 and Onwards)

Semester V	Internal Marks: 25			External Marks:75
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs / Week**	**CREDITS**
23UMA5CC9	**ABSTRACT ALGEBRA**	**CORE**	**6**	**5**

Course Objectives

- **Understand** the concepts and properties of algebra and their application.
- **Provide** the principles and practices of algebra.
- **Construct** a legitimate proof involves different skills and expertise problem solving.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Understand the basic concept of Group and Ring Theory with examples.	**K2**
CO2	Illustrate the variety of problem-solving methods used in the relevant field.	**K2**
CO3	Apply various algebraic terminology.	**K3**
CO4	Explain the main results of Group and Ring Theory	**K3**
CO5	Analyse clear and accurate points using the concept of Groups and Rings.	**K4**

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	3	2	3	2	2	3
CO2	3	2	3	3	3	3	3	3	2	3
CO3	3	3	2	3	3	3	2	3	3	3
CO4	3	2	3	3	2	2	3	2	2	3
CO5	3	2	3	3	2	3	3	3	3	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation

"3" – Substantial (High) Correlation   "-" indicates there is no Correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Group Theory:** Definition of a Group- Some Examples of Groups- Some Preliminary Lemmas- Subgroups.	18	CO1, CO2, CO3, CO4, CO5	K1 K2, K3, K4
II	**Group Theory:** A Counting Principle – Normal Subgroups and Quotient Groups - Homomorphisms.	18	CO1, CO2, CO3, CO4, CO5	K1 K2, K3, K4
III	**Group Theory:** Automorphisms - Cayley's Theorem - Permutation Groups.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Ring Theory:** Definition and Examples of Rings – Some Special Classes of Rings – Homomorphisms – Ideals and Quotient Rings - More Ideals and Quotient Rings.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Ring Theory:** The Field of Quotient of an Integral Domain - Euclidean Rings – A Particular Euclidean Ring –Polynomial Rings – Polynomials over the Rational Field.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self-Study for Enrichment: (Not included for End Semester Examinations)** Set theory – Mappings – Another Counting Principle – Polynomial Rings Over Commutative Rings.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

Herstein .I.N (Reprint 2016), *Topics in Algebra* (2nd Edition), Wiley, New Delhi.

Chapters and Sections

UNIT-I	Chapter 2:	Sections 2.1-2.4
UNIT-II	Chapter 2:	Sections 2.5-2.7
UNIT-III	Chapter 2:	Sections 2.8-2.10
UNIT- IV	Chapter 3:	Sections 3.1-3.5
UNIT- V	Chapter 3:	Sections 3.6 – 3.10

Reference Books

1. Arumugam. S & Thangapandi Isaac. A (May 2017), *Modern Algebra*, Scitech Publications India (Pvt) Ltd, Chennai.
2. BhatV K(2014), *Modern Algebra and Applications,* Narosa Publishing House, New Delhi.
3. Santiago M L (2001), *Modern Algebra,* Tata Mcgraw - Hill Publishing Company Limited, New Delhi.

Web References

1. **https://youtu.be/CJpZJLYKk0I**
2. **https://youtu.be/mcX0sMnYyMU**
3. **https://youtu.be/lrQMV4zGF44**
4. **https://youtu.be/7LtpPI46O0Q**
5. **https://youtu.be/K1iuXqHFWRw**
6. **https://math.berkeley.edu/~apaulin/AbstractAlgebra.pdf**

Pedagogy

Power Point Presentations, Group Discussions, Seminar, Quiz and Assignment.

Course Designer

Ms. V. ManiMozhi

CORE COURSE –XI (CC)

STATICS

(2023-2024 and Onwards)

Semester V	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs /Week	CREDITS
23UMA5CC11	STATICS	CORE	5	4

Course Objective

- **Explore** the basic skills of the students with mathematical methods formatted for their major concepts and the basic knowledge of equilibrium of a particle.

- **Apply** the knowledge to **interpret** and **solve** the problems.

- **Evaluate** the fundamental concepts of static objects and their applications.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Explain the concepts of static objects.	K1, K2
CO2	Classify the problem models in the respective area.	K3
CO3	Solve various types of problems in the corresponding stream.	K3
CO4	Identify the properties of solutions in the core area.	K3
CO5	Discover the applications of Statics.	K4

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	2	3	3	2	2	3
CO2	3	2	2	2	2	3	3	2	2	3
CO3	3	2	2	2	2	3	3	3	3	3
CO4	3	2	2	2	2	3	3	3	2	3
CO5	3	2	2	2	2	3	3	3	2	3

"1" – Slight (Low) Correlation ¬   "2" – Moderate (Medium) Correlation ¬
"3" – Substantial (High) Correlation   ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Forces and Equilibrium of a particle:** Newton's laws of motion- Resultant of two forces on a particle - Equilibrium of a particle.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Forces on a rigid body:** Moment of a force – General motion of a rigid body- Equivalent (or equipollent) systems of forces- Parallel forces – Forces along the sides of a Triangle – Couples.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**(a) Coplanar Forces:** Resultant of several coplanar forces - Equation of the line of action of the resultant **(b) A specific Reduction of forces:** Reduction of coplanar forces into a force and a couple – Problems involving frictional forces.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Virtual Work:** Virtual Work- Principle of Virtual Work – Applied to a body or a system of bodies in equilibrium – Equation of Virtual Work –Simple Problems.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Hanging Strings:** Equilibrium of a uniform Homogeneous String – Suspension bridge.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Basic Units- Limiting equilibrium of a particle on an inclined plane- Equilibrium of a rigid body under three coplanar forces –Tilting of a body .	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

1. Duraipandiyan.P., Laxmi Duraipandiyan., Muthamizh Jayapragasam., (2020). *Mechanics.* S.Chand & Company Pvt Ltd.

Chapters and Sections

UNIT-I	Chapter 2 ,3	:	Sections 2.1,2.2,3.1
UNIT-II	Chapter 4	:	Sections 4.1-4.6
UNIT-III	Chapter 4 ,5	:	Sections 4.7, 4.8and 5.1, 5.2(Omit 5.2.1)
UNIT-IV	Chapter 8	:	Sections 8.1
UNIT-V	Chapter 9	:	Sections 9.1,9.2

Reference Books

1. Venkataraman.M.K.(2002). *Statics.* Agasthiyar Publications.

2. Dharmapadham.A.V. (2006). *Statics.* S. Viswanathan Publishers Pvt Ltd.

3. Ramsey.A.S.(2004). *Statics.* CBS Publishers and Distributors Private Ltd.

Web References

1. **https://youtu.be/FdJF_4uZkSQ**

2. **https://youtu.be/JJX3-af_JQw**

3. **https://uomustansiriyah.edu.iq/media/lectures/5/5_2021_01_20!01_38_47_AM.pdf**

4. **https://youtu.be/YqtrfQ4H7V8**

5. **https://youtu.be/QBWk996hg5E**

6. **https://www.iitg.ac.in/kd/Lecture%20Notes/ME101-Lecture19-KD.pdf**

7. **https://youtu.be/xP1lpCIe1VM**

Pedagogy

Chalk and Talk, Power point presentation, Group Discussion, Seminar, Assignment and Quiz.

Course Designer

Dr.L.Mahalakshmi

CORE COURSE- XII (CC)
DISCRETE MATHEMATICS
(2023-2024 onwards)

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS / WEEK**	**CREDITS**
23UMA5CC12	**DISCRETE MATHEMATICS**	**CORE**	**5**	**4**

Course Objectives

➢ **Understand** the basics of discrete mathematics.
➢ **Apply** the method of logical reasoning to solve a variety of problems.
➢ **Introduce** the concepts of Lattices and Boolean Algebras.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Understand concepts on statements and truth tables, mathematical logic, mathematical reasoning and to study about the validity of the arguments and also prove mathematical theorems .	**K2**
CO2	Determine properties of binary relations; identify equivalence and partial order relations, sketch relations and familiarize with algebraic structures.	**K2**
CO3	Convert logical statements from informal language to propositional (and quantified) logic expressions and apply formal methods of symbolic propositional logic, such as calculating validity of formulae and computing normal forms.	**K3**
CO4	Use truth tables and laws of identity, distributive, commutative, and domination and rules of inference to construct proofs in propositional logic.	**K3**
CO5	Compute sum of products, product of sum expansions, the inference theory of predicate calculus and its characteristics. Analyze and apply the theory of lattices and Boolean expressions.	**K3**

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	1	2	3	3	3	3	3	3
CO2	3	3	2	1	3	3	2	3	3	3
CO3	3	3	2	2	3	3	3	3	3	3
CO4	3	3	2	2	3	3	3	3	2	3
CO5	3	3	2	2	3	2	3	3	3	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no Correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Statements and Notation – Connectives:** Negation – Conjunction – Disjunction – Statement formulas and Truth Tables – Conditional and Biconditional – Well-Formed Formulas– Tautologies – Equivalence of formulas – Duality Law –Tautological Implications – Formulas with Distinct Truth Tables – Functionally complete sets of connectives.	15	CO1, CO2, CO3, CO4, CO5	K2, K3
II	**Normal Forms:** Disjunctive Normal Forms – Conjunctive Normal Forms – Principal Disjunctive Normal Forms – Principal Conjunctive Normal Forms – Ordering and Uniqueness of Normal Forms.	15	CO1, CO2, CO3, CO4, CO5	K2, K3
III	**The Predicate Calculus:** Predicates – The Statement Function, Variables and Quantifiers– Predicate Formulas – Free and Bound Variables – The Universe of Discourse – Inference Theory of the Predicate Calculus – Valid Formulas and Equivalences – Some Valid Formulas over Finite Universe – Special Valid Formulas Involving Quantifiers – Theory of Inference for the Predicate Calculus –Binary and n-ary Operations – Characteristic Function of a Set.	15	CO1, CO2, CO3, CO4, CO5	K2, K3
IV	**Lattices as Partially Ordered Sets:** Definition and Examples – Some Properties of Lattices – Lattices as Algebraic Systems – Sub Lattices, Direct Product and Homomorphism – Some Special Lattices.	15	CO1, CO2, CO3, CO4, CO5	K2, K3
V	**Boolean Algebra:** Definition and Examples – Sub Algebra, Direct Product and Homomorphism – Boolean Functions: Boolean Forms and Free Boolean Algebras – Values of Boolean Expressions and Boolean Functions.	15	CO1, CO2, CO3, CO4, CO5	K2, K3

	Self-Study for Enrichment: (Not included for End Semester Examinations) Formulas Involving More Than One Quantifier – Hashing Functions – Representation and Minimization of Boolean Functions: Representation of Boolean Functions – Minimization of Boolean Functions.			
VI		-	CO1, CO2, CO3, CO4, CO5	K2, K3

Text Books

1. J.P. Trembley & R. Manohar (2011), *Discrete Mathematical Structures With Applications to Computer Science*, Tata McGraw Hill.

Chapters and Sections

UNIT-I	Chapter 1:	Sections 1.1
	Chapter 1:	Sections 1.2.1 – 1.2.4, 1.2.6 – 1.2.13
UNIT-II	Chapter 1:	Sections 1.3.1-1.3.5
UNIT-III	Chapter 1:	Sections 1.5.1 – 1.5.5, 1.6.1-1.6.5
	Chapter 2:	Sections 2.4.4-2.4.5
UNIT-IV	Chapter 4:	Sections 4.1.1 – 4.1.5
UNIT-V	Chapter 4:	Sections 4.2.1-4.2.2, 4.3.1-4.3.2

Reference Books

1. Chandrasekhara Rao K (2012), *Discrete Mathematics*, Narosa Publishing House, India.
2. Thomas Koshy (2012), *Discrete Mathematics with applications*, Elsevier, a division of Reed Elsevier India Private Limited.
3. T Veerarajan (2007), *Discrete Mathematics with Graph Theory and Combinatorics*, The McGraw-Hill Companies, New Delhi.

Web References

1. https://youtu.be/i3m0hV157Ro
2. https://youtu.be/5cyocztOtq4
3. https://youtu.be/w9DyAVrU8j0
4. https://youtu.be/qPtGlrb_sXg
5. https://youtu.be/MH2uTVgG1bo
6. https://home.iitk.ac.in/~arlal/book/mth202.pdf
7. https://www.cs.yale.edu/homes/aspnes/classes/202/notes.pdf

Pedagogy

Power point presentations, Group Discussions, Seminar, Quiz, Assignment.

Course Designer

Dr. G.Janaki

DISCIPLINE SPECIFIC ELECTIVE – I (DSE)
OPERATIONS RESEARCH
(2023-2024 Onwards)

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hours/Week**	**CREDITS**
23UMA5DSE1A	**OPERATIONS RESEARCH**	**DISCIPLINE SPECIFIC ELECTIVE**	**5**	**3**

Course Objectives

- **Impart** knowledge in concepts and tools of Operations Research.
- **Equip** mathematical methods formatted for major concepts.
- **Apply** these techniques constructively to make effective business making.

Course Outcomes
Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, the students will be able to	Cognitive Level
CO1	Understand the objectives, phases, models, used in operation research.	**K1, K2**
CO2	Construct mathematical model of a particular problem	**K3**
CO3	Develop analytical problem solving and decision-making thinking.	**K3**
CO4	Discover the practical skills in problem solving.	**K4**
CO5	Analyze solutions to real life problems using Operations Research.	**K4**

Mapping with Programme Outcomes

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬   "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation ¬   "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Operations Research - An Overview:** Introduction – Origin and Development of O.R- Nature and Features of O.R-Scientific Method in O.R- Modelling in O.R-Advantages and Limitations of Models –General Solution Methods for O.R models- Methodology of O.R- O.R and Decision Making –Applications of O.R - Opportunities and shortcomings of O.R. **Linear Programming Problem**: Introduction – Linear Programming Problem - Mathematical formulation of the problem– Illustrations on Mathematical formulation of Linear Programming Problems. **Linear Programming Problem-Graphical solution and Extension** Introduction – Graphical Solution Method – Some Exceptional Cases – General Linear Programming Problem - Standard Forms of Linear Programming Problem.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Linear Programming Problem-Simplex Method** Introduction – Fundamental Properties of Solutions – The Computational Procedure – Use of Artificial Variables. **Duality in Linear Programming** Introduction-General Primal Dual Pair – Formulating a Dual Problem –Dual simplex method.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Transportation Problem:** The Transportation table-Solution of a Transportation Problem – Finding an initial basic feasible solution –Test for optimality- Economic Interpretation of u_j's and v_j's- Degeneracy in Transportation Problem-Transportation Algorithm (MODI Method). **Assignment problem:** Introduction – Mathematical formulation of the problem - Solution Methods of Assignment Problem – Special cases in Assignment Problem – A typical Assignment Problem- The Travelling Salesmen problem.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Sequencing Problem:** Introduction- Problem of sequencing- Basic terms used in Sequencing-Processing n jobs through Two Machines - Processing n jobs through k Machines. **Games and Strategies:** Introduction- Two-Person Zero -sum Games –Some Basic Terms– The Maximin - Minimax Principle –Games without Saddle Points – Mixed Strategies – Graphical Solution of 2 x n and m x 2 games.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Network Scheduling by PERT/CPM:** Introduction-Network : Basic components – Logical sequencing – Rules of network construction – Concurrent activities-	15	CO1, CO2, CO3,	K1, K2, K3,

	Critical Path Analysis-Probability Considerations in PERT-Distinction between PERT & CPM-Application of Network Techniques – Advantages of Network Techniques.		CO4, CO5	K4
VI	**Self Study for Enrichment:** **(Not included for End Semester Examinations)** Canonical Forms- – Degeneracy in Linear Programming. **-**Unbalanced Transportation and Assignment Problem-Processing of 2 jobs through k Machine –Limitations and difficulties in using Network.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

1. Kanti Swaroop, Gupta.P.K, & Manmohan (2014 Reprint), Operations Research, 16th Edition, Sultan Chand & Sons.

Chapters and Sections

UNIT-I	Chapter 1:	Sections 1.1-1.11
	Chapter 2:	Sections 2.1- 2.4
	Chapter 3:	Sections 3.1- 3.5
UNIT-II	Chapter 4:	Sections 4.1- 4.4
	Chapter 5:	Sections 5.1-5.3, 5.9
UNIT-III	Chapter 10:	Sections 10.5, 10.8-10.13
	Chapter 11:	Sections 11.1-11.5, 11.7
UNIT-IV	Chapter 12:	Sections 12.1-12.5
	Chapter 17:	Sections 17.1-17.6
UNIT-V	Chapter 25:	Sections 25.1-25.10

Reference Books

1. Hamdy A. Taha (2002), Operations Research, Prentice Hall of India.
2. Richard Bronson (2001), Theory and Problems of Operations Research, Tata McGraw Hill Publishing Company.
3. V Sundaresan, K S Ganapathy Subramanian, K Ganesan (2015), Resource Management Techniques, AR Publications.

Web References

1. **https://youtu.be/O6QO3J_85as**
2. **https://youtu.be/GhplZYVCPkU**
3. **https://youtu.be/npJNx0jXbNI**
4. **https://youtu.be/FdaXNmUxz_I**
5. **https://youtu.be/vUMGvpsb8dc**
6. **https://youtu.be/hwGFu_M_yHY**

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Quiz and Seminar.

Course Designer

Dr. P.SARANYA

DISCIPLINE SPECIFIC ELECTIVE-I (DSE)
ASTRONOMY
(2023-2024 Onwards)

Semester V	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs /Week	CREDITS
23UMA5DSE1B	ASTRONOMY	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objective

- **Explain** the basic concepts of spherical trigonometry in the field of astronomy.
- **Emphasize** the movements of the celestial objects.
- **Explore** the concept of terrestrial latitudes and longitudes.

Course Outcomes
Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, the students will be able to	Cognitive Level
CO1	Identify spherical triangle, latitudes, equation of time, heliocentric parallax and age of moon.	K1
CO2	Explain the concepts of celestial sphere, diurnal motion, twilight, refraction, aberration and eclipses.	K2
CO3	Classify triangles, circumpolar stars, refraction, parallax and eclipses.	K3
CO4	Determine napier's rules, reduction of latitude, laws of refraction, effects of geocentric parallax and elongation.	K4
CO5	Ascertain diurnal motion, dip of horizon, Kepler's laws, aberration and eclipses. .	K4

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	2	3	3	2	2	3
CO2	3	2	2	2	2	3	3	2	2	3
CO3	3	2	2	2	2	3	3	3	3	3
CO4	3	2	2	2	2	3	3	3	2	3
CO5	3	2	2	2	2	3	3	3	2	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	Cos	COGNITIVE LEVEL
I	Spherical Trigonometry – Celestial Sphere, Diurnal Motion.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	Zones of Earth- Terrestrial Latitudes and Longitudes – Radius of Earth – Rotation of Earth – Dip of Horizon – Twilight.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	Refraction – Kepler's Laws - Equation of Time – Seasons.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	Geocentric Parallax – Heliocentric Parallax – Aberration.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	The Moon – Eclipses.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Formulae in plane Trigonometry – Another method to determine the radius of earth – Arguments in favour of earth's rotation – Influence of temperature and pressure of atmosphere on Refraction – Aberration and stellar parallax compared –Earth shine – The Tides – Occultations.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

1. Kumaravelu. S, Susheela Kumaravelu. (2011). *Astronomy* (Revised and enlarged edition). S.Kumaravelu Publications, Nagercoil.

Chapters and Sections

UNIT-I   Chapter 1:   Art 1- 36,38

                           Chapter 2 :   Art 39- 86

UNIT-II   Chapter 3: Art 87 – 102, 105-116

UNIT-III   Chapter 4: Art 117- 133

                           Chapter 6: Art 146 – 165

                           Chapter 7: Art 166 - 174

UNIT- IV   Chapter 5: Art 135 - 145

                           Chapter 8: Art 190 - 194

                           Chapter 9: Art 195 – 201,203

UNIT- V   Chapter 12: Art 229 – 253

                           Chapter 13:   Art 256 - 283

Reference Books

1. Dennis Morris (2015). *The Special Theory of Relativity*. Scientific International Pvt Ltd, New Delhi.

2. Abhyankar. K. D. (2012). *Astrophysics of the Solar System* (Reprinted 2009,2012). Universities Press. India.

3. Padmanabhan. T. (2010). *Theoretical Astrophysics Volume II: Stars and Stellar Systems* (First South Asian edition). Cambridge University Press, Tokyo.

Web References

1. **https://youtu.be/F2NqTIej98Q?si=ekaNnpb4up1zPvPb**
2. **https://youtu.be/iPp2KZWBR5k?si=japVt5BnqfSnabqo**
3. **https://youtu.be/OBHFjvjsKyA?si=q4ao5liitob998J0**
4. **https://youtu.be/ETzUpoqZIHY?si=vTiFgcY-8ipYh4OC**
5. **https://youtu.be/GnZ3dogED7w?si=jZPZYuJRiNbO8GXW**
6. **file:///C:/Users/Administrator/Downloads/planetary.pdf**

Pedagogy

Power point presentation, Group Discussion, Seminar, Assignment.

Course Designer

Dr.S.Premalatha

DISCIPLINE SPECIFIC ELECTIVE – I (DSE)
ARTIFICIAL INTELLIGENCE
(2023-2024 Onwards)

Semester V	Internal Marks: 25			External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs /Week**	**CREDITS**	
23UMA5DSE1C	**ARTIFICIAL INTELLIGENCE**	**DISCIPLINE SPECIFIC ELECTIVE**	**5**	**3**	

Course Objective

- **Learn** the methods of solving problems using Artificial Intelligence.
- **Apply** AI techniques to real-world problems to develop intelligent systems.
- **Develop** an understanding of modern concepts in AI and where they can be used.

Course Outcomes
Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Identify problems where artificial intelligence techniques are applicable.	**K1, K2**
CO2	Solve basic AI based problems.	**K3**
CO3	Explain the concept of Knowledge Representation	**K3**
CO4	Examine the issues involved in knowledge bases, reasoning systems and planning	**K4**
CO5	Summarize appropriate AI methods to solve a given problem. Familiar with Artificial Intelligence, its foundation and principles	**K5**

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	2	3	3	3
CO2	3	2	3	3	2	3	3	2	3	2
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	3	3	2	3	3	3	2	3
CO5	3	3	3	3	3	2	3	3	3	3

"1" – Slight (Low) Correlation ¬   "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation   ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**What is Artificial Intelligence?:** The AI Problems – The Underlying Assumption – What is an AI Technique? – The Level of the Model – Criteria for Success. **Problems, Problems Spaces, and Search:** Defining the Problem as a State Space Search – Production Systems – Problem Characteristics – Production System Characteristics – Issues in the Design of Search Programs – Additional Problems.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Heuristic Search Techniques:** Generate-and-Test – Hill Climbing – Best-first Search – Problem Reduction – Constraint Satisfaction – Means-ends Analysis.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Knowledge Representation Issues:** Representations and Mappings – Approaches to Knowledge Representation. **Using Predicate Logic:** Representing Simple Facts in Logic – Representing Instance and ISA Relationships – Computable Functions and Predicates.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Representing Knowledge Using Rules:** Procedural Versus Declarative Knowledge – Logic Programming – Forward Versus Backward Reasoning – Matching – Control Knowledge. **Symbolic Reasoning Under Uncertainty:** Introduction to Nonmonotonic Reasoning - Logics for Nonmonotonic Reasoning – Implementation Issues – Augmenting a Problem-solver.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Statistical Reasoning:** Probability and Bayes' Theorem – Certainty Factors and Rule-based Systems – Bayesian Networks – Dempster-Shafer Theory. **Weak Slot-and-Filler Structures:** Semantic Nets – Frames.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Conceptual Dependency – Scripts – CYC - Syntactic-semantic Spectrum of Representation – Logic and Slot-and-filler Structures – Other Representational Techniques – Summary of the Role of Knowledge.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

1. Elaine Rich, Kevin Knight and Shivashankar B Nair (2014). *Artificial Intelligence*, Third Edition, McGraw Hill Education (India) Private Limited.

Chapters and Sections

UNIT-I	Chapter 1 :	Sections 1.1 – 1.5
	Chapter 2 :	Sections 2.1- 2.6
UNIT-II	Chapter 3 :	Sections 3.1 – 3.6
UNIT-III	Chapter 4 :	Sections 4.1 – 4.2
	Chapter 5 :	Sections 5.1 – 5.3
UNIT-IV	Chapter 6 :	Sections 6.1 – 6.5
	Chapter 7 :	Sections 7.1 – 7.4
UNIT-V	Chapter 8 :	Sections 8.1 – 8.4
	Chapter 9 :	Sections 9.1 – 9.2

Reference Books

1. Stuart Russell and Peter Norvig (2003). *Artificial Intelligence A Modern Approach*, Pearson Education.
2. Patrick Henry Winston (2000). *Artificial Intelligence*, Pearson Education.
3. Dan W. Patterson (2008). *Introduction to Artificial Intelligence and Expert Systems,* Pearson Education.

Web References

1. **https://www.oracle.com/in/artificial-intelligence/what-is-ai/**
2. **https://www.ibm.com/topics/artificial-intelligence**
3. **https://www.techopedia.com/definition/190/artificial-intelligence-ai**
4. **https://www.simplilearn.com/tutorials/artificial-intelligence-tutorial/what-is-artificial-intelligence**
5. **https://www.gartner.com/en/topics/artificial-intelligence**

Pedagogy

Chalk and Talk, Power point presentation, Group Discussion, Seminar, Assignment and Quiz**.**

Course Designer

Ms. R. Soundaria

VI SEMESTER

CORE COURSE –XIII (CC)

LINEAR ALGEBRA

(2023-2024 Onwards)

Semester VI	Internal Marks: 25		External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs /Week**	**CREDITS**
23UMA6CC13	LINEAR ALGEBRA	CORE COURSE	5	4

Course Objective

- **Explore** the basic skills of the students with mathematical methods formatted for their major concepts and to analyze the problems in linear algebra.

- **Evaluate** mathematical expressions to compute quantities that deal with linear systems and eigenvalue problems.

- **Apply** solution methods of linear system for various problems.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Explain the concepts of algebra.	**K1, K2**
CO2	Identify different algebraic structure and classify the problem models in the respective area.	**K3**
CO3	Solve various types of problems in the corresponding fields.	**K3**
CO4	Diagnose the properties of solutions in the core area.	**K4**
CO5	Analyze the applications of Linear algebra.	**K4**

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	2	3	3	3	3	3	3
CO2	3	2	3	2	2	3	3	2	3	3
CO3	3	3	3	2	3	3	3	3	3	3
CO4	3	2	3	2	2	3	3	3	2	3
CO5	3	2	3	2	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation ¬ "3" – Substantial (High) Correlation ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Vector Spaces:** Elementary Basic Concepts – Linear Independence and Bases.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Vector Spaces:** Dual Spaces – Inner Product Spaces.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Algebra of Matrices:** Introduction – Matrices – Matrix Addition and Scalar Multiplication – Summation Symbol – Matrix Multiplication – Transpose of Matrix – Square Matrices – Power of Matrices, Polynomials in Matrices – Invertible (Nonsingular) Matrices – Special Types of Square Matrices – Complex Matrices.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Diagonalization: Eigenvalues Eigenvectors** Introduction – Polynomials of Matrices – Characteristic Polynomial, Cayley- Hamilton Theorem – Diagonalization – Eigenvalues and Eigenvectors.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Diagonalization: Eigenvalues Eigenvectors** Computing Eigenvalues and Eigenvectors – Diagonalizing Matrices – Diagonalizing Real Symmetric Matrices – Minimal Polynomial.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Modules – Construction with Straight edge and Compass – Block Matrices – Characteristic and Minimal Polynomials of Block Matrices.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Books

1. I.N. Herstein., *Topics in Algebra* (2013). John Wiley & Sons, New Delhi.
2. Seymour Lipschutz, Marc Lars Lipson., *Schaum's Outline of Linear Algebra* (2005). Tata McGraw- Hill Publishing Company Limited.

Chapters and Sections

Unit-I	Chapter 4[1]	: Section 4.1 & 4.2
Unit-II	Chapter 4[1]	: Section 4.3 & 4.4
Unit-III	Chapter 2[2]	: Section 2.1-2.11
Unit-IV	Chapter 9[2]	: Section 9.1-9.4
Unit-V	Chapter 9[2]	: Section 9.5-9.7

Reference Books

1. Kenneth Hoffman and RayKunze (2009), *Linear Algebra*. PHI Learning Private Limited.
2. Gupta, K. P (2008), *Linear Algebra*. Pragati Prakashan Educational Publishers.
3. Dr. Sudhir Kumar Pundir (2019), *A Competitive Approach to Linear Algebra*. CBS Publishers & Distributors Pvt. Ltd.

Web References

1. **https://www.youtube.com/watch?v=lKKxNX3rzuA**
2. **https://web.cortland.edu/jubrani/272ch2.pdf**
3. **https://www.youtube.com/watch?v=7E4sUjJCvnM**
4. **https://www.math.uchicago.edu/~may/VIGRE/VIGRE2009/REUPapers/Gao.pdf**
5. **https://www.lkouniv.ac.in/site/writereaddata/siteContent/202005062149153831Pragya_Mishra_maths_MATRICS.pdf**
6. **https://www.youtube.com/watch?v=0pgdc_igMNw**
7. **https://www.youtube.com/watch?v=rBMF7tFkav8**

Pedagogy

Chalk and Talk, Power point presentation, Group Discussion, Sseminar, Assignment and Quiz.

Course Designer

Ms. P. Sangeetha

CORE COURSE–XIV(CC)

COMPLEX ANALYSIS

(2023-2024 Onwards)

Semester VI	Internal Marks: 25			External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs /Week**	**CREDITS**	
23UMA6CC14	COMPLEX ANALYSIS	CORE	5	4	

Course Objective

- **Identify** the curves and region in the complex plane defined by simple expressions.
- **Explore** the basic concepts of Complex Variables and Complex Integration
- **Evaluate** the Power Series Expansion, Singularities and Residues of the function.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Define the continuity and differentiation of complex functions and C– R equations of analytic functions.	K1, K2
CO2	Explain the elementary transformations in Complex variables.	K2
CO3	Compute Complex Integration through Cauchy's theorem.	K3
CO4	Determine the Power series expansions in complex variables.	K4
CO5	Analyse the singularity concept and residues in complex variables.	K4

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	2	2	2
CO2	3	2	3	3	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	2	3	3	2	3	3	2	2	3
CO5	3	2	3	3	2	3	3	3	3	2

"1" – Slight (Low) Correlation ☐ "2" – Moderate (Medium) Correlation ☐

"3" – Substantial (High) Correlation ☐ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Analytical Functions:** Limits– Theorems on Limits-Limits Involving the Point at Infinity – Continuity – Derivatives – Cauchy-Riemann Equations – Examples – Sufficient Conditions for Differentiability – Polar Coordinates - Analytic Functions – Further Examples - Harmonic functions.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Integrals:** Definite Integrals of Functions $w(t)$ – Contours – Cauchy- Goursat Theorem – Proof of the Theorem – Simply Connected Domains – Multiply Connected Domain – Cauchy Integral Formula – An Extension of the Cauchy Integral Formula – Some Consequences of the Extension – Liouville's Theorem and the Fundamental Theorem of Algebra – Maximum Modulus Principle.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Series:** Convergence of Sequences – Convergence of Series – Taylor's Series – Proof of Taylor's Theorem – Examples – Laurent Series – Proof of Laurent's Theorem – Examples. **Mapping by Elementary Functions :** Linear Transformations – The Transformation $w = 1/z$ – Mappings by $1/z$ – Linear Fractional Transformations – An Implicit Form	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Residues and Poles:** Isolated Singular Points – Residues – Cauchy's Residue Theorem – Residue at infinity – The Three Types of Isolated Singular Points – Residues at Poles – Examples – Zeros of Analytic Functions – Zeros and Poles – Behaviour of Functions Near Isolated Singular Points.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Applications of Residues:** Evaluation of Improper Integrals – Example – Improper Integrals from Fourier Analysis – Jordan's Lemma – Indented Paths – An Indentation Around a Branch Point –Definite Integrals Involving Sines and Cosines – Argument Principle – Rouche's Theorem.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

	Self Study for Enrichment: (Not included for End Semester Examination) Uniquely determined analytic functions – Upper bounds for Moduli of contour integrals – Mappings of the Upper Half Plane –The Transformation $w = Sin\ z$ – Mappings by z^2 and Branches of $z^{1/2}$.– Inverse Laplace transforms – Integration Along a Branch Cut	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI				

Text Book

1. James Ward Brown and Ruel V. Churchill , (2021). Complex Variables and Applications, McGraw Hill Education (India) Private Limited, Ninth Edition.

Chapters and Sections

UNIT-I	Chapter 2	Sections 15 - 19, 21 - 27
UNIT-II	Chapter 4	Sections 42, 43, 50-55, 57-59
UNIT-III	Chapter 5 and 8	Sections 60– 64, 66, 67 and 96-100
UNIT-IV	Chapter 6	Sections 74 – 78, 80 – 84
UNIT-V	Chapter 7	Sections 85 – 90, 92 – 94

Reference Books

1. S. Arumugam, A. Thangapandi Isaac & A. Somasundaram. (2014), Complex Analysis , Scitech Publications (India) Pvt Ltd

2. T.K. ManicavachagamPillai, Dr.S.P.Rajagoplan and Dr.R.Sattanathan (2013), ComplexAnalysis, S. Viswanathan (Printers & Publishers) Pvt Ltd, Chennai.

3. P Duraipandian, , KayalalPachaiyappa (2014),. ComplexAnalysis, S. Chand & companyPvt. Ltd, First Edition,New Delhi.

Web References

1. **https://www.youtube.com/watch?v=b5VUnapu-qs**
2. **https://www.youtube.com/watch?v=2v95JHiapxU**
3. **https://www.youtube.com/watch?v=WBvRL-QCEN8**
4. **https://www.youtube.com/watch?v=qjpLIlVo_6E**
5. **https://www.youtube.com/watch?v=o77UV7YrWvw/**

Pedagogy

Power Point Presentation, Group Discussion, Seminar, Assignment.

Course Designer

Dr.S.Sasikala

GRAPH THEORY

(2023-2024 Onwards)

Semester VI	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs /Week	CREDITS
23UMA6DSE2A	GRAPH THEORY	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objectives

- **Explain** the basics of graph theory.

- **Apply** the knowledge to **interpret** and **solve** the problems.

- **Evaluate** the fundamental concepts of graph theory and to develop a working knowledge to handle practical problems.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Identify various notion of graphs.	K1
CO2	Describe the problems in the respective area.	K2
CO3	Solve various types of problems in the corresponding stream.	K3
CO4	Relate the properties of solutions in the core area.	K3
CO5	Analyze the applications of graph theory.	K4

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	2	2	3	3	3	3	3
CO2	3	2	2	2	2	3	3	2	3	3
CO3	3	2	2	2	2	3	3	3	3	3
CO4	3	2	2	2	2	3	3	3	2	3
CO5	3	2	2	2	2	3	3	3	3	3

"1" – Slight (Low) Correlation ¬   "2" – Moderate (Medium) Correlation ¬
"3" – Substantial (High) Correlation ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction:** Definition of a Graph – Application of Graphs – Finite and Infinite Graphs – Incidence and Degree – Isolated Vertex, Pendant Vertex and Null Graph. **Paths and Circuits**: Isomorphism – Subgraphs – Walks, Paths and Circuits – Connected Graphs, Disconnected Graphs and Components.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Paths and Circuits:** Euler Graphs – Operations on Graphs – More on Euler Graphs – Hamiltonian Paths and Circuits – The Traveling Salesman Problem.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Trees and Fundamental Circuits:** Trees – Some Properties of Trees – Pendant Vertices in a Tree – Distance and Centers in a Tree – Rooted and Binary Trees – On Counting Trees – Spanning Trees - Spanning Trees in a Weighted Graph.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Cut - Sets and Cut - Vertices:** Cut-Sets – Some Properties of a Cut-Set – All Cut-Sets in a Graph – Fundamental Circuits and Cut-Sets – Connectivity and Separability.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Planar Graphs:** Planar Graphs – Kuratowski's Two Graphs – Different Representations of a Planar Graph.- Geometric Dual. **Matrix Representation of Graphs:** Incidence Matrix – Submatrices of A(G) – Circuit Matrix – Cut-Set Matrix.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Brief History of Graph Theory – A Puzzle with Multicolored Cubes – Fundamental Circuits – Network Flows – An Application to a switching network.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

1. Narsingh Deo.(2022). *Graph Theory with applications to Engineering and Computer Science*. PHI Learning Private Limited, New Delhi.

Chapters and Sections

UNIT – I	Chapter 1	:	Sections 1.1 -1.5
	Chapter 2	:	Sections 2.1, 2.2, 2.4 ,2.5
UNIT – II	Chapter 2	:	Sections 2.6- 2.10
UNIT – III	Chapter 3	:	Sections 3.1- 3.7,3.10
UNIT – IV	Chapter 4	:	Sections 4.1-4.5
UNIT – V	Chapter 5	:	Sections 5.2- 5.4, 5.6
	Chapter 7	:	Sections 7.1-7.3, 7.6

Reference Books

1. Arumugam. S., Ramachandran. S., (2020). *Invitation to Graph Theory.* SciTech Publications (India) Pvt. Ltd., Chennai.
2. Gary Chartrand and Ping Zhang. (2006). *Introduction to Graph Theory*. Tata McGraw-Hill Publishing Company Limited, New Delhi.
3. Frank Harary. (2001). *Graph Theory.* Narosa Publishing House. PVT LTD, New Delhi.

Web References

1. https://youtu.be/AtDgXyluW-Y
2. https://youtu.be/mm9YUqZTsNE
3. https://www.youtube.com/watch?v=b233VKD6udo
4. https://youtu.be/R5LZIpz-oIE
5. https://youtu.be/wnYtITkWAYA
6. https://courses.engr.illinois.edu/cs173/fa2011/Lectures/planargraphs.pdf
7. https://mathcircle.berkeley.edu/sites/default/files/archivedocs/2015/lecture/Graph%20Theory%20Intermediate%20I%20and%20Ii-2.pdf

Pedagogy

Chalk and Talk, Power point presentation, Group Discussion, Seminar, Assignment and Quiz.

Course Designer

Dr.P.Geethanjali

DISCIPLINE SPECIFIC ELECTIVE –II (DSE)
NUMBER THEORY
(2023-2024 and Onwards)

Semester VI	Internal Marks:25		External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs/Week**	**CREDITS**
23UMA6DSE2B	**NUMBER THEORY**	**DISCIPLINE SPECIFIC ELECTIVE**	**5**	**3**

Course Objective

- Highlight the details and distinctions in the world of numbers.
- Equip the students with basic concepts of congruences formatted for their   major concepts.
- Prepare the students for coding through congruences.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	State and describe various theorems on primes, congruence and residues which are used in cryptography.	K1, K3
CO2	Interpret mathematical induction and other types of techniques to prove theorems or mathematical results.	K2
CO3	Apply the concepts and results of divisibility of integers effectively.	K3
CO4	Analyze the theory of multiplicative arithmetic function and solve polynomial congruences and system of congruences by some techniques.	K4
CO5	Examine unsolved problems for higher study related to number theory.	K4

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	3	3	3	3	2	3	2	3
CO2	3	3	3	3	3	3	3	3	2	2
CO3	3	2	3	3	3	3	3	3	2	3
CO4	3	2	2	3	3	3	2	3	2	2
CO5	3	2	3	3	3	3	2	3	2	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Basis Representation:** Principle of Mathematical Induction – The Basis Representation Theorem **The Fundamental Theorem of Arithmetic:** Euclid's Division Lemma – Divisibility – The Linear Diophantine Equation – The Fundamental Theorem of Arithmetic.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Combinatorial and Computational Number Theory:** Permutations and Combinations – Fermat's Little Theorem – Wilson's Theorem – Generating Functions -The Use of Computers in Number Theory.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Fundamentals of Congruences:** Basic Properties of Congruences – Residue Systems – Riffling. **Solving Congruences:** Linear Congruences – The Theorems of Fermat and Wilson Revisited.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Solving Congruences:** The Chinese Remainder Theorem – Polynomial Congruences. **Arithmetic Functions:** Combinatorial Study of $\phi(n)$.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Arithmetic Functions:** Formulae for d(n) and $\sigma(n)$ – Multiplicative Arithmetic Function – The Mobius Inversion Formula.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Properties of Reduced Residue System – Primitive Roots modulo p – Elementary Properties of $\pi(x)$ – Some Unsolved Problems about Primes.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Books

George E. Andrews (1971). *Number Theory*. W.B. Saunders Company Limited.

Chapter and Sections

UNIT-I	Chapter 1: Sections 1.1 & 1.2	
	Chapter 2: Sections 2.1 – 2.4	
UNIT-II	Chapter 3: Sections 3.1 – 3.5	
UNIT-III	Chapter 4: Sections 4.1 - 4.3	
	Chapter 5: Sections 5.1 & 5.2	
UNIT-IV	Chapter 5: Sections 5.3 & 5.4	
	Chapter 6: Sections 6.1	
UNIT-V	Chapter 6: Sections 6.2 – 6.4	

Reference Books

1. David M. Burton (2011). *Elementary Number Theory, 7th Edition.* Mc Graw Hill Publishing Company.

2. Joseph H. Silverman (2009). *A Friendly Introduction to Number Theory.* Pearson Education.

3. Telang.S.G. (2003). *Number Theory.* Tata McGraw-Hill Publishing Company Limited.

Web References

1. https://www.youtube.com/watch?v=ep695eRaAyU
2. https://www.youtube.com/watch?v=vPRNx6rv7SM
3. https://www.youtube.com/watch?v=zP9t001PXiU
4. https://www.youtube.com/watch?v=Owcepi5zoF0
5. https://www.youtube.com/watch?v=nT2KAKNDG58
6. https://www.youtube.com/watch?v=4_1D1BBibzw

Pedagogy

Power point presentation, Group Discussion, Seminar, Assignment.

Course Designer

Dr. G. Janaki

DISCIPLINE SPECIFIC ELECTIVE – II (DSE)
FUNDAMENTALS OF BIG DATA ANALYTICS
2023-2024 Onwards

Semester – VI	Internal Marks: 25		External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**Hrs /Week**	**CREDITS**
23UMA6DSE2C	FUNDAMENTALS OF BIG DATA ANALYTICS	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objectives

- **Inculcate** a strong foundation on basic concepts of Big Data.
- **Understand** the components of Hadoop framework and MapReduce
- **Explore** Big Data analytics tools.

Course Outcomes

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, the students will be able to,	Cognitive Level
CO1	State and Understand the Big Data phenomenon.	K1, K2
CO2	Explain the various Big Data tools.	K2
CO3	Apply the use of predictive analytics on big data.	K3
CO4	Examine the potential use of Big Data in corporate environment.	K4
CO5	Analyze large scale data.	K4

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	2	3	2	2	3
CO2	3	3	3	3	3	2	3	2	2	3
CO3	3	3	3	3	3	2	3	2	2	3
CO4	3	3	3	3	3	2	3	2	2	3
CO5	3	3	3	3	3	2	3	2	2	3

"1" – Slight (Low) Correlation ¬ "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENTS	HOURS	COs	COGNITIVE LEVEL
I	**OVERVIEW OF BIG DATA:** Defining Big data - Big data Types-Analytics-Industry Examples of Big data- Big data and Data Risk- Big data Technologies- The Benefits of Big data.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**BASICS OF HADOOP:** Big data and Hadoop- Hadoop Architecture- Main components of Hadoop Framework- Analyzing Big data with Hadoop-Distributed Application concept- Hadoop Distributed File system- Advantages of Hadoop- Ten Big Hadoop Platforms.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**NO SQL DATA MANAGEMENT AND MONGODB:** No SQL Data Management- Types of No SQL Databases- Choosing a query model for Big data- Benefits of NoSQL- MongoDB- Advantages of MongoDB over RDBMS.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**HBASE AND CASSANDRA:** Introduction to HBASE – Row - Oriented vs. Column - Oriented data stores- HDFS vs. HBase - HBase Architecture- HBASE data model- Cassandra: Introduction- Features of Cassandra- History of Cassandra - Data replication in Cassandra – Components of Cassandra. **MAPREDUCE:** Introduction to MapReduce – How MapReduce works – Map operations.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**HIVE: THE DATA WAREHOUSE OF HADOOP** Introduction to Hive: The Data Warehouse of Hadoop – Hive data models- Hive Building blocks – Hive data file formats. **DATA STREAM MINING:** Data Stream mining- the Stream Data Model- Streaming Applications.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self Study for Enrichment:** **(Not included for End Semester Examinations)** -Indian Big Data Companies – Security over Hadoop – Sharding – Running a MapReduce program -using Hive for data warehousing.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

K. Jain (2017), *Big Data and Hadoop*, Khanna Book Publishing Co.(P) Ltd.

Chapters and Sections

UNIT-I	Chapter 1:	Sections	1.2, 1.4-1.7, 1.10, 1.16
UNIT-II	Chapter 2:	Sections	2.1-2.6, 2.16, 2.20
UNIT-III	Chapter 5:	Sections	5.1-5.6.
UNIT- IV	Chapter 6:	Sections	6.1-6.5, 6.8-6.12
	Chapter 7:	Sections	7.1-7.3
UNIT- V	Chapter 9:	Sections	9.1-9.4
	Chapter 14:	Sections	14.1-14.3

Reference Books

1. Raj Kamal and Preeti Saxena (2019), *Big data Analytics*, McGraw Hill Education Private Ltd.

2. Seema Acharya and Subhashini Chellappan (2017), *Big Data and Analytics*, John Wiley & Sons.

3. Thomas Erl, Wajid Khattak and Paul Buhler (2016), *Big Data Fundamentals*: Concepts, Drivers & Techniques, Pearson Publications.

Web References

1. **https://youtu.be/LkEQQwVsET8**

2. **https://appinventiv.com/blog/hbase-vs-cassandra/#:~:text=HBase%20has%20a%20master%2Dbased,once%20the%20master%20is%20down.**

3. **https://hevodata.com/learn/data-streams-in-data-mining/**

4. **https://youtu.be/aReuLtY0YMI**

5. **https://youtu.be/nJRrNb4ZaUM**

6. **https://youtu.be/DrLJwSci6b8**

7. **https://youtu.be/JZGtV278SvE**

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Quiz and Seminar.

Course Designer

Dr.P.SARANYA

CORE COURSE –VIII (CC)

BIOSTATISTICS

(2023-2024 Onwards)

Semester V	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs /Week	CREDITS
23UBT5CC8	BIOSTATISTICS	CORE COURSE – VIII	6	5

Course Objective

- **Explain** the basic concepts of statistics and sampling design.
- **Emphasize** analytical thinking to solve biological problems.
- **Explore** the mathematical methods formatted for major concepts.

Course Outcomes
Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Knowledge Level
CO1	Explain the basic concepts of biostatistics.	K1, K2
CO2	Classify the data in the respective area.	K3
CO3	Solve various types of problems in the corresponding stream	K3
CO4	Identify the properties of solutions in the core area.	K3
CO5	Discover the applications of Statistics in Biology.	K4

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	2	3	3	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	2	3
CO4	3	3	2	2	3	3	3	2	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation ¬   "2" – Moderate (Medium) Correlation ¬

"3" – Substantial (High) Correlation   ¬ "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction to Biostatistics:** Definition of Biostatistics- Development of Biostatistics-Application of Biostatistics-Role of Biostatistics- Definition of Statistics – Descriptive and Inferential Statistics-Some Definitions Concerning Statistics Inference – Data and its Collection-Classification of Data- Several Meaning of Statistics – Characteristic of Statistics- Importance and Usefulness of Statistics- Limitation of Statistics **Preliminary Concepts:** Variables and Constants – Population and Samples - Random Samples – Discrete and Continuous Variables – Relationship and Prediction – Variables in Biology – Derived Variables, Ratio , Index and Rates – Levels of Measurements of Biological Data – Parameter and Statistic	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Tabulation and Frequency Distribution:** Tabulation-Frequency Table of Frequency Distribution-Preparation of a Frequency Table-Relative Frequency Distribution-Cumulative Frequency Distribution. **Graphical Representation of Data:** Graphical Representation of Statistical Data-Advantages of Graphical Representation, Disadvantages of Graphical Representation-Types of Graphs-Modes of Graphical Representations of Data-Line Graph, Bar Diagram, Pie Chart(or) Circle Chart (or) Sector Chart-Pictograph (or) Pictogram-Graphical Representation of Grouped Data (Frequency Distribution)-Histogram-Construction of Histogram-Types of Histogram-Frequency Polygon-Comparison Between the Histogram and the Frequency Polygon- Frequency Curve-Cumulative Frequency Curve or Ogive.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Measures of Central Tendency:** Measures of central tendency or average – Characteristics of an Ideal Measure of Central Tendency-Arithmetic Mean, -Mean of Raw Data, Mean of Grouped data, Shortcut Method, Step Deviation Method. Weighted Arithmetic Mean-Combined Mean-Corrected Mean-Merits, Demerits and Uses of Arithmetic Mean. Median: Calculation of Median- Calculation of Median for Grouped Data- Calculation of Median for Continuous Series- Merits, Demerits and Uses of	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

	Median. Mode: Types of Model Series- Computation of Mode for Individual Series- Simple Series-Discrete frequency Distribution Series- Computation of Mode by Grouping Method- Computation of Mode in a Continuous frequency Distribution-Merits, demerits and Uses of Mode- Empirical Relation Between Mean, Median and Mode-Mid Range- Geometric Mean -Merits, Demerits and Uses of Geometric Mean. **Measures of dispersion:** 　　Variability – Range- Interquartile Range -Mean deviation (or) Average Deviation, Coefficient of Mean deviation -standard deviation-Merits, Demerits and Uses of Standard Deviation-Calculation of Standard Deviation –Individual Observation- Calculation of Standard Deviation –Discrete Series (or) Grouped Data-Calculation of Standard Deviation –Continuous Series.			
IV	**Skewness, Moments and Kurtosis:** 　　Skewness- Definition of Skewness- Positively and Negatively Skewness-Purpose of Skewness-Difference Between Dispersion and Skewness - Measures of Skewness- Relative Measures- Karl Pearson's Coefficient of Skewness- Bowley's Coefficient of Skewness. **Correlation Analysis:** 　　Correlation –Covariance –Calculation of Covariance- Correlation Analysis- Correlation and Coefficient of correlation-Properties of coefficient of correlation-correlation coefficient Calculated from Ungrouped Data-Spearman's Rank Correlation Coefficient. **Regression Analysis:** 　　Regression Analysis – Regression Coefficients-Properties of Regression Coefficients.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**HYPOTHESIS TESTING AND LARGE SAMPLES TESTS:** **Students' t-Test:** Introduction- Students' t-Distribution-Assumptions for t-Test-Properties of t- Distribution- Application of t-Distribution- Interval Estimate of Population Mean- Determination of Sample Size- Small (or Exact) Sample Tests-Computation of test Statistic: t- Values- Test of Significance of a Single Mean – Small Samples- Test of Significance of Difference between Two- Means Small Samples- Paired t- Test for Difference of Means (When the sample observations are not completely independent). **Chi-Square Test:** Chi-Square Test – Degrees of freedom- Chi-Square Distribution-Properties of χ^2 - Distribution- χ^2 - Test-	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

		Uses of χ^2 Test- Conditions for Using the Chi-Square Test- χ^2-Test for Goodness of Fit- χ^2 Distribution of Sample Variance- Testing a hypothesis about the Variance of a Normally Distributed Population. **F-test or Fisher's F test:** F-test or Fisher's F test-F- Statistic- Assumptions in F- Test- Tests of Hypothesis about the Variance of two Populations. Design of Experiments-Completely Randomized Design (CRD) (or) One-Way Classification-Randomized Block Design (RBD) (or) Two- way Classification.			
VI		**Self -Study for Enrichment:** **(Not included for End Semester Examination)** Kind of Statisticians – Accuracy and Precision - Harmonic Mean- Merits, Demerits and Uses of Harmonic Mean- Limits of Variability– Standard Error of Estimate or Prediction – Linear Regression Line or Equation.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Book

1. Arora. P. N, Malhan. P.K. (2020). *Biostatistics*. Himalaya Publishing house.
2. Subramani. K, Santha.A. (2021). *Statistics for Management*. Scitech Publications (India) Pvt. Ltd.

Chapters and Sections

UNIT-I   Chapter 1: Sections 1.1-1.13 [1]

Chapter 2: Sections 2.1-2.9 [1]

UNIT-II   Chapter 3: Sections 3.1-3.5 [1]

Chapter 4: Sections 4.1-4.13[1]

UNIT-III   Chapter 5 Sections 5.1-5.22 [1]

Chapter 6: Sections 6.1-6.10 [1]

UNIT- IV   Chapter 7: Sections 7. 1-7.9 [1]

Chapter 8: Sections 8. 1-8.6 [1]

Chapter 9: Sections 9. 1-9.3 [1]

UNIT- V   Chapter 13: Section 13.1-13.12 [1]

Chapter 14: Section 14.1-14.10 [1]

Chapter 15: Section 15.1-15.4 [1]

Chapter 3: Sections 3.16-3.18 [2]

Reference Books

1. Bernard Rosner. (2006). *Fundamentals of Biostatistics*. Lengage learning.
2. Norman. T. J, Bailey (2009). *Statistical methods in biology*. University press Cambridge Rastogi.
3. Bernard Rosner. (2010). *Fundamentals of Biostatistics*. 7 th edition, Lengage learning.
4. Pillai. R. S. N, Bagavathi. V. (2016). *Statistics Theory and Practice*, S.Chand.
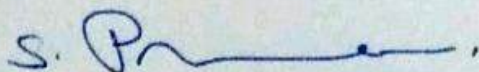
Web References

1. https://www.pinterest.com/pin/applications-and-limitations-biostatistics--295056213081622305/
2. https://old.amu.ac.in/emp/studym/100019402.pdf
3. https://www.geeksforgeeks.org/measure-of-dispersion/
4. https://www.cimt.org.uk/projects/mepres/alevel/stats_ch12.pdf
5. https://www.sagepub.com/sites/default/files/upm-binaries/40007_Chapter8.pdf
6. https://www.cimt.org.uk/projects/mepres/alevel/fstats_ch4.pdf
7. https://www.lkouniv.ac.in/site/writereaddata/siteContent/202004261258144523Anoop_Applied_ANNOVA.pdf
8. https://www2.sci.u-szeged.hu/eghajlattan/pdf/11-12%20Statistical%20tests%20anova.pdf

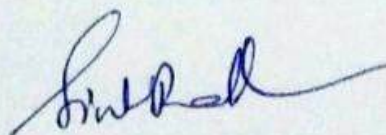## Pedagogy

Power point presentation, Group Discussion, Sseminar, Assignment.

CourseDesigners

Ms.P.Sangeetha

S. P

Dr. S. PREMALATHA, M.Sc.,M.Phil.,Ph.D.,
Professor & Head
PG & Research Department of Mathematics
Cauvery College for Women (Autonomous)
Annamalai Nagar, Trichy - 620 018.

DEAN OF SCIENCE
CAUVERY COLLEGE FOR WOMEN
(AUTONOMOUS)
ANNAMALAI NAGAR
TIRUCHIRAPPALLI - 620 018
TAMILNADU

Agenda for the Eleventh Meeting of BOS(Internal)

DATE: 15.10.2024
VENUE: D1
TIME: 12.00PM

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01
To consider and ratify the credits of V and VI Semester syllabus of **B.Sc. Mathematics** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02
To consider and ratify the credits of Core Course VIII of Semester V syllabus of **B.Sc. Biotechnology** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO. BOS/11/24/03
Any other matter with the permission of the Chair.

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Nationally Accredited (III Cycle) with A Grade by NAAC
Annamalai Nagar, Trichy -18.

PG & RESEARCH DEPARTMENT OF MATHEMATICS

MINUTES OF THE ELEVENTH MEETING OF THE BOS (Internal)

DATE: 15.10.2024

VENUE: D1

TIME: 12.00 P.M

Members Present:

1.	Dr. S. Premalatha	Chairperson, Professor & HOD
2.	Dr. G. Janaki	Member
3.	Dr. V. Geetha	Member
4.	Dr. S. Sasikala	Member
5.	Dr. S. Saridha	Member
6.	Dr. E. Litta	Member
7.	Dr. P. Shalini	Member
8.	Dr. P. Saranya	Member
9.	Dr. S. Vidhya	Member
10.	Dr. C. Saranya	Member
11.	Dr. L. Mahalakshmi	Member
12.	Dr. P. Geethanjali	Member
13.	Dr. R. Divya	Member
14.	Dr. K. Kalaiarasi	Member
15.	Ms. P. Sangeetha	Member
16.	Ms. V. Manimozhi	Member
17.	Dr. P. Sudha	Member
18.	Ms. R. Soundaria	Member
19.	Ms. A. Gowri Shankari	Member

ACTION TAKEN REPORT OF BOS HELD ON 15.10.2024

The BOS Meeting was held on 15.10.2024 at 12.00 P.M. The Chairman of the BOS read the minutes of the meeting and the following Resolutions were confirmed

- Ratification of Course Credit of V and VI Semester Syllabus of B.Sc. Mathematics for 2023-2024 batch and onwards.
- Ratification of Course Credit of V Semester Syllabus of B.Sc. Biotechnology for 2023-2024 batch and onwards.

MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 15.10.2024

RESOLUTION NO.BOS/11/24/01

Resolved and to approve the credits of Core Course IX, XI, XII and Discipline Specific Elective-I of Semester V and Core Course XIII, XIV and Discipline Specific Elective-II of Semester VI syllabus of **B.Sc. Mathematics** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy

1. Credit of Core Course IX – Abstract Algebra is changed as 5 with Course Code 23UMA5CC9.
2. Credit of Core Course XI– Statics is changed as 4 with Course Code 23UMA5CC11.
3. Credit of Core Course XII– Discrete Mathematics is changed as 4 with Course Code 23UMA5CC12.
4. Discipline Specific Elective -I(DSE): Credit is changed as 3.
5. Credit of Core Course XIII– Linear Algebra is changed as 4 with Course Code 23UMA6CC13
6. Credit of Core Course XIV – Complex Analysis is changed as 4 with Course Code 23UMA6CC14
7. Discipline Specific Elective -II(DSE): Credit is changed as 3.

RESOLUTION NO.BOS/11/24/02

Resolved and to approve the credits of Core Course VIII of Semester V syllabus of **B.Sc. Biotechnology** for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

Credit of Core Course-VIII – Biostatistics is changed as 5 with Course Code 23UBT5CC8

Dr.C.Saranya, Associate Professor expressed her gratitude for the valuable suggestions given by the internal and external BOS members during the BOS meetings for the period 2023-2024 and thanked all the members of BOS in the Vote of Thanks.

Chairman of the Board

Dr. S. PREMALATHA, M.Sc.,M.Phil.,Ph.D.,
Professor & Head
PG & Research Department of Mathematics
Cauvery College for Women (Autonomous)
Annamalai Nagar, Trichy - 620 018.

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018

PG & Research Department of Mathematics

XI Board of Studies Meeting Held on 15-10-2024

1. Introduction of new courses from the academic year 2023 -2024 based on the feedback collected from various stake holders

The Chairman of the Board Dr. S. Premalatha, proposed the introduction of the following new course(s) in the curriculum of the B.Sc., Mathematics and M.Sc., Mathematics from the academic Year 2023 - 2024.

Name of the programme	Name of the Course	Course Code	Year of introduction
B.Sc., Mathematics	–	–	–
M.Sc., Mathematics	–	–	–

2. Revision of syllabus of the existing courses from the academic year 2023 – 2024 based on the feedback collected from various stake holders

The Chairman of the Board, Dr. S. Premalatha, proposed the revision of syllabus in the curriculum of the B.Sc., Mathematics and M.Sc., Mathematics from the academic Year 2023 - 2024
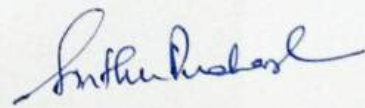
Name of the programme	Name of the Course	Course Code	Core/Elective	% of Content added or replaced
B.Sc., Mathematics	-	-	-	-
M.Sc., Mathematics	-	-	-	-

Chairman of the Board

Dr. S. PREMALATHA, M.Sc.,M.Phil.,Ph.D.,
Professor & Head
PG & Research Department of Mathematics
Cauvery College for Women (Autonomous)
Annamalai Nagar, Trichy - 620 018.

Dean of Science
DEAN OF SCIENCE
CAUVERY COLLEGE FOR WOMEN
(AUTONOMOUS)
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Tiruchirappalli, Tamil Nadu 620018, India
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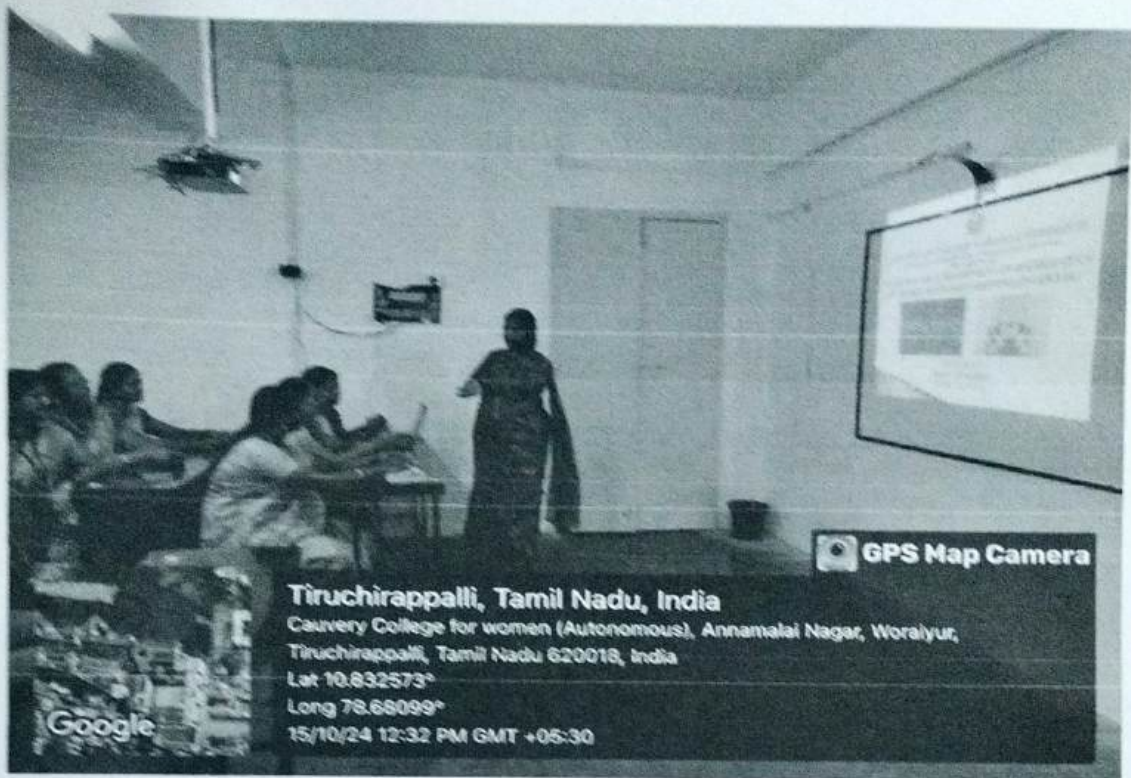
ANNEXURE J

Cauvery College for Women (Autonomous)
PG & Research Department of Physics
B.Sc., Physics
LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS-LOCF)

(For the Candidates admitted from the Academic year 2023-2024 and onwards)

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Int	Ext	Total
I	I	Language Course-I (LC)	பொதுத்தமிழ் – I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I- French I	23ULF1						
	II	English Language Course- I(ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I(CC)	Properties of Matter and Acoustics	23UPH1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Properties of Matter and Acoustics (P)	23UPH1CC1P	3	3	3	40	60	100
		First Allied Course- I (AC)	Calculus and Fourier Series	22UPH1AC1	4	3	3	25	75	100
		First Allied Course- II (AC)	Algebra, Analytical Geometry of 3D & Trigonometry	22UPH1AC2	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**22**				**700**
II	I	Language Course-II (LC)	பொதுத்தமிழ் – II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar –II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French – II	22ULF2						
	II	English Language Course- II(ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Mechanics and Relativity	22UPH2CC2	5	5	3	25	75	100
		Core Practical - II (CP)	Mechanics and Digital Electronics (P)	23UPH2CC2P	3	3	3	40	60	100
		Core Course -III (CC)	Introduction to Digital Electronics	23UPH2CC3	2	2	3	25	75	100
		First Allied Course –III (AC)	ODE, PDE, Laplace Transforms and Vector Analysis	22UPH2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course-III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**800**

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Marks Int	Marks Ext	Total
III	I	Language Course-III (LC)	பொதுத்தமிழ் – III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar –III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French-I	22ULF3						
	II	English Language Course-III(ELC)	Learning Grammar Through Literature – I	23UE3	6	3	3	25	75	100
	III	Core Course– IV (CC)	Thermal Physics and Statistical Mechanics	23UPH3CC4	5	5	3	25	75	100
		Core Practical – III (CP)	Thermal Physics (P)	23UPH3CC3P	3	3	3	40	60	100
		Second Allied Course-I (AC)	Chemistry – I	22UPH3AC4	4	3	3	25	75	100
		Second Allied Course- II (AP)	Chemistry-I (P)	22UPH3AC5P	4	3	3	40	60	100
	IV	Generic Elective Course-I (GEC)	Physics in Everyday Life	22UPH3GEC1	2	2	3	25	75	100
			Basic Tamil – I	22ULC3BT1						
			Special Tamil – I	22ULC3ST1						
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Marks Int	Marks Ext	Total
IV	I	Language Course - IV (LC)	பொதுத்தமிழ் – IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French -II	22ULF4						
	II	English Language Course – IV(ELC)	Learning Grammar Through Literature– II	23UE4	6	3	3	25	75	100
	III	Core Course – V (CC)	Electricity, Magnetism and Electromagnetism	23UPH4CC5	6	5	3	25	75	100
		Core Practical – IV (CP)	Electricity and Magnetism (P)	23UPH4CC4P	4	4	3	40	60	100
		Second Allied Course- III (AC)	Chemistry – II	22UPH4AC6	4	3	3	25	75	100
		Internship	Internship	22UPH4INT	-	2	-	25	75	100
	IV	Generic Elective Course- II(GEC)	Photography and Videography	22UPH4GEC2	2	2	3	25	75	100
			Basic Tamil – II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course – I(SEC)	Web Designing (P)	22UPH4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**24**				**800**

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Int	Ext	Total
V	III	Core Course – VI (CC)	Optics	23UPH5CC6	6	5	3	25	75	100
		Core Practical – V (CP)	General and Electronics (P)	22UPH5CC5P	3	3	3	40	60	100
		Core Course – VII (CC)	Atomic and Nuclear Physics	23UPH5CC7	6	5	3	25	75	100
		Core Course – VIII (CC)	Analog Electronics	23UPH5CC8	6	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A. Materials Science	23UPH5DSE1A	5	3	3	25	75	100
			B. Laser Physics	23UPH5DSE1B						
			C. Astrophysics and Cosmology	23UPH5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV(AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	Physics concepts through Animation (P)	22UPH5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
				Total	**30**	**25**				**700**
VI	III	Core Course – IX (CC)	Fundamentals of Microprocessor	23UPH6CC9	6	5	3	25	75	100
		Core Course – X (CC)	Classical and Quantum Physics	23UPH6CC10	5	4	3	25	75	100
		Core Practical –VI (CP)	Electronics and Microprocessor (P)	22UPH6CC6P	3	3	3	40	60	100
		Core Course – XI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective – II (DSE)	A. Communication Physics	23UPH6DSE2A	5	3	3	25	75	100
			B. Computational Physics	23UPH6DSE2B						
			C. Medical Physics	23UPH6DSE2C						
		Project	Project Work	22UPH6PW	5	4	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V(AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity		22UGEA	0	1	0	-	-	-
				Total	**30**	**25**				**700**
				Grand Total	**180**	**140**				**4400**

Cauvery College for Women (Autonomous)

PG & Research Department of Physics

M.Sc., Physics

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS – LOCF)

(For the Candidates admitted from the Academic year 2023-2024 and onwards)

Sem	Course	Title	Course Code	Ins. Hr Week	Credits	Exam Hrs	Int	Ext	Total
IV	Core Course-VIII (CC)	Nuclear and Particle Physics	22PPH4CC8	6	5	3	25	75	100
	Core Choice Course - III (CCC)	Advanced Optics and Spectroscopy	22PPH4CCC3A	6	4	3	25	75	100
		Plasma Physics	23PPH4CCC3B						
		Space Physics	22PPH4CCC3C						
	Core Practical - IV(CP)	Electronics (P)	23PPH4CC4P	6	5	3	40	60	100
	Generic Elective Course -II (GEC)	Troubleshooting and Repairing Domestic Appliances	22PPH4GEC2	3	2	3	25	75	100
	Project	Project Work	23PPH4PW	9	4	-	-	100	100
			Total	**30**	**20**	-	-	-	**500**
			Grand Total	**120**	**90**	-	-	-	**2200**

SEMESTER - IV	INTERNAL MARKS: 40	EXTERNAL MARKS: 60		
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23PPH4CC4P	ELECTRONICS (P)	CP-IV	6	5

Course Objectives

- To understand the different types electronic devices.
- To study the different applications of Operational Amplifier circuits.
- To acquire knowledge about combinational logic circuits.
- To learn about sequential logic circuits.
- To understand the concepts involved in logical circuits using IC's.

Pre-requisites

- Basic knowledge on usage of scientific apparatus.
- Hands on experience of simple general and electronics experiments.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Acquire basic knowledge of digital logic levels and its application.	K2
CO2	Analyse and construct combinational logic circuits.	K3,K4
CO3	Demonstrate practical skills in functioning and testing the digital system	K5
CO4	Evaluate the results acquired.	K5
CO5	Take projects in electronics relevant to industrials.	K6

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO 1	3	3	2	1	3	2	2	1	1	3
CO 2	2	2	2	1	3	2	2	1	1	2
CO 3	3	3	2	1	3	3	2	1	1	2
CO 4	3	3	3	1	3	3	3	1	1	2
CO 5	3	3	3	1	3	3	3	1	1	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation

"3" – Substantial (High) Correlation   "-" – indicates there is no correlation.

SYLLABUS
LIST OF EXPERIMENTS (Any 10)

1. Verification of De'morgan's theorems and simplification of Boolean expression.

2. Construction of Counters using IC 7490.

3. Study of open loop differential gain using OP-AMP

4. Study of Multiplexer and Demultiplexer.

5. Study of Filters using OP-AMP

6. Study of Inverting Amplifier using OP-AMP.

7. Study of Non -Inverting Amplifier using OP-AMP.

8. Study of Shift Register using 7495.

9. Construction and Study of Monostable Multivibrator using OP-AMP.

10. Generation of waveforms using OP-AMP.

11. Construction and study of Half and Full Adder, Half and Full Subtractor using NAND and NOR gates.

12. Study of BCD to Seven Segment Display.

13. Study of the I-V Characteristics and efficiency of Solar cell.

14. Construction and study of Schmitt Trigger using IC 555.

Text Books
1. Ouseph, C.C., Rao, U.J., & Vijayendran, V., (2009). *Practical Physics and Electronics*. S.Viswanathan, Printers & Publishers Pvt Ltd.
2. Dr.Somasundaram, S., (2012). *Practical Physics*. Apsara Publications.

Reference Books
1. Dunlap, R.A., (1988). *Experimental Physics: Modern Methods*. Oxford University Press, New Delhi.
2. Jones, B.K., (1986). *Electronics for Experimentation and Research*. Prentice-Hall.
3. Zbar, P.B., Malvino, A.P., & Miller, M.A., (1994). *Basic Electronics: A Text-Lab Manual.* Tata Mc-Graw Hill, New Delhi.

Web References
1. http://vlabs.iitkgp.ernet.in/dec/exp3/index.html
2. https://he-coep.vlabs.ac.in/exp/decoders-encodersmultiplexer-demultiplexer/theory.html
3. https://de-iitr.vlabs.ac.in/exp/half-full-adder/
4. https://de-iitg.vlabs.ac.in/exp/bcd-to-led/simulation.html

Pedagogy

Demonstration, practical sessions and viva voce

Course Designer
Dr.G.Maheswari

MINUTES OF THE BOARD OF STUDIES MEETING OF PG & RESEARCH DEPARTMENT OF PHYSICS, CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS) HELD ON 16.10.2024, 12.00 pm.

The following members attended the meeting:

1.	Dr.G.Maheswari	Chairperson & Head
2.	Dr.S.Gowri	Member
3.	Dr.R.Gayathri	Member
4.	Dr.R.Meenakshi	Member
5.	Dr.S.Priya	Member
6.	Dr.D.Devi	Member
7.	Dr.A.MaryGirija	Member
8.	Dr.K.Kannagi	Member
9.	Dr.T.Noorunnisha	Member
10.	Dr.R.Mekala	Member
11.	Ms R.Sona	Student
12.	Ms M.Kaviya	Student

The leave of absence was granted to Dr.R.Meenakshi.

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01

      To consider and to approve the syllabus of V and VI Semester for B.Sc., Physics (2023-2024 batch and onwards) and recommend to the Academic Council, Cauvery College for Women (Autonomous), Tiruchirappalli-18.

ITEM NO: BOS/11/24/02

      To consider and approve the ratification of Credits of the following Core Courses and Discipline Specific Elective Courses I & II in V and VI Semester syllabus of B.Sc., Physics for 2023-2024 batch and onwards.

- Credit of CC- VI- Optics is changed as 5 with Course Code of 23UPH5CC6
- Credit of CC- VII - Atomic and Nuclear Physics changed as 5 with Course Code of 23UPH5CC7
- Credit of CC- VIII - Analog Electronics changed as 5 with Course Code of 23UPH5CC8
- Credit of DSE – I changed as 3 with Course Code of
    1. Materials Science - 23UPH5DSE1A
    2. Laser Physics - 23UPH5DSE1B
    3. Astrophysics and Cosmology - 23UPH5DSE1C
- Credit of CC- IX - Fundamentals of Microprocessor changed as 5 with Course Code of 23UPH6CC9
- Credit of CC- X- Classical and Quantum Physics changed as 4 with Course Code of 23UPH6CC10
- Credit of DSE – II changed as 3 with Course Code of
    1. Communication Physics - 23UPH6DSE2A
    2. Computational Physics - 23UPH6DSE2B
    3. Medical Physics - 23UPH6DSE2C

Dr.G. Maheswari, Chairperson; Head, PG & Research Department of Physics extended the warm welcome to the members. Discussions based on the agenda were carried out.

ITEM NO: BOS/11/24/03

To consider and to approve the syllabus of IV Semester for M.Sc., Physics (2023-2024 batch and onwards) and recommend to the Academic Council, Cauvery College for Women (Autonomous), Tiruchirappalli-18.

RESOLUTION NO: BOS/11/24/01

Considered and approved the syllabus of V and VI Semester for B.Sc., Physics (2023-2024 batch and onwards) and recommend to the Academic Council, Cauvery College for Women (Autonomous), Tiruchirappalli-18.

RESOLUTION NO: BOS/11/24/02

Considered and approved the ratification of Credits of the following Core Courses and Discipline Specific Elective Courses I &II in V and VI Semester syllabus of B.Sc., Physics for 2023-2024 batch and onwards.

Credit of CC- VI- Optics is changed as 5 with Course Code of 23UPH5CC6

- Credit of CC- VII - Atomic and Nuclear Physics changed as 5 with Course Code of 23UPH5CC7
- Credit of CC- VIII - Analog Electronics changed as 5 with Course Code of 23UPH5CC8
- Credit of DSE – I changed as 3 with Course Code of
    1. Materials Science - 23UPH5DSE1A
    2. Laser Physics - 23UPH5DSE1B
    3. Astrophysics and Cosmology - 23UPH5DSE1C
- CC- IX - Fundamentals of Microprocessor changed as 5 with Course Code of 23UPH6CC9
- CC- X- Classical and Quantum Physics changed as 4 with Course Code of 23UPH6CC10
- Credits of DSE – II changed as 3 with Course Code of
    1. Communication Physics - 23UPH6DSE2A
    2. Computational Physics - 23UPH6DSE2B
    3. Medical Physics - 23UPH6DSE2C

RESOLUTION NO: BOS/11/24/03

Considered and approved the syllabus of IV Semester for M.Sc., Physics 2023-2024 batch and onwards.

Core Practical IV- Electronics (P) has been revised and the Course Code changed as 23PPH4CC4P

Ratification of Credits in Project work (23PPH4PW) in IV Semester of M.Sc., Physics for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Tiruchirappalli-18

ANNEXURE K

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

PG AND RESEARCH DEPARTMENT OF CHEMISTRY

B.Sc. CHEMISTRY

(For the Candidates admitted from the Academic year 2023 - 2024 and onwards)

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / Week	Credits	Exam Hrs.	Int.	Ext.	Total
I	I	Language Course - I (LC)	Pothutamil-I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I – French I	23ULF1						
	II	English Language Course - I (ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course - I (CC)	General Chemistry-I	23UCH1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Quantitative Inorganic Estimation (Titrimetry) and Inorganic Preparations (P)	23UCH1CC1P	3	3	3	40	60	100
		First Allied Course - I (AC)	Calculus and Fourier Series	22UCH1AC1A	4	3	3	25	75	100
			Biology – I	23UCH1AC1B						
		First Allied Course - II (AC)	Algebra, Analytical Geometry of 3D & Trigonometry	22UCH1AC2A	4	3	3	25	75	100
			Biology (P)	23UCH1AC2BP				40	60	
	IV	Ability Enhancement Compulsory Course - I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
				Total	**30**	**22**				**700**
II	I	Language Course - II (LC)	Pothutamil -II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar – II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French – II	22ULF2						
	II	English Language	General English– II	23UE2	6	3	3	25	75	100

					H	C	D	Int	Ext	Total
		Course - II (ELC)								
		Core Course - II (CC)	Inorganic and Physical Chemistry	23UCH2CC2	5	5	3	25	75	100
		Core Practical - II (CP)	Inorganic Materials of Industrial Importance (P)	23UCH2CC2P	3	3	3	40	60	100
	III	Core Course - III (CC)	Material Science	23UCH2CC3	2	2	3	25	75	100
		First Allied Course - III (AC)	ODE, Laplace Transforms and Statistics	22UCH2AC3A	4	3	3	25	75	100
			Biology – II	23UCH2AC3B						
		Ability Enhancement Compulsory Course - II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
	IV	Ability Enhancement Compulsory Course - III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
			Total		**30**	**22**				**800**
	I	Language Course - III (LC)	Pothutamil-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar – III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French – I	22ULF3						
	II	English Language Course - III (ELC)	Learning Grammar through Literature – I	23UE3	6	3	3	25	75	100
		Core Course - IV (CC)	Organic and Analytical Chemistry	23UCH3CC4	5	5	3	25	75	100
		Core Practical - III(CP)	Analysis and Preparation of Organic Compounds (P)	22UCH3CC3P	3	3	3	40	60	100
III	III	Second Allied Course - I (AC)	Physics – I	22UCH3AC4	4	3	3	25	75	100
		Second Allied Course - II (AP)	Physics -I (P)	22UCH3AC5P	4	3	3	40	60	100
	IV	Generic Elective Course - I (GEC)	Chemistry in Everyday life	22UCH3GEC1	2	2	3	25	75	100
			Basic Tamil-I	22ULC3BT1						
			Special Tamil-I	22ULC3ST1						
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
			Total		**30**	**22**				**700**
		15 Days INTERNSHIP during Semester Holidays								
IV	I	Language	Puthutamil- IV	23ULT4	6	3	3	25	75	100

		Course - IV (LC)	Hindi Literature and Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French – II	22ULF4						
	II	English Language Course - IV (ELC)	Learning Grammar through Literature – II	23UE4	6	3	3	25	75	100
	III	Core Course - V(CC)	Inorganic and Organic Chemistry	23UCH4CC5	6	5	3	25	75	100
		Core Practical - IV(CP)	Inorganic Qualitative Analysis (P)	22UCH4CC4P	4	4	3	40	60	100
		Second Allied Course - III (AC)	Physics – II	22UCH4AC6	4	3	3	25	75	100
		Internship	Internship	22UCH4INT	-	2	-	-	100	100
	IV	Generic Elective Course - II (GEC)	Food Adulterants and Health Care	22UCH4GEC2	2	2	3	25	75	100
			Basic Tamil-II	22ULC4BT2						
			Special Tamil-II	22ULC4ST2						
		Skill Enhancement Course - I (SEC)	Chemistry of Consumer Products (P)	22UCH4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
				Total	**30**	**24**				**800**
V	III	Core Course - VI(CC)	Inorganic Chemistry	23UCH5CC6	6	5	3	25	75	100
		Core Practical - V(CP)	Physical Chemistry (P)	22UCH5CC5P	3	3	3	40	60	100
		Core Course - VII(CC)	Organic Chemistry – I	23UCH5CC7	6	5	3	25	75	100
		Core Course - VIII(CC)	Physical Chemistry – I	23UCH5CC8	6	5	3	25	75	100
		Discipline Specific Elective - I (DSE)	A. Nuclear and Industrial Chemistry	23UCH5DSE1A	5	3	3	25	75	100
			B. Basics of Nanoscience and Nanotechnology	23UCH5DSE1B						
			Polymer Chemistry	23UCH5DSE1C						
	IV	Ability Enhancement Compulsory Course - IV(AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course - II (SEC)	Water Analysis (P)	22UCH5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation Extra Credit Course						

					Total	30	25				700
VI	III	Core Course - IX(CC)	Organic Chemistry – II	22UCH6CC9		5	5	3	25	75	100
		Core Course - X (CC)	Physical Chemistry – II	23UCH6CC10		6	4	3	25	75	100
		Core Course - XI (CC)	Cyber Security	22UGCS		5	4	3	25	75	100
		Core Practical - VI (CP)	Gravimetric Analysis and Physical Parameter (P)	23UCH6CC6P		4	3	4	40	60	100
		Discipline Specific Elective - II (DSE)	A. Analytical Techniques(P)	23UCH6DSE2AP		4	3	3	40	60	100
			B. Cosmetic Chemistry (P)	23UCH6DSE2BP							
			C. Analysis of Herbal Products (P)	23UCH6DSE2CP							
		Project	Project Work	22UCH6PW		5	4	-	-	100	100
	V	Gender Studies	Gender Studies	22UGGS		1	1	-	100	-	100
		Extension activity		22UGEA		0	1	0	-	-	-
					Total	30	25				700
					Grand Total	180	140				4400

Courses & Credits for UG Science Programmes

Part	Course	No. of Courses	Credits	Total Credits
I	Tamil/ Other Language	4	12	12
II	English	4	12	12
III	Core (Theory & Practical)	17	69	
	Project Work	1	4	
	Internship	1	2	
	First Allied	3	9	99
	Second Allied	3	9	
	DSE	2	6	
IV	GEC	2	4	
	SEC	2	4	
	AECC-I -Universal Human Values	1	2	15
	AECC-II-Environmental Studies	1	2	
	AECC-III-Innovation and Entrepreneurship	1	1	
	AECC-IV Professional Skills	1	2	
V	Gender Studies	1	1	02
	Extension Activities	_	1	
		44		**140**

*For BSc Mathematics & BCA

The Internal and external marks for theory and practical papers are as follows:

Subject	Internal Marks	External Marks
Theory	25	75
Practical	40	60

For Theory:
a)   The passing minimum for CIA shall be 40% out of 25 marks (i.e. 10 marks)
b)   The passing minimum for End Semester Examinations shall be 40% out of 75 marks (i.e. 30 marks)

For Practical:
a)   The passing minimum for CIA shall be 40% out of 40 marks (i.e. 16 marks)
b)   The passing minimum for End Semester Examinations shall be 40% out of 60 marks (i.e. 24 marks)

Component	Marks
Library	05
Assignment & Seminar	10
CIA -I	05
CIA-II	05
Total	**25**

Internal Component (Theory)

Component	Marks
Observation	05
Record	10
Continual performance	10
Model	15
Total	**40**

Internal Component (Practical)

Question Paper Pattern

Answer all the questions
   PART A   (20X1=20)

Answer all the questions
   PART B   (5X5=25)

Answer any three questions
   PART C   (3X10=30)

		Core Course - VI(CC)	Inorganic Chemistry	23UCH5CC6	6	5	3	25	75	100
		Core Practical - V(CP)	Physical Chemistry (P)	22UCH5CC5P	3	3	3	40	60	100
		Core Course - VII(CC)	Organic Chemistry – I	23UCH5CC7	6	5	3	25	75	100
	III	Core Course - VIII(CC)	Physical Chemistry – I	23UCH5CC8	6	5	3	25	75	100
		Discipline Specific Elective - I (DSE)	A. Nuclear and Industrial Chemistry	23UCH5DSE1A	5	3	3	25	75	100
			B. Basics of Nanoscience and Nanotechnology	23UCH5DSE1B						
V			Polymer Chemistry	23UCH5DSE1C						
	IV	Ability Enhancement Compulsory Course - IV(AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course - II (SEC)	Water Analysis (P)	22UCH5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation Extra Credit Course						
			Total		**30**	**25**				**700**
		Core Course - IX(CC)	Organic Chemistry – II	22UCH6CC9	5	5	3	25	75	100
		Core Course - X (CC)	Physical Chemistry – II	23UCH6CC10	6	4	3	25	75	100
		Core Course - XI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
VI	III	Core Practical - VI (CP)	Gravimetric Analysis and Physical Parameter (P)	23UCH6CC6P	4	3	4	40	60	100
		Discipline Specific Elective - II (DSE)	A. Analytical Techniques(P)	23UCH6DSE2AP	4	3	3	40	60	100
			B. Cosmetic Chemistry (P)	23UCH6DSE2BP						
			C. Analysis of Herbal Products (P)	23UCH6DSE2CP						
		Project	Project Work	22UCH6PW	5	4	-	-	100	100
	V	Gender Studies	Gender Studies	22UGGS	1	1	-	100	-	100
		Extension activity		22UGEA	0	1	0	-	-	-
			Total		**30**	**25**				**700**
			Grand Total		**180**	**140**				**4400**

Semester V	Internal Marks:25		External Marks:75		
COURSECODE	**COURSETITLE**		**CATEGORY**	**Hrs/ Week**	**CREDITS**
23UCH5CC6	**INORGANIC CHEMISTRY**		**Core Course**	**6**	**5**

Course Objective:

➢ To understand the structure, function and mechanism of metal and metal complexes.
➢ To impart basics and theories of coordination compounds.
➢ To study biologically important coordination compounds and biological elements

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Explain the importance of biological elements and reactions of complexes.	K1, K2
CO2	Recognize the basic concepts of co-ordination and bioinorganic chemistry	K3
CO3	Examine the Werner theory, 10 Dq and MO diagramof octahedral complexes and biological functions of elements	K3
CO4	Analyze calcination, roasting, Sidgwick theory, stability, magnetic property of metal complexes and excess and deficiency of trace elements	K4
CO5	Criticize metallurgical process, VB, CFSE, MO theories and reactions of coordination compounds.	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	2	3	3	3	3	3
CO2	3	2	2	3	2	2	3	3	3	2
CO3	3	3	3	2	2	3	2	2	2	3
CO4	3	3	3	2	3	3	2	2	2	3
CO5	3	3	2	3	3	3	3	2	3	3

"1"–Slight (Low)Correlation   "2"–Moderate(Medium)Correlation
"3"–Substantial (High)Correlation   "-"indicates there is no correlation

Syllabus

Unit	Content	Hours	COs	Cognitive Level
I	**UNIT-I Coordination Compounds –I** Introduction – classification of ligands – uses of chelates - nomenclature of coordination compounds- isomerism-structural isomerism – stereo isomerism - bonding theories - Werner's theory -Sidgwick's concept of coordination - Valence bond theory – postulates - geometries of tetrahedral - square planar and octahedral complexes - limitations.	**18**	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
II	**UNIT-II: Coordination Compounds –II** Crystal filed theory - shapes of d orbitals- assumptions- splitting of d-orbitals in octahedral- tetrahedral and square-planar complexes - crystal fieldstabilization energy- factors affecting magnitude of 10Dq – color of the transition metal complexes – number of unpaired electron - magnetic properties ofoctahedral complexes– spectro chemical series – Jahn -Teller theorem.	**18**	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
III	**UNIT -III: Stability of Metal Complex** Labile and inert complexes - thermodynamic stability and kinetic stability-stepwise and overall formation constant-Relation between β_n and K_n - factors affecting stability of metal complexes- chelate effect – Experimental determination of stability constant and composition of complex.	**18**	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
IV	**UNIT-V: Ligand substitution reactions** Types of substitution reaction – Nucleophilic – Electrophilic substitution reactions – hydrolysis reaction – Acid hydrolysis - base hydrolysis of octahedral complexes – Anation reaction- Substitution reaction in square planar complexes - trans effect – Theories of trans effect - applications.Mechanism of substitution reaction in Pt(II) complexes- Factors affecting rate of substitution.	**18**	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5

V	UNIT V: Bioinorganic Chemistry		CO1	K1
	Metal ions present in biological systems, classification of elements according to their action in biological system. Na/K-pump, carbonic anhydrase and carboxypeptidase. Excess and deficiency of some trace metals. Toxicity of metal ions (Hg, Pb, Cd and As), reasons for toxicity, Use of chelating agents in medicine. Iron and its application in bio-systems, Haemoglobin and myoglobin	18	CO2	K2
			CO3	K3
			CO4	K4
			CO5	K5
VI	Self-study: **(Not to be included for End Semester Examination)**		CO1	K1
	Diagonal, trigonal and tetragonal distortion, instability constant – John Teller Distortion stabilization Energy		CO2	K2
			CO3	K3

Text Books:

1. Malik, W. U., Tuli, G. D., & Madan, R. D. (1998). Selected topics in inorganic chemistry. S. Chand Publishing.

2. Housecroft, C. E., & Sharpe, A. G. (2008). Inorganic chemistry (Vol. 1). Pearson Education.

3. Cotton, F. A., Wilkinson, G., Murillo, C. A., & Bochmann, M. (1999). Advanced inorganic chemistry. John Wiley & Sons.

4. Madan, R. D. (2019). Satya Prakash's Modern Inorganic Chemistry. S. Chand Publishing.

5. Prakash, S., Tuli, G. O., Basu, S. K., & Madan, R. D. (2000). Advanced Inorganic Chemistry, Vol 2, S. Chand Group, New Delhi, India.

6. Huheey J. E., Keiter E. A. and Keiter R. L., Inorganic Chemistry – Principles of structure and reactivity, Pearson Education, 4th Ed. 2002.

Reference Books:

1. Chhatwal, G. R., & Mehra, H. (1974). Advanced inorganic chemistry.
2. Sharma, R. K. (2007). Text Book of Coordination Chemistry. Discovery publishing house.
3. Gopalan, R. (2001). Concise coordination chemistry. Vikas publishing house.

4. Srivastva, A. N. (Ed.). (2020). Stability and Applications of Coordination Compounds. BoD–Books on Demand.

5. Raj, G. (2010). Advanced Inorganic Chemistry: Vollume II. Krishna Prakashan Media.

Web Reference:

1. https://download.e-bookshelf.de/download/0000/5777/25/L-G-0000577725-0002359455.pdf

2. https://www2.chemistry.msu.edu/courses/cem151/chap24lect_2019.pdf

3. https://www.scribd.com/document/464488620/INTRODUCTION-TO-COORDINATION-CHEMISTRY

4. https://egyankosh.ac.in/bitstream/123456789/71758/3/Unit-4.pdf

5. https://teachmint.storage.googleapis.com/public/555766642/StudyMaterial/4730da7d-1f2a-4a70-a473-0cc7cd84dc13.pdf

6. https://webstor.srmist.edu.in/web_assets/srm_mainsite/files/downloads/Essential_Trace)Elements.pdf

7. https://aiimsrishikesh.edu.in/documents/195_hb_structure_and_function_mbbs_2017_batch.pdf

8. https://www.arsdcollege.ac.in/wp-content/uploads/2020/04/Use-of-chelating-agents-in-medicine.pdf

Pedagogy

Chalk and talk, PPT, You tube, E-content, Group Discussion, Assignment, Quiz and Seminar.

Course Designers

Dr. C. Rajarajeswari

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

PG AND RESEARCH DEPARTMENT OF CHEMISTRY

M.Sc. CHEMISTRY

(For the Candidates admitted from the Academic year 2024 - 2025 and onwards)

Semester	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Exam Marks Int.	Exam Marks Ext.	Total
II	Core Course– IV (CC)	Physical Chemistry – I	23PCH2CC4	6	5	3	25	75	100
	Core Practical – II (CP)	Organic Chemistry – II (P)	22PCH2CC2P	6	5	6	40	60	100
	Core Choice Course– I (CCC)	A. Organic Reaction Mechanism – II	23PCH2CCC1A	6	4	3	25	75	100
		B. Chemistry of Natural Products	23PCH2CCC1B						
		C. Molecular Rearrangement	23PCH2CCC1C						
	Core Practical – III (CP)	Inorganic Chemistry– I (P)	22PCH2CC3P	6	5	6	40	60	100
	Discipline Specific Elective Course-II (DSE)	A. Green Chemistry	23PCH2DSE2A	6	3	3	25	75	100
		B. Forensic Chemistry	23PCH2DSE2B						
		C. Analytical Chemistry	23PCH2DSE2C						
	Internship	Internship	23PCH2INT	-	2	-	-	100	100
	Extra Credit Course	SWAYAM	As per UGC Recommendation						
	Total			**30**	**24**				**600**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Nationally Accredited (III Cycle) with A Grade by NAAC
ISO 9001:2015 Certified
Annamalai Nagar, Tiruchirappalli
PG & RESEARCH DEPARTMENT OF CHEMISTRY

<u>Agenda for the Eleventh BoS Meeting</u>

   DATE   :   17.10.2024
   VENUE :   B 42
   TIME   :   2:00 pm

<u>The agenda for the meeting is as follows:</u>

ITEM NO: BOS/24/11/01

   To consider and to approve the ratification in the credits of V and VI Semester syllabus of B.Sc.,
   Chemistry for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery
   College for Women (Autonomous), Trichy.

ITEM NO: BOS/24/11/02

   To consider and to approve the ratification in the syllabus of Core Course VI of Semester V of
   B.Sc., Chemistry for 2023-2024 batch and onwards and recommend to the Academic Council,
   Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/24/11/03

   To consider and to approve the ratification in II Semester Core Practical II and Core Practical III
   syllabus of M.Sc., Chemistry for 2024- 2025 batch and onwards and recommend to the
   Academic Council, Cauvery College for Women (Autonomous), Trichy.

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MINUTES OF THE ELEVENTH BOS MEETING

DATE   :   17.10.2024
VENUE: B 42
TIME   :   2.00 p.m.

Members Present:

1.	Dr. P. Pungayee Alias Amirtham	Chairperson & Head
2.	Dr. G. Sivasankari	Member
3.	Dr. A. Sharmila	Member
4.	Dr. P. Thamizhini	Member
5.	Dr. V. Sangu	Member
6.	Dr. C. Rajarajeswari	Member
7.	Dr. R. Subha	Member
8.	Dr. K. Uma Sivakami	Member
9.	Dr. S. Devi	Member
10.	Dr. N. Anusuya	Member
11.	Ms. S. Sarviya	Student Member
12.	Ms. N. Ramya	Student Member

ACTION TAKEN REPORT OF THE BOS HELD ON 06.04.2024

The BoS Meeting was held on 06.04.2024 at 10:30 a.m. The Chairman of the BoS read the minutes of the meeting and the following Resolutions were confirmed

- ➤ Confirmation of VI Semester syllabus of B.Sc. Chemistry for 2022-2023 batch and onwards.

- ➤ Confirmation of Core Course IV syllabus of Semester III and Credits of Core

Course V of Semester IV of B.Sc. Chemistry for 2023-2024 batch and onwards.

- ➤ Confirmation of III Semester and IV Semester Syllabus of M.Sc. Chemistry for 2023-2024 batch and onwards.
- ➤ Confirmation of I Semester Core practical -I and Discipline Specific Elective -I syllabus of M.Sc., Chemistry for 2024-2025 batch and onwards.
- ➤ Confirmation of Value -Added Course syllabus offered by the PG and Research Department of Chemistry for the year 2024 -2025.

MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 17.10.2024

RESOLUTION No. BOS/24/11/01

To consider and to approve the ratification in the credits of V and VI Semester syllabus of B.Sc., Chemistry for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18. with the following revision.

V SEMESTER OF 2023-2024 BATCH AND ONWARDS

1.Core Course -VI:23UCH5CC6- INORGANIC CHEMISTRY

- ➤ Credit of this course has been reduced from 6 to 5

2.Core Course-VII :23UCH5CC7-ORGANIC CHEMISTRY-I

- ➤ Credit of this course has been reduced from 6 to 5

3. Core Course-VIII :23UCH5CC8- PHYSICAL CHEMISTRY-I

- ➤ Credit of this course has been reduced from 6 to 5

4. Discipline Specific Elective -I

- ➤ Credit of this course has been reduced from 4 to 3

VI SEMESTER OF 2023-2024 BATCH AND ONWARDS

1.Core Course-X: 23UCH6CC10- Physical Chemistry-II

- ➤ Credit of this course has been reduced from 5 to 4

2.Core-Practical -VI:23UCH6CC6P-GRAVIMETRIC ANALYSIS AND PHYSICAL PARAMETER (P)

- ➤ Credit of this course has been reduced from 4 to 3

3. **Discipline Specific Elective -II**

- ➢ Credit of this course has been reduced from 4 to 3

Resolved to approve the ratification in the credits of V and VI Semester syllabus of B.Sc., Chemistry for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18.

RESOLUTION No. BOS/24/11/02

To consider and to approve the ratification in the syllabus of Core Course VI of Semester V of B.Sc., Chemistry for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

V SEMESTER OF 2023-2024 BATCH AND ONWARDS

1.Core Course -VI: 23UCH5CC6 - INORGANIC CHEMISTRY

- ➢ Unit I has been changed from Metallurgy to Bioinorganic Chemistry.

Resolved to approve the ratification in the syllabus of Core Course VI of Semester V of B.Sc., Chemistry for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

RESOLUTION No. BOS/24/11/03

To consider and to approve the ratification in II Semester Core Practical II and Core Practical III syllabus of M.Sc., Chemistry for 2024- 2025 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

II SEMESTER OF 2024-2025 BATCH AND ONWARDS

- ➢ Core Practical -II has been changed from Inorganic Chemistry -I (P) to Organic Chemistry -II (P)
- ➢ Core Practical -III has been changed from Physical Chemistry-I (P) to Inorganic Chemistry -I (P)

Resolved to approve the ratification in II semester Core Practical II and Core Practical III syllabus of M.Sc., Chemistry for 2024- 2025 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

The Chairperson expressed her deep sense of gratitude and thanks to all members of Board of Studies of Chemistry.

(Chairman)
Board of Studies

ANNEXURE L

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS)
Nationally Accredited with 'A' Grade by NAAC
TIRUCHIRAPPALLI

PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE

B.Sc. COMPUTER SCIENCE

SYLLABUS

2023 -2024 and Onwards

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. /week	Credits	Exam Hrs.	Marks Int	Marks Ext	Total
I	I	Language Course-I (LC)	ப மொ Fத்தமிழ்– I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyanaur Nibandh	23ULH1						
			Poetry, Grammarand History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I - French I	23ULF1						
	II	English Language Course - I (ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	Python Programming	23UCS1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Python Programming(P)	23UCS1CC1P	3	3	3	40	60	100
		First Allied Course- I (AC)	Numerical Methods	23UCS1AC1	4	3	3	25	75	100
		First Allied Course- II (AC)	Graph Theory and its Applications	23UCS1AC2	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal-Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**22**				**700**
II	I	Language Course-II (LC)	ப மொ Fத்தமிழ்– II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	22ULH2						
			Prose, Grammar and History of Sanskrit Literature	23ULS2						
			Basic French - II	22ULF2						
	II	English Language Course –II (ELC)	General English- II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Programming in Java	22UCS2CC2	5	5	3	25	75	100
		Core Practical - II (CP)	Java Programming (P)	22UCS2CC2P	3	3	3	40	60	100
		Core Practical -III (CP)	Data Visualization (P)	23UCS2CC3P	2	2	3	40	60	100
		First Allied Course – III (AC)	Operations Research	22UCS2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course-III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**22**				**800**

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Int	Ext	Total
III	I	Language Course-III (LC)	ப மொஎஈத்தமிழ் - III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course- III(ELC)	Learning Grammar Through Literature- I	23UE3	6	3	3	25	75	100
	III	Core Course– III(CC)	Data Structures & Algorithms	23UCS3CC3	5	5	3	25	75	100
		Core Practical - IV(CP)	Data Structures (P)	22UCS3CC4P	3	3	3	40	60	100
		Second Allied Course-I (AC)	Digital & Microprocessor Fundamentals	22UCS3AC4	4	3	3	25	75	100
		Second Allied Course- II (AP)	Digital & Microprocessor (P)	22UCS3AC5P	4	3	3	40	60	100
	IV	Generic Elective Course- I (GEC)	Office Automation (P)	22UCS3GEC1P	2	2	3	40	60	100
			Basic Tamil – I	22ULC3BT1				25	75	
			Special Tamil – I	22ULC3ST1						
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
			Total		**30**	**22**	-	-	-	**700**
15 Days INTERNSHIP during Semester Holidays										
IV	I	Language Course - IV (LC)	ப மொஎஈத்தமிழ்- IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French - II	22ULF4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature- II	23UE4	6	3	3	25	75	100
	III	Core Course – IV(CC)	Database Management Systems	23UCS4CC4	6	5	3	25	75	100
		Core Practical - V(CP)	SQL & PL/SQL (P)	22UCS4CC5P	4	4	3	40	60	100
		Second Allied Course- III (AC)	Microcontrollers	22UCS4AC6	4	3	3	25	75	100
		Internship	Internship	22UCS4INT	-	2	-	25	75	100
	IV	Generic Elective Course- II (GEC)	Multimedia (P)	22UCS4GEC2P	2	2	3	40	60	100
			Basic Tamil – II	22ULC4BT2				25	75	
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course – I (SEC)	Web Designing (P)	22UCS4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
			Total		**30**	**24**	-	-	-	**800**

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Exam Marks Int	Exam Marks Ext	Total
V	III	Core Course – V(CC)	Programming in PHP	23UCS5CC5	6	5	3	25	75	100
		Core Practical – VI(CP)	Programming in PHP(P)	23UCS5CC6P	3	3	3	40	60	100
		Core Course - VI(CC)	Operating Systems	23UCS5CC6	6	5	3	25	75	100
		Core Course – VII(CC)	Computer Networks	23UCS5CC7	6	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A. ComputerArchitecture	23UCS5DSE1A	5	3	3	25	75	100
			B. Computer Graphics	23UCS5DSE1B						
			C. Artificial Intelligence	23UCS5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV(AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II(SEC)	CISCO Packet Tracer(P)	22UCS5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**25**	**-**	**-**	**-**	**700**
VI	III	Core Course – VIII(CC)	Cloud Computing and its Applications	22UCS6CC8	6	6	3	25	75	100
		Core Course – IX(CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Core Practical –VII(CP)	Virtualization in Cloud (P)	22UCS6CC7P	3	3	3	40	60	100
		Core Practical – III(CP)	Open Source Technologies (P)	23UCS6CC8P	5	3	3	40	60	100
		Discipline Specific Elective – II(DSE)	A. Software Engineering	23UCS6DSE2A	5	3	3	25	75	100
			B. Fundamentalsof Big data & IoT	23UCS6DSE2B						
			C. Open Source Technologies	23UCS6DSE2C						
		Project	Project Work	22UCS6PW	5	4	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V(AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity		22UGEA	0	1	0	-	-	-
		Total			**30**	**25**	**-**	**-**	**-**	**700**
					180	**140**				**4400**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC
TIRUCHIRAPPALLI

PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE

B.Sc Computer Science with Cognitive Systems

2023-2024 and onwards

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs.	Exam Marks Int	Exam Marks Ext	Total
I	I	Language Course-I (LC)	ப மொஉதமிழ்-I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammer and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I - French I	23ULF1						
	II	English Language Course- I (ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	IT Cognition and Problem Solving	23UCG1CC1	3	3	3	25	75	100
		Core Practical - I (CP)	Problem Solving Using Advanced Excel (P)	23UCG1CC1P	3	3	3	40	60	100
		Core Course – II (CC)	Operating Systems (T & P)	23UCG1CC2	4+2	5	2	50*	50*	100
		First Allied Course- I (AC)	Numerical Methods	23UCG1AC1	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course- I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
			Total		**30**	**22**				**700**
II	I	Language Course-II (LC)	ப மொஉதமிழ்-II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar – II	22ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French-II	22ULF2						
	II	English Language Course- II (ELC)	General English - II	23UE2	6	3	3	25	75	100
	III	Core Course – III (CC)	Java Programming	23UCG2CC3	4	4	3	25	75	100
		Core Practical-II (CP)	Java Programming (P)	23UCG2CC2P	2	2	3	40	60	100
		Core Course – IV (CC)	Information Technology Infrastructure Library	22UCG2CC4	2	2	3	25	75	100
		First Allied Course – II (AC)	Statistics	22UCG2AC2	4	3	3	25	75	100
		First Allied Course – III (AC)	Operations Research	22UCG2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
			Total		**30**	**22**				**800**

III	I	Language Course-III (LC)	ப மொ௫தமிழ்-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course- III (ELC)	Learning Grammar Through Literature -I	23UE3	6	3	3	25	75	100
	III	Core Course – V (CC)	Computer Networks	23UCG3CC5	5	4	3	25	75	100
		Core Practical – III (CP)	Computer Networks (P)	23UCG3CC3P	2	2	3	40	60	100
		Core Course-VI (CC)	Infrastructure Management	23UCG3CC6	5	4	3	25	75	100
		Second Allied Course- I (AC)	Digital Computer Fundamentals	22UCG3AC4	4	3	3	25	75	100
	IV	Generic Elective Course- I (GEC)	Office Automation (P)	22UCG3GEC1P	2	2	3	40	60	100
			Basic Tamil – I	22ULC3BT1				25	75	
			Special Tamil – I	22ULC3ST1						
			Total		**30**	**21**				**700**

15 Days INTERNSHIP during Semester Holidays

IV	I	Language Course - IV (LC)	ப மொ௫தமிழ்-IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literature and Translation	23ULS4						
			Intermediate French - II	22ULF4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature -II	23UE4	6	3	3	25	75	100
	III	Core Course – VII (CC)	Database Management Systems (T&P)	23UCG4CC7	4+2	5	2	50*	50*	100
		Second Allied Course- II (AP)	Digital & Microprocessor (P)	22UCG4AC5P	3	2	3	40	60	100
		Second Allied Course –III (AC)	Microprocessor & Microcontrollers	22UCG4AC6	5	4	3	25	75	100
		Internship	Internship	22UCG4INT	-	2	-	25	75	100
	IV	Generic Elective Course- II (GEC)	Multimedia (P)	22UCG4GEC2P	2	2	3	40	60	100
			Basic Tamil – II	22ULC4BT2				25	75	
			Special Tamil – II	22ULC4ST2						
		Ability Enhancement Compulsory Course-III (AECC)	Campus to Corporate	22UGCM	2	2	-	100	-	100
			Total		**30**	**23**				**800**

V	III	Core Course – VIII (CC)	Software Testing (T&P)	23UCG5CC8	3+2	4	2	50*	50*	100
		Core Course- IX (CC)	Introduction to Digital Technologies (T&P)	23UCG5CC9	4+2	5	2	50*	50*	100
		Core Course – X (CC)	Client Relationship Management (T&P)	23UCG5CC10	4+2	5	2	50*	50*	100
		Core Course –XI (CC)	Virtualization & Cloud	22UCG5CC11	4	4	2	25	75	100
		Discipline Specific Elective – I (DSE)	Computer organization & Architecture	22UCG5DSE1A	5	4	3	25	75	100
			B. Process Management	22UCG5DSE1B						
			C. Computer Graphics	22UCG5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – I (SEC)	Virtualization & Cloud (P)	22UCG5SEC1P	2	2	3	40	60	100
				Total	**30**	**26**				**700**
VI	III	Core Course –XII (CC)	Python Programming (T & P)	23UCG6CC12	4+2	5	3	50*	50*	100
		Core Course –XIII (CC)	Data Structures & Algorithms	23UCG6CC13	6	5	3	25	75	100
		Core Course –XIV (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective – II (DSE)	A. Artificial Intelligence	22UCG6DSE2A	5	4	3	25	75	100
			B. Network Security	22UCG6DSE2B						
			C. Big Data & IoT	22UCG6DSE2C						
		Project	Project Work	22UCG6PW	5	4	-	-	100	100
	IV	Skill Enhancement Course – II (SEC)	HTML, CSS, JavaScript (P)	22UCG6SEC2P	2	2	3	40	60	100
		Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity		22UGEA	0	1	0	-	-	-
				Total	**30**	**26**				**700**
				Grand Total	**180**	**140**				**4400**

T & P: ESE: 50 (Theory Exam), CIA: 50* (Practical: 40 + Theory :10)

CAUVERY COLLEGE FOR WOMEN(AUTONOMOUS)
Nationally Accredited with 'A' Grade by NAAC
TIRUCHIRAPPALLI

PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE

B.Sc. COMPUTER SCIENCE

SYLLABUS

2023 -2024 and Onwards

Semester V		Internal Mark: 25		External Mark: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**Hrs/Week**	**CREDITS**
23UCA5CC6/ 23UCS5CC5	**PROGRAMMING IN PHP**	**CORE**		**6**	**5**

Course Objectives

- To understand the fundamentals of web programming for design a web page using PHP
- The students shall be able to develop a simple webpage using PHP with MySQL

Course Outcomes and Cognitive Level Mapping

On the successful completion of the course, the students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Outline the basic concepts in PHP Programming	K1
CO2	Describe the logical structure of PHP Programming	K2
CO3	Construct the web page using PHP Programming	K3
CO4	Analyze the PHP Programming concepts to develop Website	K4
CO5	Develop a real-time website using PHP Programming	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	2	2	2	2	3	3	2	2	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Essential PHP** Essential PHP: Creating your Development Environment - Creating a First PHP Page-Mixing HTML and PHP - Printing Some Text- Printing Some HTML- More Echo Power- Using PHP "Here" Documents - Adding Comments to PHP - Variables - Constants - Data Types, Operators and Flow Control.	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
II	**PHP Basics** Strings and Arrays - Creating Functions- Reading Data in Web Pages: Setting Up Web Pages to Communicate with PHP - Handling Text Fields and Text AreasHandling Check Boxes and Radio Buttons - Handling List Boxes, Password Controls, Hidden Controls, Image Maps, File Uploads and Buttons.	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
III	**OOPS Concepts** Object-Oriented Programming: Creating Classes and Objects - Setting Access to Properties and Methods - Using Constructors and Destructors - Inheritance - Overriding, Overloading Methods, Autoloading Classes. Advanced Object-Oriented Programming: Creating Static Methods, Abstract Classes, Interfaces and Class Constants, Supporting Object Iteration - Using Final Keyword - Cloning Objects - Reflection	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
IV	**Browser-Handling, Session, Cookies and FTP** PHP Browser-Handling Power – Session, Cookies and FTP: Setting, Reading, Deleting Cookies - Working with FTP - Downloading, Uploading, and Deleting a File with FTP - Creating and Removing Directories with FTP - Working with E-mail- Storing Data and Writing a Hit Counter using Sessions	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
V	**File Handling and MySQL using PHP** File Handling - Working with Databases: Accessing the Database in PHP -Update Data into the Database- Insert Data into the Database - Delete Data from Database.	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
VI	**Self-Study for Enrichment (Not to be included for End Semester Examination)** History of PHP – Getting PHP – PHP's Internal Data Types – Working with Database: What is Database? – Some Essential SQL – Creating a MySQL Database and Table – Putting data into the New Database.	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5

Textbook

1. Steven Holzner. (2012), The Complete Reference PHP, Tata McGraw Hill Pvt.Ltd.

References

1. Rasmus Lerdorf, Kevin Tatroe, Peter MacIntyre. (2013), Programming PHP, 3rdEdition, O'Reilly.

2. Luke Welling, Laura Thomson. (2017), PHP and MySQL Web Development, 5thEdition, Pearson India Education Services Pvt. Ltd.

Web References

1. https://www.phptutorial.net/
2. https://www.javatpoint.com/php-tutorial
3. https://www.w3schools.com/php/
4. https://www.geeksforgeeks.org/php-examples/
5. https://www.tutorialspoint.com/php/index.htm

Pedagogy

Chalk &Talk, PowerPoint Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designers

Ms. V. Yasodha, Assistant Professor, Department ofComputer Applications.

Semester V	Internal Mark: 25		External Mark: 75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs/Week	CREDITS
23UCS5CC6P	PROGRAMMING IN PHP (P)	CORE PRACTICAL	3	3

Course Objectives

- To inculcate the PHP web programming knowledge
- To create a basic knowledge about developing web page.

Course Outcomes and Cognitive Level MappSing

On the successful completion of the course, the students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Recall the syntax and semantics of PHP.	K1
CO2	Identify suitable techniques to construct a web page.	K2
CO3	Implement the PHP concepts to develop a website	K3
CO4	Analyze the logical structures which are used to the real-time applications.	K4
CO5	Develop a real-time application using PHP programming	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	2	2	2	2	3	3	2	2	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

List of Practical S

1. Basic HTML tags.

2. get() and post() methods.

3. Validation.

4. String Handling functions.

5. Arrays.

6. COOKIES.

7. SESSIONS.

8. FILE Handling.

9. Database Connection

Web References

1. https://www.phptutorial.net/

2. https://www.javatpoint.com/php-tutorial

3. https://www.w3schools.com/php/

4. https://www.geeksforgeeks.org/php-examples/

5. https://www.tutorialspoint.com/php/index.htm

Pedagogy

PowerPoint Presentations, Demonstrations and Practical Sessions.

Course Designer

Ms. V. Yasodha, Assistant Professor, Department of Computer Applications

Semester V	Internal Mark: 25		External Mark: 75	
COURSE CODE	COURSE TITLE	CATEGORY	Hrs/Week	CREDITS
23UIT5CC6/ 23UCS5CC6	OPERATING SYSTEMS	CORE COURSE – (CC)	6	5

Course Objectives

- To understand the basic concepts of operating system
- To know the responsibilities of the operating system
- To get in depth knowledge of various scheduling algorithm for efficient resource management
- To acquire the knowledge of file management

Course Outcomes and Cognitive Level Mapping

On the successful completion of the course, the students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Understand the conceptual view of Operating systems	K1,K2
CO2	Comprehend how an operating system provides an abstracted interface to the hardware resources	K3
CO3	Apply various scheduling algorithms for efficient resource utilization.	K3
CO4	Analyze the role of synchronization to improve system performance	K4
CO5	Implement the functionalities pertaining with process, File and I/O Management.	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	3	3	2	3	3	1	3	3
CO2	3	3	2	3	3	3	3	1	3	2
CO3	3	3	3	2	3	2	2	3	2	3
CO4	3	2	2	3	3	3	2	2	3	3
CO5	3	3	2	3	3	3	3	2	2	3

"1" – Slight (Low) Correlation "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Introduction to Operating System:** Operating System-Operating System Software -A Brief History of Machine Hardware -Types of Operating Systems -Brief History of Operating System Development Object-Oriented Design of Operating System	16	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
II	**Memory Management:** Early Systems: Single-User Contiguous Scheme - Fixed Partitions-Dynamic Partitions- Best-Fit versus First-Fit Allocation - Deallocation - Relocatable Dynamic Partitions. **Virtual Memory:** Paged Memory Allocation-Demand Paging-Page Replacement Policies and Concepts - Segmented Memory Allocation-Segmented/Demand Paged Memory Allocation – **Virtual Memory – Cache Memory**	20	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
III	**Processor Management:** Overview-About Multi-Core Technologies-Job Scheduling Versus Process Scheduling-Process Scheduler-Process Scheduling Policies-Process Scheduling Algorithms – Interrupts **Deadlock**-Seven Cases of Deadlock -Conditions for Deadlock-Modeling Deadlock- Strategies for Handling Deadlocks –Starvation	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
IV	**Concurrent Processes:** What is Parallel Processing? – Introduction to Multicore processors – Typical Multiprocessor configuration **– Process Synchronization Software** **Device Management:** Types of Devices-Sequential Access Storage Media-Direct Access Storage Devices- Magnetic Disk Drive Access Times	20	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
V	**File Management:** The File Manager -Interacting with the File Manager -File Organization - Physical Storage Allocation -Access Methods-Levels in a File Management System - Access Control Verification Module –Data Compression	16	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
VI	**Self-Study for Enrichment** <mark>**(Not included for End Semester Examinations)**</mark> OS Design Considerations for Multiprocessor and Multicore – Windows, Unix and Linux Installation- 7 UNIX SVR4 Process Management, Buddy System, – Windows 7 Thread and SMP Management - Linux Process and Thread Management -Traditional UNIX Scheduling – Windows File system – Linux File system	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5

Textbook

1. Understanding Operating Systems (2017), Ann McIver McHoes, Ida M. Flynn, 8th Edition,Course Technology, Cengage Learning

References

1. Operating Systems Internals and Design Principles (2018), William Stallings, 9th Edition, Prentice Hall,

2. Andrew S.Tanenebaum (2011), Operating Systems and Design Implementation, 3rd Edition, Pearson Education

3. sAbraham Silberschatz , Perter Baer Galvin, Greg, (2010), Operating System Concepts, 8th Edition John Wiley & Sons.

Web References

1. https://www.geeksforgeeks.org/what-is-an-operating-system
2. https://www.gatevidyalay.com/operating-system/
3. https://www.javatpoint.com/operating-system

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designers

1. Dr. P.Tamilselvi, Associate professor, Department of Information Technology

Semester: V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS/ WEEK**	**CREDITS**
23UCS5CC7	**COMPUTER NETWORKS**	**CORE**	**6**	**5**

Course Objective

- To introduce the fundamental types of computer networks
- To demonstrate the TCP/IP & OSI model merits & demerits
- To know the role of various protocols in Networking

Course Outcome and Cognitive Level Mapping

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Understand and recall the basics of computer Networks	K1, K2
CO2	Explain network architecture using protocols and interfaces.	K2
CO3	Apply the network concepts in problem solving	K3
CO4	Analyzing key networking protocols and their hierarchical relationship	K4
CO5	Determine the need of data link, network and transport layers on real time applications	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	2	3	3	2	3
CO2	3	2	2	2	2	3	3	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	2	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" –indicates there is no Correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction:** Data Communications – Networks - Network Types – Internet History – Standards and Administration**. Network Models:** Protocol Layering – TCP/IP Protocol Suite – The OSI Model.	17	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
II	**Physical Layer:** Guided Transmission Media. Wireless Transmission – From Waveforms to Bits: Multiplexing - The Public Switched Telephone Network: Switching **-** Data and Signals – **Digital Transmission: Transmission Modes**.	17	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
III	**Data-Link Layer:** Design Issues– Error Detection and Correction **– Medium Access Control Sublayer:** Multiple Access Protocols: Career Sense Multiple Access Protocols, Collision-Free Protocols - Bluetooth**:** Bluetooth Architecture, Bluetooth Applications - Data Link Layer Switching: Uses of Bridges, Learning Bridges, Repeaters, Hubs, Bridges, Switches, Routers and Gateways	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
IV	**Network Layer:** Design Issues - Routing Algorithm in a Single Network: Shortest Path Algorithm, Distance Vector Algorithm, Link State Routing **–** Traffic Management at the Network Layer - Quality of Service and Application QOE: Application QoS Requirements - Internetworking: Internetwork Routing: Routing Across Multiple Networks **–** Supporting Different Packet Sizes**:** Packet Fragmentation**. The Network Layer in the Internet:** The IP Version4 Protocol – IP Addresses	18	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
V	**Transport Layer:** Services – Connectionless and Connection-Oriented Protocols., Stop-and-Wait Protocol, Go-Back-N Protocol (GBN). **Transport Layer Protocols:** User Datagram Protocol – Transmission Control Protocol: TCP Services, TCP Features, Flow Control, Error Control, TCP Congestion Control	20	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
VI	**Self-Study for Enrichment:** (**Not included for End Semester Examinations**) Ethernet – The Domain Name System – Electronic Mail – File Transfer Protocol – The World Wide Web – Hypertext Mark-up Language - Cryptography and Network Security	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5

Text Books

1. Behrouz A.Forouzan.(2021). *Data Communications and Networking.* 5ᵗʰ Edition, McGraw Hill Education.
   Unit 1: Chapter 1 & 2
   Unit 2: Chapter 3: 3.1 & Chapter 4: 4.3
   Unit 5: Chapter 23: 23.1, 23.2.2, 23.2.3 &
           Chapter 24: 24.2, 24.3.1, 24.3.2, 24.3.7, 24.3.8, 24.3.9

2. Andrew S Tanenbaum, Nick Feamster, David Wetherall. (2021). *Computer Networks.* 6ᵗʰ Edition, Pearson Education.
   Unit 2: Chapter 2: 2.1, 2.2, 2.4.4, 2.5.4
   Unit 3: Chapter 3: 3.1, 3.2 & Chapter 4: 4.2.2, 4.2.3, 4.5.1, 4.5.2, 4.7.1, 4.7.2, 4.7.4
   Unit 4: Chapter 5: 5.1, 5.2.2, 5.2.4, 5.2.5, 5.3, 5.4.1, 5.5.5, 5.5.6, 5.7.1, 5.7.2

Reference Books

1. James F Kurose and Keith W. Ross. (2017). *Computer Networking A Top-Down Approach.* 6ᵗʰ Edition, Pearson Education
2. Larry L. Peterson and Bruce S. Davie. (2020). *Computer Networks: A Systems Approach.* 6ᵗʰ Edition, Morgan Kaufmann.

Web References

1. https://www.coursera.org/courses?query=computer%20network
2. https://www.geeksforgeeks.org/basics-computer-networking/
3. https://www.javatpoint.com/computer-network-tutorial
4. https://www.tutorialspoint.com/computer_fundamentals/computer_networking.htm
5. https://www.youtube.com/playlist?list=PLxCzCOWd7aiGFBD2   -2joCpWOLUrDLvVV
6. https://archive.nptel.ac.in/courses/106/105/106105080/
7. https://archive.nptel.ac.in/courses/106/105/106105183/

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Quiz, Seminar

Course Designers

1. Dr. V. Sinthu Janita Prakash
2. Ms. R. Sangeetha

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS/ WEEK**	**CREDITS**
23UCS5DSE1A	**COMPUTER ARCHITECTURE**	**DISCIPLINE SPECIFIC ELECTIVE**	**5**	**3**

Course Objective

- To conceptualize the basics of organizational and architectural issues of a digital computer
- To analyze performance issues in processor and memory design of a digital computer
- To demonstrate various data transfer techniques in digital computer
- To evaluate processor performance improvement using instruction level parallelism

Outcomes and Cognitive Level Mapping

On the successful completion of the course, the students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define the basics of digital computer	K1
CO2	Explain the various concepts of digital computer	K2
CO3	Utilize the numerous digital computer tools to address the issue	K3
CO4	Examine the digital computer's performance	K4
CO5	Solve the real-time problem using digital computer	K5

Mapping of CO with PO and PSO

CO s	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	1	1	2	2	2	2	2
CO2	3	2	3	1	1	3	3	2	3	2
CO3	3	3	3	2	2	3	3	2	3	2
CO4	3	2	3	2	2	3	3	2	3	2
CO5	3	3	3	2	2	3	3	2	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Basic Computer Organization and Design:** Instruction Codes- Computer Registers- Computer Instructions- -Timing and Control -Instruction Cycle- Memory Reference Instructions – Input – Output and Interrupt.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Central Processing Unit:** General Register Organization - Stack Organization - Instruction Formats - Addressing Modes- Data Transfer and Manipulation - Program control.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Memory Organization:** Memory Hierarchy- Main Memory- Auxiliary Memory- Associative Memory- Cache Memory- Virtual Memory	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Introduction to Parallel Processing:** Parallelism in Uniprocessor Systems – Parallel Computer Structures-Architectural Classification Schemes- Parallel Processing Applications – Predictive Modeling and Simulations-Engineering Design and Automation.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Pipeline and Vector Processing:** Parallel Processing-Pipelining- Arithmetic Pipelines – Instruction Pipeline – RISC Pipeline- Vector Processing- ArrayProcessors	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**UNIT VI** - **Self Study for Enrichment** **(Not to be included for External Examination)** Bus organization – Design of Basic Computers - Reduced Instruction Set Computer- Memory Management Hardware	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Books

1. M. Morris Mano,(2011). *"Computer System Architecture"*, 3rd Edition, Pearson. **(Unit I-III, V)**
2. Kai Hwang,Faye A Briggs,(2017). *" Computer Architecture and Parallel Processing"*, McGraw Hill Education (India) Private Limited. **(Unit IV)**

Reference Books

1. Carl Hamacher,(2011).*"Computer Organization"*, 3rd Edition, Tata McGraw Hill.
2. John P Hayes,(2017).*"Computer Architecture andOrganization"*, 5th Edition Tata McGraw Hill.
3. William Stallings,(2016). *"Computer Organization andArchitecture"*, 5th Edition, Pearson Education.

Web References

1. https:// en.wikipedia.org
2. https:// home.ustc.edu.cn
3. https:// ict.iitk.ac.in
4. www.geeksforgeeks.org
5. https://archive.nptel.ac.in/courses/106/105/106105163/
6. https://www.youtube.com/playlist?list=PLeUP77TwO-u4983ut7fFLjgBfKXL-YTeA

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designers

1. Dr.V.Sinthu Janita Prakash
2. Ms. R. Sridevi

Semester V	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS/ WEEK	CREDITS
23UCS5DSE1B	COMPUTER GRAPHICS	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objective

- To understand the basics of Graphical Mechanisms
- To provides the fundamentals of computer graphics and Augmented Reality
- To focuses on 2D, 3D transformations & viewing

Course Outcomes and Cognitive Level Mapping

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recall the fundamentals of computer graphics and augmented reality	K1
CO2	Provide a insight of computer graphics and algorithms	K2
CO3	Apply computer graphic algorithms to solve problems	K3
CO4	Illustrate the steps to perform 2D & 3D graphic representation in applications	K4
CO5	Discuss various algorithms for scan conversion and filling of basic objects and their comparative analysis.	K5

Mapping with Programme Outcomes

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO 1	3	2	3	3	2	3	3	1	3	2
CO 2	3	3	3	3	3	3	3	3	3	3
CO 3	3	3	3	3	3	3	3	2	3	3
CO 4	3	3	3	3	3	3	3	3	3	3
CO 5	3	2	3	3	3	3	3	2	3	3

"1"– Slight(Low) Correlation   "2"– Moderate(Medium) Correlation
"3"– Substantial (High) Correlation   "-" – indicates there is no Correlation

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Computer Graphics Hardware**: Video Display Devices – Raster Scan Systems – Graphics Workstations and Viewing Systems - Input Devices – Hardcopy Devices. **Computer Graphics Software -** Coordinate Representations - Graphics Functions - Software Standards - Other Graphics Packages - Introduction to OpenGL	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Attributes of Graphics Primitives:** Color and Grayscale –Line Attributes - OpenGL Line-Attribute Functions - Curve Attributes - Fill-Area Attributes - OpenGL Fill-Area Attribute Functions - Character Attributes - OpenGL Character-Attribute Functions - OpenGL Antialiasing Functions - OpenGL Query Functions - OpenGL Attribute Groups. **Implementation Algorithms for Graphics Primitives and Attributes:** Line-Drawing Algorithms - Setting Frame-Buffer Values -Circle-Generating Algorithms	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Two-Dimensional Geometric Transformations**: Basic Two-Dimensional Geometric Transformations – Matrix Representations and Homogeneous Coordinates - Two-Dimensional Composite Transformations – Other Two-Dimensional Transformations. Two-Dimensional Viewing - Normalization and Viewport Transformations - Clipping Algorithms- Two-Dimensional Point Clipping - Two-Dimensional Line Clipping: Cohen-Sutherland Line Clipping-Polygon Fill-Area Clipping: Sutherland-Hodgman Polygon Clipping - Curve Clipping - Text Clipping	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Three Dimensional Geometric Transformations:** Three-Dimensional Translation - Three-Dimensional Rotation - Three-Dimensional Scaling - Other Transformation. **Visible Surface Detection Methods:** Classification of Visible Surface Detection Algorithm - Backface Detection – Depth-Buffer Method – A-Buffer Method – Scan-Line Method - Applications of Computer Graphics.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Augmented Reality**: Definition - Components of Augmented Reality - History of Augmented Reality - Augmented Reality - Differences between Augmented Reality and Virtual Reality - Difference between AR and QR Codes - Challenges with AR - Opportunities for Augmented Reality - Types of Augmented Reality - Augmented Reality Working - Augmented Reality Methods - AR Display Technology - Interaction in AR Applications	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** **(Not included for End Semester Examinations)** **Value of Augmented Reality**: Next User Interface - Uses of Augmented Reality: Sports, Gaming, and Entertainment, Education - Maintenance and Repair - Medicine - Business and Commerce	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Books

1. Donald Hearn, Pauline Baker, Warren Carithers. (2014), *Computer Graphics with Open GL*, 4th Edition, Pearson Education. Limited. **(Units I -IV)**
2. Gregory Kipper, Joseph Rampolla. (2012), Augmented Reality: *An Emerging Technologies Guide to AR,* Elsevier Science. **(Unit-V)**

Reference Books

1. Shalini Govil-pai. (2010), *Principles of Computer Graphics: Theory and Practice Using OpenGL and Maya*, Ist edition, Springer-Verlag.
2. F.S. Hill, Jr, Stephen M.Kelley. (2007), *Computer Graphics Using OpenGL*, 3rd Edition, Pearson Education
3. Jay David Bolter, Morya Engberg, Blair Maclntyre. (2021), *Reality Media Augmented & Virtual Reality*, The MIT Press, Cambridge.
4. Jonathan Linowes. (2021), *Augmented Reality with Unity AR Foundations*, Packt Publishing

Web References

1. https://nptel.ac.in/courses/106106090
2. https://archive.nptel.ac.in/courses/106/103/106103224/
3. https://doc.lagout.org/programmation/OpenGL/Computer%20Graphics%20with%20 OpenGL%20%284th%20ed.%29%20%5BHearn%2C%20Baker%20%26%20Carithers% 202013%5D.pdf
4. https://www3.ntu.edu.sg/home/ehchua/programming/opengl/CG_BasicsTheory.html
5. https://www.acsce.edu.in/acsce/wp-content/uploads/2020/03/CG-Module-1.pdf
6. https://dynamics.microsoft.com/en-in/mixed-reality/guides/what-is-augmented-reality-ar/
7. https://www.linkedin.com/pulse/what-value-augmented-reality-filipa-d-orey

Pedagogy

Chalk and Talk, PPT, Discussion, Assignment, Demo, Quiz and Seminar

Course Designers

1. Dr.A.R.Jasmine Begum
2. Ms.A.Sahaya Jenitha
3. Ms.S.Saranya

Semester V	Internal Marks: 25		External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS/ WEEK	CREDITS
23UCS5DSE1C	ARTIFICIAL INTELLIGENCE	DISCIPLINE SPECIFIC ELECTIVE	5	3

Course Objective

- To understand the need of Artificial Intelligence (AI)
- To study the basic concepts on AI problems and techniques
- To apply the knowledge representation into a new situation
- To build an AI system for the small level house hold activities

Course Outcome and Cognitive Level Mapping

On the successful completion of the course, the students will be able to

CO Number	CO Statement	Cognitive Level
CO 1	Recall the need of AI and the Knowledge representation	K1
CO 2	Understand the AI problems &AI techniques	K2
CO 3	Apply various AI techniques on demand	K3
CO 4	Analyze AI algorithms with use cases	K4
CO 5	Evaluate AI techniques for real time situations	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	3	3	3	2	2
CO2	3	3	2	2	3	3	3	3	3	3
CO3	3	2	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	2	3	3	3	3	3	3	3	3	3

"1"-Slight (Low) Correlation   "2"–Moderate (Medium) Correlation
"3"-Substantial (High) Correlation   "-"- indicates there is no Correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Artificial Intelligence:** The AI Problems – AI Technique – Criteria for Success. **Problems, Problem Spaces and Search:** Defining the problem as a State Space Search – Production System- Problem Characteristics.	13	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Heuristic Search Techniques :** Generate and Test-Hill Climbing – Best-First Search – OR Graph – A * Algorithm – Problem Reduction – AND-OR Graphs-AO* Algorithm- Constraint Satisfaction – Means- Ends Analysis. **Knowledge Representation Issues:** Representation and Mappings – Approaches to Knowledge Representations.	17	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Using Predicate Logic:** Representing Simple facts in Logic – Representing Instance and ISA Relationships-Computable Functions and Predicates – Resolution. **Representing Knowledge Using Rules:** Procedural versus Declarative Knowledge – Logic Programming – Forward versus Backward Reasoning.	17	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Symbolic Reasoning Under Uncertainty:** Introduction to Nonmonotonic Reasoning – Logics for Nonmonotonic Reasoning- Implementation Issues – Augmenting a Problem Solver. **Statistical Reasoning:** Probability and Baye's Theorem – Certainty Factors and Rule Based Systems – Bayesian Network.	13	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Weak slot and filler structures:** Semantic Nets-Frames -**Strong slot and Filler structures:** Conceptual Dependency-Scripts-CYC **Knowledge Representation Summary:** Syntactic semantic spectrum of representation -Logic and Slot -and - Filler Structures.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** **(Not included for End Semester Examinations)** **Machine Learning :** Introduction – Data Analysis and Machine Learning- Fundamental approaches-Supervised Machine Learning – Reinforcement Machine Learning – Unsupervised Machine Learning – Semi- supervised Learning **Applications of AI :** AI in ecommerce – AI in E-Tourism – AI in industry – AI in medicine	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

1. Elaine Rich, Kevin Knight, Shivashankar B Nair, (2017), *Artificial Intelligence*, 3rd edition,Tata McGraw Hill.

Reference Books

1. Rajendra Akerkar (2014), *Introduction to Artificial Intelligence*, 2nd edition,PHI Learning Pvt Ltd.
2. Stuart Russell, Peter Norvig (2010), *Artificial Intelligence: A Modern Approach*, 3rd edition ,Pearson Education

Web References

1. http://aimaterials.blogspot.com/
2. http://zsi.tech.us.edu.pl/
3. https://www.tutorialspoint.com/artificial_intelligence/
4. https://www.vssut.ac.in/lecture_notes/lecture1428643004.pdf
5. https://nptel.ac.in/courses/106105077

Pedagogy

Chalk and Talk, Group discussion, PPT, ICT

Course Designers

1. Ms.N.Girubagari
2. Ms.K.Pradeepa

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
NATIONALLY ACCREDITED WITH "A" GRADE BY NAAC
TIRUCHIRAPPALLI

PG & RESEARCH DEPARTMENT OF COMPUTER SCIENCE

B.Sc Computer Science with Cognitive Systems

2023-2024 and onwards

Semester V	Internal Mark: 50			External Mark: 50	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS. / WEEK**		**CREDITS**
23UCG5CC8	**SOFTWARE TESTING (T & P)**	**CORE**	**T**	**P**	**4**
			3	**2**	

Course Objective

- To understand the basic concepts of Selenium
- To inculcate complex practical skills in Scripting
- To implement the testing concepts using Selenium

Course Outcome and Cognitive Level Mapping

On successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Recite the basic concepts of Selenium	K1
CO2	Identify and examine the test scripts to validate functionality using Selenium	K1, K2
CO3	Explain and demonstrate the software testing based on Selenium	K2, K3
CO4	Apply and analyze various problems using Selenium	K3, K4
CO4	Experiment and evaluate the automated test across browsers using Selenium testing tool	K4, K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	3	3	2	2	2
CO2	3	3	3	2	2	3	3	2	2	2
CO3	3	3	3	2	2	3	3	2	2	2
CO4	3	3	3	2	1	3	2	2	2	2
CO5	3	3	3	3	1	3	2	2	1	1

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Selenium Basics** **Introduction of Selenium:** Selenium's tool suite – How to choose the right Selenium tool for your need- Installation requirements for Selenium. **Installing Selenium Components**: Installing Selenium IDE – Installing Firebug plug-in – Installing the FirePath – Installing JDK – Installing and configuring Eclipse – Installing WinANT.	9	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Selenium IDE and UI Controls** **Using Selenium IDE:** Selenium IDE interface – Recording Using Selenium IDE – Save and replay the script using IDE – Inserting / Editing Test steps manually – Adding verifications and asserts with the context menu. **Managing User Interface (UI) Controls:** How does Selenium IDE replay scripts – Locate the elements on a web page – Find XPath using Firefox Add-on.	9	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Create and Verification of WebDriver Script** **Creating First Selenium WebDriver script:** Recording and exporting script from IDE – Configure eclipse to work with Selenium – Running the test. **Selenium Methods:** Selenium WebDriver methods. **Verification Point in Selenium:** Need for a verification point – Inserting a verification point – Understand how to implement a few common validations – Assets statements in Junit.	9	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Popup Dialogs, Debugging and Reporting** **Handling Pop-up dialogs and multiple windows:**	9	CO1, CO2,	K1, K2,

			CO3,	K3,
	Handle alerts and prompts – Working with multiple windows. **Debugging scripts:** Debugging features – Run Tests in Debug mode with Breakpoints – Step commands, variables and watch. **Reporting in Selenium:** Test Framework Reporting Tools – Configuring Junit HTML Reports – Configuring TestNG Report for your tests – Custom reporting in excel sheets or databases.		CO4, CO5	K4, K5
V	**Automation Frameworks and Selenium Functions** **Automation Frameworks:** Why do we need automation frameworks – What exactly is an automation framework – Types of frameworks. **Selenium Functions:** How to use JavaScript – How to read rows, columns and cell data from table – working with multiple browsers – working with drop-down lists – working with radio buttons and groups – working with checkboxes.	9	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self study for Enrichment (Not to be included for End Semester Examinations)** **Exception Handling in WebDriver:** Handling WebDriver Exceptions, handle Specific Exceptions – Common WebDriver Exceptions.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

1. Navneesh Garg. (2014). *Test Automation using Selenium WebDriver with Java: step by step Guide.* AdactIn Group Pty Ltd.

Reference Book

1. Rex Allen Jones – II. (2016). *Absolute beginner Java 4 selenium WebDriver: Come learn how to program automation testing.* Rex Jones II, CSTE, TMap.

Web References

1. https://www.tutorialspoint.com/selenium/selenium_ide.htm
2. https://www.guru99.com/locate-by-link-text-partial-link-text.html
3. https://www.geeksforgeeks.org/selenium-basics-components-features-uses-and-limitations/
4. https://www.javatpoint.com/selenium-tutorial

Practical:
List of Exercises:

1. Write a script to open google.com and verify that title is Google and verify that it is redirected to google.co.in.
2. Write a script to open google.co.in using chrome browser (ChromeDriver).
3. Write a script to open google.co.in using internet explorer (InternetExplorerDriver).
4. Write a script to create browser instance based on browser name.
5. Write a script to search for specified option in the listbox.
6. Write a script to print the content of list in sorted order.
7. Write a script to print all the options. For duplicates add entry only once. Use HashSet.
8. Write a script to close all the browsers without using quit() method.
9. Write generic method in selenium to handle all locators and return web element for any locator.
10. Write generic method in selenium to handle all locators containing dynamic wait and return web element for any locator.

Pedagogy

Chalk and talk, Power Point Presentation, Assignment, Demonstration, Quiz and Seminar.

Course Designer

TCS

Semester V	Internal Marks:50				External Marks: 50

COURSE CODE	COURSE TITLE	CATEGORY	HRS./ WEEK		CREDITS
23UCG5CC9	INTRODUCTION TO DIGITAL TECHNOLOGIES (T & P)	CORE	T	P	5
			4	2	

Course Objective

- To study the basic concepts of Digital Technologies
- To understand about Robotic Process Automation tools
- To develop bots through Automation Anywhere

Course Outcome and Cognitive Level Mapping

On the successful completion of the course, students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Remember and understand the key concepts of digital technologies	K1,K2
CO2	Classify and make use of current technologies	K2
CO3	Implement information in new situations	K3
CO4	Analyze the different use cases	K4
CO5	Evaluate new ideas	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	2	2	3	2
CO2	3	3	2	2	2	3	2	3	3	2
CO3	3	3	3	3	3	3	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3

"1"-Slight (Low) Correlation   "2"-Moderate (Medium) Correlation
"3" –Substantial (High) Correlation   "-" - Indicates there is no Correlation

Syllabus

Theory:

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Digital Primer:** Why is Digital Different, Digital Metaphors, On Cloud 9, A Small Intro to Big Data, social media & Digital Marketing, Artificial Intelligence, Unchain the Blockchain, Internet of Everything, Immersive Technology	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Digital for Industries:** Manufacturing and Hi-tech,Banking and Financial Services, Insurance and Healthcare, Retail, Travel & Hospitality, Communications, Media & Information Services and Government.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Automatix – Art of RPA:** Introduction - Setting the Context, RPA Prelude, RPA Demystified, RPA vs BPM, RPA Implementations.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**RPA:** RPA in Industries, RPA Tools, Automatix. **Automation Anywhere:** Getting Started with AA Enterprise, Exploring AA Enterprise, AA Enterprise – Architecture.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Automation Anywhere:** Knowing the Bots, More About TaskBots. AA Enterprise - Assess your Learning, All About Recorders, Designers, MetaBots and Cognitive RPA.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** (Not to Be included for End Semester Examinations) Inspiring Digital Transformation Case Studies: Amazon Business - Netflix - Tesla - Glass door-Walmart.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Books

1. Vaibhav Srivastava (2021). *Getting started with RPA using Automation Anywhere: Automate your day-to-day Business Processes using Automation Anywhere*. 1st Edition, BPB Publications.

2. Arun Kumar Asokan and Nandan Mullakara (2020). *Robotic Process Automation Projects: Build Real-world RPA Solutions Using UiPath and Automation Anywhere*. 1ˢᵗ Edition, Packt Publishing Limited.

Reference Books

1. AdeelJaved, AnumSundrani (2021). Nadia Malik & Sidney Madison Prescott, *Robotic Process Automation using UiPathStudioX: A Citizen Developer's Guide to Hyper automation.* 1st edition, Apress.

2. Jonathan Sireci (2021). *The Project Manager's Guide to RPA: A Practical Guide for Deploying Robotics Process Automation.* Independently Published.

Web References

1. https://university.automationanywhere.com/training/rpa-learning-trails/getting-started-with-rpa/

2. https://university.automationanywhere.com/training/rpa-learning-trails/citizen-developer-basics/

3. https://university.automationanywhere.com/training/rpa-learning-trails/tips-and-tricks-beginner/

4. https://www.youtube.com/watch?v=G0gVfi7ri7w

5. https://www.automationanywhere.com/products/enterprise/community-edition

6. https://whatfix.com/blog/digital-transformation-examples/

Practicals:

List of Exercises

1. Simple bot creation

2. Build a bot to automate the action of getting the title of an active window and to automate the action of closing a notepad window.

3. Build a bot to automate the task of replacing a few characters from a string.

4. Build a bot to automate the task of copying the files from a source folder to the destination folder.

5. Build a bot to automate the task of extracting a table from a webpage.

6. Build a bot to automate the task of extracting a text from a window and displaying the output.

7. Build a bot to automate the task of writing text into a notepad file.

8. Build a bot to automate the task of extracting the data from an Excel File according to some condition and storing the extracted data in another File.

Web References

1. https://www.edureka.co/blog/automation-anywhere-examples

2. https://docs.automationanywhere.com/bundle/enterprise-v2019/page/enterprise-cloud/topics/aae-client/bot-creator/commands/enter-data-into-webform-from-file.html

Resources
Lab Requirement: Automation Anywhere

Pedagogy
Chalk & Talk, PowerPoint Presentation, Demonstration, e-Content

Course Designer
TCS

Semester V	Internal Marks: 50			External Marks: 50	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS. / WEEK**		**CREDITS**
23UCG5CC10	**CLIENT RELATIONSHIP MANAGEMENT (T & P)**	**CORE**	**T**	**P**	**5**
			4	**2**	

Course Objective

- To Acquire knowledge about ServiceNow platform
- To get acquainted with various features of ServiceNow platform and tool
- To use various script types used throughout the platform

Course Outcome and Cognitive Level Mapping

On successful completion of the course, students will be able to

COs	CO Statement	Knowledge Level
CO1	Understand ServiceNow Intermediate Level	K1
CO2	Summarize the features of ServiceNow	K2
CO3	Make use of the database for process automation	K3
CO4	Analyze comprehensive knowledge in ServiceNow Interface	K4
CO5	Compare the script types throughout the platform	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	3	3	2	2	2
CO2	3	3	3	2	2	3	3	2	2	2
CO3	3	3	3	2	2	3	3	2	2	2
CO4	3	3	3	2	1	3	2	2	2	2
CO5	3	3	3	3	1	3	2	2	1	1

"1" – Slight (Low) Correlation "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation "-" indicates there is no correlation.

Syllabus

Theory

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**The Interface** - Versions, Frames, Important application menus and modules, Content Frame, UI Settings and Personalization. **Lists and Forms** – List V2 versus List V3, Lists and Tables, Forms.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**UI Customization** – Branding your Instance, Custom Themes, UI-Impacting System Properties, Configuring Service Portal UI, Creating a Custom Homepage, Styling Pages and Widgets, Setting up the War Room page, and Styling the CMS.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Understanding Data and Relationships** – One-to-many relationships in ServiceNow, Many-to-many relationships in ServiceNow, Enforcing one-to-one relationships, Defining Custom Relationships, Database table inheritance.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Tasks and Workflows** – Important Task fields, Journals, and the activity formatter, Extending the task table, Workflows, SLAs, Approvals, Assignment, Creating Task fields. **UI and Data Policies** – UI Policies, Reverse if false, Scripting in UI policies, UI Policy Order, Data Policies, Converting between data and UI Policies, Data Policies Vs ACLs.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**User Administration and Security** – Users, Groups and Roles, Emails and Notifications, User Preferences, ACLs – Security Rules. **Introduction to Scripting** – Client-side versus Server-side APIs, where scripting is supported, Integrated development environment.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

VI	**Self study for Enrichment** **(Not to be included for End Semester Examinations)** CRM Ticketing System- Ticket Management Tool.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

1. Tim Woodruff (2018). *Learning ServiceNow: Administration and development on the Now platform, for powerful IT automation*. 2nd Edition, Packt Publishing Ltd.

Web References

1. https://www.tutorialspoint.com/
2. https://www.sausriengg.com/e-course-material
3. https://www.ntu.edu.sg/home/ehchua/programming/sql/

Practical

List of Exercises

1. Basic Navigation
   a. Navigation and the User Interface
   b. Navigating Applications
   c. Introduction to Searching
2. Managing Records in Lists
   a. Using Lists
   b. Finding Information in Lists
   c. Using Filters and Breadcrumbs
   d. Editing Lists
   e. Creating Personal Lists
3. Managing Records in Forms
   a. Forms

Resources

ServiceNow

Web References

- ServiceNow Essentials
- ServiceNow User Interface
- ServiceNow Fundamentals Simulator
- ServiceNow System Administrator Training

Pedagogy

Chalk and talk, Power Point Presentation, Assignment, Demonstration, Quiz and Seminar.

Course Designer

TCS

Semester VI	Internal Marks: 50			External Marks:50	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS. / WEEK**		**CREDITS**
			T	**P**	
23UCG6CC12	**PYTHON PROGRAMMING (T & P)**	**CORE**	**4**	**2**	**5**

Course Objective

- To understand the concepts of Python programming language
- To understand the knowledge of Operators, Functions and Strings
- To inculcate the knowledge of Graphics programming in Python

Course Outcome and Cognitive Level Mapping

On the successful completion of the course, students will be able to

CO NUMBER	CO STATEMENTS	COGNITIVE LEVEL
CO1	Recall execution and debugging of Python program	K1
CO2	Demonstrate the concept of classes and objects using Python	K2
CO3	Make use of Python features to build real-time applications	K3
CO4	Analyze the various functionalities of Python	K4
CO5	Access the performance of inheritance and method overriding	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	1	2	3	3	3	3	3
CO2	3	3	3	1	2	3	3	2	3	3
CO3	3	3	3	2	3	3	3	3	3	2
CO4	2	3	2	3	2	3	2	3	2	2
CO5	3	3	2	2	2	3	2	3	3	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   " - "   indicates there is no Correlation

Syllabus
Theory

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Basics of Python Programming:** Introduction: Python Character Set – Token - Python Core Data Type - The *print ( )* Function - Assigning value to a variable - Multiple Assignments - Writing Simple Programs in Python - The *input( )* Function - The *eval( )* Function- Formatting Number and Strings - Python Inbuilt Functions.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Operators, Expressions, Decision and Loop Control Statements:** Operators and Expressions - Arithmetic Operators - Operator Precedence and Associatively - Bitwise Operator. **Decision Statement:** Boolean Operators - Using Numbers with Boolean Operators - Using String with Boolean Operators - Boolean Expressions and Relational Operators.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Decision Statements and Loop Control Statements:** Decision-Making Statements: Conditional Expressions. **Loop control Statements:** The *while* Loop - The *range( )* Function-The *for* Loop - Nested Loops - The *break* Statement - The *continue* Statement.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Functions and Strings** Syntax and Basics of a Function - Use of a Function - Parameters and Arguments in a Function - The Local and Global Scope of a Variable - The *return* Statement - Recursive Functions - The Lambda Function. **Strings:** The *str* class - Basic Inbuilt Python Functions for String - The *index[ ]*Operator - Traversing String with *for* and *while* Loop - Immutable Strings - String Operators - String Operations.	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4 ,K5
V	**Object-Oriented Programming: Class, Objects and Inheritance** Searching Techniques - Introduction to Sorting. **Object-Oriented Programming: Class, Objects and Inheritance:** Defining Classes - The Self-parameter and Adding Methods to a Class - Display Class Attributes and Methods - Special	12	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

	Class Attributes – Accessibility - The_ init Method(constructor) - _del_( )(Destructor method) - Method Overloading in Python - Operator Overloading – Inheritance - Types of Inheritance -Inheritance in Detail - Subclass Accessing Attributes of Parent Class -Multilevel Inheritance in Detail- Multiple Inheritance in Detail - Using *super( )* - Method Overriding.			
VI	**Self Study for Enrichment** (**Not to be included for End Semester Examination**) Introduction to Computers and Python Programming: History of Python – Executing Python Programs – Commenting in Python – Multiline Statement in Python – Membership Operator – Identity Operator – The Compound Assignment Statement – Variable Length Non-keyword and Keyword arguments – The String Operators – **Exception Handling:** Errors and Exceptions – Handling Exception.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

1. Ashok Namdev Kamthane, Amit Ashok Kamthane (2018). *Programming and Problem Solving with Python*. (2nd Edition). MC Graw Hill Education.

Reference Books

1. Jeeva Jose and P. Sojan Lal (2016). Introduction to Computing and Problem Solving with Python, (1st Edition). Khanna Book Publishing
2. Ch. Satyanarayana, M Radhika Mani & B N Jagadesh (2018). *Python Programming.* (Kindle Edition). Universities Press.

Web References

1.   https://www.tutorialspoint.com/python/index.htm
2.   https://www.guru99.com/python-tutorials.html
3.   https://www.programiz.com/python-programming

Practical

List of Exercises

1. Types of Operators

2. Control Flow

3. Strings

4. Functions

5. Classes and Objects

6. Constructors

7. Inheritance

8. Method Overriding

Web References
1. https://www.shahucollegelatur.org.in/practical.pdf
2. https://www.w3schools.com/python/python_operators.asp
3. https://mindmajix.com/python/basic-operators-in-python
4. https://www.cs.otago.ac.nz/staffpriv/mccane/Downloads/PracticalProgramming.pdf

Pedagogy
Chalk & Talk, PowerPoint Presentation, Demonstration e-Content

Course Designers

Ms. T. Julie Mary

A. Anandhavalli

Semester: VI	Internal Marks:25		External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS./WEEK**	**CREDITS**
23UCG6CC13	**DATA STRUCTURES & ALGORITHMS**	**CORE**	**6**	**5**

Course Objective

- To learn the concept of Data Structure and different ways of organizing data and performing various operations on that data.
- To articulate the essential components of data structures like Stack, Queue, List, Trees& Graphs.
- To get familiarize knowledge with designing an algorithm using data structures

Course Outcomes and Cognitive Level Mapping

On the successful completion of the course, students will be able to:

CO Number	CO Statement	Cognitive level
CO1	Recognize and Understand data organization, data structure operations	K1,K2
CO2	Design the various types of algorithms and data structure	K2,K3
CO3	Demonstrate problems to represent the linear and nonlinear structures by recognizing its memory representation and traversal techniques.	K3,K5
CO4	Implement and evaluate various techniques of algorithms using suitable data structures.	K4,K5
CO5	Analyze the different design technique of algorithm and recommend the technique for practical problems	K4,K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	2	3	3	3	3	2
CO2	3	3	3	3	2	3	3	3	3	2
CO3	3	3	3	3	3	3	3	3	3	2
CO4	3	3	2	2	2	2	2	2	2	2
CO5	3	3	2	2	2	2	2	2	2	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURs	COs	COGNITIVE LEVEL
I	**Data Structures** **Introduction and Overview**: Introduction- Basic Terminology –Data Structures- Data Structure Operations. **Arrays** – Introduction – Linear Arrays-Representation of Linear Arrays in Memory-Traversing Linear Arrays-Multidimensional Arrays-Two Dimensional Arrays – Representation of Two Dimensional Arrays in Memory. **Stacks& Queues:** Stacks-Array Representation of Stacks - Arithmetic Expressions, Polish Notation – Recursion – Queues– Deques-Priority Queues.	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
II	**Linked Lists:** Overview of Linked List – Representation of Linked Lists in Memory – Traversing a Linked List –Searching a Linked List-Memory allocation; Garbage Collection-Insertion into a Linked List – Deletion from a Linked List – Two-way Lists – Operations on Two-way Lists.	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
III	**Trees & Graphs: Trees:** Introduction- Binary Trees – Representing Binary Trees in Memory – Traversing Binary Trees – Header nodes ;Threads –Binary Search Trees. **Graphs**: Graph Theory Terminology – Sequential Representation of Graphs: Adjacency Matrix, Path Matrix – Linked representation of a Graph– Traversing a Graph.	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
IV	**Algorithm** **Introduction:** Algorithm-Algorithm Specification-Performance Analysis-**Divide & Conquer:** General method- Binary Search-Finding maximum and minimum-Merge Sort-Quick sort. **The Greedy Method:** General Method - Knapsack Problem – Job Sequencing With Deadlines.	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
V	**Dynamic programming:** General method-All-pairs shortest paths-Single source shortest path-Travelling Sales Person problem. **Back tracking:** The General Method – The 8-Queens Problem – Sum of Subsets – Graph Coloring.	15	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5
VI	**Self Study for Enrichment** (**Not To Be Included for End Semester Examinations)** Linear search-Sorting list elements-Searching and inserting elements in binary search trees- Spanning trees-Minimum cost spanning trees-Insertion sort-Bubble sort- Selection Sort- Heap Sort- Branch and bound method.	-	CO1 CO2 CO3 CO4 CO5	K1 K2 K3 K4 K5

Text Books

1. Seymour Lipschutz. (2008).*Data Structures*, McGraw Hill Education India Private Limited, New Delhi, Revised First Edition.(**Unit I, II & III**)
2. EllisHorowitz,SartajSahni and Sanguthevar Rajasekaran,(2015), *Fundamentals of Computer Algorithms*,2nd Edition, Universities Press.(**Unit IV& V**)

Reference Books

1. Jean-Paul Tremblay and Paul G. Sorenson,(2017) , *An Introduction to Data Structures with Applications.* Second Edition. Tata McGraw-Hill, New Delhi.
2. Alfred V. Aho, John E. Hopcroft and Jeffry D. Ullman.(2006).*Data Structures and Algorithms.* Pearson Education, New Delhi.
3. Ellis Horowitz, Sartaj Sahni.(2010),*Fundamentals of Data Structure.* Galgotia Publications.

Web References

1. www.studytonight.com/data-structures
2. https://lpuguidecom.files.wordpress.com/2017/04/fundamentals-of-data-structures-ellis-horowitz-sartaj-sahni.pdf
3. https://www.slideshare.net/canaokar/fundamentals-of-computer-algorithms-by-horowitz-sahni-rajsekaran
4. https://www.geeksforgeeks.org/data-structures/

Pedagogy

Chalk & talk, Assignment, Power Point Presentation, Seminar, e-Content.

Course Designer

Ms**.**K.Sangeetha

MINUTES OF THE ELEVENTH MEETING OF THE BOS

DATE: 10.10.2024

VENUE: Research Room

TIME: 10.30 a.m.

Members Present:

1.	Dr. V. Sinthu Janita	Chairperson, Professor & HoD
2.	Ms. N. Girubagari	Member & Head In-Charge
3.	Dr. A.R. Jasmine Begum	Member
4.	Dr. H. Krishnaveni	Member & Cognitive Systems Co-Ordinator
5.	Ms. A. Sahaya Jenitha	Member
6.	Ms. K. Pradeepa	Member
7.	Dr. K. Reka	Member
8.	Ms. S. Udhayapriya	Member
9.	Ms. P. Muthulakshmi	Member
10.	Ms. R. Sridevi	Member
11.	Ms. R. Rita Jenifer	Member
12.	Ms. V. Kavitha	Member
13.	Ms. R. Sangeetha	Member
14.	Ms. S. Saranya	Member
15.	Ms. N. Agalya	Member
16.	Ms. R. Ramya	Member
17.	Ms. M. Suriya Priyadharshini	Member

Rita Jenifer was granted leave of absence due to pre-occupation

ACTION TAKEN REPORT OF THE BOS HELD ON 03.04.2024

The BoS Meeting was held on 03.04.2024 at 01.30 p.m. The Chairman of the BoS read the minutes of the previous meeting and the following Resolutions were confirmed

- Confirmation of VI Semester Syllabus of B.Sc. Computer Science for 2022 - 2023 batch and onwards
- Confirmation of the Syllabus of CC - I and CP - I of Semester I of B.Sc. Computer Science for 2024 - 2025 batch and onwards
- Confirmation of the Syllabus of SAC - I and the Credits of SAC – II of Semester III of B.Sc. Mathematics for 2023 - 2024 batch and onwards
- Confirmation of the syllabus of Value Added Course for the Academic Year 2024 – 2025

- Ratification of Syllabus of III Semester CC – III, Credits of IV Semester CC – IV of B.Sc. Computer Science for 2023 - 2024 batch and onwards
- Ratification of the Credits of CC - V, Course Code of CP - III, and Syllabus of CC - VI of Semester III of B.Sc. Computer Science with Cognitive Systems for 2023 - 2024 batch and onwards
- Ratification of the Credits of CC – VII of Semester IV of B.Sc. Computer Science with Cognitive Systems for 2023 - 2024 batch and onwards
- Ratification of the Syllabus of CC – I, CC - II and CP - I of Semester I of B.Sc. Computer Science with Cognitive Systems for 2024 - 2025 batch and onwards
- Ratification of the Syllabus of CC - VI, Credits of CP - III of Semester III and Credits of Project Work in Semester IV of M.Sc. Computer Science for 2023 - 2024 batch and onwards
- Ratification of Syllabus of CC - III of Semester I of M.Sc. Computer Science of 2024 – 2025 batch and onwards

MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 10.10.2024

RESOLUTION NO.BOS/11/24/01

Resolved to approve the syllabus of CC – V and CP – VI and the ratification of the Credits and Course Code of CC - V, CC - VI, CC - VII and DSE - I of Semester V and CP - VIII, DSE - II of Semester VI for B.Sc. Computer Science for 2023 - 2024 batch and onwards and recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy - 18 with the following changes for

1. CC – V – Programming in PHP is introduced with 5 Credits and Course Code 23UCS5CC5. The Syllabus is taken from BCA - 23UCA5CC6 of 2023 – 2024 batch
2. CP – VI - Programming in PHP(P) is introduced with Course Code 23UCS5CC6P
3. Credits of CC – VI - Operating Systems is changed as 5 with Course Code 23UCS5CC6
4. Credits of CC – VII - Computer Networks is changed as 5 with Course Code 23UCS5CC7
5. Credits of DSE – I changed as 3 with Course Code of
   - 23UCS5DSE1A for Computer Architecture
   - 23UCS5DSE1B for Computer Graphics
   - 23UCS5DSE1C for Artificial Intelligence

6. Credits of CP – VIII – Open Source Technologies(P) changed as 3 with Course Code changed as 23UCS6CC8P
7. Credits of DSE – II changed as 3 with Course Code of
   - 23UCS6DSE2A for Software Engineering
   - 23UCS6DSE2B for Fundamentals of Bigdata & IoT
   - 23UCS6DSE2C for Open Source Technologies

Resolved to carry out the changes as given in *Annexure A*

RESOLUTION NO.BOS/11/24/02

Resolved to ratify the Credits and Course Code of CC - VIII, CC - IX, CC – X of Semester V and CC – XII, CC - XIII of Semester VI for B.Sc. Computer Science with Cognitive Systems for 2023 - 2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy – 18 with the following changes for

1. Credits of CC - VIII - Software Testing (T&P) is changed as 4 with Course Code 23UCG5CC8
2. Credits of CC - IX - Introduction to Digital Technologies (T&P) is changed as 5 with Course Code 23UCG5CC9
3. Credits of CC - X - Client Relationship Management (T&P) is changed as 5 with Course Code 23UCG5CC10
4. Credits of CC - XII - Python Programming (T&P) is changed as 5 with Course Code 23UCG6CC12
5. Credits of CC - XIII - Data Structure & Algorithms is changed as 5 with Course Code 23UCG5CC13
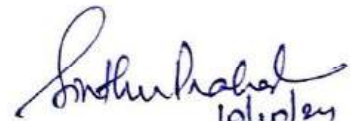
Resolved to carry out the changes as given in *Annexure B*

Ms. N. Girubagari, Associate Professor proposed the Vote of Thanks and expressed her gratitude for the valuable suggestions given by the internal BoS members during the BoS meeting for the period 2024 - 2025 and thanked all the members of BOS

10|10|24

Chairman of the Board

Dr. V.SINTHU JANITA PRAKASH
Head, PG & Research
Department of Computer Science
Cauvery College for Women
Tiruchirappalli-620 018.

10|10|24

Dean of Science

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018
PG & Research Department of Computer Science
11th Board of Studies Meeting Held on 10/10/2024

1. **Introduction of new courses from the academic year 2024-2025 based on the Feedback collected from various Stakeholders**

The Chairman of the Board Dr.V.Sinthu Janita Prakash, proposed the introduction of the following New Course(s) in the curriculum of the B.Sc., Computer Science from the Academic Year 2024-2025.

Name of the Programme	Name of the Course	Course Code	Year of Introduction
B.Sc., Computer Science	Programming in PHP	23UCS5CC5	2024
	Programming in PHP(P)	23UCS5CC6P	2024
B.Sc., Computer Science with Cognitive Systems	-	-	-
M.Sc., Computer Science	-	-	-

2. **Revision of syllabus of the existing courses from the academic year 2024 -2025**

The Chairman of the Board, Dr.V.Sinthu Janita Prakash, proposed the revision of syllabus in the curriculum of the B.Sc., Computer Science, B.Sc., Computer Science with Cognitive Systems, B.Sc., Mathematics and M.Sc., Computer Science from the Academic Year 2024 - 2025.

Name of the Programme	Name of the Course	Course Code	Core/Elective	% of Content added or replaced
B.Sc., Computer Science	-	-	-	-
B.Sc., Computer Science with Cognitive Systems	-	-	-	-
M.Sc., Computer Science	-	-	-	-

Chairman of the Board

10/10/24

Dr. V.SINTHU JANITA PRAKASH
Head, PG & Research
Department of Computer Science
Cauvery College for Women
Tiruchirappalli-620 018.

Dean of Science 10/10/24

DEAN OF SCIENCE
CAUVERY COLLEGE FOR WOMEN
(AUTONOMOUS)
ANNAMALAI NAGAR
TIRUCHIRAPPALLI - 620 018
TAMILNADU

ANNEXURE M

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with "A" Grade by NAAC

Annamalai Nagar, Trichy – 18.

DEPARTMENT OF COMPUTER APPLICATIONS

AUTONOMOUS SYLLABUS

BOARD OF STUDIES – XI

2024 – 2025

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

NATIONALLY ACCREDITED (III CYCLE) WITH "A" GRADE BY NAAC

TIRUCHIRAPPALLI – 18

DEPARTMENT OF COMPUTER APPLICATIONS

Bachelor of Computer Applications
2023-2024
onwards
SYLLABUS

Semester	Part	Course	Course Title	Course Code	Inst. Hrs./ week	Credits	Exam Hrs.	Marks Int	Marks Ext	Total
I	I	Language Course - I(LC)	Podhu Tamil – 1	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I- French I	23ULF1						
	II	English Language Course - I (ELC)	General English –I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	Python Programming	23UCA1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Python Programming Lab (P)	23UCA1CC1P	3	3	3	40	60	100
		First Allied Course - I(AC)	Numerical Methods	23UCA1AC1	4	3	3	25	75	100
		First Allied Course - II (AC)	Statistical Methods andits Application - I	23UCA1AC2	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course - I(AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**22**				**700**
II	I	Language Course – II (LC)	Podhu Tamil –II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar – II	22ULH2						
			Prose,Grammer and History of Sanskrit literature	23ULS2						
			Basic French–II	22ULF2						
	II	English Language Course - II (ELC)	General English -II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Programming in C++	23UCA2CC2	4	4	3	25	75	100
		Core Practical - II (CP)	Programming in C++ (P)	23UCA2CC2P	3	3	3	40	60	100
		Core Course -III (CC)	Data Structures	22UCA2CC3	3	3	3	25	75	100
		First Allied Course – III (AC)	Operations Research	22UCA2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course - II(AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course - III(AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**800**

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Exam Marks Int	Exam Marks Ext	Total
III	I	Language Course - III (LC)	Podhu Tamil – III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar -III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French-I	22ULF3						
	II	English Language Course - III (ELC)	Learning Grammar Through Literature – I	23UE3	6	3	3	25	75	100
	III	Core Course – IV (CC)	Database Management Systems	23UCA3CC4	6	5	3	25	75	100
		Core Practical – III (CP)	Database Management Systems (P)	22UCA3CC3P	3	3	3	40	60	100
		Second Allied Course – I (AC)	Financial Accounting	22UCA3AC4	4	3	3	25	75	100
		Second Allied Course – II (AP)	Computer Applications in Business (P)	23UCA3AC5P	3	3	3	40	60	100
	IV	Generic Elective Course - I (GEC)	Animation Tools - I (P)	22UCA3GEC1P	2	2	3	40	60	100
			Basic Tamil - I	22ULC3BT1				25	75	
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
			Total		**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs.	Exam Marks Int	Exam Marks Ext	Total
IV	I	Language Course - IV (LC)	Podhu Tamil – IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French – II	22ULF4						
	II	English Language Course – IV (ELC)	Learning Grammar Through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course – V(CC)	Programming in Java	23UCA4CC5	6	5	3	25	75	100
		Core Practical – IV (CP)	Java Programming (P)	23UCA4CC4P	4	4	3	40	60	100
		Second Allied Course - III (AC)	Business Communication	22UCA4AC6	4	3	3	25	75	100
		Internship	Internship	22UCA4INT	-	2	-	100	-	100
	IV	Generic Elective Course - II (GEC)	Animation Tools - II (P)	22UCA4GEC2P	2	2	3	40	60	100
			Basic Tamil - II	22ULC4BT2				25	75	
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course – I(SEC)	Documentation and Presentation Tools (P)	22UCA4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
			Total		**30**	**24**				**800**

		Core Course – VI (CC)	Programming in PHP	23UCA5CC6	6	5	3	25	75	100
V	III	Core Practical – V (CP)	PHP with MYSQL (P)	23UCA5CC5P	4	3	3	40	60	100
		Core Course – VII (CC)	Software Engineering	23UCA5CC7	6	5	3	25	75	100
		Core Course – VIII (CC)	Data Mining	22UCA5CC8	5	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	MATLAB (P)	23UCA5DSE1AP	5	3	3	40	60	100
			Data Mining (P)	23UCA5DSE1BP						
			R Programming (P)	23UCA5DSE1CP						
	IV	Ability Enhancement Compulsory Course – IV (AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	Data Analytics using Excel (P)	22UCA5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
Total					**30**	**25**				**700**
VI	III	Core Course – IX (CC)	Computer Networks	23UCA6CC9	6	5	3	25	75	100
		Core Course – X (CC)	Operating Systems	23UCA6CC10	5	4	3	25	75	100
		Core Practical– VI (CP)	.Net Programming (P)	22UCA6CC6P	3	3	3	40	60	100
		Core Course – XI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective – II (DSE)	Internet of Things	23UCA6DSE2A	5	3	3	25	75	100
			Artificial Intelligence	23UCA6DSE2B						
			Cloud Computing	23UCA6DSE2C						
		Project	Project Work	22UCA6PW	5	4	-	-	100	100
	IV	Ability Enhancement Compulsory Course-V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension Activity		22UGEA	0	1	0	-	-	-
Total					**30**	**25**				**700**
Grand Total					**180**	**140**				**4400**

V SEMESTER

Semester V	Internal Marks:25			External Marks:75	
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**HRS/WEEK**	**CREDITS**
23UCA5CC6 / 23UCS5CC5	**Programming in PHP**		**CORE**	**6**	**5**

Course Objectives

- To understand the fundamentals of web programming for design a web page using PHP.

- The students shall be able to develop a simple webpage using PHP with MySQL.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Outline the basic concepts in PHP Programming	K1
CO2	Describe the logical structure of PHP Programming	K2
CO3	Construct the web page using PHP Programming	K3
CO4	Analyze the PHP Programming concepts to develop Website	K4
CO5	Develop a real-time website using PHP Programming	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	2	2	2	2	3	3	2	2	2

"1"-Slight (Low) Correlation   "2"-Moderate (Medium) Correlation

"3"- Substantial (High) Correlation   "-"- Indicates there is no Correlation

Syllabus

UNIT	Contents	HOURS	COs	COGNITIVE LEVEL
I	**Essential PHP** Essential PHP: Creating your Development Environment - Creating a First PHP Page-Mixing HTML and PHP - Printing Some Text- Printing Some HTML- More Echo Power- Using PHP "Here" Documents - Adding Comments to PHP - Variables - Constants - Data Types, Operators and Flow Control.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**PHP Basics** Strings and Arrays - Creating Functions- Reading Data in Web Pages: Setting Up Web Pages to Communicate with PHP - Handling Text Fields and Text Areas- Handling Check Boxes and Radio Buttons - Handling List Boxes, Password Controls, Hidden Controls, Image Maps, File Uploads and Buttons.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**OOPS Concepts** Object-Oriented Programming: Creating Classes and Objects - Setting Access to Properties and Methods - Using Constructors and Destructors - Inheritance - Overriding, Overloading Methods, Autoloading Classes. Advanced Object-Oriented Programming: Creating Static Methods, Abstract Classes, Interfaces and Class Constants, Supporting Object Iteration - Using Final Keyword - Cloning Objects - Reflection.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Browser-Handling, Session, Cookies and FTP** PHP Browser-Handling Power – Session, Cookies and FTP: Setting, Reading, Deleting Cookies - Working with FTP - Downloading, Uploading, and Deleting a File with FTP - Creating and Removing Directories with FTP - Working with E-mail-Storing Data and Writing a Hit Counter using Sessions.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**File Handling and MySQL using PHP** File Handling - Working with Databases: Accessing the Database in PHP -Update Data into the Database- Insert Data into the Database - Delete Data from Database.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self-Study for Enrichment (Not to be included for End Semester Examination)** History of PHP – Getting PHP – PHP's Internal Data Types –Working with Database: What is Database? – Some Essential SQL – Creating a MySQL Database and Table – Putting data into the New Database.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Textbook

    1. Steven Holzner. (2012), The Complete Reference PHP, Tata McGraw Hill Pvt. Ltd.

References

1. Rasmus Lerdorf, Kevin Tatroe, Peter MacIntyre. (2013), Programming PHP, 3rdEdition, O'Reilly.

2. Luke Welling, Laura Thomson. (2017), PHP and MySQL Web Development, 5thEdition, Pearson India Education Services Pvt. Ltd.

Web References
1. https://www.phptutorial.net/
2. https://www.javatpoint.com/php-tutorial
3. https://www.w3schools.com/php/
4. https://www.geeksforgeeks.org/php-examples/
5. https://www.tutorialspoint.com/php/index.htm

Pedagogy

Chalk &Talk, PowerPoint Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Ms. V. Yasodha, Assistant Professor, Department of Computer Applications.

Semester V	Internal Marks:40			External Marks:60	
COURSECODE	**COURSE TITLE**	**CATEGORY**	**HRS/WEEK**	**CREDITS**	
23UCA5CC5P	**PHP with MySQL (P)**	**CORE**	**4**	**3**	

Course Objectives

- To inculcate the PHP web programming knowledge

- To create a basic knowledge about developing web page.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Recall the syntax and semantics of PHP.	K1
CO2	Identify suitable techniques to construct a web page.	K2
CO3	Implement the PHP concepts to develop a website	K3
CO4	Analyze the logical structures which are used to the real-time applications.	K4
CO5	Develop a real-time application using PHP programming	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	2	2	2	2	3	3	2	2	2

"1"-Slight (Low) Correlation   "2"-Moderate (Medium) Correlation
"3"- Substantial (High) Correlation   "-"- Indicates there is no Correlation

List of Practical

1. Basic HTML tags.
2. get() and post() methods.
3. Validation.
4. String Handling functions.
5. Arrays.
6. COOKIES.
7. SESSIONS.
8. FILE Handling.
9. Database Connection.

Web References

1. https://www.phptutorial.net/
2. https://www.javatpoint.com/php-tutorial
3. https://www.w3schools.com/php/
4. https://www.geeksforgeeks.org/php-examples/
5. https://www.tutorialspoint.com/php/index.htm

Pedagogy

 PowerPoint Presentations, Demonstrations and Practical Sessions.

Course Designer

Ms. V. Yasodha, Assistant Professor, Department of Computer Applications.

Semester V	Internal Marks: 25			External Marks: 75
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UCA5CC7	Software Engineering	CORE	6	5

Course Objectives

- To make the students to understand basics of software engineering
- To provide knowledge in various phases of Software Engineering Process
- To apply object-oriented analysis and design concepts

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statements On the successful completion of the course, students will be able to	Cognitive Level
CO1	Describe the basics of Software Engineering	K1
CO2	Summarize the design models	K2
CO3	Explain object-oriented analysis and design concepts	K4
CO4	Demonstrate the coding of a software	K3
CO5	Evaluate various software testing techniques	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	1	3	3	2	3	1
CO2	3	2	3	2	1	3	2	2	3	3
CO3	3	3	3	2	2	3	3	2	3	2
CO4	3	2	2	2	2	3	3	2	3	1
CO5	2	3	3	2	2	2	3	2	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

Syllabus

UNIT	Contents	HOURS	COs	COGNITIVE LEVEL
I	**Software Engineering-Introduction:** Introduction to Software Engineering -Software Process - Software Process Models -Software product. **Requirements Engineering Principles**: Introduction - Types of Requirements - Steps involved in Requirement Engineering.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Requirement Analysis Modeling**: Analysis Modeling Approaches - Structured Analysis - Object Oriented Analysis. **Design and Architectural Engineering**: Design Process and Concepts - Basic Issues in Software Design - Characteristics of Good Design - Software Design and Software Engineering - Modularity, Cohesion, Coupling, Layering - Real Time Software Design -Design Models	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Object Oriented Concepts:** Introduction - Fundamental Parts of Object-Oriented Approach - Data Hiding and Class Hierarchy Creation - Relationships - Design Patterns – Frameworks**. Object Oriented Analysis and Design**: Object Oriented Analysis - Object Oriented Design.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**User Interface Design:** Concepts of User Interface - Elements of User Interface -Designing the User Interface - User Interface Evaluation -Golden Rules of User Interface Design - User Interface Models –Usability. **Software Coding:** Introduction - Coding Conventions – Key Concepts in Software Coding.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Introduction to Software Testing**: Introduction - Software Testing Objectives - Types of Software Testing. **Software Maintenance:** Introduction - Maintenance Activities - Maintenance Process - Maintenance Cost - Software Evolution - Reverse Engineering - Re-engineering - Re-structuring - Maintenance Strategies - Issues in Software Maintenance.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

VI	Self Study for Enrichment (Not to be included for End Semester Examination) Requirements Engineering - Importance of Requirements - Function Oriented System vs Object Oriented System Models - Design Documentation - Role of UML in OO Design – Programming Principles – Programming Guidelines – Psychology of Testing – Software Testing Scope - Strategic Approach to Software Testing	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Textbook

1. Chandramouli Subramanian, Saikat Dutt, Chandramouli Seetharaman, B.G.Geetha, (2018). Software Engineering, Pearson Publications.

References

1. Jibitesh Mishra, (2011). Software Engineering, Pearson Education.
2. Richard E. Fairley, (2001). Software Engineering Concepts, Tata McGraw-Hill Publishing Company Ltd.
3. Roger S.Pressman, Bruce R.Maxim, (2014). Software Engineering: A Practitioner's Approach, Tata McGraw-Hill Publishing Company Ltd.

Web References

1. https://www.tutorialspoint.com/software_engineering/
2. https://www.geeksforgeeks.org/software-engineering/
3. https://www.slideshare.net/pashadon143/se-46394097/

Pedagogy

Chalk & Talk, PowerPoint Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Ms.A.Jabeen, Assistant Professor, Department of Computer Applications.

Semester V	Internal Marks : 40			External Marks : 60
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS/WEEK**	**CREDITS**
23UCA5DSE1AP	**MATLAB (P)**	**DSE**	**5**	**3**

Course Objective

- To develop programming skills and technique to solve mathematical problems

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statements On the successful completion of the course, students will be able to	Cognitive Level
CO1	Identify the logic for a given a problem	K1
CO2	Recognize the syntax and construction of MATLAB programming code	K2
CO3	Analyze the concepts various functions	K3
CO4	Interpret and visualize simple mathematical functions and operations	K4
CO5	Implement simple mathematical functions/equations in numerical computing environment	K4

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	1	1	3	2	1	2	2
CO2	3	2	3	2	1	3	2	2	3	3
CO3	3	3	3	2	2	3	2	2	3	2
CO4	3	2	3	2	2	3	3	1	3	2
CO5	3	3	3	2	2	3	3	1	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

List of Practical

1. Arithmetic Operations
2. Complex Numbers
3. Control Flow
4. Array Indexing
5. Functions
6. Matrix Operations
7. Plotting
8. Image Processing
9. Mathematical Computing
10. Packages

Web References

1. https://www.math.unipd.it/~mrrusso/Didattica/NA-Yaounde/LAB1/Exercises1.pdf

2. https://engineeringservicelearning.ucmerced.edu/sites/engineeringservicelearning.ucmerced.edu/files/page/documents/lab1finalversionpdf.pdf

3. https://lo.unisa.edu.au/pluginfile.php/724774/mod_resource/content/1/MME_1_Practicals_guide_2013_02_25.pdf

Pedagogy

PowerPoint Presentation, Demonstration, Discussion and Practical Sessions.

Course Designer

Ms. A. Anandhavalli, Assistant Professor, Department of Computer Applications.

Semester V	Internal Marks: 40		External Marks: 60	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS/WEEK**	**CREDITS**
23UCA5DSE1BP	**Data Mining (P)**	**DSE**	**5**	**3**

Course Objective

- To impact training on data mining tasks with data mining toolkit-WEKA

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statements On the successful completion of the course, students will be able to	Cognitive Level
CO1	Understand how to perform data mining tasks using the WEKA Toolkit	K1
CO2	Recognize various kinds of implementation	K2
CO3	Demonstrate the Pre-processing, Classification, etc. in large data sets	K3
CO4	Ability to apply algorithms as a component to the existing tools	K3, K4
CO5	Implement simple mining techniques for realistic data.	K4

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	1	1	3	3	2	3	2
CO2	3	2	3	2	1	3	2	2	3	3
CO3	3	3	3	2	2	3	3	2	3	2
CO4	3	2	3	2	2	3	3	2	3	2
CO5	3	3	3	2	2	3	3	2	2	3

"1" – Slight (Low) Correlation "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation "-" indicates there is no correlation.

List of Practical

      1. Data Exploration and Preprocessing

      2. Classification

      3. Performance Evaluation and other classifiers

      4. Association Analysis

      5. Clustering

      6. Data Visualization

      7. Knowledge Flow

      8. Experimenter

      9. Feature Selection

Web References

4. https://cobweb.cs.uga.edu/~khaled/DMcourse/Weka-Tutorial-Exercises.pdf

5. https://ppawar.github.io/Spring2020/CSE351-S20/Exercises/Weka%20activity%20-%201%20April%2020.pdf

6. https://uh.edu/~smiertsc/4397cis/Chapter_4_Using_WEKA.pdf

Pedagogy

PowerPoint Presentation, Demonstration, Discussion and Practical Sessions.

Course Designer

Ms. A. Anandhavalli, Assistant Professor, Department of Computer Applications.

Semester V	Internal Marks:40		External Marks: 60	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS / WEEK**	**CREDITS**
23UCA5DSE1CP	**R Programming (P)**	DSE	5	3

Course Objective

- To be able to perform operations using R Programming

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Understand and use R – Data Structures.	K2
CO2	Explain the basic functions to enhance the effective usage of R Programming	K2
CO3	Apply R programming and understand different data frames	K3
CO4	Organize R Programme using charts	K4
CO5	Analyze vector using R – programming capabilities	K4

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	2	1	1	3	3	2	3	2
CO2	3	2	3	1	1	3	2	2	3	3
CO3	3	3	3	2	2	3	3	2	3	2
CO4	3	2	3	2	2	3	3	2	3	2
CO5	3	3	3	2	2	3	3	2	2	3

"1"- Slight (Low) Correlation   "2"-Moderate (Medium) Correlation
"3" –Substantial (High) Correlation   "-" - Indicates there Is no Correlation

List of Practical

1. Create three vectors such as numeric data, character data and logical data. Display the content of the vectors and their type.
2. Create a simple bar plot of five subject marks of a student
3. Create a function to print squares of numbers in sequence.
4. Create data frames which contain details of 5 employees and display summary of the data.
5. Create an array of two 3x3 matrices for two given vectors.
6. Extract 3rd and 5th rows with 1st and 3rd columns from a given data frame.
7. Generate inner, outer, left, right join (merge) from given two data frames.
8. Demonstrate use of histogram.
9. Demonstrate box plot function.
10. Create pie plot using R.

Web References

1. https://www.jnec.org/labmanuals/it/te/sem1/R-lab.pdf
2. https://cdlsiet.ac.in/wp-content/uploads/2023/03/R-Language-Lab-Manual-lab-1.pdf
3. https://kottesandeep.blogspot.com/2022/03/r-programming-lab.html

Pedagogy

PowerPoint Presentation, Discussion, Demonstration and Practical Session.

Course Designer

Dr.Lakshna Arun, Associate Professor, Department of Computer Applications

VI SEMESTER

Semester VI	Internal Marks: 25		External Mark: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UCA6CC9	Computer Networks	CORE	6	5

Course Objectives

- To understand various network reference models
- To discuss various routing algorithms
- To analyze functions of layers

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, the students will be able to	Cognitive Level
CO1	Describe various network reference models	K1
CO2	State the concepts of physical layer and data link layer	K1
CO3	Discuss the various routing algorithms	K2
CO4	Sketch the protocols of transport layers	K3
CO5	Analyze the functions of application layer	K4, K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	3	3	3	3	2
CO2	3	3	3	2	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	2	3	3	3	3	3	3	3	3	3
CO5	2	3	3	2	2	3	3	3	3	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation

"3" – Substantial (High) Correlation   "-" indicates there is no correlation.

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction** – Uses of Computer Networks – Network Hardware – Network Software: Protocol Hierarchies – Design Issues for the Layers – Connection Oriented and Connectionless Services – Service Primitives **Reference models:** The OSI Reference Model – TCP/IP Reference Model.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**The Physical Layer**: Guided Transmission Media. **Public Switched Telephone Network**: Structure of Telephone System – Switching. **The Data link Layer:** Data link layer Design Issues – Error Detection and Correction – Elementary Data Link Protocol - Sliding Window Protocol.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**The Network Layer**: The Network Layer Design Issues – **Routing Algorithms:** The Optimality Principle – Shortest Path Routing – Flooding – Distance Vector Routing – Link State Routing – Hierarchical Routing - Congestion Control Algorithms	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**The Transport Layer:** The Transport Service – Elements of Transport Protocols – **Internet Transport Protocols:** Introduction to UDP – RPC – TCP: TCP Service Model – TCP Protocol – TCP Segment Header.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**The Application Layer:** The DNS Name Space – E-mail: Architecture and Services – The user Agent - Message Formats -Message Transfer – Final Delivery	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self - Study for Enrichment** **(Not included for End Semester Examinations)** Example networks – Communication Satellites – The World Wide Web – Communication Security	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

Andrew S. Tanenbaum, David J. Wetherall. (2022). Computer Networks, 5th Edition, Pearson Education Inc.

Reference Books

1. Behrouz A. Forouzan. (2017). Data Communications and Networking, 5th Edition, Tata McGraw-Hill.

2. William Stallings. (2013). Data and Computer Communication, 10th Edition, Pearson.

Web References

1. https://www.geeksforgeeks.org/layers-of-osi-model/

2. https://www.geeksforgeeks.org/classification-of-routing-algorithms/

3. https://www.tutorialspoint.com/communication_technologies/

Pedagogy

Chalk and Talk, PowerPoint Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Ms. A. Jabeen, Assistant Professor, Department of Computer Applications.

Semester VI	Internal Marks:25		External Marks:75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS/ WEEK**	**CREDITS**
23UCA6CC10	**Operating Systems**	**CORE**	**5**	**4**

Course Objectives

- ☐ To understand the basic concepts of operating systems
- ☐ To understand the concept of Process Management, Synchronization
- ☐ To get in depth knowledge of various scheduling algorithm

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Understand the conceptual view of operating systems	K1
CO2	Describe Process Management & Synchronization	K3
CO3	Explain various Scheduling and deadlock	K3
CO4	Discuss Memory Management & Mass Storage	K3, K4
CO5	Illustrate File Systems	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	2	1	3	2	3	3	3	3	3
CO2	1	3	3	3	3	3	3	3	3	2
CO3	3	3	3	2	1	3	3	3	3	3
CO4	3	2	3	3	3	3	2	2	3	3
CO5	3	3	3	3	3	3	3	3	2	3

"1"–Slight (Low) Correlation   "2"–Moderate (Medium)Correlation

"3"–Substantial (High)Correlation   "–" indicates there is no correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction:** Objectives and Functions – Different Views of an OS – Evolution of Operating Systems – Types of Operating System – Comparison between different Operating Systems –Computer System Organization –Computer System Architecture – Operating System Operations – Operating System Structures: System Components – Operating system Services.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Process Management:** Introduction – Process Concept – Process Scheduling – Operations on Process – Cooperating Processes – Interposes Communication. Process **Synchronization:** Principles of Concurrency – Precedence Graph – Critical regions – Synchronization: Software Approaches –Semaphores.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Threads**: Introduction – Thread concept – Multithreading Models – Threading Issus **CPU Scheduling:** Introduction – Scheduling Concepts – Scheduling Criteria – Scheduling Algorithm – Multiprocessor Scheduling– Real–time Scheduling – Algorithm Evaluation – Thread Scheduling.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Deadlock:** System Model – Deadlock Characterization –Method for Handling Deadlock – Deadlock Prevention – Deadlock Avoidance – Deadlock Detection – Deadlock Recovery. **Memory Management Strategies:** Background – Contiguous Memory Allocation – Non – Contiguous Memory Allocation – Swapping – Overlays.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Mass Storage:** Introduction – Disk Structure – Disk Scheduling –Disk Management – Swap Space Management – **Virtual Memory:** Demand Paging – Process creation – Page Replacement– Thrashing. **File Systems:** Introduction – Basic concept – Directories – File System Mounting – Record Blocking – File Sharing – Protection.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self – Study for Enrichment** (Not to be included for End Semester Examinations) OS Design Considerations for Multiprocessor and Multicore, 7 UNIX SVR4 Process Management, Buddy System, Traditional UNIX Scheduling	–	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text Book

Rohit Khurana. (2018). Operating Systems, 2nd Edition, Vikas Publishing House Pvt.Ltd, New Delhi.

Reference Books

1. Andrew Tanenbaum. (2011). Operating Systems and Design Implementation, 3rd Edition, Pearson Education.

2. Ann Mclver McHone's, IdaFlynn. (2018). Understanding Operating Systems, 6th Edition, Engage Learning, New Delhi.

Web References

1. https://www.geeksforgeeks.org/what-is-an-operating-system
2. https://www.gatevidyalay.com/operating-system/
3. https://www.javatpoint.com/operating-system
4. https://www.geeksforgeeks.org/cpu-scheduling-in-operating-systems/
5. https://www.scaler.com/topics/operating-system/deadlock-in-os/

Pedagogy

Chalk and Talk, PowerPoint Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr.T. Julie Mary, Associate Professor, Department of Computer Applications.

Semester VI	Internal Marks:25			External Marks:75
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS/WEEK**	**CREDITS**
23UCA6DSE2A	**Internet of Things**	**DSE**	**5**	**3**

Course Objective

- Recognize the underlying concepts of Internet of Things

- Describe the IoT design methodology and IoT devices

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	Outline the Concepts of IoT	K1
CO2	Summarize Technologies of IoT	K2
CO3	Build the methodologies based on IoT	K3
CO4	Examine the programming concepts to develop programs	K4
CO5	Develop a program to solve real-time problems	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	2	2	2	2	3	3	2	2	2

"1"-Slight (Low) Correlation   "2"-Moderate (Medium) Correlation

"3"- Substantial (High) Correlation   "-"- Indicates there is no Correlation

Syllabus

UNIT	Contents	HOURS	COs	COGNITIVE LEVEL
I	**Introduction to Internet of Things**: Introduction- Definition & Characteristics of IoT. Physical **Design of IoT**: Things in IoT-IoT Protocols. Logical **Design of IoT**: IoT Functional Blocks-IoT Communication Models-IoT Communication APIs	**15**	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**IoT Enabling Technologies**: Wireless Sensor Network-Cloud Computing-Communication Protocols-Embedded Systems. IoT and M2M: Introdction-M2M -Difference between IoT and M2M: SDN and NFV for IoT -Software Defined Networking-Network Function Virtualization.	**15**	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Domain Specific IoTs**: Introduction- Home Automation Cities-Environment-Retail Logistics-Industry-Health & Lifestyle.	**15**	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Developing Internet of Things**: IoT Design Methodology. IoT Physical Devices & Endpoints-What Is an IoT Device-Exemplary Device: Raspberry Pi Linux on Raspberry Pi.	**15**	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Python Packages of Interest for IoT**: JSON- XML- HTTP Lib & URL Lib-SMTP Lib. Tools for IoT: Chef Puppet.	**15**	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** (**Not included for End Semester Examinations**) Big Data Analytics – Agriculture - Other IoT Devices - Home Automation - Productivity Application - NETCONG-YANG..	**-**	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text book

Arshdeep Bahga, Vijay Madisetti. (2015). Internet of Things: A Hands-On Approach, 1st Edition Universities Press (India) Private Limited.

UNIT I: Chapter 1 (1.1.1, 1.2.1, 1.2.2, 1.3.1, 1.3.2, 1.3.3)

UNIT II: Chapter 1(1.4) & Chapter 3 (3.1, 3.2, 3.3, 3.4)

UNIT III: Chapter 2(2.2, 2.3, 2.4, 2.6, 2.7, 2.8, 2.9, 2.10)

UNIT IV: Chapter 5(5.1, 5.2) & Chapter 7 (7.1, 7.2, 7.4, 7.7)

UNIT V: Chapter 6.11 & Chapter 9 (9.2, 9.6)

References

1. David Hanes, Gonzalo Salgueiro, Patrick Grossette, Robert Barton, Jerome Henry. (2017). IoT Fundamentals, Networking Technologies, Protocols and Use cases for Internet of Things, Cisco Press.

2. Olivier Hersent, David Boswarthick, Omar Elloumi. (2012). The Internet of Things –Key applications and Protocols, Wiley.

Web References

1. https://www.tutorialspoint.com/
2. https://www.guru99.com/
3. https://www.pythonforbeginners.com/

Pedagogy

Chalk &Talk, PowerPoint Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr. Lakshna Arun, Associate Professor, Department of Computer Applications.

Semester VI	Internal Marks: 25			External Marks:75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS/ WEEK	CREDITS	
23UCA6DSE2B	Artificial Intelligence	DSE	5	3	

Course Objectives

- To Study the concepts of Artificial Intelligence
- To learn the methods of solving problems using Artificial Intelligence
- To learn the knowledge representation and reasoning techniques

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, the students will be able to	Cognitive Level
CO1	Remember the basic concepts of AI	K1
CO2	Understand the AI problems & AI techniques	K2
CO3	Identify different AI techniques across multiple domains	K3
CO4	Examine AI algorithms by utilizing use cases	K4
CO5	Evaluate the use AI technique sin real-time situations	K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	2	3	3	3	3	2
CO2	3	3	3	2	3	3	3	3	2	3
CO3	3	3	3	3	3	3	3	3	3	3
CO4	2	3	3	3	3	3	3	3	3	3
CO5	2	3	3	2	2	3	3	3	3	3

"1"-Slight (Low) Correlation   "2"–Moderate(Medium)Correlation
"3"-Substantial(High)Correlation   "-"-indicates there is no Correlation.

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**What is Artificial Intelligence?** - The AI Problems - What is an AI Technique? – Criteria for Success - **Problems, Problem Spaces and Search:** Defining the Problem as State Space Search- Production Systems – Control Strategies – Algorithm: Breadth - First Search – Algorithm: Depth-First Search – Advantages of Depth - First Search and Breadth-First Search.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Heuristic Search Techniques:** Generate – and -Test – Algorithm: Generate – and - Test - Hill Climbing – Simple Hill Climbing – Algorithm: Simple Hill climbing – Best - First Search – OR-Graphs – Algorithm: Best-First Search -The A* Algorithm.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Heuristic Search Techniques:** Problem Reduction – AND -OR Graphs – Algorithm- Problem Reduction - The AO*Algorithm – Algorithm: AO*- Constraint Satisfaction –Algorithm: Constraint Satisfaction - Means – Ends-Analysis.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Knowledge Representation Issues :** Representations and Mappings - Approaches to Knowledge Representation: Inheritable knowledge - Issues in Knowledge representations. **Using Predicate Logic:** Representing Simple Facts in Logic - Representing Instance and ISA Relationships – Computable Functions and Predicates - Resolution - Conversion to Clause Form - Algorithm : Convert to Clause Form - Resolution in Propositional Logic.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Representing knowledge using Rules:** Procedural Versus Declarative Knowledge – Logic Programming – Forward Versus Backward Reasoning. **Symbolic Reasoning Under Uncertainty:** Introduction to Non-monotonic Reasoning - Logics for Non- monotonic Reasoning.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self - Study for Enrichment** **(Not included for End Semester Examinations)** Problem and Search: The level of the model - Problem Spaces and Search: Heuristic Search - Problem Characteristics - Production System Characteristics - Issues in the Design of Search Programs - Simulate Annealing Algorithm - Representing Set of Objects - Using Predicate Logic: Resolution - Unification Algorithm - Resolution in Predicate Logic.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

TextBook

1. Elaine Rich, Kevin Knight, Shivashankar, B. Nair. (2017). Artificial Intelligence, 3rdedition, Tata McGraw Hill.

Reference Books

1. Stuart Russel, Peter Norvig. (2020). Artificial Intelligence- A Modern Approach, 3rdedition, Pearson Education.
2. Saroj Kaushik. (2011). Artificial Intelligence, Cengage Learning India.

Web References

1. www.eeCIS.udel.edu
2. https://courses.cs.washington.edu
3. www.cs.ukzn.ac.za
4. www.tutorialspoint.com/pdf/artificial_intelligence_expert_systems.pdf
5. https://nptel.ac.in/courses/106105077

Pedagogy

Chalk and Talk, Group Discussion, PowerPoint Presentation, Demo, Quiz and Seminar.

Course Designer

Ms. A. Anandhavalli, Assistant Professor, Department of Computer Applications.

Semester VI	Internal Marks:25			External Marks:75
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS/WEEK**	**CREDITS**
23UCA6DSE2C	**Cloud Computing**	**DSE**	**5**	**3**

Course Objective

- To understand the concepts in Cloud Computing and its Applications.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement On the successful completion of the course, students will be able to	Cognitive Level
CO1	State the Architecture of Cloud Computing	K1
CO2	Explain the Virtualization of Cloud Computing	K2
CO3	Explain the Data storage in Cloud	K3
CO4	Discuss the Applications of Cloud Computing	K4
CO5	Illustrate the Risks & Data Security	K5

Mapping of CO with PO and PSO

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	3	3	3	3	3	3	3	3	3	2
CO3	3	2	3	3	3	3	3	3	2	2
CO4	3	2	2	2	2	3	3	2	2	2
CO5	3	2	2	2	2	3	3	2	2	2

"1"-Slight (Low) Correlation   "2"-Moderate (Medium) Correlation

"3"- Substantial (High) Correlation   "-"- Indicates there is no Correlation

Syllabus

UNIT	CONTENTS	HOURS	COs	COGNITIVE LEVEL
I	**Cloud Computing& Architecture** **Cloud Computing Foundation**: Cloud Computing Basics-**Move to Cloud Computing**: Pros and Cons of Cloud Computing-Technologies in Cloud Computing. **Types of Cloud**: Public and Private Cloud-Cloud Infrastructure. **Working of Cloud Computing**: Cloud Service Models-Cloud Deployment Models-**Cloud Computing and Services:** Pros and Cons.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**Virtualization** **Foundations:** Definition of Virtualization-Adopting Virtualization-Types of Virtualizations- Virtualization Architecture and Software-Virtualization Application-Pitfalls of Virtualization. **Grid, Cloud and virtualization**: Virtualization in Grid-Virtualization in Cloud-Virtualization and Cloud Security.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Data Storage and Cloud Computing** **Data Storage**: Introduction to Enterprise Data Storage–Data Storage Management-File Systems-Cloud Data Stores –Using Grids for Data Storage. **Cloud Storage**: Cloud Storage Introduction-Overview of Cloud Storage-Data management for Cloud Storage-Provisioning Cloud Storage-Data-intensive Technologies for Cloud Computing.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**Cloud Services & Applications** **Cloud Services**: Cloud Types and Services-Software as a Service- Platform as a Service- Infrastructure as a Service-Other Cloud Services. **Cloud Applications**: Microsoft Cloud Services. **Google Cloud Applications:** Google Applications Utilizing Cloud-Google App Engine-**Amazon Cloud Services**: Understanding Amazon Web Components and Services-Elastic Compute Cloud (EC2)-Amazon Storage System-Amazon Database Services.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Cloud Computing and Security** **Risk in Cloud Computing:** Introduction- Risk Management-Cloud Impact-Enterprise-Wide Risk Management- Types of Risks in Cloud Computing. **Data Security in Cloud**: Introduction-Current State- Homo Sapiens and Digital Information-Content Level Security (CLS). **Cloud Security Services:** Objectives- Confidentiality, Integrity and Availability-Security Authorization Challenges in the Cloud-Secure Cloud Software Requirements-Secure Cloud Software Testing-Future Cloud	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self-Study for Enrichment (Not to be included for End Semester Examination)** **Cloud Computing Architecture**: Cloud Computing Technology-Cloud Lifecycle Model- Role of Cloud Modeling and Architecture-Cloud Architecture.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text book

1. A. Srinivasan, J. Suresh. (2014). Cloud Computing: A practical approach for learning and implementation, Pearson India Publications.

References

1. Kai Hwang , Geoffrey C, Fox, Jack J. Dongarra. (2012). Distributed Cloud Computing: From Parallel Processing To Internet of Things, Elsevier.

2. Judith S. Hurwitz, Daniel Kirsch. (2020). Cloud Computing for Dummies, WILEY.

3. Barrie Sosinsky. (2011). Cloud Computing Bible, WILEY.

Web References

1. https://en.wikipedia.org/wiki/Cloud_computing
2. https://link.springer.com/chapter/10.1007/978-3-030-34957-8_7
3. What Is Cloud Computing? | IBM
4. What Is Cloud Computing? | Microsoft Azure

Pedagogy

Chalk &Talk, Power Point Presentation, Discussion, Assignment, Demo, Quiz and Seminar.

Course Designer

Dr. K. Akila, Associate Professor, Department of Computer Applications.

DEPARTMENT OF COMPUTER APPLICATIONS

Agenda for the Eleventh Meeting of BoS

DATE   :   **15.10.2024**

VENUE :   **CA LAB**

TIME   :   **10.30 a.m.**

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01

To ratify the credits of Core Courses, Core Practical and Discipline Specific Elective – I of Semester V for BCA 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02

To consider and to approve the ratification of the credits of Core Course and Discipline Specific Elective – II of semester VI for BCA of 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/03

To thank the Board of Studies Members who contributed to prepare the syllabus.

DEPARTMENT OF COMPUTER APPLICATIONS

MINUTES OF THE ELEVENTH MEETING OF THE BOS

DATE   :   15.10.2024

VENUE :   CA LAB

TIME   :   10.30 a.m.

Members Attended:

1.	Dr. R. Merlin Packiam	Chairperson, Professor & Head
2.	Dr. R. Brendha	Member
3.	Dr. T. Julie Mary	Member
4.	Ms. A. Anandhavalli	Member
5.	Dr. Lakshna Arun	Member
6.	Ms. V. Yasodha	Member
7.	Ms. V. Infine Sinduja	Member
8.	Ms. M. Ellakkiya	Member
9.	Ms. A. Jabeen	Member
10.	Ms. B. Abarna	Student Representative
11.	Ms. M.R.Varsha	Student Representative

The leave of absence was granted to

1.	Dr. N. Sivapriya	Member

ACTION TAKEN REPORT OF THE BOS HELD ON 05.04.2024

The BoS Meeting was held on 05.04.2024 at 10.30 a.m. The Chairman of the BoS read the minutes of the meeting and the following Resolutions were confirmed

● Confirmation of the Core Course IX – Computer Networks (22UCA6CC9), Core Course X - Operating Systems, Core Practical V - .NET Programming and Discipline Specific Elective - II: Internet of Things (22UCA6DSE2A), Artificial Intelligence (22UCA6DSE2B), Cloud Computing (22UCA6DSE2C) and Project Work (22UCA6PW) in VI Semester for BCA 2022-2023 batch and onwards

● Confirmation of the Core Course V - Programming in Java (23UCA4CC5) & Core Practical IV- Java Programming (P) (23UCA4CC4P) in IV Semester for BCA for 2023-2024 batch and onwards

● Confirmation of the Core Course IV - Database Management Systems (23UCA3CC4) in III Semester for BCA 2023-2024 batch and onwards

<u>**MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 15.10.2024**</u>

RESOLUTION NO.BOS/11/24/01

Resolved and approved the ratification of the credits of V Semester syllabus for Core Course and Discipline Specific Elective - I of BCA for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy. With the following revision of syllabus for

- **Core Course –VI (CC): 23UCA5CC6/23UCS5CC5 – Programming in PHP**

  The Number of credits of Programming in PHP is reduced into 05 credits

- **Core Practical -V(CP): 23UCA5CC5P – PHP with MYSQL (P)**

  The Number of credits of PHP with MYSQL (P) is reduced into 03 credits

- **Core Course -VII(CC): 23UCA5CC7 – Software Engineering**

  The Number of credits of Software Engineering is reduced into 05 credits

- **Discipline Specific Elective - I (DSE): 23UCA5DSE1AP – MATLAB (P)**

  The Number of credits of MATLAB (P)is reduced into 03 credits

- **Discipline Specific Elective - I (DSE): 23UCA5DSE1BP – Data Mining (P)**

  The Number of credits of Data Mining (P) is reduced into 03 credits

- **Discipline Specific Elective - I (DSE): 23UCA5DSE1CP – R Programming (P)**

  The Number of credits of R Programming (P) is reduced into 03 credits

RESOLUTION NO.BOS/11/24/02

Resolved and approved the ratification of the credits of VI Semester syllabus for Core Course and Discipline Specific Elective - II of BCA for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy. With the following revision of syllabus for

- **Core Course -IX(CC): 23UCA6CC9 – Computer Networks**

  The Number of credits of Computer Networks is reduced into 05 credits

- **Core Course -X(CC): 23UCA6CC10 – Operating Systems**

  The Number of credits of Operating Systems is reduced into 04 credits

- **Discipline Specific Elective - II (DSE): 23UCA6DSE2A – Internet of Things**

  The Number of credits of Internet of Things is reduced into 03 credits

- **Discipline Specific Elective - II (DSE): 23UCA6DSE2B – Artificial Intelligence**

  The Number of credits of Artificial Intelligence is reduced into 03 credits

- **Discipline Specific Elective - II (DSE): 23UCA6DSE2C – Cloud Computing**

  The Number of credits of Cloud Computing is reduced into 03 credits

Dr. Lakshna Arun, Associate Professor in the Vote of Thanks expressed her gratitude for the valuable suggestions given by the internal BoS members during the BoS meetings for the period 2023 - 2024 and thanked all the members of BOS.

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018
Department of Computer Applications
11th Board of Studies Meeting held on 15/10/2024

Revision of syllabus of the existing courses from the academic year 2023 -2024

The Chairman of the Board, Dr. R. Merlin Packiam, proposed the revision of syllabus in the curriculum of the BCA from the academic Year 2023-2024.

Name of the Programme	Name of the Course	Course Code	Core/Elective	Changes of Credits
BCA	Programming in PHP	23UCA5CC6/ 23UCS5CC5	Core Course	5
	PHP with MYSQL (P)	23UCA5CC5P	Core Practical	3
	Software Engineering	23UCA5CC7	Core Course	5
	MATLAB (P)	23UCA5DSE1AP	Discipline Specific Elective	3
	Data Mining (P)	23UCA5DSE1BP	Discipline Specific Elective	3
	R Programming (P)	23UCA5DSE1CP	Discipline Specific Elective	3
	Computer Networks	23UCA6CC9	Core Course	5
	Operating Systems	23UCA6CC10	Core Course	4
	Internet of Things	23UCA6DSE2A	Discipline Specific Elective	3
	Artificial Intelligence	23UCA6DSE2B	Discipline Specific Elective	3
	Cloud Computing	23UCA6DSE2C	Discipline Specific Elective	3

ANNEXURE N

Cauvery College for Women (Autonomous)
Department of Information Technology
B.Sc Information Technology
LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (CBCS –LOCF)
(**For the Candidates admitted from the Academic year 2032-2024 and onwards**)

Semester	Part	Course	Course Title	Course Code	Inst. Hrs. / week	Credits	Hrs	Exam Int.	Exam Ext	Total
I	I	Language Course -I (LC)	பொதுத்தமிழ் - 1	23ULT1	6	3	3	25	75	100
			Hindi Ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry,Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I- French – I	23ULF1						
	II	English Language Course- I(ELC)	Functional English for Effective Communication- I	22UE1	6	3	3	25	75	100
	III	Core Course – I(CC)	Programming in C	23UIT1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	C Programming (P)	23UIT1CC1P	3	3	3	25	75	100
		First Allied Course-I(AC)	Numerical Methods	23UIT1AC1	4	3	3	25	75	100
		First Allied Course-II(AC)	Graph theory and its Applications	23UIT1AC2	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal-Universal Human Values	22UGVE	2	2		100		100
		Total			**30**	**22**				**700**
II	I	Language Course-II(LC)	பொதுத்தமிழ்- II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar – II	22ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French – II	22ULF2						
	II	English Language Course- II(ELC)	General English- II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Data Structures and Algorithms	23UIT2CC2	4	4	3	25	75	100
		Core Practical - II (CP)	Data Structures using C(P)	23UIT2CC2P	2	2	3	40	60	100
		Core Course-III(CC)	Digital Fundamentals	22UIT2CC3	4	4	3	25	75	100
		First Allied Course-III(AC)	Operations Research	22UIT2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II(AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course-III(AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**800**

Sem	Part	Course	Title	Code	Hrs	Cr	Exam	Int	Ext	Total
III	I	Language Course-III (LC)	பொதுத்தமிழ்-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar - III	22ULH3						
			Prose, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course-II(ELC)	Learning Grammar Through Literature- I	23UE3	6	3	3	25	75	100
	III	Core Course– IV(CC)	Relational Database Management Systems	23UIT3CC4	6	5	3	25	75	100
		Core Practical - III(CP)	RDBMS (P)	22UIT3CC3P	3	3	3	40	60	100
		Second Allied Course- I(AC)	Financial Accounting	22UIT3AC4	4	3	3	25	75	100
		Second Allied Course-II(AP)	Computer Applications in Business (P)	23UIT3AC5P	3	3	3	40	60	100
	IV	Generic Elective Course-I(GEC)	Web Design	22UIT3GEC1	2	2	3	25	75	100
			Basic Tamil - I	22ULC3BT1						
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	SWAYAM		As per UGC Recommendation					
		Total			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

Sem	Part	Course	Title	Code	Hrs	Cr	Exam	Int	Ext	Total
IV	I	Language Course IV(LC)	பொதுத்தமிழ்-III	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French – II	22ULF4						
	II	English Language Course - IV(ELC)	Learning Grammar Through Literature-II	23UE4	6	3	3	25	75	100
	III	Core Course – V(CC)	Programming in JAVA	23UIT4CC5	6	5	3	25	75	100
		Core Practical - IV(CP)	Programming in JAVA(P)	22UIT4CC4P	4	4	3	40	60	100
		Second Allied Course-III(AC)	Business Communication	22UIT4AC6	4	3	3	25	75	100
		Internship	Internship	22UIT4INT		2	-	-	-	100
	IV	Generic Elective Course II-(GEC)	Web Design (P)	22UIT4GEC2P	2	2	3	40	60	100
			Basic Tamil - II	22ULC4BT2				25	75	
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course – I(SEC)	PC Packages (P)	22UIT4SEC1P	2	2	3	40	60	100
		Extra Credit	SWAYAM		As per UGC Recommendation					
		Total			**30**	**24**				**800**
V	III	Core Course – VI(CC)	Operating Systems	23UIT5CC6	6	5	3	25	75	100
		Core Course - VII(CC)	Programming in Python	23UIT5CC7	6	5	3	25	75	100
		Core Practical – V(CP)	Programming in Python (P)	23UIT5CC5P	4	3	3	40	60	100

		Core Course – VIII(CC)	Software Engineering	22UIT5CC8	5	5	3	25	75	100
		Discipline Specific Elective – I(DSE)	A) Mobile Application Development	23UIT5DSE1A						
			B) Big Data Analytics	23UIT5DSE1B	5	3	3	25	75	100
			C) Cloud Computing	23UIT5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV (AECC)	UGC Jeevan Kaushal -Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II(SEC)	Cloud Computing (P)	22UIT5SEC2P	2	2	3	40	60	100
		Extra Credit C...	SWAYAM		As per UGC Recommendation					
		Total			30	25				**700**

VI	III	Core Course – X(CC)	Computer Networks	23UIT6CC9	6	5	3	25	75	100
		Core Course– X(CC)	Web Technologies	23UIT6CC10	5	4	3	25	75	100
		Core Course– XI(CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Core Practical – VI(CP)	Web Technologies (P)	22UIT6CC6P	3	3	3	40	60	100
		Discipline Specific Elective – II (DSE)	A. Internet of Things	23UIT6DSE2A						
			B.C# Programming	23UIT6DSE2B	5	3	3	25	75	100
			C.Artificial Intelligence & Expert Systems	23UIT6DSE2C						
		Project Work	Project Work	22UIT6PW	5	4	-	-	100	100
	IV	Gender Studies	Gender Studies	22UGGS	1	1		-	100	100
	V	Extension activity		22UGEA	0	1	0	-	-	-
				Total	30	25				**700**
				Grand Total	180	140				**4400**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with "A" Grade (CGPA 3.41 out of 4) by NAAC

Annamalai Nagar, Trichy-18

DEPARTMENT OF INFORMATION TECHNOLOGY

Agenda for the Eleventh Meeting of BoS

DATE   :   15.10.2024
VENUE   :   NET LAB
TIME   :   10:00 A.M

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01

To ratify the credits of Core Course – V (CC) of Semester IV of B.Sc. Information Technology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02

To ratify the credits of Core Course – VI (CC), Core Course – VII (CC), Core Course – V (CP) and Discipline Specific Elective – I(DSE) of Semester V of B.Sc. Information Technology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/03

To ratify the credits of Core Course – IX (CC), Core Course – X (CC) and Discipline Specific Elective – II(DSE) of Semester VI of B.Sc. Information Technology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

Nationally Accredited (III Cycle) with "A" Grade (CGPA 3.41 out of 4) by NAAC

Annamalai Nagar, Trichy-18

DEPARTMENT OF INFORMATION TECHNOLOGY

MINUTES OF THE ELEVENTH MEETING OF THE BoS

Board of Studies - Department of Information Technology

DATE   :   15.10.2024

VENUE   :   NET LAB

TIME   :   10:00 A.M

Members Present

1) Dr. M.Parveen   Chairperson, Professor & HoD

2) Dr. J.Sangeetha   Member

3) Dr. A.Bhuvaneswari   Member

4) Dr.P.Tamilselvi   Member

5) Dr.M.Thangam   Member

ACTION TAKEN REPORT OF THE BOS HELD ON 04.04.2024

The BoS Meeting was held on 04.04.2024 at 10.00 a.m. The Chairman of the BoS read the minutes of the meeting and the following resolutions were confirmed

- Confirmation of VI Semester Syllabus of B.Sc. Information Technology for 2022 -2023 batch and onwards
- Confirmation of the Value-Added Courses offered by the Department of Information Technology for the year 2024-2025
- Ratification of credits of Semester III, Core Course – IV (CC) of B.Sc. Information Technology for 2023-2024
- Ratification of Syllabus for V Semester, Core Course - VI (CC) of B. Sc Information Technology for 2022 – 2023 batch and onwards

MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 15.10.2024

RESOLUTION NO.BOS/11/24/01

Resolved to approve the ratification of the credits of Core Course – V (CC) of Semester IV of B.Sc. Information Technology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy -18 with the following changes

- Credits of Core Course V – Programming in Java is changed as 5 with Course Code 23UIT4CC5

RESOLUTION NO.BOS/11/24/02

Resolved to approve the ratification of the credits of Core Course – VI (CC), Core Course – VII (CC), Core Course – V (CP) and Discipline Specific Elective – I(DSE) of Semester V of B.Sc. Information Technology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18 with the following changes.

1. Credits of Core Course VI(CC) – Operating Systems is changed as 5 with Course Code 23UIT5CC6

2. Credits of Core Course VII (CC) – Programming in Python is changed as 5 with Course Code 23UIT5CC7

3. Credits of Core Practical V (CP) – Programming in Python (P) is changed as 3 with Course Code 23UIT5CC5P

4. Credits of Discipline Specific Elective – I(DSE) changed as 3 with course code of
   A. Mobile Application Development is changed as 23UIT5DSE1A
   B. Big Data Analytics is changed as 23UIT5DSE1B
   C. Cloud Computing is changed as 23UIT5DSE1C

RESOLUTION NO.BOS/11/24/03

Resolved to approve the ratification of the credits of Core Course – IX (CC), Core Course – X (CC) and Discipline Specific Elective – II(DSE) of Semester VI of B.Sc. Information Technology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy-18 with the following changes

1. Credits of Core Course IX(CC) – Computer Networks is changed as 5 with Course Code 23UIT6CC9

2. Credits of Core Course X(CC) – Web Technologies is changed as 4 with Course Code 23UIT6CC10

3. Credits of Discipline Specific Elective – II(DSE) changed as 3 with course code of
   A. Internet of Things is changed as 23UIT6DSE2A
   B. C# Programming is changed as 23UIT6DSE2B
   C. Artificial Intelligence is changed as 23UIT6DSE2C

Chairman of the Board   **Dean of Science**

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018
Department of Information Technology
11ᵗʰ Board of Studies Meeting Held on 15/10/2024

1. **Introduction of new courses from the academic year 2024-2025 based on the Feedback collected from various Stakeholders**

The Chairman of the Board Dr. M. Parveen, proposed the introduction of the following new course(s) in the curriculum of the B.Sc., Information Technology for the year 2023-2024 batch and onwards from the academic Year 2024-2025.

Name of the Programme	Name of the Course	Course Code	Year of Introduction
B.Sc., Information Technology	-	-	-

2. **Revision of the syllabus of the existing courses from the academic year 2024 -2025**

The Chairman of the Board, Dr. M. Parveen, proposed the revision of the syllabus in the curriculum of the B.Sc., Information Technology from the academic Year 2024-2025.

Name of the Programme	Name of the Course	Course Code	Core/Elective	% of Content added or replaced
B.Sc., Information Technology	-	-	-	-

Chairman of the Board   **Dean of Science**

ANNEXURE O

Semester	Part	Course	Title	Course Code	Inst. Hrs.	Credits	Hrs.	Int	Ext	Total
I	I	Language Course-I (LC) Tamil / other languages	பொதுத்தமிழ் – I	23ULT1	6	3	3	25	75	100
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Hindi Ka Samanya Gyan aur Nibandh	23ULH1						
			Foundation Course: PaperI- French-I	23ULF1						
	II	English Language Course- I(ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I(CC)	Fundamentals of Microbiology and Microbial Diversity	23UMB1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Fundamentals of Microbiology and Microbial Diversity (P)	23UMB1CC1P	3	3	3	25	75	100
		First Allied Course- I (AC)	Biochemistry I	23UMB1AC1	4	3	3	25	75	100
		First Allied Course- II (AC)	Biochemistry I (P)	23UMB1AC1P	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	UGC Jeevan Kaushal life skills - Value Education	23UGVE	2	2	3	25	75	100
			TOTAL		**30**	**22**				**700**
II	I	Language Course- II(LC)Tamil / Other languages	பொதுத்தமிழ்- II	23ULT2	6	3	3	25	75	100
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Hindi Literature & Grammar -II	22ULH2						
			Basic French-II	22ULF2						
	II	English Language Course- II(ELC)	General English – II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Microbial Physiology	23UMB2CC2	4	4	3	25	75	100
		Core Practical - II (CP)	Microbial Physiology and Molecular Biology (P)	23UMB2CC2P	3	3	3	25	75	100

		Core Course -III (CC)	Molecular Biology	23UMB2CC3	3	3	3	25	75	100
		First Allied Course – III (AC)	Biochemistry II	23UMB2AC2	4	3	3	25	75	100
		Ability Enhancement Compulsory Course-II (AECC)	Environmental Studies	22UGEVS	2	2	3	100	-	100
	IV	Ability Enhancement Compulsory Course-III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM	As Per UGC Recommendation						
		TOTAL			**30**	**22**				**800**

III	I	Language Course-III(LC) Tamil*/Other Languages*	பொதுத்தமிழ்- III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar-III	22ULH3						
			Intermediate French-I	22ULF3						
			Drama, Grammer and History of Sanskrit Literature	23ULS3						
	II	English Language Course- II(ELC)	Learning Grammar Through Literature-I	23UE3	6	3	3	25	75	100
	III	Core Course–IV(CC)	Virology	23UMB3CC4	5	5	3	25	75	100
		Core Practical – III(CP)	Virology (P)	22UMB3CC3P	3	3	3	40	60	100
		Second Allied Course-I (AC)	Biostatistics	23UMB3AC3	5	3	3	25	75	100
		Second Allied Course-II (AP)	Biostatistics (P)	23UMB3AC2P	3	3	3	40	60	100
	IV	Generic Elective Course- I (GEC) (Offer to Other Department)	A. Mushroom Technology	22UMB3GEC1	2	2	3	25	75	100
			B. Basic Tamil-I	22ULC3BT1						
			C. Special Tamil-I	22ULC3ST1						
		Extra Credit Course	SWAYAM	As Per UGC Recommendation						
		TOTAL			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

IV	I	Language Course-IV (LC) Tamil*/Other Languages*	பொதுத்தமிழ்- IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Intermediate French-II	22ULF4						
			Alankara, Didactic and Modern Literature and Translation	23ULS4						
	II	English Language Course -IV(ELC)	Learning Grammar Through Literature-II	23UE4	6	3	3	25	75	100

		Core Course – V(CC)	Immunology	23UMB4CC5	6	5	3	25	75	100
	III	Core Practical -IV(CP)	Immunology (P)	22UMB4CC4P	4	4	3	40	60	100
		Second Allied Course-III (AC)	Bioinformatics	22UMB4AC4	4	3	3	25	75	100
		Internship	Internship	22UMB4INT	-	2	-	-	-	100
	IV	Generic Elective	A. Biofertilizer Technology	22UMB4GEC2						
			B. Basic Tamil-II	22ULC4BT2	2	2	3	25	75	100
		Course- II (GEC)	C. Special Tamil-II	22ULC4ST2						
		Skill Enhancement Course–I(SEC)	Herbal Medicine (P)	22UMB4SEC1P	2	2	3	40	60	100
	Extra Credit Course		SWAYAM		As Per UGC Recommendation					
				TOTAL	**30**	**24**				**800**

		Core Course –VI(CC)	Medical Microbiology	23UMB5CC6	6	5	3	25	75	100
		Core Course -VII(CC)	Agricultural and Environmental Microbiology	23UMB5CC7	6	5	3	25	75	100
	III	Core Course – VIII(CC)	Microbial Biotechnology	23UMB5CC8	6	5	3	25	75	100
		Core Practical – V(CP)	Medical Microbiology, Environmental and Agricultural Microbiology and Microbial Biotechnology (P)	23UMB5CC5P	3	3	3	40	60	100
V		Discipline Specific Elective – I (DSE)	A. Organic Farming	23UMB5DSE1A	5	3	3	25	75	100
			B. Medical Parasitology	23UMB5DSE1B						
			C. Fundamentals of Botany and Zoology	23UMB5DSE1C						
	IV	Ability Enhancement Compulsory Course-IV(AECC)	UGC Jeevan Kaushal -Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course –II(SEC)	Biofertilizer Technology (P)	22UMB5SEC2P	2	2	3	40	60	100
	Extra Credit Course		SWAYAM		As Per UGC Recommendation					
				TOTAL	**30**	**25**				**700**
VI	III	Core Course – IX(CC)	Fermentation Technology	23UMB6CC9	6	5	3	25	75	100
		Core Course –X(CC)	Food and Dairy Microbiology	23UMB6CC10	5	4	3	25	75	100
		Core Course –XI (CC)	Cyber security	22UGCS	5	4	3	25	75	100
		Core Practical – VI(CP)	Fermentation Technology and Food and Dairy Microbiology (P)	22UMB6CC6P	3	3	3	40	60	100
		Discipline Specific Elective – II	A. Microbial Genetics and Recombinant DNA Technology	23UMB6DSE2A	5	3	3	25	75	100

	(DSE)	B. Microbial Ecology	23UMB6DSE2B							
		C. Biological Techniques	23UMB6DSE2C							
	Project	Project Work	22UMB6PW	5	4	-	-	100	100	
V	Gender Studies	Gender Studies	22UGGS	1	1	-	-	-	100	
	Extension activity		22UGEA	0	1	-	-	-	-	
			TOTAL	**30**	**25**				**700**	
			GRANDTOTAL	**180**	**140**				**4400**	

Courses & Credits for UG Science Programmes

Part	Course	No. of Courses	Credits	Total Credits
I	Tamil/ Other Language	4	12	12
II	English	4	12	12
III	Core (Theory& Practical)	17	69	99
	Project Work	1	4	
	Internship	1	2	
	First Allied	3	9	
	Second Allied	3	9	
	DSE	2	6	
IV	GEC	2	4	15
	SEC	2	4	
	AECC-I -Universal Human Values	1	2	
	AECC-II-Environmental Studies	1	2	
	AECC-III-Innovation and Entrepreneurship	1	1	
	AECC-IV Professional Skills	1	2	
V	Gender Studies	1	1	02
	Extension Activities	_	1	
		44		**140**

Internalandexternal marksfortheoryandpractical papersareasfollows:

Subject	Internal Marks	External Marks
Theory	25	75
Practical	40	60

For Theory:
a) Thepassing minimum for CIAshallbe40% out of 25marks (i.e. 10marks)
b) ThepassingminimumforEndSemesterExaminationsshallbe40%outof75marks(i.e.30marks)

For Practical:
a) The passing minimum for CIA shall be40% out of40marks (i.e. 16marks)
b) The passing minimum for End Semester Examinations shall be 40% outof6 0marks(i.e.,24 marks)

Internal Component (Theory)

Component	Marks
Quiz	10
Assignment &Seminar	10
CIA -I	05
Total	25

Internal Component (Practical)

Component	Marks
RecordNote	10
ContinuousPerformance inPractical(Attendance andObservation)	15
CIA	15
	40

Question Paper Pattern for different courses+

Semester V	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UMB5CC6	MEDICAL MICROBIOLOGY	CORE	6	5

Course Objective

To impart the students with advanced knowledge of the characteristics of medically important human diseases. To focus the pathogenicity of the medically important microorganisms. To familiarize the lab diagnosis, prophylaxis and treatment of the diseases

Course Outcome and Cognitive Level Mapping:

CO Number	CO Statement	Cognitive level
CO 1	Describe and Classify the various pathogens and its Characterization.	K3,K4
CO 2	Analyze pathogenicity of bacterial, fungal, viral and protozoan disease	K4, K5
CO 3	Evaluate diagnostic methods of various diseases	K4, K5
CO 4	Explain prevention and treatment of diseases	K3, K5
CO 5	Collection of clinical samples and Identification of pathogens	K5, K6

Mapping with Programme Outcomes:

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	3	3	3	3	2	3
CO2	3	2	3	3	2	2	3	2	3	3
CO3	3	2	3	2	3	3	2	3	3	2
CO4	2	3	3	2	3	1	3	2	3	2
CO5	3	3	2	3	2	3	3	3	2	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-"indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**INTRODUCTION -** History, Koch's and River's Postulates-Normal microbial flora of the healthy human body, Host- pathogen interactions: Definitions of infection, invasion, primary and opportunistic pathogens, pathogenicity - virulence - toxigenicity, carriers and its types, endemic, epidemic, pandemic diseases and epidemiology – Infectious disease cycle.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	**BACTERIAL DISEASES -** Diseases of various organ systems: Causative agent, clinical symptoms, pathogenesis, mode of transmission, prevention and treatment of the following bacterial diseases (a) Streptococcal pneumonia infections (b) *Staphylococcus aureus* infections (c) Meningitis - Neisseria, (d) Leprosy, (e) Leptospirosis, (f) Respiratory diseases: Tuberculosis (g) Gastrointestinal disorders: Typhoid (h) Sexually transmitted diseases: syphilis (i) Anaerobic wound infection – tetanus.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**VIRAL DISEASES** - Diseases of various organ systems: Causative agent, clinical symptoms, pathogenesis, mode of transmission, prevention and treatment of the following viral diseases (a) Respiratory diseases: common cold and influenza (b) Neurological diseases: Rabies (c) Muscular diseases – Polio (d) Liver diseases: Viral hepatitis (e) Immunodeficiency disease: - AIDS. A brief account on Prion diseases.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	**FUNGAL & PROTOZOAN DISEASES -** Causative agent, clinical symptoms, pathogenesis, mode of transmission, prevention and treatment of the following fungal and protozoan diseases (a) Fungal – superficial and subcutaneous mycoses, Candidiasis, Histoplasmosis (b) Protozoan: Amoebiasis, Malaria (c) Helminths – Filariasis, Ascariasis. Zoonotic diseases, Nosocomial and Community acquired infections.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**LAB DIAGNOSIS** - Isolation and identification of pathogens from an infected patient: Collection and transport of various clinical specimens (Urine, stool, sputum and blood) for diagnosis, Physical and chemical analysis of urine, Stool and Sputum - concentration methods – General methods of isolation and identification of bacterial, fungal, viral pathogens and protozoan parasites.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6

Text books
1. Aejaz Iqbal and Zafar Nowshad (2020). Medical microbiology: Millennium Edition, Notion Press
2. Baveja V and Baveja C P (2019). Medical Parasitology, Arya Publishing company
3. Mishra B (2018), Text Book of Medical Virology, CBS
4. Ananthanarayan and Paniker (2013). A Text book of Microbiology, Kindle Edition

Reference books

1. Sastry Apurba S and Bhat Sandhya (2020). Essentials of Medical Microbiology, Jaypee brothers, Medica publishers
2. Patrick R Murray , Ken S, Rosenthal and Michael A and PFaller (2020), Medical Microbiology, Elsevier
3. Ananthanarayan Paniker (2020). A Text book of Microbiology, University Press
4. Kenneth J Ryan, Nafees Ahmad and Andrew Alspaugh J (2018). Sherris Medical Microbiology, McGraw- Hill Education

Web References
1. https://www.cdc.gov/tb/education/corecurr/pdf/chapter2.pdf
2. http://apps.searo.who.int/PDS_DOCS/B5123.pdf3.http://loyce2008.free.fr/Microbiologie/%20Micro%20%20Gillespie%20Hawkey%20%20Principles%20And%20Practice%20Of%20Clinical%20Bacteriology%202Nd%20Ed.pdf

Pedagogy

Power Point Presentations, Group Discussion, Seminar, Quiz, Assignment and Brain Storming Activity.

Course Designer

Dr.P.Bhuvaneswari

Semester V	Internal Marks: 25	ExternalMarks:75		
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UMB5CC7	AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY	CORE	6	5

Course Objective:

To enable the students to get exposure on relationship between microbes and nature, its roles and its utilization for the creation of sustainable environment and their concept, Biofertilizer role, Biogeochemical cycle and Plant diseases.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive level
CO1	Define the basic view of soil Microorganisms.	K1
CO2	Explain the Microbial association in water.	K2
CO3	Understand the production of Biofertilizer	K3
CO4	Discuss about Plant diseases and Control measures	K4,K5
CO5	Discuss about Water pollution and water quality.	K6

Mapping of CO with PO and PSO

COs	PO1	PO2	PO3	PO4	PO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	2	3	3	3	3	3
CO2	3	3	3	2	3	2	2	3	2	2
CO3	3	3	1	2	3	3	3	3	3	1
CO4	3	3	2	3	2	2	3	2	2	2
CO5	2	3	3	2	3	1	3	3	3	3

"1"- Slight(Low) Correlation   "2"- Moderate (Medium) Correlation
"3"- Substantial(High) Correlation   "-" indicate there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Bacterial diseases of agricultural crops - pathogens, symptoms, control measures with reference to paddy, cotton, maize, tomato, citrus, mango and potato. Plant protection –Phenolics – phytoalexins and related compounds. Bioinsecticides – viral (Baculovirus, NPV)- bacterial (Bacillus thuringiensis) and fungal (Trichoderma) - a brief note.	18	CO1, CO2, CO3	K1, K2, K3, K4
II	Bio-geo chemical cycles in soil – Carbon cycle, Nitrogen cycle – Nitrogen fixation, nitrification, denitrification, sulfur, iron and phosphorus cycles. Aerobiology – a brief introduction - droplet nuclei – aerosols - air-borne transmission of microbes and diseasesand assessment of air quality.	18	CO1, CO2, CO3, CO4	K1, K2, K3, K4,
III	Diversity and distribution of microorganisms in soil; Soil Microflora- Bacteria, Fungi and Actinomycetes. Microbial interactions -mutualism, synergism, commensalism, amensalism, parasitism, predation and competition. Microbial interactions with plants–phyllosphere, mycorrhizae, rhizosphere and symbiotic association in root nodules. Biofertilizer – VAM, Rhizobium, Frankia, Azospirillum, Azotobacter, Cyanobacteria, Phosphobacteria and Azolla.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K6
IV	Types of wastes - solid and liquid wastes. Treatment of solid wastes - Thermal Treatment: Incineration, Gasification, Pyrolysis. Bioreactor Landfills-Biological Waste Treatment: Composting, Vermicomposting and vermicomposting. Treatment of liquid wastes –primary, secondary, tertiary treatment; anaerobic (methanogenesis), aerobic, Trickling, activated sludge, oxidation pond. Production of biogas from waste.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
V	Aquatic microbiology - factors affecting microbial growth – temperature – pressure – light – salinity - turbidity – pH -inorganic and organic constituents. Aquatic habitats - freshwater - lakes, ponds and streams; marine habitats - estuaries, deep sea, hydrothermal vents, saltpans, coral reefs and mangroves and their microbial communities; zonation – food chain and food web.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
V	**Self Study for Enrichment** **(Not to be included for End Semester Examination)** Soil microbes and fertility of soil, bioaugmentation, xenobiotics degradation, plant growth promoting Rhizobacteria (PGPR), Role of biofertilizer in integrated nutrient management.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5,

Textbooks

1. Alexander M. (1997). Introduction to soil microbiology, New York: John Wiley & Sons, Inc.
2. Ec Eldowney S., Hardman, D.J. and Waite, S. (1993). Pollution Ecology and Biotreatment.
3. Madigan, M.T., Martinka, M., Parker, J. and Brock, T.D. (2000). Environmental microbiology. Twelth Edition, Biology Microorganisms, New Jerry: Prentice Hall. Mark Wheelis, (2010).
4. P.D.Sharma (2005). Microbiology-Rastogi Publication, India
5. D.J.Bagyaraj,G.Rangaswami.(2007). Agricultural Microbiology. Prentice, Hall of India Pvt New Delhi.

References

1. Mehrotra, R.S. (2000). Plant Pathology, New Delhi: Tata McGraw Hill Publishing Company Ltd. Pandy,
2. B.P. (1997). Plant Pathology (Pathogen & Plant Disease), New Delhi: S.Chand & Company Ltd.
3. Ray Chadhuri, S.P. (1999). A Manual of Virus Diseases of Tropical Plants, New Delhi: MacMillan Company of India Ltd.
4. Rengaswami, G. and Rajagopalan, S. (2007). Bacterial Plant Pathology. Coimbatore: Tamil Nadu Agriculture University.
5. Subba Rao, N.S. (1995). Soil Microorganisms and Plant Growth (3rd ed). New Delhi: Oxford & IBH Publishing Co. Pvt. Ltd.
6. Mark Wheelis, (2010). Principles of Modern Microbiology, New Delhi: Jones & Bartlett India Pvt.

Web References

1. https://onlinelibrary.wiley.com/doi/book/10.1002/9781119525899
2. https://agri-bsc.kkwagh.edu.in/uploads/department_course/plant_course.pdf
3. https://www.slideshare.net/ShanidShanu1/agricultural-microbiology
4. https://agribooks.co/agricultural-microbiology-b-sc-agriculture-icar-e-course-pdf-download/
5. https://books.google.co.in/books/about/Environmental_and_Agricultural_Microbiol.html?id=BnQ-EAAAQBAJ&redir_esc=y

Pedagogy

Power point presentations, Group Discussion, Seminar, Quiz, Assignment, Brain Storming Activity.

Course Designer

Dr.J.Ambika

SEMESTER VI	INTERNAL MARKS : 25		EXTERNAL MARKS : 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDIT
23UMB5CC8	**MICROBIAL BIOTECHNOLOGY**	**CORE**	**6**	**5**

Course Objective:

The students will be able to understand the biological processes undergoing in Industries and exploit the knowledge to improve the process.

Course Outcome and Cognitive Level Mapping

COs	CO Statement	Knowledge level
CO1	Define the primary and secondary screening of microbes.	K1,K2
CO2	Determine the applications of microbes	K3,K4
CO3	Critique knowledge about industrial production	K4,K5
CO4	Outline views of bio control agents	K4,K6
CO5	Expand about Process of Bioremediation	K5,K6

Mapping with Programme Outcomes:

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	1	2	3	3	3	3	2	3
CO2	3	2	3	3	2	2	3	2	3	3
CO3	3	2	2	3	3	3	2	3	3	2
CO4	2	3	3	2	3	3	3	2	3	2
CO5	3	3	2	3	2	3	3	3	2	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-"indicates there is no correlati

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Biotechnology: Definition –Milestones in History -** Scope of microbial biotechnology and its applications. Commercially important microorganisms- Bacteria (*Lactobacillus, Bacillus*), fungi (*Aspergillus, Penicillium*), Actinomyces (*Streptomyces*).Immobilization, Cryopresevation- Germplasm storage.	18	CO1, CO2, CO4, CO5	K1, K2, K3, K4, K5

II	**Microbial Production of bio fertilizers and Biocontrol agent** (*Rhizobia, Azospirillum*, BGA, *Azolla, Frankia* and VAM). Microbial production of bio-control Agents (*Pseudomonas, Trichoderma, Beaveria*). Role of micronutrient providing microbes.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	**Micro algal technology - SCP, bioplastic and bioploymer** - Industrial cultivation methods of Spirulina biotechnological potentials of Spirulina as: food and feed. Single cell protein (algae and yeast). Fuel (bio-diesel) production from microalgae, pharmaceutically valuable compounds from microalgae. Microbial production of bioplastics.	18	CO1, CO2, CO3, CO4	K2, K3, K4, K5
IV	**Genetic engineering bacteria / GMO's-** Insulin, hormone, enzyme production. Bioethanol, biomethane, biohydrogen, biodiesel – substrate, nutrients, inoculum, production, recovery and commercial application.	18	CO1, CO2, CO3, CO4	K2, K4, K5, K6
V	**Environmental Applications of Efficient microbes :** Bioremediation- Degradation of xenobiotics, advantages and disadvantages bioaugmentation, bioemulsifiers, biosurfactants, MEOR (Microbial enhanced oil recovery), Leaching of ores, biohazards, environmental engineering. Biotechnology Regulation – Bioethics and Biosafety.	18	CO1, CO4 , CO5	K1, K2, K3, K4, K5
VI	**Self-Study for Enrichment** **(Not included for End Semester Examinations** Commercial production of bio-ethanol using lignocellulosic waste. Human growth hormone-Insulin.	-	CO1, CO2, CO3, CO4	K2, K3, K4, K5

Text Books

1. Faizan Ahmad, Zahra H. Mohammad (2024). Microbial Biotechnology in the Food Industry: Advances, Challenges, and Potential Solutions. Springer.
2. Mamtesh Singh, Gajendra Pratap Singh, Shivani Tyagi. (2023). Microbial Products Applications and Translational Trends, CRC Press.
3. Jayanta Kumar Patra, Pradeep Kumar, Advances in Microbial Biotechnology (2021). CRC Press.
4. Singh, J., Vyas, A., Wang, S., Prasad, R (2020). Microbial Biotechnology: Basic Research and Applications, Springer.
5. Prakash Kumar Sarangi & Sonil Nanda (2019). Biotechnology for Sustainable

Energy andProducts. I.K. International Publishing House Pvt. Ltd.

Reference Books

1. Shivani Singh, Mamtesh (2022). Microbial Products. CRC Press.
2. S.Sivasubramanian & T. Hemalatha R. Puvanakrishnan (2021). Microbial Technology. MJP Publisher.
3. Joginder Singh, Ashish Vyas (2020). Microbial Biotechnology: Basic Research and Applications .Springer.
4. Anjana Devi Tangutur and Bhima Bhukya (2021). Microbial Biotechnology.
5. Biotechnology by R.C. Dubey. (2014). A Textbook of Biotechnology. S. Chand publishers.

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1. https://enviromicro-journals.onlinelibrary.wiley.com/journal/17517915
2. https://www.nifa.usda.gov/grants/programs/biotechnology-programs/microbial-biotechnology
3. https://www.sciencedirect.com/science/article/abs/pii/B9780323904520000359
4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5609265/
5. https://www.mdpi.com/journal/microorganisms/sections/microbial_biotechnology

Pedagogy

Power point presentations, Group discussion, Seminar, Quiz, Assignment, Brain storming   activity.

Course Designer

Dr.P.F.SteffI

Semester: V		Internal Marks: 40		External Marks: 60	
COURSE CODE	**COURSE TITLE**		**CATEGORY**	**HRS/WEEK**	**CREDITS**
23UMB5CC5P	MEDICAL MICROBIOLOGY, AGRICULTURAL AND ENVIRONMENTAL MICROBIOOLOGY AND MICROBIAL BIOTECHNOLOGY- (P)		**CORE PRACTICAL**	3	3

Course Objective

To impart the knowledge on isolation, identification of medically important organisms and perform water and soil analysis and isolation of chromosomal and plasmid DNA.

Course Outcomes and Cognitive Level Mapping

CO Number	CO Statement	Cognitive level
CO 1	Illustrate the isolation procedures	K2
CO 2	Explain the symptoms of diseases	K2
CO 3	Sketch out the water borne microbes	K3
CO 4	Demonstration of auxotrophic mutants	K3
CO 5	Analyze agarose gel electrophoresis	K4

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	2	2	3	3	3	2	2	2	3
CO2	3	2	3	3	2	3	2	2	3	3
CO3	3	3	3	2	3	3	3	3	3	2
CO4	3	3	2	3	2	3	2	2	3	2
CO5	3	3	3	2	3	3	3	3	3	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no Correlation

Syllabus

MEDICAL MICROBIOLOGY (25 Hours)

1. Isolation of bacterial flora of skin by swab method.
2. Isolation of bacteria from urine, stool and sputum.
3. Identification of Gram-positive organisms (using laboratory strains): *Streptococcus pneumoniae,Staphylococcus aureus* and *Bacillus sp.* and Gram-negative organisms (using laboratory strains): *Escherichia coli, Proteus sp*. and *Klebsiella pneumoniae* on the basis of microbiological, culturaland biochemical characteristics.
4. Saline and iodine wet mount to demonstrate protozoan parasites
5. Giemsa staining for the demonstration of blood parasites
6. KOH and Lactophenol cotton blue mount to demonstrate fungi.
7. Antibacterial sensitivity test – Kirby- Bauer method.

AGRICULTURAL MICROBIOLOGY (10 Hours)

8. Water analysis by MPN technique – presumptive coliform test – confirmed coliform test and completed coliform test.
9. Microbial assessments of air quality – open plate method and air sampler technique.
10. Isolation and counting of faecal bacteria from water.
11. Soil Analysis -pH, chlorides, nitrate, calcium, magnesium and total phosphorus.
12. Isolation of cyanobacteria from water.
13. Isolation of *Rhizobium* form legume nodule.
14. Isolation of phosphobacteria from soil.
15. Observation of VAM from plant root.

MICROBIAL BIOTECHNOLOGY (10 Hours)

16. Antibacterial Sensitivity Assay
17. Immobilization of yeast cell by alginate beads
18. Production of alcohol by yeast
19. Production of bacterial enzymes
20. Production of organic acids – citric acid production

Reference Books

1. Ananthanarayan, Paniker (2020), Textbook of Microbiology, Universities Press.
2. SubbaRao NS(2020), Soil Microbiology, Oxford Publishing.
3. Mangesh Y Dudhe , (2020), Agriculture- Microbiology, New VishalPublications.
4. Michael J Leboffe and Burton EPierce (2019). Microbiology: LaboratoryTheory &
5. Application, Morton PublishingCompany..
6. Ashwani Kumar,Gakhar S K andMonika Miglani (2019), Molecular Biology: A Laboratory Manual, Dreamtech Press

Web References

1. https://www.mlsu.ac.in/econtents/159_Experiment.%204_Isolation%20bacteria%20from%20skin.pdf
2. https://microbenotes.com/water-quality-analysis-by-most-probable-number-mpn/
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5577976/
4. https://www.cdc.gov/dpdx/diagnosticprocedures/stool/microexam.html
5. https://www.youtube.com/watch?v=k2xx7jIW3E8

Pedagogy

Power point presentations, Group Discussion, Quiz, Brain Storming Activity.

Course Designer
Dr.V.Aruna

Semester V	Internal Marks : 25		External Marks : 75	
Course Code	Course Title	Category	HRS/WEEK	CREDIT
23UMB5DSE1A	ORGANIC FARMING	DISCIPLINE SPECIFIC ELECTIVE (DSE)	5	3

Course Objectives

This course focuses on the need and generating knowledge and skill on various organic farming practices, so as to carry out organic agricultural production and management system that sustains the health of soils and ecosystems.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Knowledge level
CO1	Determine the origin and importance of organic farming	K1,K2,K4
CO2	Explain the scope of organic farming	K2,K3,K4
CO3	Evaluate the methodology practiced in organic farming	K4,K5,K6
CO4	Generalize the management strategies in crop protection	K3,K4,K6
CO5	Compile the strategies for the commercialization of organic products	K5,K6

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	1	2	3	3	3	3	2	3
CO2	3	2	3	3	2	2	3	2	3	3
CO3	3	2	2	3	3	3	2	3	3	2
CO4	2	3	3	2	3	3	3	2	3	2
CO5	3	3	2	3	2	3	3	3	2	2

"1" – Slight (Low) Correlation"   2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	Introduction- concept, Principles and development of organic farming. Types - Natural farming- Biodynamic farming. Conventional farming v/s Organic farming.	16	CO1, CO2, CO3 CO4, CO5	K1, K2, K3, K4, K5
II	Scope of organic farming - requirements for organic farming. Organic nutrients resources and their management, organic ecosystems and their concepts- Bioinoculants.	14	CO1, CO2, CO3 CO4, CO5	K1, K2, K3, K4, K5
III	Composting - principles – stages - types and factors. Composting methods – Vermicomposting. Biofertilizers - methods of application, advantages and limitations.	13	CO1, CO2, CO3 CO4, CO5	K1, K2, K3, K4, K5
IV	Plant protection- Insect Pest and disease management in organic farming- biopesticides, - biocontrol agents, Weed management in organic farming- preventive practices, biological control of weeds- mechanical control.	16	CO1, CO2, CO3 CO4, CO5	K1, K2, K3, K4, K5
V	Organic crop production, certification process and standards of organic farming in India, economic viability of organic farming, marketing and export potential of organic products.	16	CO1, CO2, CO3 CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** **(Not to be included for End Semester Examination)** Plant Nutrients-Micro and Macro, Importance and deficiency syndrome, crop rotation : need and benefits		CO1, CO2, CO3 CO4, CO5	K1, K2, K3, K4, K5

Text books

1. Maliwal P L (2020). Principles of OrganicFarming, Scientific Publisher
2. Joanne M Willey, Kathleen M Sandman and Dorothy H Wood (2019). PrescottsMicrobiology, McGraw-Hill Education
3. Joanne M Willey,Kathleen M Sandman and Dorothy H Wood (2019). Prescottsmicrobiology, McGraw-Hill Education
4. Unni M R and Sabu Thomas (2018).Organic Farming Global Perspectives andMethods, Woodhead publishing
5. Amitava Rakshit and H B Singh (2018).ABC of Organic Farming, Jain Brothers

Reference books

1. Bansal M (2020). Basics of Organic Farming, CBS publishers and Distributors Pvt. Ltd.
2. Janet Wilson (2020). Composting: Sustainable and Low- Cost Techniques for Beginners, Drip Digital Publisher
3. Debabrata Biswas, Shirley A. Micallef (2019). Safety and Practice for Organic Food Academic press, Elsevier Science.
4. Rhonda Sherman (2018). The Worm Farmer's Handbook Chelsea Green Publishing Company
5. Vinaya KumarSethi (2018). Organic farming andbio-fertilizers, Discovery publishing house Pvt. Ltd.

Web References

1. http://agrimoon.com/organic-farming-pdf-book/
2. https://www.britannica.com/topic/organic-farming
3. https://agritech.tnau.ac.in/org_farm/orgfarm_introduction.html
4. https://agritech.tnau.ac.in/org_farm/orgfarm_vermicompost.html
5. https://agritech.tnau.ac.in/org_farm/IPM%20Booklet%20for%20OF-Dr.P.D.pdf
6. https://agritech.tnau.ac.in/org_farm/orgfarm_oc%20guidelines.html

Pedagogy

Power Point Presentations, Group Discussion, Seminar, Quiz, Assignment and Brain Storming Activity

Course Designer

Dr.B.Thamilmaraiselvi

Semester: V	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS./WEEK	Credits
23UMB5DSE1B	MEDICAL PARASITOLOGY	DISCIPLINE SPECIFIC ELECTIVE (DSE)	5	3

Course Objectives

      To enable the students to understand the clinically important protozoa, helminths and arthropods and acquire knowledge about the areas in which parasitic infections are endemic.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Define and understand diagnostic techniques in parasitology	K1, K2
CO2	Analyze and explain clinical significance of *Entamoeba histolytica*	K3, K4
CO3	Determine and apply the treatment of *Leishmania donovani*	K3, K4
CO4	Evaluate and categorize the *Plasmodium* spp.	K4, K5
CO5	Criticize and manage *Taenia solium*	K5, K6

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	1	3	2	3	3	2
CO2	2	2	2	2	2	3	2	3	2	2
CO3	2	3	1	2	3	3	2	3	2	2
CO4	3	2	3	2	2	3	2	3	2	1
CO5	3	3	3	3	2	3	2	3	3	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation

 "3" – Substantial (High) Correlation   "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	Introduction and Classification of Parasites – Protozoa and helminthic infection. Laboratory Diagnostic Techniques in Parasites – Direct Identification and Indirect Identification. Concentration methods - flotation techniques and sedimentation techniques	15	CO1, CO2, CO3	K1, K2, K3, K4
II	Morphology, Clinical Significance, Symptoms, Pathogenicity, Lab Diagnosis, Treatment and Prevention - *Entamoeba histolytica, Acanthamoeba* spp. *Cryptosporidium.*	15	CO1, CO2, CO3, CO4	K1, K2, K3, K4, K5
III	Morphology, Clinical Significance, Symptoms, Pathogenicity, Lab Diagnosis, Treatment and Prevention - *Giardia intestinalis, Leishmania donovani, Trypanosoma* spp.	15	CO1, CO2, CO3, CO4,	K1, K2, K3, K4, K5,
IV	Morphology, Clinical Significance, Symptoms, Pathogenicity, Lab Diagnosis, Treatment and Prevention - *Toxoplasma gondii, Plasmodium* spp and *Ascaris lumbricoides.*	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6,
V	Morphology, Clinical Significance, Symptoms, Pathogenicity, Lab Diagnosis, Treatment and Prevention – *Taenia solium, Ancylostoma duodenale* and *Wuchereria bancrofti.*	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
VI	**Self Study for Enrichment (Not included for End Semester Examinations)** Isolation, identification, clinical manifestations of medically important parasites	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6

Text Books

1. Apurba S Sastry, Sandhya Bhat. (2018). Essentials of Medical Parasitology. 2nd Edition. Jaypee Brothers Medical Publishers.

2. Sougata Ghosh. (2021). Paniker's Text book of Medical Parasitology. 9th Edition. Jaypee Brothers Medical Publishers.

3. Nagoba, B.S. (2020). Medical Microbiology and Parasitology: Prep Manual for Undergraduates, 4th Edition. Elsevier India.

4. Baveja, V. and Baveja, C.P. (2019). Medical Parasitology. 4th Edition. Arya Publishing Company.

5. Sumeeta Khurana, Abhishek Mewara. (2021). Textbook of Medical Parasitology. 1st Edition. Universities Press India Pvt. Ltd

Reference Books

1. Nanda Maheshwari. (2022). Clinical Microbiology & Parasitology for DMLT Students. 4th Edition. Jaypee Brothers Medical Publishers.

2. Arora. D.R. (2020). Medical Parasitology. 5th Edition. CBS Publisher.

3. Shyamasundari, K. and Hanumantha Rao. K. (2021). Medical Parasitology.1st Edition. MJP Publishers.

4. Rajan, S. and Selvi Christy, R. (2018). Essentials of Microbiology. 4th Edition. CBS Publishers and Distributors Pvt. Ltd.

5. Joanne M. Willey, Kathleen M. Sandman and Dorothy H. Wood (2022). Prescott's Microbiology. 12th Edition. McGraw-Hill Education.

6. Apurba S Sastry and Sandhya Bhat. (2022). Essentials of Medical Microbiology. 4th Edition. Jaypee brothers med Pub Pvt Ltd.

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1. https://byjus.com/biology/parasites-symbiosis/

2. https://www.brainkart.com/article/Parasite-and-Host_41024/

3. https://byjus.com/biology/entamoeba-histolytica-life-cycle/

4. https://microbenotes.com/giardia-duodenalis/

5. https://www.onlinebiologynotes.com/plasmodium-falciparum-morphology-life-cycle-pathogenesis-and-clinical-disease/

6. https://www.meduniwien.ac.at/hp/fileadmin/tropenmedizin/Lehre/Helminths_and_Helminthiasis_Kompatibilitaetsmodus.pdf

Pedagogy

Power point presentations, Group Discussions, Seminar, Quiz, Assignment, Brain Storming Activity.

Course Designer

Dr. S. Jenny

Semester: V	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS./WEEK	Credits
23UMB5DSE1C	**FUNDAMENTALS OF BOTANY AND ZOOLOGY**	**DISCIPLINE SPECIFIC ELECTIVE**	5	3

Course Objective

To gain the basic knowledge about plants and animals. To impart knowledge on botanical nomenclature, classifications, merits and demerits of various systems of classifications. To understand the systematic of the selected families of the flowering plants with their economic importance. To help our students to distinguish various animal kingdoms to know the evolutionary sequence of them.

Course Outcome and Cognitive Level Mapping:

CO Number	CO Statement	Cognitive level
CO 1	State the Basic knowledge of Plant Nomenclature	K1,K2
CO 2	Describe the Salient features and Economic importance of Monocot and Dicot Plants	K2,K4
CO 3	Illustrate the views of Plant Physiology and Reproduction	K2,K3
CO 4	Prepare Animal Kingdom and Reproduction	K3,K
CO 5	Prepare the Process of Animal Cell reproduction	K3,K5

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	3	3	3	2	3	3	3	2
CO2	2	3	3	3	3	3	3	2	2	3
CO3	3	3	3	3	2	2	2	3	3	2
CO4	3	3	3	2	2	3	3	3	2	3
CO5	3	3	2	2	3	2	2	2	3	3

1- Slight (Low) correlation   2- Moderate (Medium) correlation
3- Substantial (High) correlation "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	Binomial Nomenclature – ICBN rules – taxonomic types, systems of Classification – Phylogenetic Artificial and Natural. Bentham and Hooker classification - merits and demerits. Plant taxonomy, Plant Nomenclature - Forms of Scientific names. Technical description of flower and floral diagram.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
II	General characteristics and economic importance of Algae, Fungi, Lichens, Bryophytes, Pteridophytes, Gymnosperms and Angiosperms.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	Plant Physiology – Photosynthesis, Respiration and Transpiration. Reproduction of plants in Angiosperms - Vegetative, Asexual and Sexual.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	Introduction to principles of taxonomy and outline classification of Animal Kingdom – Invertebrates - Prolifera, Cnidaria, Worms, Echinoderms, Molluscs and Arthropods. Vertebrates - Mammals, Birds, Reptiles, Fish and Amphibians. Darwin's and Lamarck's theory of evolution.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5,
V	Animal Physiology – Digestive, Respiratory, Circulatory, Excretion and Nervous system. Cell division – Mitosis and Meiosis.	15	CO1, CO2, CO3, CO4, CO5	K1 K2, K3, K4, K5,
VI	**Self Study for Enrichment** **(Not included for End Semester Examination)** Darwin's and Lamarck's theory of evolution.	-	CO1, CO2, CO3, CO4, CO5	K1 K2, K3, K4, K5,

Text Books

1. Kishore R Pawar and Ashok E Desai (2020) An Introduction to Zoology, Nirali Prakashan Press.
2. Sunidhi Miglani (2016) Text Book of Economic Botany, ABS Publications.
3. Kotpal R L (2016) Modern text book of Zoology, Rastogi Publications.
4. AfrozAlam (2015) Textbook of Botany, I K International Publishing House Pvt. Ltd.
5. Nanda A K (2015) Text Book of Botany, Kitab Mahal – Cuttack.

Reference Books

1. James Bidlack and Shelley Jansky (2020) Plant Biology, McGraw-Hill Education.
2. James D Mauseth (2019) An introduction to plant biology, Jones & Bartlett Learning.
3. Smithsonian (2019) Zoology, DK; Illustrated edition.
4. Stephen Miller and Todd A. Tupper (2018) Zoology, McGraw-Hill Education.

Web References

1. https://www.biologydiscussion.com/plant-taxonomy/quick-notes-on-plant-taxonomy/47582
2. https://www.studyandscore.com/studymaterial-detail/international-code-of-botanical-nomenclature-icbn-history-principles-and-aim
3. https://byjus.com/biology/plant-physiology/
4. https://www.slideshare.net/mjnepa/cell-reproduction-notes
5. **https://biologywise.com/vertebrates-invertebrates**

Pedagogy

Power Point Presentations, Group Discussion, Seminar, Quiz, Assignment and Brain Storming Activity.

Course Designer

Dr. E.Priya

Semester: V		Internal Marks: 40		External Marks: 60	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HRS./WEEK**	**CREDITS**	
22UMB5SEC2P	**BIOFERTILIZER TECHNOLOGY (P)**	**SKILL ENHANCEMENT COURSE**	**2**	**2**	

Course Objectives

   To enable the students to understand the importance of biofertilizers in agriculture and production technologies.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Define and understand Biofertilizers and Production technology	K1, K2
CO2	Analyze and explain mass production methods of Symbiotic Biofertilizers	K3, K4
CO3	Determine and apply Non- Symbiotic Biofertilizers cultivation methods	K3, K4
CO4	Evaluate and categorize Phosphate solubilizing bacteria cultivation methods	K4, K5
CO5	Criticize and manage Mycorrhizae and Carrier based inoculum production methods	K5, K6

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	1	3	2	3	3	2
CO2	2	2	2	2	2	3	2	3	2	2
CO3	2	3	1	2	3	3	2	3	2	2
CO4	3	2	3	2	2	3	2	3	2	1
CO5	3	3	3	3	2	3	2	3	3	2

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
 "3" – Substantial (High) Correlation   "-" indicates there is no correlation

Syllabus

BIOFERTILIZER TECHNOLOGY (P)

1. Isolation, identification and cultivation of *Rhizobium* from leguminous plant roots
2. Isolation, identification and cultivation of *Azospirillum*
3. Isolation, identification and cultivation of *Azotobacter*
4. Isolation, identification and cultivation of Cyanobacteria from paddy field soil and water.
5. Isolation, identification and cultivation of *Azolla.*
6. Isolation, identification and cultivation of Phosphate solubilizing bacteria from soil.
7. Isolation, identification and cultivation of Mycorrhizae (VAM)
8. Preparation of carrier based and liquid based inoculums.

Text Books:

1. Krishnendu Acharya, Surjit Sen & Manjula Rai. (2019). Biofertilizer and Biopesticide. 1st Edition. Techno World.
2. S. Rajan & R. Selvi Christy. (2018). Experimental Procedures in Life Sciences. CBS Publications
3. Reeta Khosla. (2017). Biofertilizers and Biocontrol Agents for Organic Farming. 1st Edition. Kojo Press
4. Hyma. (2017). Biofertilizers: Commercial Production Technology and Quality Contrtol. 1st Edition. Random Publications.
5. Anil K Thakur, Susheel K Bassi, Kamajit Singh, Dinesh. (2020). Biofertilizers (Skill Enhancement course). 1st Edition. S Dinesh & Co.

Reference Books:

1. Rao B.N.S. (2019). Biofertilizers in Agriculture and Forestry. 3rd Edition. Oxford & IBH Publishing House.
2. Sharma R.A. (2019). Biofertilizer Technology. 1st Edition. Agro tech Publishing Academy.
3. Ameta O.P and Sharma U.S. (2018). Biopesticides for Sustainable Agriculture. 1st Edition. Agro tech Publishing Academy.
4. Somani L. (2018). Biofertilizers: Commercial Production Technology and Quality control. 1st Edition. Agrotech Publishing Academy.
5. Subha Rao N.S. Biofertilizers in Agriculture and Forestry. 4th Edition. Medtech scientific International Pvt Ltd.

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1. https://agritech.tnau.ac.in/ta/org_farm/orgfarm_biofertilizers.html
2. https://agritech.tnau.ac.in/org_farm/orgfarm_biofertilizertechnology.html
3. http://www.techno-preneur.net/technology/new-technologies/food-agro/vam-fungi.html
4. http://14.139.187.9/ta/org_farm/orgfarm_faq's.html
5. https://www.iihr.res.in/large-scale-production-vesicular-arbuscular-mycorrhizal-fungi-finger-millet
6. https://agriinfo.in/large-scale-production-of-biofertilizers-1932/
7. https://www.fnca.mext.go.jp/english/bf/bfm/pdf/3_Carriers_for_Biofertilizer0331final.pdf

Pedagogy

Power point presentations, Group Discussion, Quiz, Brain Storming Activity.

Course Designer: Dr. S. Jenny

Semester : VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UMB6CC9	FERMENTATION TECHNOLOGY	CORE	6	5

Course Objective

Fermentation technology gives the knowledge about Industrial developments with respect to Microorganisms and find out the suitable technology for cultivating them under Industrial scale so as to develop them for employment in bioprocess industry. To learn the screening of industrial strains, fermenters, media, fermentation process and downstream process.

Course   Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Outline view of Concept and History of Strain development	K1, K2
CO2	State the types of Fermentor and Fermentation process	K1, K3
CO3	Explain the components of Fermentation media	K2, K3
CO4	Prepare the Production and Purification Industrial Important Microbial Products.	K4, K5
CO5	Describe the Production of Pharmaceutical Products	K1, K6

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	3	3	3	3	2	2	3
CO2	3	2	3	2	2	3	3	3	2	3
CO3	3	2	2	2	2	3	3	3	2	2
CO4	2	3	3	3	3	3	3	3	3	3
CO5	2	2	3	2	2	3	3	3	3	3

1- Slight (Low) correlation   2- Moderate (Medium) correlation

3- Substantial (High) correlation   "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COs	COGNITIVE LEVEL
I	**Introduction to Fermentation technology**: History, Scope and Development of Fermentation technology; Isolation and screening of industrially important microorganisms − primary and secondary screening; Maintenance of Strains; Strain improvement: Mutant selection and Recombinant DNA technology.	18	CO1, CO2, CO3, CO4, CO5.	K1, K2, K3, K4, K5.
II	**Upstream Processing:** Fermentor design: Basic designs of Fermentor; Type of fermenters- Waldhof, Tower, Deep jet, Cyclone column, Packed tower and airlift fermenter. Types of fermentation process - Batch, Fed batch and continuous. Fermentation media: Natural and Synthetic media; Basic components of media (Carbon sources; Nitrogen sources; Vitamins; Minerals) Role of Anti-foaming agents and buffers in media.	18	CO1, CO2, CO3, CO4, CO5.	K1, K2, K3, K4, K5.
III	**Downstream processing**: The recovery and purification of fermentations products (intracellular and extracellular), cell disruption, precipitation (Ammonium sulphate and Solvents), filtration, centrifugation, solvent recovery, chromatography (TLC), ultra filtration, drying, cell immobilizations and its applications.	18	CO1, CO2, CO3, CO4, CO5.	K1, K2, K3, K4, K5.
IV	**Mass Production of Microbial Products**: Production of alcohol; Organic acid − Citric acid, Lactic acid and Vinegar; Antibiotic − Penicillin, Tetracycline, Amino acid − Glutamic acid; Vitamin − B12, Enzymes- Amylase, Protease, Antibiotics- Penicillin, tetracycline, Biopolymers, Recombinant vaccine (Hep B vaccine).	18	CO1, CO2, CO3, CO4, CO5.	K1, K2, K3, K4, K5.
V	**Safe disposal of effluents and Industrial Standards and Assays:** Recycling and Safe disposal of industrial wastes by Trickling filter, Activated sludge and Oxidation ponds,	18	CO1, CO2, CO3, CO4, CO5.	K1, K2, K3, K4, K5.

	Industrial standards- National and International. Assays: Amino acids- Ninhydrin assay, Vitamins- Riboflavin assay, Antibiotics- dilution and diffusion assays, Harmons- chemiluminescence assay.				
VI	**Self Study for Enrichment (Not to be included for External Examination)** Strain Preservation, Bubble column fermenter, Prosthetic group, Lysine, Rabies recombinant vaccine and SCP.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5.

Text Books

1. Ema Sushan Minj (2024). Handbook on Fermentation Technology: Industrial Microbiology. Astitva Prakashan publishers, Chhattisgarh.
2. Patel, A.H (2022). Industrial microbiology. Published by Mac Millan India Ltd., Chennai.
3. Devarajan Thangadurai, Jeyabalan Sangeetha (2021). Industrial Biotechnology. Apple Academic Press Inc. India
4. Casida, L.E.J.R (2019). Industrial Microbiology. New Age International Private Limited, India
5. Prescott L.M, Harley J.P, Helin D.A, (2018). Microbiology, 5th edition, McGraw Hill, New Delhi.
6. Peter F Stanbury, Allan Whitaker, Stephen J Hall (2017). Principles of Fermentation Technology. Butterworth-Heinemann Press. UK.
7. Crueger W, Crueger A (2017). Biotechnology: A Test Book of Industrial Microbiology, 3rd edition. Panima Publishing corporation, New Delhi.

Reference Books

1. Dhakane R Zate A Masalkar S Upadhye V Hirani D Adhao A Upadhyay U Patil N Barua S Ambawade M Chahal K Taware A (2022). Fermentation Technology I and Agricultural Microbiology: Practical Handbook of Microbiology. International Journal of Microbial Science publishers, India.
2. Aydin Berenjian (2020), Essentials in Fermentation technology. Springer Verlag
3. H. J. Peppler, D. Perlman (2014). Microbial Technology: Fermentation Technology. Academic Press.
4. Hongzhang Chen (2013). Modern Solid State Fermentation: Theory and Practice. Springer Press, Germany.
5. Sivakumar, P.K., Joe, M.M., Sukesh, K., 2010. An introduction to Industrial Microbiology. 1st edition, S. Chand and Company Ltd, New Delhi.

Web Links:

1.https://www.shahucollegelatur.org.in/NAAC/CRII/ictppttool/Microbiology/Maske Madam5.pdf

2. https://www.slideshare.net/MDCrules/basic-design-of-a-fermenter-53452713

3. https://www.brainkart.com/article/Fermentors_41001/

4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7232202/

5. https://www.slideshare.net/AmanChauhan8/organic-acids-production-copy

6. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7121293/

Pedagogy:

Power point presentation, Group Discussion, Seminar, Quiz, Assignment, Animations.

Course Designer

Dr. S.Jeyabharathi

Semester: VI		Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS./WEEK		Credits
23UMB6CC10	FOOD AND DAIRY MICROBIOLOGY	CORE COURSE	5		4

Course Objective

      To enable the students to acquire knowledge in key concepts of food and dairy microbiology and to know various methods of food fermentation, types of food borne diseases and their prevention.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Define and understand food microbes and methods of fermentation	K1, K2
CO2	Analyze and explain food borne infections and intoxications	K3, K4
CO3	Determine and apply Asepsis techniques in food preservation	K3, K4
CO4	Evaluate and categorize properties of milk and its assessment	K4, K5
CO5	Criticize and manage fermented dairy products.	K5, K6

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	3	3	2	3	3	2
CO2	2	2	2	2	2	3	2	3	2	2
CO3	2	3	2	2	3	3	2	3	2	2
CO4	3	2	3	2	2	3	2	3	2	1
CO5	3	3	3	3	2	3	2	3	3	2

    "1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
     "3" – Substantial (High) Correlation   "-" indicates there is no correlation=

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Food Microbes and Fermentation**: Microorganisms in food- Bacteria, molds, yeast. Factors influencing microbial growth in food- pH, moisture, oxidation – Reduction potential, Nutrient content and Inhibitory substances. Methods of fermentations and organisms used - bread, wine, beer. Fermented vegetables- pickled cucumber, sauerkraut – soy sauce. Prebiotics, Probiotics, Synbiotics - Advantages.	15	CO1, CO2, CO3	K1, K2, K3, K4
II	**Food Borne infections and intoxications**: Food borne infections and food poisoning. Food spoilage and contamination – *Staphylococcus, Clostridium, Escherichia coli* and *Salmonella* infections, *Hepatitis, Amoebiosis* and Mycotoxins.	15	CO1, CO2, CO3, CO4	K1, K2, K3, K4, K5
III	**Food preservations**: General principles- Physical and chemical methods. Canning of food items, Asepsis - Techniques of removal – use of temperature (low & high). Drying, radiation and chemical preservatives. Preservation of cereals, vegetables, fruits, meat, Fish, poultry and dairy products. Food sanitation and control measures, Food standards- HACCP, FDA, FSSAI, WHO.	15	CO1, CO2, CO3, CO4,	K1, K2, K3, K4, K5
IV	**Dairy Microbiology**: Introduction - Composition - Physical and chemical properties of milk. Microbes in milk, Starter cultures, sources of contamination. Processing of milk - homogenization, Pasteurization, storage, and transportation. Microbiological analysis of milk- Direct Microscopic count, standard plate count, MBRT, Resazurin test, Alkaline phosphatase test.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
V	**Fermented Dairy products**- Fluid milk products and dried milk Products. Skimmed milk powder, other dairy products: Ice Cream, Butter, Whey. Milk Fermentation – Yoghurt, cheese, butter milk and Kefir.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
VI	**Self Study for Enrichment** **(Not included for End Semester Examinations)** Spoilage in canned foods, frozen dairy products, Detection of food-borne pathogens.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6

Text Books

1. Frazier. W.C and D.C Westhoff (2017). Food Microbiology. 5th Edition. Tata Mc Graw Hill publishing Co.
2. Aneja. K.R. (2018). Modern Food Microbiology. 1st Edition. Med tech. Scientific International.
3. Virendra Kumar Pandey. (2021). Text book of Food Microbiology. 1st Edition. INSC International Publishers.
4. Foster. W.M. (2020). Food Microbiology. 1st Edition. CBS Publishers & Distributors Pvt. Ltd.
5. Adam M. and Dick M. (2023). Food Microbiology: An Introduction. 3rd Edition. Scientific International Pvt. Ltd.
6. Vijaya Ramesh. R. (2021). Food Microbiology. 1st Edition. Mjp Publishers.

Reference Books

7. Rajan, S. and Selvi Christy, R. (2018). Essentials of Microbiology. 4th Edition. CBS Publishers and Distributors Pvt. Ltd.
8. Joanne M. Willey, Kathleen M. Sandman and Dorothy H. Wood (2022). Prescott's Microbiology. 12th Edition. McGraw-Hill Education.
9. Neelima Garg, Garg, K.L. and Mukerji, K.G. (2020). Laboratory Manual of Food Microbiology. 1st Edition. Dream tech Press.
10. Suresh Chandra, Ratnesh Kumar, Ruchi Verma. (2022). Food Technology: Objective Food Microbiology. 1st Edition. New India Publishing Agency (NIPA), New Delhi.
11. Joshi, R. D., Kulkarni, R. V., Mule, P. R. (2018). Dairy Microbiology & Technology. 1st Edition. Oxford Book Company.
12. Getachew Osei (2018). Food and Dairy Microbiology. 1st Edition. Bio-Green Publishers.

Web References

1. https://www.wikilectures.eu/w/Micro-organisms_in_Foods
2. https://byjus.com/biology/role-of-microbes-in-food-processing/
3. https://www.healthline.com/nutrition/probiotics-and-prebiotics
4. https://byjus.com/biology/food-preservation-methods-food-poisoning/
5. https://www.britannica.com/topic/food-preservation
6. https://www.onlinebiologynotes.com/food-borne-disease-food-poisoning-and-food-infection-with-example/
7. https://microbenotes.com/spoilage-of-milk-and-milk-products/

Pedagogy

Power point presentations, Group Discussions, Seminar, Quiz, Assignment, Brain Storming Activity.

Course Designer

Dr. S. Jenny

Semester : VI		Internal Marks: 40		External Marks: 60	
COURSE CODE	COURSE TITLE		CATEGORY	HRS/WEEK	CREDITS
22UMB6CC6P	FERMENTATION TECHNOLOGY AND FOOD AND DAIRY MICROBIOLOGY(P)		CORE PRACTICAL	3	3

Course Objective

Fermentation technology is used to produce both primary and derived metabolites from microorganisms. Food and dairy microbiology learn various methods of isolation, detection and Identification of spoilage microorganisms in food. Understand the application of principle of effect of temperature on spoilage of food products.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Recall the safety practice in food microbiology laboratory	K1,K2
CO2	Explain Bacterial growth curve studies	K2
CO3	Identify the microorganism in various food	K3
CO4	Determine the antibiotic producing microorganisms	K4
CO5	Discuss the TDP and TDT of microorganisms	K6

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	3	3	2	3	2	3	2
CO2	3	2	2	2	2	3	3	2	3	3
CO3	3	2	2	2	2	3	2	3	2	2
CO4	2	3	3	3	2	3	3	2	2	3
CO5	2	2	3	2	2	3	2	2	3	3

1- Slight (Low) correlation   2- Moderate (Medium) correlation
3- Substantial (High) correlation   "-" indicates there is no correlation

Syllabus
Fermentation Technology
1. Production of Media preparation and Sterilization.
2. Bacterial growth curve of industrial important microorganisms – Batch and continuous culture
3. Isolation of Antibiotic producing organism.
4. Production of Citric Acid using *Aspergillus niger.*
5. Microbial enzyme production of amylase, lipase and protease.

6. Visit to fermentation industry/ Science Institute/ Research laboratory.

Food and Dairy Microbiology
1. Microscopic observation of microorganisms commonly found in food: Gram smear preparation and Tease mount preparation of fungi.
2. Isolation of spoilage microorganisms from bread, cheese and butter milk, vegetables and fruits.
3. Microbial Examinations of Foods: Isolation of Bacteria Standard Plate Count Method.
4. Determination of Thermal Death Point (TDP) of Microorganisms.
5. Determination of Thermal Death Time (TDT) of Microorganisms.
6. Water Examination: Multiple Tubes Method – MPN Techniques : Presumptive, Confirmative and Completed
7. Milk Examination: Methylene Blue Reduction Test and Alkaline Phosphatase Test

Reference Books
1. Saha, R (2022).Microbiology Practical Manual (2nd edition) CBS Publishers & Distributors Pvt. Ltd.India.
2. Das, S (2020).Microbiology Practical Manual (1st edition) CBS Publishers & Distributors Pvt. Ltd.India.
3. Gunasekaran, P. (2018). Laboratory manual in Microbiology. New Age International Ld., Publishers, New Delhi.
4. R C Dubey and D K Maheswari (2010). Practical Microbiology. S. Chand Publishing.
5. James G Cappucino and N. Sherman MB(2013). A lab manual Benjamin Cummins, New York.

Web References
1. https://www.ifsc.usp.br/~ilanacamargo/FFI0740/4.pdf
2. http://www.lucp.net/books-pdf/Lab%20Manual%20Dr.%20Idris%20Adewale%20Ahmed/18.%20FERMENTATION%20TECHNOLOGY.pdf
3. https://content.kopykitab.com/ebooks/2016/06/7633/sample/sample_7633.pdf
4. https://sacmicro.files.wordpress.com/2016/09/food-safety-lab-manual.pdf
5. file:///C:/Users/HP/Desktop/FMS-122%20food%20microiology%20practical.pdf

Pedagogy
Chalk and talk, Power Point Presentation and Group Discussions

Course Designer
Dr. E.Priya

Semester: VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UMB6DSE2A	MICROBIAL GENETICS AND RECOMBINANT DNA TECHNOLOGY	DISCIPLINE SPECIFIC ELECTIVE – II (DSE)	5	3

Course Objective

The paper Microbial Genetics is the field of biology that studies the composition, structure and interactions of cellular molecules encompasses the basic study and understanding the central dogma. It helps in understanding the basic organization of the genome of prokaryotes and eukaryotes. It is followed by prokaryotic and eukaryotic replication, transcription, translation processes and regulation. This knowledge can be employed in determining the function of various genes and proteins for better understanding of cellular life processes.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	State the Basic concept of Microbial Genetics	K1
CO2	Define the Concept of gene	K1
CO3	Explain about Gene transfer Mechanism	K2
CO4	Apply the view of Recombinant DNA Technology	K3
CO5	Expose the students on the methods to construct the gene libraries	K6

Mapping of CO with PO and PSO

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	3	3	2	3	2	3	2
CO2	3	2	2	2	2	3	3	2	3	3
CO3	3	2	2	2	2	3	2	3	2	2
CO4	2	3	3	3	2	3	3	2	2	3
CO5	2	2	3	2	2	3	2	2	3	3

1- Slight (Low) correlation   2- Moderate (Medium) correlation

3- Substantial (High) correlation "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**UNIT I: Introduction to Microbial Genetics** Introduction and Basic history in Microbial Genetics. Fundamentals of genetics- Mendelian laws, alleles, crossing over and linkage. Structure of DNA-Watson and Crick model. Plasmids and types in bacteria. Bacteriophages, Lytic phages – T7 and T4. Lysogenic phages I and Pl. M13 and f x 174 Life cycle	15	CO1, CO2, CO4, CO5	K1, K2, K3, K4,
II	**UNIT II: Concept of gene** Concept of gene- Cistron, Muton and recon. One gene -one enzyme, one gene – one polypeptide, one gene -one product hypothesis. Types of RNA and their functions. Outlines of RNA biosynthesis in prokaryotes. Genetic code. Structure of ribosomes and a brief account of protein synthesis.	15	CO1, CO2, CO3, CO4,	K1, K2, K3, K4,
III	**UNIT III:** **Gene transfer and genetic recombination mechanisms:** Transformation – competence cells, regulation, general process and Efficiency. Transduction – general and specialized; Mechanisms and applications. Conjugation: Discovery, F+, F- and Hfr cells; F+ & F and Hfr & F genetic crosses. Mechanism of conjugation. conjugational transfer of colicin genic and resistance transfer factors. Genetic mapping of T4 phage.	15	CO1, CO2, CO3, CO4	K2, K3, K4, K5
IV	**Unit IV: *Recombinant DNA Technology*** Introduction-Isolation of DNA and recombinant DNA construction. Core techniques used in rDNA technology. Enzymes useful in molecular cloning- Cloning Vectors- Labeling nucleic acids and blotting techniques (Southern, Northern, Western, Zoo blot) Polymerase Chain Reaction and its applications. Applications of recombinant DNA technologies- Agriculture, Medicine.	15	CO1, CO2, CO3, CO4	K2, K4 K5, K6
V	**UNIT-V: Cloning vectors and Gene libraries** Cloning vectors - plasmids, phages and	15	CO1, CO2, CO4,	K1, K2, K3,

	cosmids. Cloning strategies. Cloning and selection of individual genes, Gene libraries: cDNA and genomic libraries.		CO5	K4, K5
VI	**Self-Study for Enrichment** **(Not included for End Semester Examinations** X–ray diffraction analysis of DNA, Forces stabilizes DNA structure, Conformational variants of double helical DNA.	-	CO1, CO2, CO3, CO4 CO5	K1, K2, K3, K4, K5

Text Books

1. Larry R. Snyder, Joseph E. Peters, Tina M. Henkin (2013) Molecular Genetics of Bacteria, ASM Press.
2. Clark David (2019) Molecular Biology, Academic Cell.
3. Gerald Karp, Janet Iwasa and Wallace Marshall(2016)Karp's Cell and Molecular Biology, Wiley.
4. Joanne Willey, Linda Sherwood (2016) Prescott's Microbiology, Mc-Graw– Hill Publishing company Ltd.
5. Veer Bala Rastogi (2015) Principles of Molecular Biology Med tech.
6. Verma P S and Agarwal V K (2015) Cell biology, Genetics, Molecular Biology Evolution and Ecology, S. Chand and Company Ltd.

Reference Books

7. Chaudhuri. K. (2012) Microbial Genetics. The Energy and Resources Institute, TERI.
8. Tania A. Baker, Stephen P. Bell, Michael Levine and Richard Losick. (2013) Molecular Biology of the Gene. 7th Edition. Benjamin/Cummings Publ. Co., Inc., California.
9. Geoffrey M Cooper (2016) Cell: A Molecular Approach, Sinauer Associates Inc.
10. Bernard R Glick and Cheryl L Patten (2017) Molecular Biotechnology: Principles and Applications of Recombinant DNA, ASM Press.

Web Links

1. https://www.uomustansiriyah.edu.iq/media/lectures/6/6_2019_10_25!03_16_45_PM.pdf
2. https://pages.jh.edu/rschlei1/Random_stuff/publications/molbiogene.pdf
3. https://www.fmed.uniba.sk/uploads/media/Introduction_to_Medical_and_Molecular_Biology .pdf
4. https://www.aacb.asn.au/documents/item/3400
5. https://molbiomadeeasy.files.wordpress.com/2013/09/fundamental_molecular_biology.pdf
6. https://users.ugent.be/~avierstr/pdf/principles.pdf
7. https://pages.jh.edu/rschlei1/Random_stuff/publications/molbiogene.pdf

Pedagogy

Power Point Presentations, Group Discussion, Seminar, Quiz, Assignment and Brain Storming Activity.

Course Designer

Ms.S. Sathya

semester: VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UMB6DSE2B	MICROBIAL ECOLOGY	DISCIPLINE SPECIFIC ELECTIVE-II (DSE)	5	3

Course Objective

To create awareness on evolutionary relationship of ecosystem and its interactions. To understand the
Prerequisites

To obtain concepts of community ecology and strategies for biodiversity conservation.

Course   Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO1	Explain the basic concept of ecosystem	K2,K3
CO2	Illustrate the microorganisms and their natural habitats	K3,K4
CO3	Summarize the environmental pollution	K4,K5
CO4	Interpret waste management system	K5,K6
CO5	Discuss about biodiversity and its conservation	K5,K6

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	3	3
CO2	2	3	2	3	3	3	3	3	3	3
CO3	3	2	3	3	2	3	3	3	3	2
CO4	3	3	3	3	3	3	3	3	2	3
CO5	3	3	3	2	3	3	2	3	3	3

1- Slight (Low) correlation   2- Moderate (Medium) correlation

3- Substantial (High) correlation "-" indicates there is no correlation

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	History, significance, principle, scope and development of microbial ecology. Population ecology: Characteristics of a population; population growth curves; population regulation; life history strategies (r and K selection); concept of metapopulation – demes and dispersal, interdemic extinctions, age structured populations. Biological Interactions: Microbe–Microbe Interactions, Microbe–Plant Interactions, Microbe–Animal Interactions.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4,K5
II	Ecosystem – structure and functions. Abiotic and biotic components. Energy flow, food chain, food web, ecological pyramids and types. Terrestrial Environment: Soil characteristics, Soil profile, Soil formation, Soil as a natural habitat of microbes, Soil microflora. Aquatic Environment: Stratification & Microflora of Freshwater & Marine habitats. Atmosphere: Stratification of the Atmosphere, Aeromicroflora, dispersal of Microbes. Animal Environment: Microbes in/on human body (Microbiomics) & animal (ruminants) body.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
III	Environmental pollution-Air pollution: Sources and classification of major air pollutants; Noise pollution-concept and effects. Soil pollution: sources and types of soil and water pollutants; effect of pollutants on soil health and productivity; Radioactive pollutants, their lifetime and disposal; Water pollution: major sources and types of water pollutants; pollution in fresh and marine water bodies. Climate change: Global warming and green house effects, sources and sinks of green house gases, Acid rain.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
IV	Waste management- Solid and liquid wastes. Physical, chemical and biological properties of wastes; Effluent treatment- sewage and other agro-industrial wastes; Biomagnification and its impact on loss of biodiversity. Biodegradation and Bioconversion of organic wastes; Microbiological and public health aspects of waste disposal; heavy metal contamination of environments, source and sinks of heavy metals.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6

V	Biodiversity- concepts, levels and types; strategies for biodiversity conservation. Biodiversity-status, monitoring and documentation; major drivers of biodiversity change; biodiversity management approaches. Principles of conservation- in-situ and ex-situ. National and global conservation measures. Biodiversity hot spots in India and world	15	CO1, CO2, CO3, CO4, CO5	K1 K2, K3, K4, K5, K6
VI	**Self Study for Enrichment** **(Not included for End Semester Examination)** Ecological succession: Types; mechanisms; changes involved in succession; concept of climax.	-	CO1, CO2, CO3, CO4, CO5	K1 K2, K3, K4, K5, K6

Text Books
1. Pelczar, M.J., Schan,E.C. and Kreig, N.R (2010) Microbiology – An application based approach, Fifth Edition, Tata McGraw Hill Publishing Company Limited, New Delhi.
2. Saha, T.K (2010) Ecology and Environmental Biology. Books and Allied Pvt. Ltd. Kolkata.
3. Dubey,R.C.and Maheswari, D.K.(2013), A text book of Microbiology Revised, S. Chand and Company Ltd, New Delhi.
4. Nduka Okafor(2011), Environmental Microbiology of Aquatic and Waste Systems. Springer Dordrecht Heidelberg London New York.

Reference Books
1. Ian Pepper Charles Gerba Terry Gentry.(2014) *Environmental Microbiology*.3rd Edition Academic press. USA.
2. Prescott, L.M.,Harley, J.P. and Helin,D.A. (2017) *Microbiology*, 10thEdition**,** McGraw Hill,New York.
3.Bal Ram Singh, Raj Kumar,(2022)Practical Techniques in Molecular Biotechnology, Cambridge University Press.
4. Tortora G.J., Funke,B.R. and Case, C.L.(2009) *Microbiology*, 9th Edition, Dorling Kindersely (India) Pvt. Ltd., Noida

Web References
1. https://www.onlinebiologynotes.com/microbial-ecology-and-role-of-microorganism-in-ecosystem/   2.https://www.slideshare.net/WilliamElly/microbial-ecology-58311201
3.https://www.slideshare.net/cezsham/microbiology-microbial-ecology
4.https://byjus.com/biology/define-microbial-diversity/
5. https://byjus.com/biology/ecology/
Pedagogy
Chalk and talk, Power Point Presentation, Quiz, Assignments, Group Discussions, Seminar, and Assignment.
Course Designer: Dr. S. Jeyabharathi

semester: VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
23UMB6DSE2C	BIOLOGICAL TECHNIQUES	DISCIPLINE SPECIFIC ELECTIVE-II (DSE)	5	3

Course Objective

This course will give an understanding about the working principles, construction and applications of the instruments often used in the studies related to various disciplines of Biological Sciences.

Course Outcome and Cognitive Level Mapping

CO Number	CO Statement	Cognitive Level
CO 1	Understand the basic instrumentation protocols of biological sciences.	K1, K2
CO 2	Illustrate the principles of biological techniques.	K2, K3
CO 3	Examine the results of bioinstrumentation techniques.	K3, K4
CO 4	Organize the advantages of assorted techniques.	K4, K5
CO 5	Interpret the application of instrumentation biology.	K4, K5

Mapping of CO with PO and PSO

COS	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	3	3	3	3	3	2	3
CO2	3	2	3	3	3	2	3	3	3	3
CO3	3	3	3	2	3	3	2	2	3	3
CO4	2	3	3	3	2	3	3	3	3	3
CO5	3	3	2	3	3	3	3	3	3	3

"1" – Slight (Low) Correlation   "2" – Moderate (Medium) Correlation
"3" – Substantial (High) Correlation   "-" – indicates there is no correlatio

Syllabus

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Microscopy:** Basic principles, mechanisms and application of Bright Field, Dark field, Phase contrast, Fluorescence, Transmission Electron microscope (TEM), Scanning Electron microscope (SEM) and Confocal microscope.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Spectroscopy**: Concepts and applications of UV-Visible spectrophotometry, Fourier-transform infrared spectroscopy (FTIR), Nuclear Magnetic Resonance spectroscopy (NMR) and Mass spectroscopy.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Centrifugation:** Working Principles, Steps and uses of Analytical, Density gradient, Differential, Isopycnic, Rate zonal density gradient, Continuous and Ultra-centrifugation.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Chromatographic Techniques:** Instrumentation, principles and application of Thin-layer chromatography, Paper chromatography, Gel filtration chromatography, Ion- exchange chromatography, Affinity chromatography, Gas chromatography and High Performance Liquid chromatography.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
V	**Electrophoretic Techniques**: Operating procedure and uses of Agarose gel, Polyacrylamide gel, SDS-PAGE, Isoelectric focusing, 2D-electrophoresis, Immuno-electrophoresis and Pulse field electrophoresis. Brief outline about Polymerase Chain Reaction, Blotting techniques and DNA sequencing.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5
VI	**Self Study for Enrichment** **(Not to be included for End Semester Examination)** Outline the concept, types and importance of Radiographic and Molecular techniques used in biological sciences.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5

Text books

1. Kothari C.R. and Gaurav Garg M.K. (2024). Research Methodology Methods and Techniques.5th Edition. New Age International Publishers.
2. Dev Brat Mishra, Shailendra Kumar Singh and Vijeta Chaturvedi. (2022). Tools and Techniques in Biological   Science. Xoffencer, Gwalior. M.P.
3. Ankita Jain, Haresh Kalasariya, Varsha Tailor, Nikunj Patel. (2020). Bioinstrumentation techniques- Basics and applications.1st Edition. Notion Press.
4. Bhawana Pandey M.H. Fulekar. (2019). Bioinstrumentation. 5th Edition. Dream tech Press.
5. Gurdeep R. Chatwal. (2019). Instrumental Methods of Chemical Analysis. 3rd Edition. Himalaya publishing house.

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6. Satish Chandra and Gyanendra Kumar. (2023). Bioinstrumentation and Biological Technique. P.K. Publishers & Distributors.
7. Rao, D. M. (2020). Instrumental Methods of Analysis. 1st Edition. CBS publishers and distributors Pvt. ltd.
8. Gakhar, Monika Miglani, Ashwani Kumar. (2019). Molecular Biology: A Laboratory
9. Manual.1st Edition. Dreamtech Press.
10. Almroth E., Wright. (2018). Principles of Microscopy: Being a Handbook to the Microscope.1st Edition. Forgotten Books.
11. Andreas Hofmann and Samuel Clokie. (2018). Wilson and Walker's Principles and Techniques of Biochemistry and Molecular Biology.8th Edition. Cambridge University Press.

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1. https://www.brunelmicroscopessecure.co.uk/acatalog/books.html

2. https://www.freebookcentre.net/chemistry-books-download/Introduction-to-Spectroscopy.html

3. https://archive.org/details/centrifugation-biotechgirl

4. https://www.pdfdrive.com/chromatography-sixth-edition-fundamentals-and-applications-of-chromatography-and-related-differential-migration-methods-part-b-applications-e157059666.html

5. https://www.freebookcentre.net/chemistry-books-download/Electrophoresis.html

Pedagogy

Power Point Presentation, Group Discussion, Assignment, Seminar and Brain Stroming Activity.

Course Designer

Dr. N. Jeenathunisa

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Nationally Accredited (III Cycle) with A Grade by NAAC
Annamalai Nagar, Tiruchirappalli
PG & RESEARCH DEPARTMENT OF MICROBIOLOGY
<u>MINUTES OF THE ELEVENTH MEETING OF THE BOS</u>

DATE   : 17.10.2024
VENUE : PG Microbiology Lab
TIME   : 10.30 a.m.

Members Present

1.Dr. B. Thamilmaraiselvi	Chairperson, Professor & HOD
2.Dr. N. Pushpa	Member, Associate Professor
Dr. S. Jeyabharathi	Member, Associate Professor
Dr. N. Jeenathunisa	Member, Associate Professor
Ms. S. Sathya	Member, Assistant Professor
Dr. N.Sathammai Priya	Member, Assistant Professor
Dr. P.F. Steffi	Member, Assistant Professor
Dr. S. Jenny	Member, Assistant Professor
Dr. E. Priya	Member, Assistant Professor
Dr. V. Aruna	Member, Assistant Professor
Dr. P. Bhuvaneswari	Member, Assistant Professor

<u>**ACTION TAKEN REPORT OF THE BOS HELD ON 17.10.2024**</u>

The BoS Meeting was held on 17.10.2024 at 10.30 a.m. The Chairman of the BoS read the minutes of the previous meeting and the following Resolutions were confirmed

- Confirmation of VI Semester Syllabus of B.Sc. Microbiology for 2022 - 2023 batch and onwards
- Confirmation of III & IV Semester Syllabus of B.Sc. Microbiology for 2023 - 2024 batch and onwards
- Confirmation of I & II Semester Syllabus of B.Sc. Microbiology for 2024 - 2025 batch and onwards
- Confirmation of credits of Core Practical -III (CP) for the III semester and Project Work for IV Semester of M.Sc. Microbiology for 2023-2024 batch and onwards
- Confirmation of the I Semester syllabus of M.Sc. Microbiology for 2024-2025 batch and onwards
- Confirmation of the syllabus of the Value Added Course for the Academic Year 2024 – 2025.

<u>**The Agenda for the meeting is as follows:**</u>

ITEM NO: BOS/11/24/01
To consider and to approve the V & VI Semester syllabus of B.Sc. Microbiology for 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02
                Any other matter with the permission of the chair

RESOLUTION NO.BOS/11/24/01

Resolved to approve the syllabus of CC – VI, CC- VII, CC- VIII , CP – V and DSE – I the ratification of the Credits and Course Code of CC – VI, CC- VII, CC- VIII, CP - V and DSE - I of Semester V and CC – IX, CC- X and DSE - II of Semester VI for B.Sc. Microbiology for 2023 - 2024 batch and onwards and recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy - 18 with the following changes for

1. CC – VI – Medical Microbiology changed with 5 Credits and Course Code 23UMB5CC6.
2. CC- VII- Agricultural and Environmental Microbiology changed with 5 Credits and Course Code 23UMB5CC7.
3. New Course introduced with CC- VIII- Microbial Biotechnology with 5 Credits and Course Code 23UMB5CC8
4. CP – VI – Change of Practical Course title Medical Microbiology, Agricultural and Environmental Microbiology and Microbial Biotechnology is introduced with Course Code 23UMB5CC5P
5. Credits of CC – IX – Fermentation Technology is changed as 5 with Course Code 23UMB6CC9
6. Credits of CC – X – Food and Dairy Microbiology is changed as 4 with Course Code 23UMB6CC10
7. Credits of DSE – I changed as 3 with Course Code of
   - Organic Farming is changed as 23UMB5DSE1A
   - Medical Parasitology is changed as 23UMB5DSE1B
   - Fundamentals of Botany and Zoology is changed as 23UMB5DSE1C
   - Microbial Ecology is changed as 23UMB6DSE2B
6. New Course introduced with DSE – II - Microbial Ecology with 3 Credits and Course Code 23UMB6DSE2B
7. Credits of DSE – II changed as 3 with Course Code of
   - Microbial Genetics and Recombinant DNA technology is changed as 23UMB6DSE2A
   - Biological Techniques is changed as 23UMB6DSE2C

Chairman of the Board

Dr. B.THAMILMARAISELVI,
M.Sc., B.Ed., M.Phil., SLET., Ph.D.
Professor and Head
PG and Research Dept. of Microbiology
Cauvery College for Women (A)
Tiruchirappalli-620 01*

Dean of Science
DEAN OF SCIENCE
CAUVERY COLLEGE FOR WOMEN
(AUTONOMOUS)
ANNAMALAI NAGAR
TIRUCHIRAPPALLI - 620 018
TAMILNADU

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018
PG & Research Department of Microbiology
11th Board of Studies Meeting Held on 17/10/2024

1. Introduction of new courses from the academic year 2024-2025 based on the Feedback collected from various Stakeholders

The Chairman of the Board Dr. B. Thamilmaraiselvi, proposed the introduction of the following New course(s) in the curriculum of the B.Sc., Microbiology from the academic Year 2024 -2025

Name of the Programme	Name of the Course	Course Code	Year of Introduction
B.Sc., Microbiology	Microbial Biotechnology	23UMB5CC8	2024
	Medical Microbiology, Agricultural and Environmental Microbiology and Microbial Biotechnology (P)	23UMB5CC5P	2024
	DSE – II Microbial Ecology	23UMB6DSE2B	2024

2. Revision of syllabus of the existing courses from the academic year 2024 -2025

The Chairman of the Board, Dr. B. Thamilmaraiselvi, proposed the revision of syllabus in the curriculum of the B.Sc., Microbiology, and M.Sc., Microbiology from the academic Year 2024-2025.

Name of the Programme	Name of the Course	Course Code	Core/Elective	% of Content added or replaced
B.Sc., Microbiology	-	-	-	-
M.Sc., Microbiology	-	-	-	-

Chairman of the Board

Dr. B.THAMILMARAISE...
M.Sc., B.Ed., M.Phil., SLET, Pr.
Professor and Head
PG and Research Dept. of Microbiolc
Cauvery College for Women !'
Tiruchirappalli-620 01

DEAN OF SCIENCE
CAUVERY COLLEGE FOR WOMEN
(AUTONOMOUS)
ANNAMALAI NAGAR
TIRUCHIRAPPALLI - 620 018
TAMILNADU

ANNEXURE P

Cauvery College for Women (Autonomous), Trichy -18
Department of Biotechnology
B.Sc., Biotechnology
Learning Outcome Based Curriculum Framework (CBCS - LOCF)
(For the Candidates admitted from the Academic year 2023-2024 and onwards)

Semester	Part	Course	Course Title	Course Code	Inst. Hrs	Credits	Hrs.	Int	Ext	Total
I	I	Language Course-I (LC)	Podhu Tamil –I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I - French I	23ULF1						
	II	English Language Course -I (ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I (CC)	Cell and Molecular Biology	23UBT1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Cell and Molecular Biology (P)	23UBT1CC1P	3	3	3	40	60	100
		First Allied Course- I (AC)	BiologicalChemistry	23UBT1AC1	4	3	3	25	75	100
		First Allied Course- II (AP)	Biological Chemistry (P)	23UBT1AC2P	4	3	3	40	60	100
	IV	Ability Enhancement Compulsory Course-I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		Total			**30**	**22**				**700**
II	I	Language Course - II(LC)	Podhu Tamil -II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar – II	22ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French – II	22ULF2						
	II	English Language Course -II (ELC)	General English -II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Genetics	23UBT2CC2	5	5	3	25	75	100
		Core Practical - II (CP)	Genetics (P)	23UBT2CC2P	3	3	3	40	60	100
		Core Course - III (CC)	Biomolecular Techniques	23UBT2CC3	2	2	3	25	75	100
		First Allied Course – III(AC)	General Microbiology	23UBT2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course-II(AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course-III(AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**22**				**800**

				Code	Hours	Credit	Exam Hours	CIA	ESE	Total
III	I	Language Course-III(LC)	Podhu Tamil – III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar – III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French-I	22ULF3						
	II	English Language Course-III (ELC)	Learning Grammar Through Literature-I	23UE3	6	3	3	25	75	100
	III	Core Course– IV(CC)	rDNA Technology	23UBT3CC4	5	5	3	25	75	100
		Core Practical - III(CP)	rDNATechnology(P)	22UBT3CC3P	3	3	3	40	60	100
		Second Allied Course-I (AC)	Bioinformatics	22UBT3AC4	4	3	3	25	75	100
		Second Allied Course-II(AP)	Bioinformatics (P)	22UBT3AC5P	4	3	3	40	60	100
	IV	Generic Elective Course- I(GEC)	Basics of Biotechnology	22UBT3GEC1	2	2	3	25	75	100
			Basic Tamil -I	22ULC3BT1						
			Special Tamil – I	22ULC3ST1						
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays*

				Code	Hours	Credit	Exam Hours	CIA	ESE	Total
IV	I	Language Course – IV (LC)	Podhu Tamil – IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French – II	22ULF4						
	II	English Language Course –IV (ELC)	Learning Grammar Through Literature – II	23UE4	6	3	3	25	75	100
	III	Core Course – V(CC)	Immunology	23UBT4CC5	6	5	3	25	75	100
		Core Practical - IV(CP)	Immunology (P)	22UBT4CC4P	4	4	3	40	60	100
		Second Allied Course - III(AC)	Basics of Forensic Biology	22UBT4AC6	4	3	3	25	75	100
		Internship*	Internship	22UBT4INT	-	2	-	-	-	100
	I V	Generic Elective Course-II(GEC)	Applied Biotechnology	22UBT4GEC2	2	2	3	25	75	100
			Basic Tamil – II	22ULC4BT2						
			Special Tamil – II	22ULC4ST2						
		Skill Enhancement Course –I (SEC)	Medical Lab Technology - I (P)	22UBT4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**24**				**800**

Sem	Part	Course	Title	Code						
V	III	Core Course – VI(CC)	Plant Biotechnology	23UBT5CC6	6	5	3	25	75	100
		Core Practical – V(CP)	Plant & Animal Biotechnology(P)	22UBT5CC5P	3	3	3	40	60	100
		Core Course - VII(CC)	Animal Biotechnology	23UBT5CC7	6	5	3	25	75	100
		Core Course – VIII(CC)	Biostatistics	23UBT5CC8	6	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A. Cancer Biology	23UBT5DSE1A	5	3	3	25	75	100
			B. Human Anatomy and Physiology	23UBT5DSE1B						
			C. Pharmacognosy	23UBT5DSE1C						
	I V	Ability Enhancement Compulsory Course – IV (AECC)	UGC Jeevan Kaushal -Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course –II (SEC)	Medical Lab Technology -II (P)	22UBT5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM	As per UGC Recommendation						
		Total			**30**	**25**				**700**
VI	III	Core Course – IX (CC)	Microbial & Environmental Biotechnology	23UBT6CC9	6	5	3	25	75	100
		Core Practical –VI (CP)	Microbial & Environmental Biotechnology(P)	22UBT6CC6P	3	3	3	40	60	100
		Core Course – X (CC)	IPR, Biosafety and Bioethics	23UBT6CC10	5	4	3	25	75	100
		Core Course – XI (CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Discipline Specific Elective – II (DSE)	A. Developmental Biology	23UBT6DSE2A	5	3	3	25	75	100
			B. Stem CellBiology	23UBT6DSE2B						
			C. Bioentrepreneurship	23UBT6DSE2C						
		Project	Project Work	22UBT6PW	5	4	-	-	100	100
	IV	Ability Enhancement Compulsory Course – V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity		22UGEA	0	1	0	-	-	-
		Total			**30**	**25**				**700**
		Grand Total			**180**	**140**				**4400**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)

NATIONALLY ACCREDITED (III CYCLE) WITH "A⁺" GRADE BY NAAC

TIRUCHIRAPPALLI – 620 018

DEPARTMENT OF BIOTECHNOLOGY

B.Sc., BIOTECHNOLOGY SYLLABUS

2023 – 2024 and Onwards

Semester V	Internal Marks : 25		External Marks : 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS/ WEEK**	**CREDITS**
23UBT5CC6	**PLANT BIOTECHNOLOGY**	**CORE COURSE-VI**	**6**	**5**

Course Objectives

➢ To know the basic principles and techniques involved in plant tissue culture.
➢ To study the importance of plant models.
➢ To acquire knowledge about the concepts of transformation in Plant Biotechnology.
➢ To understand the achievements of biotechnology in plant system.
➢ To explore and understand the diverse applications of molecular markers in plant breeding.

Course outcome and Cognitive Level Mapping
Upon successful completion of the course, the students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Demonstrate a comprehensive understanding of plant biotechnology, encompassing plant tissue culture, genome organization, transgenic plant technology, biofertilizers, and molecular breeding techniques.	K1, K2
CO2	Develop practical skills in establishing and maintaining plant tissue cultures, including media preparation, explant selection, and regeneration techniques for plant propagation.	K2
CO3	Gain proficiency in analyzing plant genome organization, including nuclear, chloroplast, and mitochondrial genomes, and apply this knowledge to genetic studies and plant breeding.	K3
CO4	Evaluate the principles and applications of transgenic plants, including their role in biotic and abiotic stress resistance, crop improvement, and biosafety considerations.	K4
CO5	Acquire the ability to apply molecular techniques, such as DNA markers, linkage analysis, and QTL mapping, in modern plant breeding practices, while adhering to ethical and biosafety standards.	K4

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	3	2	1	3	3	1	1	1
CO2	3	1	3	1	1	3	3	1	1	2
CO3	1	3	3	1	1	3	2	1	1	1
CO4	3	2	3	3	2	3	3	1	1	2
CO5	3	3	3	2	1	3	3	1	1	2

"1" – Slight (Low) correlation   "2" - Moderate (Medium) correlation
"3" – Substantial (High) correlation   "_" indicates there is no correlation

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Plant Tissue Culture and Regeneration Techniques** Introduction to Plant Tissue Culture and Culture Media: History and significance of plant tissue culture. Types of culture media: solid vs. liquid, basal vs. specialized. Composition and preparation of culture media. Sterilization techniques for culture media and equipment. Explant selection criteria and preparation.	17	CO1, CO2, CO3	KI, K2, K3, K4, K5
II	**Plant Tissue Culture and Somaclonal Variations:** Types of culture (Callus, Suspension, Meristem, Embryo, Anther and Root). **Regeneration Methods and Somaclonal Variations:** Organogenesis: Shoot and Root formation. Somatic embryogenesis. Somaclonal variations: Production of Haploids. Nurturing and manipulating protoplasts: Culture and regeneration strategies. Fusion of protoplasts: Techniques, significance.	19	CO1, CO2, CO3,	KI, K2, K3, K4, K5
III	**Deciphering *Arabidopsis thaliana* Genome Organization** Introduction to Arabidopsis thaliana as a premier model plant species : Landscape of the nuclear genome in Arabidopsis thaliana - Structure and functions of the chloroplast genome - Mitochondrion and its Genome. Cytoplasmic Male Sterility in plants: Mechanisms, applications, and implications.	18	CO1, CO2, CO3,	KI, K2, K3, K4, K5
IV	**Introduction to Transgenic Plants** Genetic engineering and crop improvement – Agrobacterium-mediated transformation: Transgenic plants: Biotic stress resistance (Insect) BT Cotton, BT Mustard, BT Bringal), Virus, Bacteria). Abiotic stress resistance (Herbicide, Drought). Applications of Plant genetic Engineering Improvement : (Flavr savr tamato, Golden Rice. Transformation techniques: GUS assay, Neomycin resistance assay).	20	CO3, CO4, CO5	KI, K2, K3, K4, K5
V	**Applications of Molecular Markers in Plant Breeding** DNA Hybridization-Based Molecular Markers (RFLP) – PCR-Based Molecular Markers (RAPD, AFLP, STS, SNPs, Microsatellites) Genomic enabled breeding methods.	16	CO3, CO4, CO5	KI, K2, K3, K4, K5
VI	**Self-Study for Enrichment** **(Not Included for End Semester Examination)** Thermosensitive genic Male sterility (TGMS), Production of Organic food, Linkage analysis and Quantitative Trait Loci.	-	CO2, CO3, CO4	KI, K2, K3, K4, K5

Text Books

1. Smith, R. H. (2012). Plant tissue culture: techniques and experiments. academic press. recent reprint of this book

2. Stewart Jr, C. N. (Ed.). (2016). *Plant biotechnology and genetics: principles, techniques, and applications*. John Wiley & Sons.

3. Abdin, M. Z., Kiran, U., & Ali, A. (Eds.). (2017). *Plant biotechnology: principles and applications*. Springer Singapore.

4. Altman, A., & Hasegawa, P. M. (Eds.). (2011). *Plant biotechnology and agriculture: prospects for the 21st century*. Academic press.

5 Singh, B. D., & Singh, A. K. (2015). Marker-assisted plant breeding: principles and practices.

Reference Books

1. Bhojwani, S. S., & Razdan, M. K. (1996). Plant tissue culture: theory and practice. *(No Title)*.

2. Janick, J. (Ed.). (2010). *Plant Breeding Reviews, Volume 23* (Vol. 23). John Wiley & Sons.

3. Nelson, G. C. (2001). *Genetically modified organisms in agriculture: economics and politics*. Elsevier.

4. Gahlawat, S. K., Salar, R. K., Siwach, P., Duhan, J. S., Kumar, S., & Kaur, P. (Eds.). (2017). *Plant biotechnology: recent advancements and developments* (pp. 1-390). Singapore:: Springer.

5. Primrose, S. B., & Twyman, R. (2009). *Principles of genome analysis and genomics*. John Wiley & Sons.

E - books

1. https://www.pdfdrive.com/plant-tissue-culture-third-edition-techniques-and-experiments-e189228999.html
2. https://www.pdfdrive.com/plant-tissue-culture-an-introductory-text-e157392516.html
3. https://www.pdfdrive.com/plant-biotechnology-and-genetics-principles-techniques-e15853574.html
4. https://www.pdfdrive.com/plant-biotechnology-volume-1-principles-techniques-and-applications-e158415461.html
5. https://www.pdfdrive.com/plant-biology-and-biotechnology-volume-ii-plant-genomics-and-biotechnology-e176062706.html

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1. https://r.search.yahoo.com/_ylt=AwrKAluRmB9lCrYGyy3nHgx.;_ylu=Y29sbwMEcG9zAzUEdnRpZAMEc2VjA3Ny/RV=2/RE=1696598289/RO=10/RU=https%3a%2f%2fonlinecourses.nptel.ac.in%2fnoc20_bt36%2fpreview/RK=2/RS=uV1eGcoCnfbF4aAAhBpmHWdAv0U-
2. https://r.search.yahoo.com/_ylt=Awr1TcjWmB9lTA8EdArnHgx.;_ylu=Y29sbwMEcG9zAzMEdnRpZAMEc2VjA3Ny/RV=2/RE=1696598358/RO=10/RU=https%3a%2f%2fnipb.icar.gov.in%2f/RK=2/RS=Nk74kvGCmXV1VpTJfggqTjY_G0o-

Pedagogy

Blackboard, PPT, Videos, Animations, Group Discussion and Quiz.

Course Designer
Dr. R. RAMESHWARI

Semester – V	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS/ WEEK**	**CREDITS**	
23UBT5CC7	**ANIMAL BIOTECHNOLOGY**	**CORE COURSE**	**6**	**5**	

Course Objectives

➢ To understand the basic requirements and techniques about Animal Cell Culture.

➢ To provide the knowledge about the manipulation of Embryo.

➢ To provide basic concepts about Cloning.

➢ To provide an overview and current developments in different areas of animal biotechnology.

➢ To learn propagation of embryonic stem cells, nuclear transfer technology, animal cloning and stem cell differentiation

Course Outcome and Cognitive Level Mapping

Upon the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Explain the fundamental scientific principles that underlie cell culture and its importance	K1
CO2	Acquire knowledge for isolation, maintain and growth of cells.	K2
CO3	Develop techniques for the production of Growth Hormones, monoclonal antibodies etc.	K3
CO4	Explain proficiency in establishing and maintaining of cell lines.	K3
CO5	Analyze principles and applications of animal cloning and gene therapy along with ethical concerns.	K1

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	1	2	2	1	3	1	2	3	1
CO2	3	2	2	2	1	3	1	2	2	1
CO3	3	3	2	2	1	3	3	2	2	1
CO4	3	3	2	2	1	3	3	2	3	1
CO5	3	3	3	3	1	3	3	3	3	2

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation,
"3" – Substantial (High) Correlation, "-" indicates there is no correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Animal Cell Culture:** Animal cell culture - Lab Facilities – Infrastructure- Equipment – Culture Vessels. Media Composition – Types – Natural – Synthetic – Semisynthetic – Freezing Media. Reagents – Antibiotics – Trypsin – Indicators.	17	CO1, CO2	K1, K2, K3, K4
II	**Types of Animal Cell Culture:** Types of Cultures – Primary – Secondary – Established Cultures. Culture – Finite – Continuous Culture - Histotypic – Organotypic. Biology of Cultured Cells – Cell Synchronization – Cell Viability – Cytotoxicity.	17	CO1, CO2, CO3	K1, K2, K3, K4
III	**Gene transfer and Developmental Biology:** Gene transfer methods in Animals –Physical - Chemical - Biological methods. Hybridoma technology. Gametogenesis. Stages of embryonic development – Morula, Blastulation, Gastrulation and Organogenesis. Cryopreservation - Sperm - Ova - Embryo of livestock. Artificial Insemination - Super ovulation - In vitro Fertilization- Culture of Embryos - Embryo transfer- Embryo Splitting- Embryo Sexing.	20	CO3, CO4, CO5	K1, K2, K3, K4
IV	**Trangenesis:** Animal Cloning - Basic Concepts. Cloning from Embryonic Cells - Adult cells. Cloning of different Animals - Transgenic Animals – Mice – Sheep - Fish. Products from Transgenic Animals – Insulin – Growth Hormones – Blood Clotting Factors. Merits - demerits. Global Ethical Challenges in Animal Biotechnology	19	CO3, CO4, CO5	K1, K2, K3, K4
V	**Gene Therapy:** Gene Therapy - Types of Gene Therapy- Somatic – Germline Gene Therapy. Approaches – Ex vivo – In vivo Gene Therapy. Gene knock out technology.	17	CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self-Study for Enrichment** Introduction and History of Animal Biotechnology **(Not Included for End Semester Examination)**	-	CO1, CO2	K1, K2, K3

Text Books

1. Verma, A. S., & Singh, A. (Eds.). (2020). *Animal biotechnology: models in discovery and translation 2nd edition*. Academic Press.
2. Singh, B., Mal, G., Gautam, S. K., & Mukesh, M. (2019). *Advances in animal biotechnology*. Springer International Publishing.
3. Scherman, D. (Ed.). (2019). *Advanced textbook on gene transfer, gene therapy and genetic pharmacology: principles, delivery and pharmacological and biomedical applications of nucleotide-based therapies*. World Scientific.
4. Niemann, H., & Wrenzycki, C. (Eds.). (2018). *Animal Biotechnology*. Springer.
5. Gwiasda, K. E., Allender-Hagedorn, S., Chang, Y. Y., Eun, J. Y., Marino, P., Swales, J. M., ... & Dalrymple, L. (2000). Bibliography: Relations of Science to Literature and the Arts 1998. *Configurations*, *8*(3), 429-562.

Reference Books

1. Thieman, W. J., & Palladino, M. A. (2009). Introduction to Biotechnology. 2nd.
2. Lakshmipathy, U., & Thyagarajan, B. (2011). *Primary and stem cells: gene transfer technolo applications*. John Wiley & Sons.
3. Ranga, M. M. (2017). *Animal biotechnology*. Student Edition.
4. Verma, A. S., & Singh, A. (Eds.). (2013). *Animal biotechnology: models in discovery and translation*. Academic Press.
5. van Zutphen, L. F. M. (1998). Animal Biotechnology and Ethics. Edited by Alan Holland and Johnson (1998). Chapman and Hall: London. 352pp. Hardback. Obtainable from the publishe Row, London SE1 8HN, UK (ISBN 0412756803). Price£ 49.00. *Animal Welfare*, 7(4), 465-4

E - books

1. https://mis.alagappauniversity.ac.in/siteAdmin/dde-admin/uploads/4/ PG_M.Sc._Zoology_350%2042_Animal%20Biotechnology_MSC%20ZOOLOGY_6335.pdf
2. https://nap.nationalacademies.org/read/10418/chapter/1
3. https://www.vet-ebooks.com/biotechnology-in-animals-husbandry/
4. https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SBT1305.pdf
5. https://www.kobo.com/in/en/ebook/animal-biotechnology

Web links

1. https://onlinecourses.swayam2.ac.in/cec22_bt07/preview
2. https://nptel.ac.in/courses/102104059
3. https://www.khanacademy.org/science/ap-biology/gene-expression-and-regulation/biotechnology/v/dna-cloning-and-recombinant-dna
4. https://www.khanacademy.org/science/in-in-class-12-biology-india/xc09ed98f7a9e671b:biotechnology-and-its-applications/xc09ed98f7a9e671b:introduction/a/transgenic-animals
5. https://byjus.com/biology/transgenic-animals/

Pedagogy

Power point presentation, Group Discussion, Seminar, Assignment, Animations.

Course Designer

Ms. R. NEVETHA

Semester – V	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**		**HOURS/ WEEK**	**CREDITS**
23UBT5DSE1A	**CANCER BIOLOGY**	**DISCIPLINE SPECIFIC ELECTIVE – I**		5	3

Course Objectives

➢ To identify mutations in signal molecules and receptors for cancer Proliferations.
➢ To learn the risks of cancer treatment (experimental and non-experimental)
➢ To prevent the occurrence of cancer and to get awareness about prevalence of cancer
➢ To analyze the genetic and environmental factors which causes cancer
➢ To enhance the skills in clinical examination techniques biopsy, blood tests for cancer detection.

Course Outcome and Cognitive Level Mapping

Upon the successful completion of the course, students will be able to

CO NUMBER	CO Statement	Knowledge Level
CO1	Demonstrate a comprehensive understanding of the hallmarks of cancer, the regulation of the cell cycle, and the role of mutations in signal molecules and receptors in cancer development.	K1, K2
CO2	Compare and Contrast the genetic and environmental factors that contribute to the development of cancer, and assess their relative impacts.	K2, K3
CO3	Examine and Interpret two intricate mechanisms of cell cycle regulation, including the role of cyclin-dependent protein kinases (CDKs) and CDK inhibitors in cancer, and how these can be targeted in therapy.	K3, K4
CO4	Analyse and Examine the proficiency in the diverse treatment modalities for cancer, including chemotherapy, radiotherapy, immunotherapy, gene therapy, stem cell therapy, and surgical interventions, and understand their applications in different cancer types and stages.	K4, K5
CO5	Explain the skills in clinical examination techniques biopsy, blood tests, etc. and diagnostic imaging (X-rays) for cancer detection. They will also comprehend advances in cancer detection methods, enhancing their ability to assess and adopt emerging technologies in cancer diagnosis.	K6

Mapping of CO with PO and PSOs

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	2	2	2	2
CO2	3	3	2	3	2	3	2	2	2	2
CO3	3	3	2	2	2	3	2	2	2	2
CO4	3	3	3	2	2	2	2	2	2	2
CO5	3	3	3	2	3	1	3	2	3	2

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation,

"3" – Substantial (High) Correlation, "-" indicates there is no correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Unit I-Fundamentals of cancer biology**Hallmarks of cancer. Regulation of Cell cycle, Mutations that cause changes in signal molecules, effects on receptor, signal switches, tumour suppressor genes, Modulation of cell cycle-in cancer, Different forms of cancers.	15	CO1, CO2, CO3	K1, K2, K3, K4, K5, K6
II	**Unit II- Causative Agents of Cancer** Biology - Genetic Factor, Viruses, Hormones. Lifestyle and Dietary factors, Alcohol consumption and smoking. Environmental and occupational Exposure - Chemical carcinogens and Mutagens.	13	CO1, CO2, CO3	K1, K2, K3, K4, K5, K6
III	**Unit III- Biology of Cancer Cells** Cell Cycle Regulation in Cancer Cell. Cyclin Dependent Protein Kinase, CDK inhibitors. Apoptosis. Molecular Mechanism-Intrinsic and Extrinsic pathway. Oncogene and Tumorsuppressor gene-p53.Metastasis and Angiogenesis.	16	CO2, CO3, CO4	K1, K2, K3, K4, K5, K6
IV	**Unit IV- Cancer Diagnosis** Clinical Examination by Biopsy: Bone marrow Biopsy, Skin Biopsy-Shave biopsy, Punch biopsy, Incisional biopsy, Excisional biopsy. Blood Test-RBC, WBC, Platelets Count, Pap Test. Imaging-X-ray, Endoscopy, Mammography.	16	CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
V	**Unit V- Cancer therapy** Different forms of therapy Chemotherapy, Radiotherapy, Immunotherapy, Gene therapy, Stem Cell Therapy and Surgery Advances in Cancer detection.	15	CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
VI	**Self - Study for Enrichment** **(Not included for End Semester Examination)** Prediction of aggressiveness of Cancer	-	CO1, CO2, CO3	K1, K2, K3, K4, K5, K6

Text Books

1. Gibbons, J. P. (2020). *Khans the Physics of Radiation Therapy with Access Code 6ed.* LWW US Reprint.
2. Edward Chu, Vincent T. Devita Jr. (2019). *Physicians' Cancer Chemotherapy Drug Manual*. Jones and Bartlett Publishers, Inc; 19th edition.
3. Philip J. DiSaia MD William T. Creasman MD, Robert S MannelMD (2017) *Clinical GynecologicOncology*. Elsevier; 9th edition.
4. Clifford L. K. Pang. (2015) *Hyperthermia in Oncology,1st Edition.* CRC Press
5. Robert, E. Bristow, BethY.Karlan, Dennis S. Chi (2015). *Surgery for Ovarian Cancer*, 3rd Edition. CRC Press

Reference Books

1. Sayan Paul (2020). *The Bethesda Handbook of Clinical Oncology* - Wolters Kluwer India Pvt. Ltd.
2. Devita V. T. (2019). *Evita hellman and Rosenbergs cancer principles and Practice of oncology 11ED (HB 2019).* LWW; 11th edition.
3. Dr. Pradeep Kumar (2022). *The Textbook of Cancer Biology.* Prachi Digital Publication.
4. Anjali Susan John Elizabeth John. (2021). *An Overview on Cancer.* Bluerose Publishers Pvt. Ltd.
5. Lakshmi Kalpana, V., Anuradha, A. (2021). *A Textbook of Medical Genetics and Cancer Genetics.* IP Innovative Publication Pvt. Ltd
6. Lauren Pecorino., *MOLECULAR BIOLOGY OF CANCER 5E: Mechanisms, Targets, and Therapeutics.* (2021). OUP Oxford; 5th edition.

Web Links

1. https://www.onlinebiologynotes.com/cancer-etiology-pathophysiology-types-diagnosis-and-treatment/
2. https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SBT1606.pdf
3. https://archive.nptel.ac.in/courses/108/108/108108124/
4. https://www.cancer.gov/about-cancer/understanding/what-is-cancer
5. https://www.mayoclinic.org/diseases-conditions/cancer/symptoms-causes/syc-20370588
6. https://my.clevelandclinic.org/health/diseases/12194-cancer

E-Books

1. https://ia801205.us.archive.org/14/items/CancerBiology_201607/cancer%20biologpf
2. https://link.springer.com/book/10.1007/978-3-030-57254-9
3. https://ia801205.us.archive.org/14/items/CancerBiology_201607/cancer%20biology.pf
4. https://mis.kp.ac.rw/admin/admin_panel/kp_lms/files/digital/Core%20Books/Biology/Cancer%20Biology.pdf
5. https://redir.booklibrary.website/library/cancer-biology-and-therapy.pdf

Pedagogy

Lecture, Power point presentation, Seminar, Assignment, Quiz, Group Discussion, Video/Animation

Course Designer

Dr. R. UMA MAHESWARI

Semester – V	Internal Marks: 25			External Marks: 75	
COURSECODE	**COURSE TITLE**		**CATEGORY**	**HOURS/ WEEK**	**CREDITS**
23UBT5DSE1B	**HUMAN ANATOMY AND PHYSIOLOGY**		**DISCIPLINE SPECIFIC ELECTIVE**	5	3

Course Objectives

➢ To study the levels of structural organization and classification of tissues and organs of human body.
➢ To familiarize with the working pattern of integumentary and respiratory system of human.
➢ To know the anatomy and working function of human nervous and cardiovascular system.
➢ To understand the structure, types and functions of muscular and skeletal system.
➢ To learn about the basic anatomy and function of urinary and reproductive system.

Course Outcome and Cognitive Level Mapping

Upon successful completion of the course, the students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define the internal and external structures of the body and their physical relationships.	K1
CO2	Understand the structure and organization of tissues, organs, and systems of human body.	K2
CO3	Classify and explain the types of various systems of human body	K2
CO4	Identify and analyze how different systems work together to maintain health and perform various activities.	K3, K4
CO5	Examine the interaction of chemicals with human system that affect functioning of body.	K4

Mapping of CO with PO and PSOs

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	2	3	1	2	1	3	1	1	1	1
CO2	1	3	1	1	1	3	1	1	1	1
CO3	1	3	1	2	1	3	2	1	1	1
CO4	2	3	2	1	1	3	2	1	1	1
CO5	2	3	3	2	1	3	2	1	1	1

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation,"3" – Substantial (High) Correlation, "-" indicates there is no correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Introduction to anatomy and physiology:** Levels of structural organization and body systems. General principles of cell communication, intracellular signalling - Contact-dependent, Paracrine, Synaptic & Endocrine. Classification of tissues, structure, location and functions of epithelial, muscular and nervous and connective tissues.	12	CO1, CO2	K1, K2, K3, K4
II	**Integumentary & Respiratory System:** Structure and functions of skin. Receptors: touch, pressure, nociceptors, chemoreceptors, mechanoreceptors. Anatomy of respiratory system with special reference to anatomy of lungs, mechanism of respiration, regulation of respiration.	15	CO2, CO3	K1, K2, K3, K4
III	**Nervous & Cardiovascular system:** Classification of peripheral nervous system: Structure and functions of sympathetic and parasympathetic nervous system. Origin and functions of spinal and cranial nerves. Heart – anatomy of heart, blood vessels. Structure and functions of artery, vein and capillaries, elements of conduction system of heart and its regulation by autonomic nervous system.	17	CO3, CO4	K1, K2, K3, K4
IV	**Endocrine, Skeletal & Muscular System:** Classification of hormones, mechanism of hormone action, structure and functions of pituitary gland, thyroid gland, parathyroid gland, adrenal gland, pancreas, pineal gland, thymus. Skeletal system - types of bone, salient features and functions. Organization of skeletal muscle. Structure, Types and function of muscles. physiology of muscle contraction, neuromuscular junction.	18	CO4, CO5	K1, K2, K3, K4
V	**Reproductive & Urinary system:** Anatomy of male and female reproductive system, Functions of male and female reproductive system. Anatomy of urinary tract with special reference to anatomy of kidney and nephrons, functions of kidney and urinary tract.	13	CO3, CO5	K1, K2, K3, K4

VI	**Self-Study for Enrichment (Not Included for End Semester Examination)** Cell junctions - Occluding junction, Adhering junction, Desmosome & Gap junction.	-	CO1, CO2	K1, K2, K3, K4

Text Books

1. Shaeena, M.H. & Dr. Baharul Islam, H. (2023). *Textbook of Human Anatomy And Physiology*. PritamPublications.
2. Murugesh, N. (2021). *Human Anatomy And Physiology*. 1st Edition. Sathya Publishers.
3. Venkatesh, D. & Sudhakar H.H. (2020). *Textbook of Medical Physiology*. 3rd Edition. Wolters Kluwer(India) Pvt. Ltd
4. Yalayyaswamy, N.N. (2020). *Human anatomy and physiology for courses in nursing and allied healthsciences*. 4th Edition. CBS Publishers & Distributors Pvt. Ltd.
5. John, E.H. & Michael, E.H. (2020). *Guyton and Hall Textbook of Medical Physiology*, 14th Edition.Elsevier Publisher.

Reference Books

1. Krishna, A.P. (2021). *Fundamentals of Medical Physiology*. 1st Edition. IP Innovative Publication Pvt.Ltd.
2. Bhise, S.B. & Yadav, A. V. (2021). *Human Anatomy and Physiology*. Nirali Prakashan Publisher.
3. Chaudhary, S. & Chaudhary, A. (2021). *Human Anatomy and Physiology*. S Vikas and Company.
4. Comstock, J.L. (2022). *Outlines of Physiology, Both Comparative And Human*. Legare Street Press.
5. Vishram, S. (2020). *Textbook of Clinical Neuroanatomy*. 4th Edition. Elsevier Health Science Publisher.

E Books

1. https://www.pdfdrive.com/principles-of-anatomy-and-physiology-with-a-brief-atlas-of-the-skeleton-surface-anatomy-e184863666.html
2. https://www.pdfdrive.com/essentials-of-anatomy-and-physiology-e25774384.html
3. https://www.pdfdrive.com/fundamentals-of-anatomy-and-physiology-for-nursing-and-healthcare-students-e176005292.html
4. https://www.pdfdrive.com/basic-clinical-pharmacology-e34443843.html
5. https://www.pdfdrive.com/essentials-of-medical-pharmacology-6th-edition-e33763519.html

Web Links

1. https://epgp.inflibnet.ac.in/Home/ViewSubject?catid=WR+tSjp4YS3g7BIFEffOcw==
2. https://openstax.org/books/anatomy-and-physiology-2e/pages/1-1-overview-of-anatomy-and physiology
3. https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/nursing_students/ln_human
4. _anat_final.pdf
5. https://medictests.com/units/introduction-to-a-p
6. https://explorehealthcareers.org/field/pharmacology/

Pedagogy

Lecture, Power point presentation, Seminar, Assignment, Quiz, Group Discussion, Video/Animation

Course Designer

Ms P. JENIFER

Semester – V	Internal Marks: 25			External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS/ WEEK	CREDITS	
23UBT5DSE1C	PHARMACOGNOSY	DISCIPLINE SPECIFIC ELECTIVE – I (DSE)	5	3	

Course Objectives

➢ To know the fundamentals of Pharmacognosy like scope, classification of crude drugs, their identification and evaluation.
➢ To study phytochemicals present in the medicinal plants and its properties.
➢ To know the techniques in the cultivation and production of crude drugs
➢ To analyse the crude drugs, their uses and chemical nature
➢ To evaluate the techniques for the herbal drugs.

Course Outcome and Cognitive Level Mapping

Upon the successful completion of the course, students will be able to

CO NUMBER	CO STATEMENT	KNOWLEDGE LEVEL
CO1	Recall and infer the basic concepts for understanding of importance of drugs in the treatment of diseases.	K1, K2
CO2	Illustrate the physical, chemical and medical characters of crude drugs ofplant and mineral origin.	K2
CO3	Design the drug preparation method and explain the characteristic featuresof various drug compounds.	K3. K4
CO4	Classify the drugs and explain the role, method of extraction and its applications.	K4, K5
CO5	Elaborate the effects of drugs in allopathy with traditional systems of Medicine.	K6

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	2	2	1	1
CO2	3	3	2	3	1	3	3	2	2	1
CO3	3	3	2	2	2	3	2	3	3	2
CO4	3	3	3	2	2	2	2	2	2	2
CO5	3	3	3	2	3	3	3	2	3	2

"1" – Slight (Low) Correlation,   "2" – Moderate (Medium) Correlation,
"3" – Substantial (High) Correlation,   "-" indicates there is no correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Introduction to Pharmacognosy** Definition, #History and Scope of Pharmacogonosy Sources of drugs: Biological, marine, mineral and plants, Classification of drugs: Alphabetical, morphological, taxonomical, chemical and pharmacological basis, Quality control of crude drugs: Adulteration of curde drugs and their detection by organoleptic, microscopic, physical, chemical and biological methods, significance of pharmacopoeial standards.	15	CO1, CO2	K1, K2, K3, K4, K5, K6
II	**Phytochemical screening of Drugs** Phytochemicals: Preparation of extracts, Screening of alkaloids, saponins, cardenolides and bufadienolides, flavonoids and leucoanthocyanidins, tannins and polyphenols, anthraquinones, cynogenetic glycosides, amino acids in plant extracts. Pharmaceutical aids: Study of pharmaceutical aids like talc, diatomite, kaolin, bentonite, gelatin and natural colors.	17	CO1, CO2, CO3	K1, K2, K3, K4, K5, K6
III	**Sources of Natural drugs** Study of the biological sources, cultivation, collection, commercial varieties, chemical constituents, substitutes, adulterants, uses, and specific chemical tests of following groups of drugs containing glycosides: Saponins: ginseng, Dioscorea; Cardioactive sterols: Digitalis; Anthraquinone cathartics: Senna Others: saffron.	16	CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
IV	**Modern pharmacognosy** The development of modern pharmacognosy in organic chemistry - structure prediction using analytic chemistry techniques, including paper, HPTLC and Gas chromatography Mass spectrophotometry for pharmacologically bio-synthesized substances from the plants - Quinine, Nicotine and Vinca alkaloids-vincristine.	14	CO3, CO4	K1, K2, K3, K4, K5, K6
V	**Uses of Secondary Metabolites** Pharmaceutical applications of secondary metabolites like Alkaloids: Rauwolfia; Flavonoids: Lignans, Tea; Triterpenoids: Dioscorea. Volatile oils: Mentha; Tannins: Catechu; Resins: Asafoetida; Glycosides: Bitter Almond.	13	CO3, CO4, CO5	K1, K2, K3, K4, K5, K6

VI	**Self - Study for Enrichment** **(Not included for End Semester Examination)** Indigenious system of medicine, Fibers used in pharmacy, Drug administration, Extraction methods, Drugs of Marine source.	-	CO4, CO5	K1, K2, K3, K4, K5, K6

Text Books

1. Veronika Butterweck and Robert furst. (2020). *Planta Medica Journal of Medicinal Plant and Natural Product Research.* Thieme.de publishers.
2. Pathania JS. (2020). *Text Book of Pharmacology for Paramedical students*. CBS Publishers and Distributors
3. Dr.Kuntal Das. (2019). *Pharmacognosy and Phytochemistry -II.* Nirali Publishers
4. Tripathy K. D, (2018). *Essentials of Medical Pharmacology (6th edition)*, Jaypee publishers
5. Satoskar R.S, Nirmala N. Rege, and Bhandarkar S. D, (2017). *Pharmacology and Pharmacotherapeutics (Revised 23rd Edition)*, Popular Prakashan, Mumbai.

Reference Books

1. J. S. Qadry. (2018). *Pharmacognosy.* CBS Publishers and Distributors
2. Simone Badal McCreath and Rupika Delgoda. (2016). *Pharmacognosy: Fundamentals, Applications and Strategies* Academic Press.
3. M. A. Iyengar and S.G.K. Nayak. (2018). *Pharmacognosy Lab Manual* Pharma Med press.
4. M.S. Krishnamurthy and JV Hebbar. (2018). *Easy Ayurveda Home Remedies: Based On Authentic, Traditional Ayurveda Practice.* Hand Cover
5. Dr.Kuntal Das (2019). *Pharmacognosy and Phytochemistry –II.* Nirali Publishers.

E-Books

1. https://libguides.tulane.edu/pharmacology/ebooks
2. https://www.pharmaresearchlibrary.com/wp-content/uploads/2013/03/A-Textbook-of-Clinical-Pharmacology-and-Therapeutics-5th-edition.pdf
3. https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/pharmacology.pdf
4. https://medicostimes.com/kd-tripathi-pharmacology/
5. https://core.ac.uk/download/pdf/200104466.pdf

Web Links

1. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5178364/
2. https://www.patentdocs.org/biotech_news/
3. https://www.pharmamanufacturing.com/
4. https://www.parexel.com/
5. https://nptel.ac.in/courses/102/103/102103013/

Pedagogy

Power point presentation, Group Discussion, Seminar, Assignment, Animations

Course Designer
Dr. M. KEERTHIGA

Semester – VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS / WEEK**	**CREDITS**	
23UBT6CC9	**MICROBIAL & ENVIRONMENTAL BIOTECHNOLOGY**	**CORE**	**6**	**5**	

Course Objectives

- ➢ To know the industrially important microbes and their metabolic pathways.
- ➢ To study the microbial fermentation processes and its types.
- ➢ To acquire knowledge about the types of bioreactors and recovery of fermentation product.
- ➢ To study the concepts of pollution management.
- ➢ To provide the knowledge about Biodegradation and Bioremediation.

Course Outcome and Cognitive Level Mapping

Upon successful completion of the course, the students will be able to

CO Number	CO Statement	Knowledge Level
CO 1	Demonstrate the isolation of industrially important microorganisms and their preservation	K1
CO 2	Outline a clear and concise idea about concepts and basic methods in fermentation process	K2
CO 3	Discuss the design and types of Bioreactor and upstream and Downstream processing	K3
CO 4	Illustrate the utilization of microbial processes in waste.	K4
CO 5	Analyse the Process of Biodegradation and Bioremediation.	K5

Mapping of CO with PO and PSOs

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	3	2	2	2
CO2	3	3	3	2	2	3	3	3	2	2
CO3	3	3	3	2	2	3	3	3	2	3
CO4	3	3	3	3	2	3	3	3	3	3
CO5	3	3	3	3	2	3	3	3	3	3

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation, "3" – Substantial (High) Correlation, "-" indicates there is no Correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Unit I - Basic principles of Biochemical Engineering** Introduction and historical developments in industrial microbiology, industrially important microbes and metabolic pathways- various microbial metabolites and their overproduction – Isolation and selection of industrially important microorganisms preservation and maintenance of microbial culture.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Unit II - Concepts of basic mode of fermentation processes** Components of microbial fermentation process; Types of fermentation processes- Solid state, static and submerged fermentation. Fermenter design - mechanically agitated, pneumatic and hydrodynamic fermenters. Design of laboratory bioreactor; Types of Bioreactor: Continous, semi continuous and fed batch bioreactors; Continuous Stirred tank bioreactors, Bubble column bioreactors, Air lift bioreactors, Fluidized bed bioreactors, Packed bed bioreactors and Photobioreactors.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Unit III – Upstream and Downstream Processing** **Upstream Processing:** Media formulation, sterilization, aeration, agitation and air sterilization. Measurement and control of bioprocess parameters,scale up and scale down process. **Downstream Processing:** Bioseparation - filtration, centrifugation, sedimentation, flocculation, microfiltration, sonication. Cell disruption – enzymatic lysis and liquid-liquid extraction. Purification by precipitation (ammonium sulfate), electrophoresis and crystallization. Extraction - Reverse osmosis and ultra filtration. Drying, crystallization, storage and packaging. Industrial Production of Wine and Penicillin.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

IV	**Unit IV: Introduction to Environmental Biotechnology** Basic components of environment. Definition – concept and scope of ecosystem, abiotic and biotic components. Environmental pollution: Air - Types of Air Pollutants: Sources, Effects and control of Air pollution. Water pollution- Sources, Basic Components of Environment. Definition -Concept and Scope of Ecosystem, Abiotic and Biotic components. Environmental pollution: Air-Types of Air pollutants: Sources effects and Control of air pollution. Water pollution – Sources, Effects and control of Water pollution. Soil Pollution- Sources, Effects and control of soil pollution. Liquid Waste management. Sewage water treatment – Process of Waste water treatment. Effluent Treatment - Mechanical treatments, Biological treatments, Chemical treatments.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Unit V: Biodegradation and Bioremediation** Principle and mechanism of biodegradation, Biodegradation of xenobiotic compounds (Lignin, Hydrocarbons, Detergents, Dyes and pesticides). Biodegradation of agro chemicals and other organic compounds – Biotransformation of xenobiotic compound; Bioremediation- Principles - Phytoremediation: Use of plants for removal of organic and metallic pollutants.	18	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self-Study for Enrichment** **(Not Included for End Semester Examination)** Oxidation Ponds, Bioscrubbers and Biofertilizer	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Books

1. Bhat, R.A. (2022). Environmental Biotechnology. 1st Edition. Taylor and Francis Ltd
2. Bharani. A, Senthilraja. K. (2022). *An Introduction to Environmental Biotechnology: An insight into it's latest Advancements*. Scientific Publishers,India.
3. Arvind .K.(2021). *Environmental Biotechnology*. Daya Publication House.
4. Joginder Singh, AshishVyas, Shanquanwang, Ram Prasad. (2020). *Microbial Biotechnology: Basic Research and Applications*. Springer Nature Singapore pvt.Ltd.
5. Bruce E. R, Perry L. M. (2020). *Environmental Biotechnology: Principles and Applications*. 2nd Edition. McGraw-Hill Education.

Reference Books

1. Debabrata. D, Soumya. P. (2021). *Industrial Biotechnology.* CRC Press.
2. Bernard R.G, JackJ.P. (2017). *Molecular Biotechnology Principles and Applicationsof Recombinant DNA.* Wiley Publication.
3. Clarke, W. (2016). *A Textbook of Industrial Microbiology.* 1st Edition. CBS Publishers.
4. Allen.K.(2016). *Environmental Biotechnology.* CBS Publishers.
5. Jogdand. S.N. (2010). *Environmental Biotechnology.* Himalaya Publishing House**.**

E Books

1. https://www2.hcmuaf.edu.vn/data/quoctuan/Environmental%20Biotechnology%20-%20Theory%20and%20Application,%20G%20M%20Evans%20&%20J%20C%20Furlong.pdf
2. https://portal.abuad.edu.ng/lecturer/documents/1585662755MICROBIAL_BIOTECHNOLOGY__Fundamentals_of_Applied_Microbiology,_Second_Edition.pdf
3. https://biblioseb.wordpress.com/wp-content/uploads/2018/03/environmental-biotechnology-jordening-and-winter.pdf
4. file:///C:/Users/hp/Downloads/textbook-of-environmental-biotechnology-9385059874-9789385059872_compress.pdf

Web Reference

1. https://mis.alagappauniversity.ac.in/siteAdmin/ddeadmin/uploads/4/PG_M.Sc._Microbiology_36442%20Microbial%20Biotechnology.pdf
2. https://www.scribd.com/document/378006391/Environmental-Biotechnology-Lecture-Notes-Study-Material-and-Important-Questions-Answers
3. https://egyankosh.ac.in/bitstream/123456789/95582/1/Block-1.pdf
4. https://unaab.edu.ng/funaab-ocw/opencourseware/Environmental%20Biotechnology.pdf
5. https://egyankosh.ac.in/bitstream/123456789/95583/1/Unit-1.pdf

Pedagogy

Lecture (Chalk and Talk) & Power Point Presentation, Quiz, Seminar, Assignment & Group

Discussion. Videos and Animations

Course Designer

Ms. P. ILAMATHY

Semester – VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS/WEEK	CREDITS
23UBT6CC10	IPR, BIOETHICS AND BIOSAFETY	CORE	5	4

Course Objectives

➢ To understand various aspects of IPR, biosafety regulations and bioethics concerns arising from the commercialization of biotech products.

➢ To give an idea about IPR, registration and its enforcement.

➢ To sensitize about the importance of Personnel Protective Equipment (PPE), general biosafety rules and different biosafety levels

Course Outcome and Cognitive Level Mapping

Upon successful completion of the course, the students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Define the fundamental aspects of Intellectual Property Rights for development and management of innovative projects in industries	K1
CO2	Outline the current trends in IPR and Govt. steps in fostering IPR	K2
CO3	Explain about the ethical issues involving biological material	K3
CO4	Utilize adequate knowledge in the use of genetically modified organisms and its effect on human health	K3
CO5	Make use of critical thinking skills to analyse information and situations in order to respond and act ethically with regard to scientific research, practice, and technology	K3

Mapping of CO with PO and PSOs

COs	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	1	3	2	2	2	1
CO2	3	3	3	2	1	3	3	2	2	1
CO3	3	3	3	3	2	3	3	3	3	2
CO4	3	3	3	3	2	3	3	3	2	1
CO5	3	3	3	2	2	3	3	3	2	1

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation, "3" – Substantial (High) Correlation, "-" indicates there is no Correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Introduction to Intellectual Property and Types of IPs:** Introduction to IPR, Basic concepts and need for Intellectual Property, types - Patents, Trademarks, Trade Secrete, Copyright, Geographical Indications- History of GATT and TRIPS Agreement. – World Intellectual Property Rights Organization (WIPO). IP rights in India and abroad (USA & Europe) - few Case Studies-patent-Turmeric Patent, GI- Kolli Hills Pepper	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Patent Filing Procedures and Agreements:** Patent- Elements of Patentability: Novelty, Non Obviousness, patentable and non-patentable – patenting life, Registration Procedure, Rights and Duties of Patentee, Assignment and license, Patent infringement. IPR Agreements and Treaties: Madrid Agreement; Hague Agreement; Budapest Treaty; PCT; PPV & FR Act.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Biosafety:** Introduction, biosafety issues in biotechnology - historical background; Introduction to Biological Safety Cabinets; Primary Containment for Biohazards; Biosafety Levels of Specific Microorganisms; Recommended Biosafety Levels for Infectious Agents and Infected Animals.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Biosafety Guidelines:** Biosafety guidelines and regulations (National and International) – operation of biosafety guidelines and regulations of Government of India; Roles of Institutional Biosafety Committee, GEAC, for GMO applications in food and agriculture; Environmental release of GMOs; Risk Analysis; Risk Assessment; Risk management and communication; Overview of National Regulations and relevant International Agreements including Cartagena Protocol, Guidelines	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

	for Safety Assessment of Genome Edited plants			
V	**Bioethics:** Introduction to ethics/ bioethics – purpose and principles of bioethics, Bioethics in medical – human cloning, Biotechnology and ethics, Benefits and risks of genetic engineering- ethical aspects of genetic testing –genetic engineering and bio warfare; Ethical implications of cloning: Reproductive cloning, therapeutic cloning; Ethical, legal and socioeconomic aspects of gene therapy, germ line, somatic, embryonic and adult stem cell research-GM crops and GMO's – biotechnology and biopiracy –ICMR Guidelines-Ethical implications of human genome project.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self-Study for Enrichment** **(Not Included for End Semester Examination)** Definition of GMOs and LMOs, Biosafety Levels;	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3,K4

Text books

1. **Raybould, A. (2021). New frontiers in biosafety and biosecurity.** *Frontiers in Bioengineering and Biotechnology***, *9***, 727386.**
2. **Sople, V. V. (2016).** *Managing intellectual property: The strategic imperative***. PHI Learning Pvt. Ltd..**
3. **Nambisan, P. (2017).** *An introduction to ethical, safety and intellectual property rights issues in biotechnology***. Academic Press.**
4. **Ahuja, V. K. (2019). Law Relating to Intellectual Property Rights. Lexis Nexis.**
5. **Campbell, A. (2017).** *Bioethics: the basics***. Routledge.**
6. **Bayot, M. L., & Limaiem, F. (2019). Biosafety guidelines.**

Reference books

1. Gassmann, O., Bader, M. A., Thompson, M. J., Gassmann, O., Bader, M. A., & Thompson, M. J. (2021). Fundamentals of Intellectual Property Rights. *Patent Management: Protecting Intellectual Property and Innovation*, 1-25.
2. Reddy, S. D. (2019). *Intellectual Property Rights: Law and Practice*. Asia Law House.
3. Wooley, D. P., & Byers, K. B. (Eds.). (2020). *Biological safety: principles and practices*. John Wiley & Sons.

4. Ramakrishna, B., & HS, A. K. (2017). *Fundamentals of intellectual property rights: for students, industrialist and patent lawyers*. Notion Press.
5. Singh, M., & Khosla, B. Intellectual Property Rights (IPR), Biosafety and Bioethics. *Handbook of Biotechnology*, 523.

Web links

1. http://www.cbd.int/biosafety/backgrounds.html
2. http://web.princeton.edu/sites/ehs/biosafety/biosafetypage/section
3. http://www.cbd.int/biosafety/background.shtml
4. http://web.princeton.edu/sites/ehs/biosafety/biosafetypage/section 3.html
5. http://www.bdu.ac.in/cells/ipr/docs/ipr-eng-ebook.pdf
6. https://www.wipo.int/about-ip/en/

Pedagogy

Lecture (Chalk and Talk) & Power Point Presentation, Quiz, Seminar, Assignment & Group Discussion.
Videos and Animations

Course Designer

Ms. R. NEVETHA

Semester – VI	Internal Marks: 25		External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS / WEEK	CREDITS
23UBT6DSE2A	DEVELOPMENTAL BIOLOGY	DISCIPLINE SPECIFIC ELECTIVE – II (DSE)	5	3

Course Objectives

➢ To understand how an organism develops.

➢ To acquire knowledge about a single cell becomes an organized grouping of cells.

➢ To explain the processes of growth and development in individuals.

➢ To study the processes involved in the embryonic development.

Course Outcome and Cognitive Level Mapping

Upon successful completion of the course, the students will be able to

CO Number	CO Statement	Cognitive Level
CO 1	Utilize and infer the knowledge of historical perspective of development Biology,	K1,K2
CO 2	Describe and Discuss the morphological processes that transform a fertilised egg into a multicellular organism	K2, K3
CO 3	Illustrate the Cell commitment, determination and control of differentiation at the level of genome.	K3, K4

Mapping of CO with PO and PSOs

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	3	2	2	2
CO2	3	3	3	2	2	3	3	3	2	2
CO3	3	3	3	2	2	3	3	3	2	3
CO4	3	3	3	3	2	3	3	3	3	3
CO5	3	3	3	3	2	3	3	3	3	3

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation, "3" – Substantial (High) Correlation, "-" indicates there is no Correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**UNIT I: Gametogenesis and Fertilization** Definition, scope & historical perspective of development Biology, Gametogenesis – Spermatogenesis, Oogenesis Fertilization - Definition, mechanism, types of fertilization. Different types of eggs on the basis of yolk.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**UNIT II: Early embryonic development** **Cleavage: Definition, types, patterns & mechanism Blastulation: Process, types & mechanism Gastrulation: Morphogenetic movements– epiboly, emboly, extension, invagination, convergence, de-lamination. Formation & differentiation of primary germ layers.**	16	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**UNIT III: Embryonic Differentiation** Differentiation: Cell commitment and determination- the epigenetic landscape: a model of determination and differentiation, control of differentiation at the level of genome.	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**UNIT IV: Organogenesis** Neurulation, development of vertebrate eye. Fate of different primary germlayers. Development of behaviour: constancy & plasticity, Extra embryonic membranes. placenta in Mammals	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**UNIT V:** Development of Microsporangium and Megasporangium, Pollination, Embryo -Embryo sac development and double fertilization in plants, seed formation and germination. Outline of experimental embryology. Organization of shoot and root apical meristem, and development. Leaf development.	16	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
VI	**Self-Study for Enrichment** **(Not Included for End Semester Examination)** Fate Maps in early embryos. Notogenesis. Phyllotaxy.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Books

1. Michael Barresi, Scott Gilbert (2023). *Developmental Biology*: 13th edition. OUP USA.
2. Madhavan. K S. (2023). *Developmental Biology*. Raj Publications, India

3. Müller. (2019). *Developmental Biology.* **Springer /MBS.**

4. Verma, P. S. & Agarwal, V. K. (2016). *Cell Biology*. S. Chand Publication.

Reference Books
1. Gilbert, Scott's. (2014). *Developmental biology:* 10 edition. Sinauer Association, Inc., Publishers.
2. Chattopadhyay.S. (2016). An Introduction to Developmental Biology, Books and Allied (P) Ltd, Kolkata. First Edition.
3. Bruce M Carlson, Patten's Foundation of Embryology,. Tata McGraw Hill Co.
4. Balinsky, B.I., 1981. 5 edition. An Introduction to Embryology, W. B. Saunders Co., Philadelphia
5. Verma , P.S., Agarwal, V.K., and Tyagi., 1995. Chordate embryology, S. Chand & Co., New Delhi.
6. Berril, N.T., Karp, G., 1988. Development. Tata McGraw Hill Co., New York

E-Books
1. https://bgc.ac.in/pdf/study-material/developmental-biology-7th-ed-sf-gilbert.pdf
2. https://www.academia.edu/43276516/Developmental_Biology_Tenth_Edition_by_Scott_F_Gilbert_Hard cover
3. https://www.pdfdrive.com/human-embryology-and-developmental-biology-5th-edition-d194549769.html
4. https://www.pdfdrive.com/essential-developmental-biology-d186855236.html

Web Reference
1. https://dhingcollegeonline.co.in/attendence/classnotes/files/1605724307.pdf
2. https://nou.edu.ng/coursewarecontent/BIO%20413%20MAIN%20TEXT_0.pdf
3. https://mcb.berkeley.edu/courses/mcb141/lecturetopics/Levine/MCB%20141%202015-01-29.pdf
4. https://www.ncbi.nlm.nih.gov/books/NBK9983/

Pedagogy

Lecture, Power point presentation, Seminar, Assignment, Quiz, Group Discussion, deo/Animation

Course Designer\

Ms. P. ILAMATHY

Semester – IV	Internal Marks: 25			External Marks: 75	
COURSE CODE	COURSE TITLE	CATEGORY	HOURS/WEEK	CREDITS	
23UBT6DSE2B	STEM CELL BIOLOGY	DISCIPLINE SPECIFIC ELECTIVE-II (B)	5	3	

Course Objectives

➢ To understand the basic concepts of Stem cell biology.
➢ To afford the knowledge about stem cell epigenetics.
➢ To provide an overview of potential clinical use of stem cells.

Course Outcome and Cognitive Level Mapping
Upon successful completion of the course, the students will be able to

CO Number	CO Statement	Cognitive Level
CO1	Define the fundamental of scientific principles of embryonic and adult stem cells.	K1, K2
CO2	Explain the techniques involved in isolation, maintain and growth of stem cells	K2, K3
CO3	Outline the basic concepts in stem cell epigenetics.	K3, K4
CO4	Make use of the potential benefits and clinical applications of stem cells.	K5, K6
CO5	Utilize the clinical significance and ethical issues pertaining to stem cell research	K6

Mapping of CO with PO and PSOs

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	2	3	3	2	2	2
CO2	3	3	3	2	2	3	3	3	2	2
CO3	3	3	3	2	2	3	3	3	2	3
CO4	3	3	3	3	2	3	3	3	3	3
CO5	3	3	3	3	2	3	3	3	3	3

"1" – Slight (Low) Correlation, "2" – Moderate (Medium) Correlation, "3" – Substantial (High) Correlation, "-" indicates there is no Correlation.

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Unit I- Introduction to Stem cells** Stem cell – Introduction, History, Properties, Potency – Totipotent, Pluripotent, Multipotent, Oligopotent, Unipotent; Types – Embryonic and Adult Stem cells. Stem cell niche - Components and function. Cell cycle regulation in stem cells.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
II	**Unit II- Stem cell culture** Isolation of Embryonic stem cell and Adult stem cell – Blastocyst from IVF, Umbilical Cord, Somatic Cell Nuclear Transfer, Bone marrow. Culture Media – Feeder cell layers, Serum and feeder free media, growth factors. Stem cell expansion and differentiation. Cryopreservation and storage techniques of stem cells. Stem cell bank**.**	16	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
III	**Unit III - Stem Cell Epigenetics** Epigenetic mechanisms in normal development - DNA Methylation, histone modifications and Micro-RNAs. Cell Reprogramming – Induction and Maintenance of pluripotency and differentiation of pluripotency into various cell lineages.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
IV	**Unit IV- Application of Stem Cells** Stem Cells in Regenerative Medicine: Tissue regeneration and repair, Organ transplantation and tissue engineering; Stem Cell Therapy for Degenerative Diseases - Parkinson's, sickle cell anemia, spinal cord injuries; Stem Cells in Autoimmune Disorders and Immunomodulation - Rheumatoid arthritis; Stem Cells in Drug Discovery and Personalized Medicine - Drug screening and toxicity testing.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4
V	**Unit V- Stem Cell Ethics** Ethical and legal issues in stem cell research and therapy. Regulatory Guidelines from ISSCR (International Society for Stem Cell Research), CLAA (Central Licensing Approving Authority); FDA, National Guidelines for Stem Cell Research (NGSCR) and NAC-SCRT (National Apex Committee for Stem Cell Research and Therapy).	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

VI	**Self-Study for Enrichment** **(Not Included for End Semester Examination)** Chediak- Higashi syndrome, Leukocyte adhesion deficiency.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4

Text Books

1. A.B. Singh. (2021). *Allergy and Allergen Immunotherapy Unknown Binding.*Apple Academic Press Inc.; 1st edition
2. Lauren M.Sompayrac (2019).*How the Immune system works. 6th Edition.*Wiley Blackwell.
3. Dr.P.Madhavee Latha (2018). *A Textbook of Immunology.* S.Chand Publishing.
4. Abul K.Abbas, Andrew H.Lichtman Shiv Pillai.(2017).*Cellular and   Molecular Immunology.* 9th Edition   Elsevier
5. Warren Levinson Review of Medical Microbiology and Immunology.(2016). Mc Graw Hill Education .
6. Louis Hawley Richard J Ziegler Benjamin L Clarke   BRS.(2015).*Immnology and Microbiology (6th Edition).*Lippincott Williams and Wilkins

Reference Books

1.   David Male, R. Stokes Pebbles, Victoria Male.(2020).*Immunology*. Elsevier Health Sciences Publishers.
2.   Abul K.Abbas, AndrewH.Lichtman Shiv Pillai.(2019).*Basic Immunology.* Edition. Elseiver
3.   Jenni Punt, Sharon Stranford, Patrica Jones,Judith Owen.(2018). *Kuby Immunology.*
4.   8th Edition.ML IE PRNT
5.   Peter,J.Delves,Seamus,J.Martin, Dennis R.Burton, Ivan
6.   M.RoitRoitt's.(2017).Essential Immunology.1st Edition.Wiley Blackwell
7.   Kenneth Murphy. *Casey Weaver Janeway's   Immunobiology*.(2016) 9th Edition Garland Science.
8.   Kathy M.Durkin(2010).*Understanding the Vaccines and the Immune system*.(2010)1st Edition Nova Science.Pub.Inc

E-Books

1.   https://archive.org/details/cellular-and-molecular-immunology-10th-edition
2.   https://www.frontiersin.org/research-topics/463/emerging-immune-functions-of-non-hematopoietic-stromal-cells
3.   file:///C:/Users/my%20pc/Downloads/Emerging%20immune%20functions%20of%20non-hematopoietic%20stromal%20cells.PDF
4.   https://assets.cambridge.org/97805217/04892/frontmatter/9780521704892_frontmatter.pdf
5.   file:///C:/Users/my%20pc/Downloads/PrefaceandcontentsTextBookofImmunology-ArvindKumar.pdf

Web References

1. https://microbenotes.com/immunity/
2. https://www.coursera.org/learn/immunology-innate-immune-system
3. https://www.bing.com/videos/riverview/relatedvideo?&q=Immune+System+Notes%3a+Diagrams+%26+Illustrations+%7c+Osmosis&qpvt=Immune+System+Notes%3a+Diagrams+%26+Illustrations+%7c+Osmosis&mid=55E74851E85FF7ED932255E74851E85FF7ED9322&&FORM=VRDGAR
4. https://www.bing.com/videos/riverview/relatedvideo?&q=Immune+System+Notes%3a+Diagrams+%26+Illustrations+%7c+Osmosis&qpvt=Immune+System+Notes%3a+Diagrams+%26+Illustrations+%7c+Osmosis&mid=55E74851E85FF7ED932255E74851E85F   F7ED9322&&FORM=VRDGAR

Pedagogy

Lecture, Power point presentation, Seminar, Assignment, Quiz, Group Discussion, Video/Animation

Course Designer
Dr. R. RAMESHWARI

Semester – VI	Internal Marks: 25			External Marks: 75	
COURSE CODE	**COURSE TITLE**	**CATEGORY**	**HOURS/ WEEK**	**CREDITS**	
23UBT6DSE2C	**BIOENTREPRENEURSHIP**	**DISCIPLINE SPECIFIC ELECTIVE**	5	3	

Course Objectives

- ➢ To motivate students towards bioentrepreneurship and skill development
- ➢ To understand the basic marketing strategies from lab to store
- ➢ To expose the students to various technology and their commercialization
- ➢ To gain technological and financial knowledge for related to biotechnology

Course Outcomes

Upon the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Utilize and infer the knowledge on concepts in entrepreneurship and marketing strategies related to biotechnology.	K1, K2
CO2	Illustrate the knowledge on the development of entrepreneurship, from classic to contemporary topics, in different contexts and disciplines.	K2
CO3	Develop the entrepreneurial process and approach and critically analyse its core concepts and theories.	K3, K4
CO4	Classify the versatile techniques for understanding of the emerging research of entrepreneurship within life science, i.e. bioentrepreneurship, in a responsible manner supported by relevant literature.	K4, K5
CO5	Apply reflective and reflexive practices to learning in intercultural and interdisciplinary contexts.	K6

Mapping of CO with PO and PSO

Cos	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5
CO1	3	3	2	2	1	3	2	2	2	1
CO2	2	3	3	3	2	3	2	2	1	1
CO3	3	2	3	2	2	3	2	2	2	1
CO4	3	2	3	2	2	3	2	2	1	1
CO5	2	2	3	3	3	2	2	3	3	3

"1" – Slight (Low) Correlation, "2" – Moderate (Medium}

UNIT	CONTENT	HOURS	COS	COGNITIVE LEVEL
I	**Introduction:** Entrepreneur, Creativity & Entrepreneurial personality and Entrepreneurship in Biotechnology, pillars of bioentrepreneurship and major start-ups in Biotechnology, Concepts and theories of Entrepreneurship, Entrepreneurial traits and motivation, Nature and importance of Entrepreneurs, Government schemes for commercialization of technology (eg. Biotech Consortium India Limited)	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
II	**Project management:** Search for a business idea, concept of project and classification, project identification, project formulation, project design and network analysis, project report, project appraisal. Biotech enterprises: Desirables in start-up, Setting up Small, Medium & Large scale industry, Quality control in Biotech industries, Location of an enterprise, steps for starting a small industry, incentives and subsidies, exploring export possibilities	14	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
III	**Compost and Vermicompost:** Compost - Purpose of Composting. Decomposition of organics - Aerobic and Anaerobic Digestion. Factors Affecting Composting Process – Carbon – Nitrogen ratio – Moisture - Temperature – Aeration – Surface area – pH. Advantages of application of Organic Fertilizer. Limitations of Composting, Applications. Vermicompost – Earthworm – Biology of Earthworm – Life cycle – Classification – Species Suitable for processing organic wastes. Microbial biomass responsible during the vermicomposting.	15	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
IV	**Mushroom cultivation:** Mushroom culture – historical background, current status of mushroom culture in India. Nutritional values – cultivation methods; Obtaining a pure culture preparation of spawn; formulation and preparation of composts; spawning, spawn running and cropping; cultivation of paddy straw mushrooms - cultivation of Dhingri (*Pleurotus sajor caju*) medicinal value of mushrooms – Ganoderma, antiviral value, antibacterial, antifungal and antitumour effect. Preservation and packaging of mushrooms – Market, Technical and Financial Feasibility study of mushroom production.	16	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
V	**Integrated Farming System:** Integrated Farming System - introduction, principles, Components of IFS, advantages of IFS, Farming System Research, IFS for Different Agroclimatic Zones, Production and Economics of IFS, Resource Flow – Wet land – Garden land – Dry land.	16	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6
VI	**Self-Study for Enrichment** **(Not Included for End Semester Examination)** Recipes of Mushroom (Mushroom Soup, Pulav), Budget preparation for composting unit, Mushroom cultivation and integrated farming technique.	-	CO1, CO2, CO3, CO4, CO5	K1, K2, K3, K4, K5, K6

Text Books

1. Arvind Kumar Bhatt, Ravi Kant Bhatia, Tek Chand Bhalla, (2023), *Basic Biotechniques for Bioprocess and Bioentrepreneurship,* Academic Press
2. Robert D. Hisrich, Michael P. Peters, Dean A. Shepherd, Sabyasachi Sinha (2020) *Entrepreneurship, 11th Edition, McGraw Hill Education (India) Private Limited, Uttar Pradesh*
3. Dr. Ashok K. Rathour, Dr. Pawan Kumar 'Bharti', Dr. Jaswant Ray,, (2020). *Vermitechnology Farm and Fertilizer*, Discovery publishing House Pvt, Ltd, New Delhi.
4. Matei, Florentina, Zirra, Daniela (2019) *Introduction to Biotech Entrepreneurship: From Idea to Business: A European Perspective,* Springer.
5. R. Gogoi, Y. Rathaiah, T.R. Borah (2019). *Mushroom Cultivation Technology*, Scientific Publishers.
6. A. Zaman. (2019), *Integrated Farming System and Agricultural Sustainability,* New India Publishing Agency.

Reference Books

1. Heidrun Flaadt Cervini, Jörg Dogwiler (2020). *Bio- and MedTech Entrepreneurship From Start-up to Exit*. Stämpfli Verlag
2. Tavis Lynch, (2018), *Mushroom Cultivation An Illustrated Guide to Growing Your Own Mushrooms at Home*, Quarry books
3. John Tyler, (2019), *Essential Guide to Mushroom Cultivation A Definite Guide to Cultivation and Self Use*, Independently Published.
4. Rhonda Sherman. (2018). *The Worm Farmer's Handbook Mid- to Large-Scale Vermicomposting for Farms, Businesses, Municipalities, Schools, and Institutions,* Chelsea Green Publishing.
5. Shawn Jadrnicek, Stephanie Jadrnicek (2016). *The Bio-integrated Farm A Revolutionary Permaculture-based System Using Greenhouses, Ponds, Compost Piles, Aquaponics, Chickens, and More*, Chelsea Green Publishing.

Web Links

1. https://www.nationalbioentrepreneurship.in/
2. https://www.acs.edu.au/courses/mushroom-production-86.aspx
3. https://onlinecourses.swayam2.ac.in/nos20_ge07/preview
4. https://www.youtube.com/watch?v=4nNQEO8ZQR0
5. https://agritech.tnau.ac.in/agriculture/agri_majorareas_smmf03.html

E-Books

1. https://www.biotech.co.in/sites/default/files/2020-01/Bioentrepreneurship-Development.pdf
2. https://archive.org/details/handbookofbioent0000unse
3. https://depintegraluniversity.in/userfiles/Entrepreneurship%20Development.pdf
4. https://content.kopykitab.com/ebooks/2013/11/2269/sample/sample_2269.pdf
5. https://naip.icar.gov.in/download/77735/gvt-naip-c3.pdf/gvt-naip-c3.pdf

Pedagogy

Power point presentation, Group Discussion, Seminar, Assignment, Animations.

Course Designer

Dr. M. KEERTHIGA

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
Nationally Accredited (III Cycle) **with A Grade by** NAAC I
ISO9001:2015 Certified
Annamalai Nagar, Tiruchirappalli
DEPARTMENT OF BIOTECHNOLOGY
<u>MINUTES OF THE ELEVENTH MEETING OF THE BOS</u>

DATE: 19.10.2024
VENUE: Biotechnology Lab
TIME: 11.00 a.m.

Members Present:

1.	Dr. R. Rameshwari	Chairperson & Head
2.	Ms. P. Ilamathy	Member
3.	Ms. R. Nevetha	Member
4.	Dr. R. Uma Maheswari	Member
5.	Dr. G. Gomathi	Member
6.	Dr. A. Yamuna	Member

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
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9001:2015 Certified
Annamalai Nagar, Tiruchirappalli
DEPARTMENT OF BIOTECHNOLOGY
AGENDA OF THE ELEVENTH MEETING OF THE BOS

The Agenda approve for the meeting is as follows:

DATE: 19.10.2024
VENUE: Biotechnology Lab
TIME: 11.00 a.m.

RESOLUTION NO.BOS/11/24/01

To consider and approve the syllabus of V & VI semester of B.Sc Biotechnology for 2023 - 2024 batch and onwards and to ratify the credits CC – VI, CC-VII, DSE-I of Semester V and CC-IX, CC-X, and DSE - II of Semester VI for B.Sc. Biotechnology for 2023 - 2024 batch and onwards and recommended to the Academic Council, Cauvery College for Women (Autonomous), Trichy

RESOLUTION NO.BOS/11/24/02

Any other matter with permission of the chair

ACTION TAKEN REPORT OF THE BOS HELD ON 09.04.2024

The BOS meeting was held on 9.04.2024. The Chairman of the BOS read the minutes of the meeting and the following resolutions were confirmed

1. Confirmation of the VI semester of B.Sc Biotechnology of 2022-2023 batch & onwards

2. Confirmation of the III semester & IV semester of B.Sc Biotechnology of 2023-2024 batch & onwards

3. Ratification of syllabus of CC-I, CP-I and FAC-I of semester-I and CC-II, CP-II, CC-III and FAC-III of Semester-II of B.Sc Biotechnology of 2024-2025 batch & onwards

4. Ratification of credits CC-IV of semester III and CC-V of semester IV of B.Sc Biotechnology of 2024-2025 batch & onwards

5. Confirmation of the syllabus of Value Added Course for the academic year 2024-2025

MINUTES OF THE ELEVENTH MEETING OF THE BOS HELD ON 19.10.2024

RESOLUTION NO.BOS/11/24/01

Resolved to approve the syllabus of Core Course, Practical, Discipline Specific Elective and Skill enhancement courses of Semester V of B.Sc., Biotechnology of 2023 – 2024 batch and onwards and recommended to the Academic Council, Cauvery college for Women (Autonomous), Trichy.

- CC – VI Plant Biotechnology is ratified with 5 Credits and Course Code 23UBT5CC6,
- CC – VII Animal Biotechnology is ratified with 5 Credits and Course Code 23UBT5CC7.
- Credits of DSE – IA Cancer Biology (23UBT5DSC1A) is changed as 3 and DSE – IB Human Anatomy Physiology (23UBT5DSC1B) is changed as 3 and DSE – IC Pharmacognosy (23UBT5DSC1C) is changed as 3.
- Credits of CC – IX Microbial & Environmental Biotechnology (23UBT6CC9) is changed as 5.
- Credits of CC – X IPR, Biosafety and Bioethics (23UBT6CC10) is changed as 4.
- Credits of DSE – II A Developmental Biology (23UBT2DSE2A) is changed as 3 and DSE – II B Stem Cell Biology (23UBT2DSE2B) is changed as 3 and DSE – II C Bioentrepreneurship (23UBT2DSE2C) is changed as 3.

Dr. R. Rameshwari, Chairperson & Head proposed vote of thanks and expressed her gratitude for the valuable suggestions given by the internal members during the BOS meeting and thanked all the members of BOS.

Chairman of the Board
Dr. R. RAMESHWARI
ASSOCIATE PROFESSOR & HEAD
DEPARTMENT OF BIOTECHNOLOGY
CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)
TIRUCHIRAPPALLI - 620 018.

ANNEXURE Q

B.Sc., NUTRITION AND DIETETICS

Semester	Part	Course	Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs	Marks Int	Marks Ext	Total
I	I	Language Course – I (LC) – Tamil * / Other Languages *	பொதுத்தமிழ்-I	23ULT1	6	3	3	25	75	100
			Hindi ka Samanya Gyan aur Nibandh	23ULH1						
			Poetry, Grammar and History of Sanskrit Literature	23ULS1						
			Foundation Course: Paper I- French I	23ULF1						
	II	English Language Course- I(ELC)	General English -I	23UE1	6	3	3	25	75	100
	III	Core Course – I(CC)	Human Physiology	23UND1CC1	5	5	3	25	75	100
		Core Practical - I (CP)	Human Physiology (P)	23UND1CC1P	3	3	3	40	60	100
		First Allied Course – I (AC)	Food Chemistry	23UND1AC1	4	3	3	25	75	100
		First Allied Course – II (AP)	Food Chemistry (P)	23UND1AC2P	4	3	3	40	60	100
	IV	Ability Enhancement Compulsory Course – I (AECC)	Value Education	23UGVE	2	2	-	100	-	100
		TOTAL			**30**	**22**				**700**

Semester	Part	Course	Title	Course Code	Inst. Hrs. / week	Credits	Exam Hrs	Marks Int	Marks Ext	Total
II	I	Language Course – II (LC) – Tamil * / Other Languages *)	பொதுத்தமிழ்-II	23ULT2	6	3	3	25	75	100
			Hindi Literature & Grammar - II	23ULH2						
			Prose, Grammar and History of Sanskrit literature	23ULS2						
			Basic French - II	23ULF2						
	II	English Language Course- II(ELC)	General English – II	23UE2	6	3	3	25	75	100
	III	Core Course – II (CC)	Nutrition Through Life Span	22UND2CC2	5	5	3	25	75	100
		Core Practical - II (CP)	Nutrition Through Life Span (P)	22UND2CC2P	3	3	3	40	60	100
		Core Course -III (CC)	Food Science	23UND2CC3	2	2	3	25	75	100
		First Allied Course – III (AC)	Macro and Micro Nutrients	23UND2AC3	4	3	3	25	75	100
	IV	Ability Enhancement Compulsory Course – II (AECC)	Environmental Studies	22UGEVS	2	2	-	100	-	100
		Ability Enhancement Compulsory Course - III (AECC)	Innovation and Entrepreneurship	22UGIE	2	1	-	100	-	100
		Extra Credit Course	SWAYAM ONLINE COURSE		As per UGC Recommendation					
		TOTAL			**30**	**22**				**800**

III	I	Language Course – III – Tamil * / Other uages *)	பொதுத்தமிழ்-III	23ULT3	6	3	3	25	75	100
			Hindi Literature & Grammar III	22ULH3						
			Drama, Grammar and History of Sanskrit Literature	23ULS3						
			Intermediate French - I	22ULF3						
	II	English Language Course-III(ELC)	Learning Grammar Through Literature-I	23UE3	6	3	3	25	75	100
	III	Core Course– IV(CC)	Diet Therapy I	23UND3CC4	5	5	3	25	75	100
		Core Practical - III(CP)	Diet Therapy I (P)	22UND3CC3P	3	3	3	40	60	100
		Second Allied Course- I (AC)	Nutritional Biochemistry	22UND3AC4	4	3	3	25	75	100
		Second Allied Course – II (AP)	Nutritional Biochemistry (P)	22UND3AC5P	4	3	3	40	60	100
	IV	Generic Elective Course– I (GEC)	Basics in Nutrition	22UND3GEC1	2	2	3	25	75	100
			Basic Tamil - I	22ULC3BT1						
			Special Tamil - I	22ULC3ST1						
		Extra Credit Course	SWAYAM ONLINE COURSE		As per UGC Recommendation					
		TOTAL			**30**	**22**				**700**

15 Days INTERNSHIP during Semester Holidays

IV	I	Language Course – IV (LC) Tamil * / Other Languages*)	பொதுத்தமிழ்-IV	23ULT4	6	3	3	25	75	100
			Hindi Literature & Functional Hindi	22ULH4						
			Alankara, Didactic and Modern Literatures and Translation	23ULS4						
			Intermediate French	22ULF4						
	II	English Language Course - IV(ELC)	Learning Grammar Through Literature - II	23UE4	6	3	3	25	75	100
	III	Core Course – V(CC)	Diet Therapy II	23UND4CC5	6	5	3	25	75	100
		Core Practical - IV(CP)	Diet Therapy II (P)	22UND4CC4P	4	4	3	40	60	100
		Second Allied Course – III (AC)	Food Microbiology	23UND4AC6	4	3	3	25	75	100
		Internship	Internship	22UND4INT	-	2	-	40	60	100
	IV	Generic Elective Course– II (GEC)	Meal Planning for the Family	22UND4GEC2	2	2	3	25	75	100
			Basic Tamil - II	22ULC4BT2						
			Special Tamil - II	22ULC4ST2						
		Skill Enhancement Course– I (SEC)	Basics in Food Production (P)	22UND4SEC1P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM ONLINE COURSE		As per UGC Recommendation					
		TOTAL			**30**	**24**				**800**

V	III	Core Course – VI(CC)	Food Processing and Preservation	23UND5CC6	6	5	3	25	75	100
		Core Practical – V(CP)	Food Processing and Preservation (P)	22UND5CC5P	3	3	3	40	60	100
		Core Course - VII(CC)	Basics in Research Methodology and Computer Applications	23UND5CC7	6	5	3	25	75	100
		Core Course – VIII(CC)	Community Nutrition	23UND5CC8	6	5	3	25	75	100
		Discipline Specific Elective – I (DSE)	A. Food Standards and Quality Control	23UND5DSE1A	5	3	3	25	75	100
			B. Food Product Development and Marketing	23UND5DSE1B						
			C. Front Office Management and Housekeeping	23UND5DSE1C						
	IV	Ability Enhancement Compulsory Course - IV (AECC)	UGC Jeevan Kaushal - Professional Skills	22UGPS	2	2	-	100	-	100
		Skill Enhancement Course – II (SEC)	Bakery and Confectionary (P)	22UND5SEC2P	2	2	3	40	60	100
		Extra Credit Course	SWAYAM ONLINE COURSE		As per UGC Recommendation					
		TOTAL			**30**	**25**				**700**

VI	III	Core Course – IX(CC)	Perspectives of Home Science	23UND6CC9	6	5	3	25	75	100
		Core Course – X(CC)	Food Service Management	23UND6CC10	5	4	3	25	75	100
		Core Course – XI(CC)	Cyber Security	22UGCS	5	4	3	25	75	100
		Core Practical – VI(CP)	Food Service Management (P)	22UND6CC6P	3	3	3	40	60	100
		Discipline Specific Elective – II (DSE)	A. Functional Foods and Nutraceuticals	23UND6DSE2A	5	3	3	25	75	100
			B. Sports Nutrition	23UND6DSE2B						
			C. Basics in Food Analysis	23UND6DSE2C						
		Project	Project Work	22UND6PW	5	4	-	-	100	100
	IV	Ability Enhancement Compulsory Course - V (AECC)	Gender Studies	22UGGS	1	1	-	100	-	100
	V	Extension activity		22UGEA	0	1	0	-	-	-
		TOTAL			**30**	**25**				**700**
		GRAND TOTAL			**180**	**140**				**4400**

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY

Nationally Accredited (III Cycle) with A Grade by NAAC

DEPARTMENT OF FOOD SERVICE MANAGEMENT & DIETETICS

Agenda for the XI Meeting of BoS

DATE   **: 14.10.2024**

VENUE   **: Dept. of FSM&D**

TIME   **: 11 am**

The Agenda for the meeting is as follows:

ITEM NO: BOS/11/24/01

To consider and to approve the ratification of Core Course – VI, Core Course -VII, Core course -VIII and Discipline Specific Elective -I in Semester V of B.Sc**.** Nutrition & Dietetics 2023-2024 batch onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/02

To consider and to approve the ratification of Core Course – IX, Core Course – X & Discipline Specific Elective -II in Semester VI of B.Sc**.** Nutrition & Dietetics 2023-2024 batch onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

ITEM NO: BOS/11/24/03

Any other matter with the permission of the chair.

CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS), TRICHY.
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DEPARTMENT OF FOOD SERVICE MANAGEMENT AND DIETETICS

MINUTES OF THE XI MEETING OF THE BOS

DATE   **: 14.10.2024**

VENUE   **: Dept. of FSM&D**

TIME   **: 11 am**

Members Present

1.	Dr.B.Thanuja	Chairperson, Associate Professor & HoD
2.	Ms.S.Fathima	Member
3.	Ms.V.Ramya	Member
4.	Ms.E.Agalya	Member
5.	Ms.T.R Revathi	Member
6.	Ms.C,Nivetha	Member
7.	Ms.N.Ganga Devi	Member
8.	Ms.L.Gayathri	Member
9.	MS.Archana Karthikeyan	Member

<h1 align="center">DEPARTMENT OF FOOD SERVICE MANAGEMENT AND DIETETICS</h1>

<h2 align="center">ACTION TAKEN REPORT OF X BOS MEET HELD ON 04/04/2024</h2>

The Tenth BOS Meeting was held on 04/04/2024. The following resolutions were confirmed,

● Ratification of the Core Course – IV in Semester III of B.Sc**.** Nutrition & Dietetics 2023-2024 batch and onwards.

● Ratification of Core Course – V & Second Allied Course – III in Semester IV of B.Sc**.** Nutrition & Dietetics 2023-2024 batch and onwards.

● The VI Semester syllabus of B.Sc. Nutrition & Dietetics for 2022-2023 batch and onwards.

● Ratification of Core Practical - III and Core Choice Course – III (B) in Semester III of M.Sc. Food Service Management & Dietetics for 2023-2024 batch and onwards.

● Ratification of Project Work in Semester IV of M.Sc. Food Service Management & Dietetics for 2023-2024 batch and onwards.

● Approval for the Value - Added Courses.

<h2 align="center">MINUTES OF THE XI BOS MEETING HELD ON 14.10.2024</h2>

The following Resolutions were passed by the BoS members

RESOLUTION NO: BOS/11/24/01

Resolved to approve the ratification of Core Course – VI, Core Course -VII, Core course -VIII and Discipline Specific Elective -I in Semester V of B.Sc**.** Nutrition & Dietetics 2023-2024 batch onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

● **Core Course - VI - Food Processing and Preservation(23UND5CC6)**

The Number of credits reduced from 6 to 5.

Course Code Changed as - 23UND5CC6

● **Core Course - VII - Basics in Research Methodology and Computer Applications (23UND5CC7)**

The number of credits reduced from 6 to 5.

Course Code Changed as - 23UND5CC7

● **Core Course - VIII - Community Nutrition (23UND5CC8)**

The number of credits reduced from 6 to 5.

Course Code Changed as - 23UND5CC8

● **Discipline Specific Elective -I**

The number of credits reduced from 4 to 3.

Course code changed as

A.   **Food Standards and Quality Control (23UND5DSE1A)**

B.   **Food Product Development and Marketing (23UND5DSE1B)**

C.   **Front Office Management and Housekeeping (23UND5DSE1C)**

Resolved to carry out the changes as given in Annexure - A

RESOLUTION NO: BOS/11/24/02

Resolved to approve the ratification of Core Course – IX, Core Course – X & Discipline Specific Elective -II in Semester VI of B.Sc. Nutrition & Dietetics 2023-2024 batch and onwards and recommend to the Academic Council, Cauvery College for Women (Autonomous), Trichy.

●   **Core Course – IX- Perspectives of Home Science (23UND6CC9)**

The number of credits reduced from 6 to 5.
Course code changed as 23UND6CC9

●   **Core Course – X-Food Service Management (23UND6CC10)**

The number of credits reduced from 5 to 4.
Course code changed as 23UND6CC10

● **Discipline Specific Elective -I**

The number of credits reduced from 4 to 3.

Course code changed as

A. Functional Foods and Nutraceuticals (23UND6DSE2A)

B. Sports Nutrition (23UND6DSE2B)

C. Basics in Food Analysis (23UND6DSE2C)

Resolved to carry out the changes as given in Annexure - B

Signature of the HOD

Cauvery College for Women (Autonomous), Tiruchirappalli -620 018
Department of Food Service Management and Dietetics
XI Board of Studies Meeting Held on   14/10/2024

1.   **Introduction of new courses from the academic year 2023-2024 based on the Feedback collected from various Stakeholders**

The Chairman of the Board Dr.B.Thanuja, proposed the introduction of the following New course(s) in the curriculum of the B.Sc., Nutrition & Dietetics and M.Sc., Food Service Management & Dietetics from the academic Year 2023-2024.

NIL

2.   **Revision of syllabus of the existing courses from the academic year 2023 -2024**

The Chairman of the Board, Dr.B.Thanuja, proposed the revision of syllabus in the curriculum of the B.Sc., Nutrition & Dietetics and M.Sc., Food Service Management & Dietetics from the academic Year 2023-2024.

NIL

Chairman of the Board:

Dean of Science   Principal