Dr. N.G.P. ARTS AND SCIENCE COLLEGE

REGULATIONS 2023-24 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit System)

Bachelor of Science in Information Technology Degree

(For the students admitted during the academic year 2023-24 and onwards)

Programme: B. Sc (Information Technology)

Eligibility

Candidates for admission to the first year of the Bachelor of Science (Information Technology) Degree Programme shall be required to have passed in the Higher Secondary Examinations conducted by the Government of Tamil Nadu in the relevant subjects or an Examination accepted as equivalent there to by the Academic Council. Subject to such other conditions as may be prescribed there to are permitted to appear and qualify with any one of the following subjects: Mathematics / Computer Science / Statistics / Business Mathematics and wherever the students have not studied Mathematics, the necessary Mathematics knowledge be imparted through Tutorial/ Bridge Course.

Programme Educational Objectives

The Curriculum is designed to attain the following learning goals which students shall accomplish by the time of their graduation:

1. Demonstrating a substantial understanding of concepts in key areas of Information Technology and its applications.

2. Analysis and synthesis involved in Computer System, Information System and Computer applications.

3. To develop a software and in its design and implementation for professional competence

4. To equip and train the students to meet the requirement of the IT Industries and Public Sectors.

5. To stimulate an interest in computing as an academic discipline with a view to encouraging progression to research and higher studies.

PROGRAMME OUTCOMES

On the successful completion of the program, the following are the expected outcomes.

PO Number	PO Statement
PO1	Understand the fundamental concept of Information Technology
PO2	Gain knowledge on programming language to constructs application and packages
PO3	Improve programming knowledge to solve real-world problems using Information Technology
PO4	Develop necessary skills to design digital system
PO5	Enhance problem solving, analytical, communication, team work and potential to develop software and network management

B. Sc. INFORMATION TECHNOLOGY
(For the students admitted during the Academic Year 2023-2024)

Credit Distributions

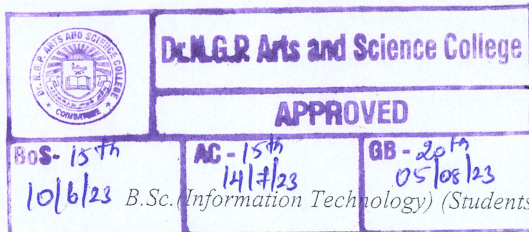| Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil/ Hindi/ French/Malayalam	4	4 x 3 = 12	I to IV
II (12 Credits)	English	4	4 x 3 = 12	I to IV
III (108 Credits)	Core (4 credits)	11	11x4=44	I to VI
	Core (3 credits)	2	2x3=6	I to VI
	Core Practical (5 credits)	2	2x5=10	III to IV
	Core Practical (2 credits)	3	3x2=6	I to VI
	Core Project (4 credits)	1	1x4=4	VI
	Inter Departmental Course (IDC)	4	4x4=16	I to IV
	Discipline Specific Elective (DSE)	3	3 x 4 =12	V & VI
	Skill Enhancement Course (SEC)	4	4x2 =8	III to VI
	Industrial Training	1	1x2=2	V
IV (8 Credits)	Environmental Studies (AECC)	1	1x2=2	I
	Basic Tamil/Advanced Tamil/Human Rights & Women's Rights (AECC)	1	1x2=2	II
	Generic Elective (GE)	1	1x 2=2	V
	Innovation & IPR/ Innovation, IPR & Entrepreneurship (AECC)	1	2	VI
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/ Sports/Clubs	-	2	I - II
TOTAL CREDITS			**142**	

CURRICULUM
B. Sc. INFORMATION TECHNOLOGY

Course Code	Course Category	Course Name	L	T	P	Exam (hours)	Max Marks			Credits
							CIA	ESE	Total	
First Semester										
Part– I										
231TL1A1TA	Language-I	Tamil–I	4	1	-	3	25	75	100	3
231TL1A1HA		Hindi-I								
231TL1A1MA		Malayalam-I								
231TL1A1FA		French –I								
Part– II										
231EL1A1EA	Language-II	English -I	4	-	1	3	25	75	100	3
Part– III										
234AI1A1CA	Core - I	Problem Solving and Programming in C	4	1	-	3	25	75	100	4
234IT1A1CP	Core Practical - I	C Programming	-	-	4	3	40	60	100	2
234IT1A1CA	Core - II	Digital Computer Fundamentals	4	-	-	3	25	75	100	4
232MT1A1IC	IDC - I	Numerical Methods and Statistics	4	1	-	3	25	75	100	4
Part-IV										
233MB1A1AA	AECC-I	Environmental Studies	2	-	-	-	50	-	50	2
Part-V										
234IT1A1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs	-	-	-	-	50	-	50	1
Total			22	3	5	-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Exam (hrs)	Max Marks			Credits
							CIA	ESE	Total	
Second Semester										
Part-I										
231TL1A2TA	Language-I	Tamil–II	4	1	-	3	25	75	100	3
231TL1A2HA		Hindi-II								
231TL1A2MA		Malayalam-II								
231TL1A2FA		French –II								
Part– II										
231EL1A2EA	Language-II	English -II	4	-	1	3	25	75	100	3
Part– III										
234CA1A2CA	Core - III	Data Structures	4	1	-	3	25	75	100	4
234CS1A2CA	Core - IV	Object Oriented Programming with C++	4	-	-	3	25	75	100	4
234IT1A2CP	Core Practical – II	Data Structures and C++	-	-	4	3	40	60	100	2
232MT1A2IC	IDC - II	Discrete Mathematics	4	1	-	3	25	75	100	4
Part-IV										
231TL1A2AA	AECC-II	Basic Tamil	2	-	-	-	50	-	50	2
231TL1A2AB		Advanced Tamil								
235CR1A2AA		Human Rights and Women's Rights								
Part-V										
234IT1A2XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs	-	-	-	-	50	-	50	1
		Total	22	3	5	-	-	-	700	23

BoS Chairman/HOD
Department of Information Technology
Dr. N.G.P. Arts And Science College
Coimbatore - 641 048

Dr.N.G.P. Arts and Science College
APPROVED

BoS- 16th	AC -	GB -
16/10/23	13/12/23	5/1/24

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Course Code	Course Category	Course Name	L	T	P	Exam (hours)	CIA	ESE	Total	Credits
Third Semester										
Part-I										
231TL1A3TA	Language-I	Tamil–III	3	1	-	3	25	75	100	3
231TL1A3HA		Hindi - III								
231TL1A3MA		Malayalam - III								
231TL1A3FA		French - III								
Part– II										
231EL1A3EA	Language-II	English -III	3	1	-	3	25	75	100	3
Part– III										
234CA1A3CA	Core - V	Database Management Systems	4	-	-	3	25	75	100	4
234CS1A3CA	Core - VI	Operating Systems	3	-	-	3	25	75	100	3
234CT1A3CA	Core Practical-III	Java Programming	3	-	4	3	40	60	100	5
234IT1A3SP	SEC Practical-I	SQL and PL/SQL	-	-	4	3	40	60	100	2
235AT1A3IA	IDC - III	Business Accounting	4	-	-	3	25	75	100	4
		Total	20	2	8	-	-	-	700	24

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Course Code	Course Category	Course Name	L	T	P	Exam (hours)	Max Marks			Credits
							CIA	ESE	Total	
Fourth Semester										
Part–I										
231TL1A4TA	Language-I	Tamil–IV	3	1	-	3	25	75	100	3
231TL1A4HA		Hindi - IV								
231TL1A4MA		Malayalam - IV								
231TL1A4FA		French - IV								
Part–II										
231EL1A4EA	Language-II	English -IV	3	1	-	3	25	75	100	3
Part–III										
234CT1A4CA	Core - VII	Computer Networks	4	-	-	3	25	75	100	4
234IT1A4CA	Core - VIII	Software Engineering	3	-	-	3	25	75	100	3
234CA1A4EP	Core Practical - IV	Python Programming	3	-	4	3	40	60	100	5
234IT1A4SP	SEC Practical - II	PHP Programming	-	-	4	3	40	60	100	2
235CO1A4IB	IDC-IV	Human Resource Management	4	-	-	3	25	75	100	4
		Total	20	2	8	-	-	-	700	24

Course Code	Course Category	Course Name	L	T	P	Exam (hours)	Max Marks			Credits
							CIA	ESE	Total	
Fifth Semester										
Part–III										
234IT1A5CA	Core - IX	Full Stack Development	4	1	-	3	25	75	100	4
234IT1A5CB	Core - X	Cyber Security and Ethics	4	1	-	3	25	75	100	4
234IT1A5CC	Core - XI	Cloud Computing	4	1	-	3	25	75	100	4
234IT1A5CP	Core Practical - V	Full Stack Development	-	-	4	3	40	60	100	2
234IT1A5SP	SEC-III	Mobile Application Development	-	-	4	3	40	60	100	2
234IT1A5DA	DSE –I	Mobile Computing	4	1	-	3	25	75	100	4
234IT1A5DB		Principles of Data Mining and Data Warehousing								
234IT1A5DC		Software Quality Assurance								
234IT1A5TA	IT	Industrial Training	-	-	-	3	40	60	100	2
Part–IV										
	GE		2	-	-	-	50	-	50	2
		Total	18	4	08	-	-	-	750	24

Course Code	Course Category	Course Name	L	T	P	Exam (hours)	Max Marks			Credits
							CIA	ESE	Total	
Sixth Semester										
Part–III										
234IT1A6CA	Core- XII	Internet of Things	4	-	-	3	25	75	100	4
234IT1A6CB	Core - XIII	Big Data Analytics	4	-	-	3	25	75	100	4
234IT1A6SP	SEC– IV	Data Analysis with R			4	3	40	60	100	2
234IT1A6CV	Core Project- XIV	Project Work	-	-	8	3	40	60	100	4
234IT1A6DA	DSE –II	Blockchain Technology and Applications	4	-	-	3	25	75	100	4
234IT1A6DB		Artificial Intelligence and Machine Learning								
234IT1A6DC		Software Project Management								
234IT1A6DD	DSE –III	Augmented Reality and Virtual Reality	4	-	-	3	25	75	100	4
234IT1A6DE		Human Computer Interaction Design								
234IT1A6DF		DevOps								
Part – IV										
233BC1A6AA	AECC-III	Innovation, IPR & Entrepreneurship	2	-	-	-	50	-	50	2
		Total	18	-	12	-	-	-	650	24
		***Grand total**							4200	142

*Total Credit Should not exceed 142 credits

DISCIPLINE SPECIFIC ELECTIVE

Students shall select the desired course of their choice in the listed elective course during Semesters V&VI

Semester V (Elective I)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	234IT1A5DA	Mobile Computing
2	234IT1A5DB	Principles of Data Mining and Data Warehousing
3	234IT1A5DC	Software Quality Assurance

Semester VI (Elective II)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	234IT1A6DA	Blockchain Technology and Applications
2	234IT1A6DB	Artificial Intelligence and Machine Learning
3	234IT1A6DC	Software Project Management

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Semester VI (Elective III)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	234IT1A6DD	Augmented Reality and Virtual Reality
2	234IT1A6DE	Human Computer Interaction Design
3	234IT1A6DF	DevOps

GENERIC ELECTIVE COURSES(GE)

The following are the courses offered under Generic Elective Course

Semester V(GE)

S.No.	Course Code	Course Name
1	234IT1A5GA	Business Information Systems

EXTRA CREDIT COURSES

The following are the courses offered under self-study to earn extra credits:

Semester III

S.No.	Course Code	Course Name
1	234IT1ASSA	Data Science Concepts
2	234IT1ASSB	Network Protocols

UG - REGULATION (R5)

(2023-24 and onwards)

(OUTCOME BASED EDUCATION WITH CBCS)

1.NOMENCLATURE

1.1 Faculty: Refers to a group of programmes concerned with a major division of knowledge Eg. Faculty of Computer Science consists of disciplines like Departments of Computer Science, Information Technology, Computer Technology, Computer Applications, Data Analytics, Cognitive Systems, Artificial Intelligence and Machine Learning and Cyber Security

1.2 Programme: Refers to the Bachelor of Science / Commerce /Arts stream that a student has chosen for study.

1.3 Batch: Refers to the starting and completion year of a programme of study. Eg. Batch of 2023-26 refers to students belonging to a 3 year Degree programme admitted in 2023 and completing in 2026.

1.4 Course: Refers to component of a programme. A course may be designed to involve lectures / tutorials / laboratory work / seminar / project work/ practical training / report writing / Viva- voce, etc., or a combination of these, to meet effectively the teaching learning needs.

a) **Core Course:**A course, which should compulsorily be studied by a candidate as a core requirement

b) **Inter Disciplinary Course (IDC):** A course chosen generally from a related discipline/subject with an intention to seek exposure in the discipline relating to the core domain of the student

c) **Discipline Specific Elective (DSE) Course:** Elective courses offered under main discipline/ subject of study.

d) **Skill Enhancement Courses (SEC):** Value-based and/or skill-based courses which are aimed at providing hands-on-training, competencies, skills, etc.

e) **Ability Enhancement Compulsory Courses (AECC):**Mandatory courses that lead to Knowledge enhancement. Environmental Science, Human Rights and Women's Rights, Basic Tamil/ Advanced Tamil, Innovation and IPR, Innovation, IPR and Entrepreneurship.

f) **Ability Enhancement Elective Course (AEEC)/Generic Elective (GE)** An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is Generic Elective.

1.5 Project Work:

Course involving application of knowledge in problem solving / analyzing /exploring a real life situation / difficult problem. The Project work will be given in lieu of a Core paper.

Internship/Industrial Training

Students must undertake industrial / institutional training for a minimum of 15 days during the IV semester summer vacation. The students will submit the report for evaluation during V semester.

1.6 Extra Credits:

Extra credits shall be awarded for achievements in identified curricular/co-curricular/Extracurricular activities executed outside the regular class hours. Extra credits are not mandatory for completing the programme.

2. STRUCTURE OF PROGRAMME

2.1 PART- I: LANGUAGE- I

Tamil or any one of the languages namely Malayalam, Hindi and French will be offered under Part – I in the first four semesters.

2.2 PART- II: LANGUAGE- II

English will be offered during the first four semesters.

2.3 PART- III:

- Core Course
- Inter Departmental Course (IDC)
- Discipline Specific Elective (DSE)
- Skill Enhancement Course (SEC)
- Industrial Training (IT)

2.4 PART- IV:

2.4.1 Ability Enhancement Compulsory Course (AECC):

The Ability Enhancement Compulsory Courses such as i)Environmental Studies, ii) Human Rights and Womens' Rights, iii) Innovation and IPR/ Innovation, IPR and Entrepreneurship are offered during I,II and VI Semester.

Basic Tamil

a) Those who have not studied Tamil up to XII Std and taken a non-Tamil language under Part-I shall take oneBasic Tamil coursein the second semester.

(OR)

Advanced Tamil

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

b) Those who have studied Tamil up to XII Std and taken a non-Tamil language under Part-I shall take one Advanced Tamil course in the second semester.

Note: Students who come under the above a+b categories are exempted from Human Rights and Women's Rights in the second semester.

Ability Enhancement Elective Course (AEEC)/Generic Elective (GE) An elective course chosen generally from an unrelated discipline/subject, with an intention to seek exposure is Generic Elective offered in V semester. (Theory/Practical/Non-Lab Practical)

2.5 PART- V: EXTENSION ACTIVITIES

The following extracurricular activities like NSS/YRC/NCC/RRC/Yoga/Sports/Clubs are offered under extension activities during semester I & II. Students will be evaluated based on their active participation in any one of the above activities. 75% Attendance is compulsory for extension activity.

3. CREDIT ALLOTTMENT

The following is the credit allotment:

- Lecture Hours (Theory)   :   1 credit per lecture hour per week
- Laboratory Hours   :   1 credit for 2 Practical hours per week
- Project Work   :   1 credit for 2 hours of project work per week

4. DURATION OF THE PROGRAMME

The B.A. /B.Com./B. Sc. Programme must be completed within 3 years (6 semesters) and a maximum of 6 years (12 semesters) from the date of acceptance to the programme. If not, the candidate must enroll in the course determined to be an equivalent by BoS in the most recent curriculum recommended for the Programme.

5.REQUIREMENTS FOR COMPLETION OF A SEMESTER

Every student shall ordinarily be allowed to keep terms for the given semester in a program of his/ her enrolment, only if he/ she fulfills at least seventy five percent (75%) of the attendance taken as an average of the total number of lectures, practicals, tutorials, etc. wherein short and/or long excursions/field visits/study tours organised by the college and supervised by the faculty as envisaged in the

syllabus shall be credited to his/her attendance. Every student shall have a minimum of 75% as an overall attendance.

6. EXAMINATIONS

The end semester examinations shall normally be conducted after completing 90 working days for each semester. The maximum marks for each theory and practical course shall be 100 with the following breakup:

a) **Mark distribution for Theory Courses**

Continuous Internal Assessment (CIA)	: 25 Marks
End Semester Exams (ESE)	: 75 Marks
Total	: 100 Marks

i) Distribution of Internal Marks

S.No.	Particulars	Distribution of Marks
1	CIA I (2.5 Units) (On completion of 45th working day)	5
2	Model (All 5 Units) (On completion of 85th working day)	5
3	Attendance	5
4	Library Usage	5
5	Skill Enhancement *	5
	Total	25

Breakup for Attendance Marks:

S.No	Attendance Range	Marks Awarded
1	95% and Above	5
2	90% - 94%	4
3	85% - 89%	3
4	80% - 84%	2
5	75% - 79%	1

Note:

Special Cases such as NCC, NSS, Sports, Advanced Learner Course, Summer Fellowship and Medical Conditions etc. the attendance exemption may be given by principal and Mark may be awarded.

Break up for Library Marks:

S.No	Attendance Range	Marks Awarded
1	10h and above	5
2	9h– less than 10h	4
3	8h – less than 9h	3
4	7h - less than 8h	2
5	6h – less than 7h	1

Note:

In exception, the utilization of e-resources of library will be considered.

*Components for "Skill Enhancement" may include the following:

Class Participation, Case Studies Presentation/term paper, Field Study, Field Survey, Group Discussion, Term Paper, Presentation of Papers in Conferences, Industry Visit, Book Review, Journal Review, e-content Creation, Model Preparation, Seminar and assignment.

Components for Skill Enhancement

Any one of the following should be selected by the course coordinator

S.No.	Skill Enhancement	Description
1	Class Participation	• Engagement in class • Listening Skills • Behaviour
2	Case Study Presentation/ Term Paper	• Identification of the problem • Case Analysis • Effective Solution using creativity/imagination
3	Field Study	• Selection of Topic • Demonstration of Topic • Analysis & Conclusion
4	Field Survey	• Chosen Problem • Design and quality of survey • Analysis of survey
5	Group Discussion	• Communication skills • Subject knowledge • Attitude and way of presentation • Confidence • Listening Skill
6	Presentation of Papers in Conferences	• Sponsored • International/National • Presentation • Report Submission
7	Industry Visit	• Chosen Domain • Quality of the work

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

		• Analysis of the Report • Presentation
8	Book Review	• Content • Interpretation and Inferences of the text • Supporting Details • Presentation
9	Journal Review	• Analytical Thinking • Interpretation and Inferences • Exploring the perception if chosen genre • Presentation
10	e-content Creation	• Logo/ Tagline • Purpose • Content (Writing, designing and posting in Social Media) • Presentation
11	Model Preparation	• Theme/ Topic • Depth of background Knowledge • Creativity • Presentation
12	Seminar	• Knowledge and Content • Organization • Understanding • Presentation
13	Assignment	• Content and Style • Spelling and Grammar • References

ii) Distribution of External Marks (ESE)

Total	:	75
Written Exam	:	75

Marks Distribution for Practical course

Total	:	100
Internal	:	40
External	:	60

i) Distribution of Internals Marks

S.No.	Particulars	Distribution of Marks
1	Experiments/Exercises	15
2	Test 1	10
3	Test 2	10
4	Observation Notebook	05
	Total	40

ii) Distribution of Externals Marks

S.No.	Particulars	External Marks
1	Practical	40
2	Record	10
3	Viva- voce	10
	Total	60

Practical examination shall be evaluated jointly by Internal and External Examiners

Mark Distribution for Project/ Internship/ Industrial Training

Total   :   100
Internal :   40
External   :   60

i) Distribution of Internal Marks

S.No.	Particulars	Internal Marks
1	Review I	15
2	Review II	20
3	Attendance	5
	Total	40

ii) Distribution of External Marks

S.No	Particulars	External Marks
1	Project Work /Internship /Industrial training Presentation	40
2	Viva –voce	20
	Total	60

Evaluation of Project Work/Internship/ Industrial training shall be shall be done jointly by Internal and External Examiners.

7. Credit Transfer

    a. Upon successful completion of **1 NPTEL** Course **(4 Credit Course)** recommended by the department, during Semester I to IV, a student shall be eligible to get exemption of one **4 credit course** during the V or VI semester. The proposed NPTEL course should cover content/syllabus of exempted core paper in V orVI semester.

S. No.	Course Code	Course Name	Proposed NPTEL Course	Credit
1			Option – 1 Paper title	4
			Option – 2 Paper title	
			Option – 3 Paper title	

    b. Upon successful completion of **2 NPTEL Courses** (2 Credit each) recommended by the department, during Semester I to IV, a student shall be eligible to get exemption of **one 4 credit course** during the V or VI semester. Out of 2 NPTEL proposed courses, **atleast 1 course** should cover content/syllabus of exempted core paper in V orVI semester.

Mandatory

    The exempted core paper in the V or VI semester should be submitted by the students for approval before the end of 4th semester

    Credit transfer will be decided by equivalence committee

S. No.	Course Code	Course Name	Proposed NPTEL Course	Credit
1			Option – 1 Paper title	2
			Option – 2 Paper title	
			Option – 3 Paper title	
2			Option – 1 Paper title	2
			Option – 2 Paper title	
			Option – 3 Paper title	

NPTEL Courses to be carried out during semester I – IV.					
S.No.	Student Name	Class	Proposed NPTEL Course		Proposed Course for Exemption
			Course I	Option 1- Paper Title Option 2- Paper Title Option 3- Paper Title	Any one Core Paper in V or VI semester
			Course II	Option 1- Paper Title Option 2- Paper Title Option 3- Paper Title	

Class Advisor   HoD   Dean

8. Innovations

Upon Successful outcome of Design Thinking / Copy right/Product/ Patent by the end of the V Semester, student shall be eligible to get exemption in AECC: Innovation, IPR & Entrepreneurship / Innovation & IPR offered during VI Semester.

9. Internship/Industrial Training

Students must undertake industrial / institutional training for a minimum of 15 days during the IV semester summer vacation. The students shall submit the report for evaluation during V semester.

10. Extra Credits: 10

Earning extra credit is not essential for programme completion. Student is entitled to earn extra credit for achievement in Curricular /Co-Curricular/ Extracurricular activities carried out other than the regular class hours.

A student is permitted to earn a maximum of Ten extra Credits during the programme period.

A maximum of 1 credit under each category is permissible.

Category	Credit
Proficiency in foreign language	1
Proficiency in Hindi	1
Self study Course	1
Typewriting/Short hand	1
CA/ICSI/CMA (Foundations)	1
CA/ICSI/CMA(Inter)	1
Sports and Games	1
Publications / Conference Presentations (Oral/Poster)	1
Lab on Project	1
Innovation / Incubation / Patent / Sponsored Projects / Consultancy	1
Representation in State / National level celebrations	1
Awards/Recognitions/Fellowships	1

Credit shall be awarded for achievements of the student during **the period of study only**.

GUIDELINES

Proficiency in foreign language

A pass in any foreign language in the examination conducted by an authorized agency.

Proficiency in Hindi

A pass in the Hindi examination conducted by Dakshin Bharat Hindi Prachar Sabha.

Examination passed during the programme period only will be considered for extra credit.

Self study Course

A pass in the self study courses offered by the department.

The candidate should register the self study course offered by the department only in the III semester.

Typewriting/Short hand

A Pass in short hand /typewriting examination conducted by Tamil Nadu Department of Technical Education (TNDTE) and the credit will be awarded.

CA/ICSI/CMA(Foundations)

Qualifying foundation in CA/ICSI/CMA / etc.

CA/ICSI/CMA(Inter)

Qualifying Inter in CA/ICSI/CMA / etc.

Sports and Games

Students can earn extra credit based on their achievements in sports in University/ State / National/ International levels.

Publications / Conference Presentations (Oral/Poster)

Research Publications in Journals
oral/poster presentation in Conference

Lab on Project (LoP)

To promote the undergraduate research among all the students, the LoP is introduced beyond their regular class hours. LoP is introduced as group project consisting of not more than five members. It consist of four stages namely Literature collection, Identification of Research area, Execution of research and Reporting / Publication of research reports/ product developments. These four stages spread over from III to IV semester.

(Evaluation will be done internally)

Innovation / Incubation / Patent / Sponsored Projects / Consultancy

Development of model/ Products /Prototype /Process/App/Registration of Patents/ Copyrights/Trademarks/Sponsored Projects /Consultancy

Representation in State/ National level celebrations

State / National level celebrations such as Independence day, Republic day Parade, National Integration camp.

Awards/Recognitions/Fellowships

Regional/ State / National level awards/ Recognitions/Fellowships

GUIDELINES

100 % CIA Courses:

- AECC
- AEEC

S.No	Type of Course
1	Environmental Studies (AECC)
2	Human Rights and Women's Rights, Basic Tamil /Advanced Tamil (AECC)
3	Innovation &IPR/ Innovation, IPR and Entrepreneurship(AECC)
4	Generic Elective (AEEC)

Modalities for Implementing Internal Assessment Marks:

- Student pertaining to 2023 Batch (2023-26) UG programme for the above mentioned courses shall secure a minimum of 40% out of the maximum marks in the continuous internal assessment (CIA) i.e., 20 marks out of 50 marks.
- Students who have not acquired the minimum marks shall be allowed to reappear to improve their marks in the exam components only within the time duration of the programme, in the forthcoming semesters.

Distribution of Internal Marks for AECC & AEEC

S.No.	Particulars	Distribution of Marks
1	CIA I (2.5 Units)　　(On completion of 45th working day)	15
2	Model (All 5 Units) (On completion of 85th working day)	15
3	Assignment	05
4	Attendance	05
5	Library Usage	05
6	Skill Enhancement *	05
	Total	50

Distribution of Internal Marks for Generic Elective (AEEC) (Practical)

S.No.	Particulars	Distribution of Marks
1	CIA -I (1-5 Exercise)	5
2	CIA-II (6-10 Exercise)	5
3	Class Participation	10
4	Practical Record	10
5	Test-III & Viva –Voce(10+10)	20
	Total	50

Question paper pattern AECC & AEEC

Test	MARKS	DESCRIPTION	TOTAL	Remarks
CIA Test I 1 Hour First 2.5 Units	50 x 1 = 50 Marks	MCQ	50 Marks	Marks secured will be Converted to 15 marks
CIA test II/ Model test 1 Hour All five Units	50 x 1 = 50 Marks	MCQ	50 Marks	Marks secured will be Converted to 15 marks

Question paper pattern	Total Marks - 50
Basic Tamil	**Advanced Tamil**
Section -A	Section -A
Choose the correct answer 10x2=20	Choose the correct answer 10x1=10
Section -B	Section -B
True or false 10x2=20	Fill in the blanks 10x2=20
Section -C	Section -C
Answer in one page 1x10=10	Write an essay in two pages 2x10=20

Question paper pattern for all other courses falling under Part I to Part III

CIA I : [1 ½ Hours-2.5 Units] - 25 Marks

SECTION	MARKS	DESCRIPTION	TOTAL	Remarks
Section – A	8 x 0.5 = 04 Mark	MCQ	25 Mark	Marks secured will be converted To 5 mark
Section - B	3 x 3 = 09 Mark	Answer ALL Questions Either or Type ALL Questions Carry Equal Marks		
Section - C	2 x 6 = 12 Mark			

CIA II /Model: [3 Hours-5 Units] - 75 Mark

SECTION	MARKS	DESCRIPTION	TOTAL	Remarks
Section – A	10 x 1 = 10 Mark	MCQ	75 Mark	Marks secured will be converted To 5 mark
Section - B	5 x 5 = 25 Mark	Answer ALL Questions (Either or Type Questions) Each Questions Carry Equal Mark		
Section - C	5 x 8 = 40 Mark			

End Semester Examination: [3 Hours-5 Units] - 75 Mark

SECTION	MARKS	DESCRIPTION	TOTAL
Section – A	10 x 1 = 10 Mark	MCQ	75 Mark
Section - B	5 x 5 = 25 Mark	Answer ALL Questions (Either or Type Questions) Each Questions Carry Equal Mark	
Section - C	5 x 8 = 40 Mark		

Course Code	Course Name	Category	L	T	P	Credit
231TL1A1TA	TAMIL - I	LANGUAGE- I	4	1	-	03

PREAMBLE

This course has been designed for students to learn and understand

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடு நாகரீகம், பகுத்தறிவு ஆகியவற்றை அறியச் செய்தல்
- கலை மற்றும் மரபுகளை அறியச் செய்தல்
- மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	வாழ்க்கைத் திறன்கள் (Life Skills)- மாணவர்களின் செயலாக்கத் திறனை ஊக்குவித்தல்	K3
CO2	மதிப்புக்கல்வி (Attitude and Value education)	K4
CO3	பாட இணைச்செயல்பாடுகள் (Co-curricular activities)	K4
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K5

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231TL1A1TA	TAMIL - I	SEMESTER I

<div align="right">

Total Credits: 3

Total Instruction Hours: 60 h

</div>

Syllabus

Unit I   மறுமலர்ச்சிக் கவிதைகள்   13 h

1. இலக்கிய வரலாறு   - மறுமலர்ச்சிக் கவிஞர்களின் தமிழ்ப்பணிகள்
2. பாரததேசம்   - பாரதியார்
3. படி   - பாரதிதாசன்
4. தமிழரின் பெருமை   - நாமக்கல் கவிஞர்
5. தமிழ்க் கொலை புரியாதீர்   - புலவர் குழந்தை
6. திரைத்தமிழ்

அ) 'விஞ்ஞானத்த வளர்க்கப் போறண்டி' எனத் தொடங்கும் பாடல் - உடுமலை நாராயண கவி

ஆ) 'சும்மா கிடந்த நிலத்தை' எனத் தொடங்கும் பாடல் - பட்டுக்கோட்டை கல்யாண சுந்தரனார்

இ) 'சமரசம் உலாவும் இடமே' எனத் தொடங்கும் பாடல் -   மருதகாசி

ஈ) 'உன்னை அறிந்தால்' எனத் தொடங்கும் பாடல்   -   கண்ணதாசன்

Unit II   புதுக்கவிதைகள்   13 h

1. இலக்கிய வரலாறு   - புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும்
2. கடமையைச் செய்   - மீரா
3. மலையாளக் காற்று   - சிற்பி
4. ஒப்பிலாத சமுதாயம்   - அப்துல் ரகுமான்
5. கன்னிமாடம்   - மு.மேத்தா
6. கரிக்கிறது தாய்ப்பால்   - ஆரூர் தமிழ்நாடன்
7. ஐந்தாம் வகுப்பு 'அ' பிரிவு   - நா. முத்துக்குமார்
8. ஹைகூ கவிதைகள்   - 10 கவிதைகள்

Unit III   பெண்ணியம்   09 h

1. தொலைந்து போனேன்   - தாமரை
2. நீரில் அலையும் முகம்   - அ. வெண்ணிலா
3. தற்காத்தல்   - பொன்மணி வைரமுத்து
4. ஏனிந்த வித்தியாசங்கள் ?   - மல்லிகா
5. புதையுண்ட வாழ்க்கை   - சுகந்தி சுப்ரமணியன்

Unit IV	சிறுகதைகள்	15 h

1. இலக்கிய வரலாறு - சிறுகதையின் தோற்றமும் வளர்ச்சியும்
2. கனகாம்பரம் - கு.ப.ராஜகோபாலன்
3. ஆற்றங்கரைப் பிள்ளையார் - புதுமைப்பித்தன்
4. பொம்மை - ஜெயகாந்தன்
5. காய்ச்சமரம் - கி. ராஜநாராயணன்
6. காட்டில் ஒருமான் - அம்பை
7. வேட்கை - சூர்யகாந்தன்

Unit V	பயிற்சிப் பகுதி	10 h

அ. இலக்கணம்
1. வல்லின ஒற்று மிகும், மிகா இடங்கள் - ஒற்றுப்பிழை நீக்கி எழுதுதல்
2. ர,ற-ல,ழ,ள - ண,ந,ன வேறுபாடு - ஒலிப்பு நெறி, சொற்பொருள் வேறுபாடு அறிதல்)

ஆ. படைப்பாக்கம்
1. கவிதை - எழுதுதல் (15 வரிகள் முதல் 30 வரிகள் வரை)
2.சிறுகதை - எழுதுதல் (குறைந்தது 3 பக்கங்கள்)

Text Book

1   தமிழ் மொழிப்பாடம் - 2022-2023, தொகுப்பு: தமிழ்த்துறை, டாக்டர் என்.ஜி.பி. கலை அறிவியல் கல்லூரி, கோயம்புத்தூர் – 641048, வெளியீடு: நியூ செஞ்சுரி புக் ஹவுஸ், சென்னை – 600 098.

References

1   பேராசிரியர் புலவர் சோம. இளவரசு, எட்டாம் பதிப்பு - 2014, தமிழ் இலக்கிய வரலாறு – மணிவாசகர் பதிப்பகம், சென்னை – 600 108.

2   பேராசிரியர் முனைவர் பாக்கியமேரி, முதற் பதிப்பு - 2013, இலக்கணம் - இலக்கிய வரலாறு - மொழித்திறன் - பூவேந்தன் பதிப்பகம், சென்னை-600 004.

3   இணையதள முகவரி: https://www.tamilvu.org

Dr.NGPASC

COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Course Code	Course Name	Category	L	T	P	Credit
231TL1A1HA	HINDI – I	LANGUAGE - 1	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature
- The techniques for expansion of ideas and translation process

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	✓
CO2		✓			✓
CO3				✓	
CO4	✓		✓		
CO5		✓	✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

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COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

231TL1A1HA	HINDI – I	SEMESTER I

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I   13 h

गद्य – नूतन गद्य संग्रह (जय प्रकाश)पाठ 1- रजियापाठ 2- मक्रीलपाठ 3- बहता पानी निर्मला
पाठ 4- राष्ट्रपिता महात्मा गाँधी

Unit II   13 h

कहानी कुंज- डाँ वी.पी. 'अमिताभ'(पाठ 1-4)

Unit III   12 h

व्याकरण : शब्द विचार (संज्ञा, सर्वनाम,विशेषण)

Unit IV   12 h

अनुच्छेद लेखन

Unit V   10 h

अनुवाद अभ्यास-III (केवल अंग्रेजी से हिन्दी में) (पाठ 1 to 10)

Text Books

1 प्रकाशक: सुमित्र प्रकाशन 204 लीला अपार्ट्मेंट्स, 15 हेस्टिंग्स रोड'अशोक नगर इलाहाबाद-
211001

2 प्रकाशक: गोविन्द प्रकाशनसदर बाजार, मथुरा उत्तरप्रदेश-281001

3 पुस्तक: व्याकरण प्रदिप – रामदेवप्रकाशक: हिन्दी भवन 36 टेगोर नगर इलाहाबाद-211024

4 पुस्तक: व्याकरण प्रदिप – रामदेवप्रकाशक: हिन्दी भवन 36 इलाहाबाद-211024

5 प्रकाशक: दक्षिण भारत प्रचार सभा चेनैई -17

Course Code	Course Name	Category	L	T	P	Credit
231TL1A1MA	MALAYALAM- I	LANGUAGE - I	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process
- the competency in translating simple Malayalam sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Apply creative ability	K3
CO5	Build the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	✓
CO2					✓
CO3		✓	✓		
CO4	✓			✓	
CO5		✓			✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

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COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

231TL1A1MA	MALAYALAM - I	SEMESTER I

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I	Novel	14 h

Pathummayude Adu

Unit II	Novel	10 h

Pathummayude Adu

Unit III	Short Story	14 h

Nalinakanthi

Unit IV	Short Story	10 h

Nalinakanthi

Unit V	Practical Application	12 h

Expansion of ideas, General Essay and Translation

Text Books

1. Vaikkam Muhammed Basheer, "Pathummayude Adu" (NOVEL), DC Books & Kottayam

2. T.Padmanabhan, "Nalinakanthi" (Short Story), DC Books & Kottayam.

References

1. Malayala Novel Sahithyam.

2. Malayala Cherukatha Innale Innu.

Course Code	Course Name	Category	L	T	P	Credit
231TL1A1FA	FRENCH - I	LANGUAGE - I	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the competence in general communication skills with oral, written and comprehension & expression
- the culture, life style and the civilization aspects of the French people as well as of France
- the students to acquire competency in translating simple French sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the Basic verbs, numbers and accents	K1
CO2	Apply the adjectives and the classroom environment in France	K2
CO3	Select the Plural, Articles and the Hobbies	K2
CO4	Measure the Cultural Activity in France	K3
CO5	Evaluate the sentiments, life style of the French people and the usage of the conditional tense	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓				✓
CO2					✓
CO3					
CO4	✓		✓		✓
CO5	✓		✓		

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231TL1A1FA	FRENCH - I	SEMESTER I

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I   **Salut I Page 10**   12 h

Objectifs de Communication	Tâche	Activités de réception et de production orale
• Saluer • Enter en contact • avec quelqu'un. • Se presenter. • S'excuser	En cours de cuisine, premiers contacts avec les members d'un groupe	• Comprendre des personnes qui se saluent. • Échanger pour entrer en contact, se présenter, saluer, s'excuser. • Communiquer avec *tu* ou *vous*. • Comprendre les consignes de classe • Ēpeler son nom et son prénom. Computer jusqu'à 10.

Unit II   **Enchanté I Page 20**   12 h

Objectifs de Communication	Tâche	Activités de réception et de production orale
• Demander de se presenter. • Présenter quelqu'un.	Dans la classe de français, se presenter et remplir une fiche pour le professeur.	• Comprendre les informations essentielles dans un échange en milieu professionnel. • Ēchanger pour se presenter et présenter quelqu'un.

Unit III   **J'adore I Page 30**   12 h

Objectifs de Communication	Tâche	Activités de réception et de production orale
• Exprimer ses gouts.	Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation	• Dans une soirée de recontres rapid comprendre des personnes qui échangent sur elles et sur leurs goût • Comprendre une personne qui parler des goûts de quelqu'un d'autre

Unit IV   J'adore I Page 30   14 h

Objectifs de Communication	Tâche	Activités de réception et de production orale
• Présenter quelqu'un	Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation	• Exprimer ses goûts • Comprendre une demande laissée sur un répondeur téléphonique. • Parler de ses projets de week-end
Autoévaluation du module I Page 40 – Préparation au DELF A1 page 42		
Demander à quelqu'un de faire quelque chose. Demander poliment. Parler d'actions passes. Tu veux bien?	Organiser un programme d'activités pour accueillir une personne importante	Comprendre une personne demande un service à quelqu'un. Demander à quelqu'un de faire quelque chose. Imaginer et raconter au passé à partir de situations dessinées.

Unit V   Practical Application   10 h

Make in Own Sentences

Text Book

1 Regine Merieux, Yves Loiseau. 2012. LATITUDES – 1: Méthode de français (Page No: 9-55) Les Editions Dider, Paris, Imprime en Roumanie par Canale en Janvier

Course Code	Course Name	Category	L	T	P	Credit
231EL1A1EA	ENGLISH - I	LANGUAGE- II	4	-	1	3

PREAMBLE

This course has been designed for students to learn and understand

- the effect of dialogue, imagery and varied genres
- any spontaneous spoken discourse and respond to them with proper sentence structure
- the transactional concept of English language

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Identify the various aspects in poetry	K2
CO2	Infer linguistic and non-linguistic features of the context for understanding and interpreting	K3
CO3	Construct sentences and convey messages effectively in real life situations	K3
CO4	Apply different reading strategies with varying speed	K3
CO5	Prepare modules with their own ideas and present them coherently in a grammatically correct form	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓	✓	✓
CO2		✓			✓
CO3	✓	✓		✓	
CO4			✓		
CO5	✓	✓			✓

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

Dr.NGPASC

COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

231EL1A1EA	ENGLISH- I	SEMESTER I

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I   Genre Studies   12 h

Nissim Ezekiel: The Worm- Author's Biography- title indications- outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques– Annotations

Niyi Osundare: Our Earth Will Not Die- Author's Biography- title indications- outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques– Annotations

A. G. Gardiner: On Superstitions- Author's biography- Narrative structure- Exploration of the text- passage analysis- insight of ideas- cohesion and context- style- language techniques- Annotation

Nancy Bella: Clever Thief- Author's Biography- Plot Summary- Detailed summary and Analysis- Themes- Important Quotations- Characters- Description - analysis- Terms- Symbols- Critical analysis

H. G. Wells: The Truth about Pyecraft- Author's Biography-narrative structure- passage analysis- insight of ideas- cohesion and context- style- language techniques

Unit II   Listening Skills   12 h

Listening vs. hearing- Types of listening, Tips to enhance Listening Skills, Non- verbal and Verbal signs of active listening - Comprehensive Listening - Listening to pre-recorded audios on speeches, interviews and conversations - Listening Activities- Listening and responding to complaints (formal situation), Listening to problems and offering solutions (informal)

Unit III   Speaking Skills   14 h

Formal occasions- Introducing oneself, Introducing others, Enquiries and Seeking permission, Making short presentations- Informal occasions- Requests, Offering help, Congratulating, Farewell party, graduation speech- Giving instructions to do a task and to use a device, Giving and asking directions

Unit IV   Reading Skills   10 h

Study Skills: Skimming and Scanning- Reading different kinds of texts- Types of reading-Developing a good reading speed, reading aloud, Referencing skill - Word

Power (Denotation and Connotation) - Reading comprehension, Data interpretation –Charts, Graphs, Advertisements

Unit V   Writing Skills   12 h

Sentence patterns, Note- making and note taking-Strategies - Paragraph writing: Structure and Principles - Academic Writing - Formal and Informal Letters, Report, Book /Movie Review

Text Books

1   Gardiner, A. G. 1926. Alpha of the Plough: Second series, J.M. Dent & Sons Ltd., London, United Kingdom. pg.no-151-156. (Unit I)

2   Ezekiel, Nissim. "The Worm," Crazy Romantic Love, www. mianmawaisarain.live/2020/05/poem-worm-nissim-ezekiel.html. Accessed 3 Aug. 2022. (Unit I)

3   < http://livros01.livrosgratis.com.br/ln000835.pdf /> (Unit I)

4   Mithra, S. M. 1919. Hindu Tales from the Sanskrit, Macmillan & Co Ltd., London, United Kingdom. pg.no-127-142. (Unit I)

5   Nation, I. S. P and Jonathan Newton. 2009. Teaching ESL/EFL Listening and Speaking. Routledge, New York, United States. (Unit II)

6   Prabha, Dr. R. Vithya & S. Nithya Devi. 2019. Sparkle. (1st Edn.) McGraw - Hill Education, Chennai, India. (Unit III– V)

References

1   Our Earth Will Not Die By Niyi Osundare." Studocu.Com, studocu.com /in/document/bangalore-university/bachelor-of-computer-applications /1586771577-our-earth-will-not-die/27675462. Accessed 3 Aug. 2022.

2   OnSuperstitions."THEHISTORIAN,thehistorian1947.wordpress.com/2019/0 3/08/on-superstitions-by-a-g-gardiner. Accessed 3 Aug. 2022.

3   Swales, John M. & Feak, Christine B. 2012. Academic Writing for Graduate Students: Essential Tasks and Skills, University of Michigan Press, Michigan, United States.

4   Rudzka, Brygida -Ostyn, 2003. Word Power: Phrasal Verbs and Compounds: A Cognitive Approach, Mouton de Gruyter, New York, United States.

Course Code	Course Name	Category	L	T	P	Credit
234AI1A1CA	PROBLEM SOLVING AND PROGRAMMING IN C	CORE	4	1	-	4

PREAMBLE

This course has been designed for students to learn and understand

* The fundamental aspects of programming and problem solving
* The C language fundamentals
* The representation and working of arrays, pointers, functions and files

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Illustrate the basic principles of programming and problem solving	K2
CO2	Understand the fundamentals of C Language	K2
CO3	Implement decision making using branching and looping.	K3
CO4	Develop programs using arrays and functions	K3
CO5	Execute programs using pointers, structures and files	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓		
CO2	✓		✓		
CO3	✓	✓	✓	✓	
CO4	✓	✓	✓	✓	
CO5	✓	✓	✓	✓	

COURSE FOCUSES ON

✓	Skill Development	☐	Entrepreneurial Development
✓	Employability	☐	Innovations
☐	Intellectual Property Rights	☐	Gender Sensitization
☐	Social Awareness/ Environment	☐	Constitutional Rights/ Human Values/ Ethics

234AI1A1CA	PROBLEM SOLVING AND PROGRAMMING IN C	SEMESTER I

Total Credits: 4

Total Instruction Hours: 60 h

Syllabus

Unit I   Introduction to Programming and Problem Solving   12 h

Introduction: Types of Programming Languages – High level Languages – Assembly Languages – Machine Level Languages – System Software – Operating Systems – Compiler – Linker and Interpreter. Problem Solving Strategies: Steps involved in problem solving - Algorithms - Flow Charts - Symbols used in Flow Charts - Pseudo Codes – Structured Programming - Sequence – Selection – Repetition – Modular Programming.

Unit II   C Language Fundamentals   12 h

Language Fundamentals: Introduction to C - Basic Structure of C Program – Constants – Variables – Data Types - Operators – Expressions – Evaluation of Expressions - Operator Precedence and Associativity - Managing the Input and Output – Formatted I/O – Unformatted I/O – Storage classes- Simple programs for logic building.

Unit III   Decision Making and Arrays   12 h

Branching: Simple if Statement – if-else statement – elseif Ladder – Switch statement – goto, break and continue statements. Looping: while loop – do-while loop -for loop- nested for loop – Pre-processor Directives: Macro substitution – File inclusion – Compiler control directives. Arrays: Introduction – Types of arrays – Declaration and Initialization of Arrays – Dynamic Arrays.

Unit IV   Strings, Functions and Pointers   12 h

Strings: Declaring and Initializing the string variables – String handling functions. Functions – Need for functions – Elements of functions – Category of functions – Passing arrays to functions - Recursion. Pointers: Understanding Pointers – Declaration and Initialization of pointer variables – Accessing variables through pointers – Pointers and arrays.

Unit V   Structures and Files   12 h

Structures: Defining a structure – Declaring structure variables – Accessing structure member – Array of structures - Structure within structures -Unions. Files: Defining and opening a File – Closing a file – I/O Operations on files - Dynamic memory allocation - Command Line Arguments.

Text Books

1. Ashok N. Kamthane, 2009, "Programming and Data Structures", 1st Edition, Pearson Education.

2. Byron Gottfried, 2018, "Schaum's Outline of Programming with C", 4th Edition, McGraw Hill Education.

References

1. E.Balagurusamy, 2017, "Programming in ANSI C", 7th Edition TMH.

2. H. Schildt, 2000,"C: The Complete Reference", 4th Edition, TMH.

3. ReemaThareja , 2015, "Programming in C", 2nd Edition, Oxford University Press.

4. Anita Goel, Ajay Mittal, 2016,"Computer Fundamentals and Programming in C", 1st Edition, Pearson.

235IT1A1CP	CORE PRACTICAL I : C PROGRAMMING	SEMESTER I

Total Credits: 2
Total Instructions Hours: 48 h

S.No	List of Experiments
1	Program using various Operators functions in C
2	Implement Decision making statements in C
3	Perform Iteration statements in C
4	Implement Array concept in C
5	Perform and User-defined functions
6	String Manipulations using Built-in functions
7	Demonstrate handling of pointers
8	Demonstrate string operations using pointers
9	Implement User-defined data types using Union
10	Implement Structure concept
11	Implement File operations
12	Implement Memory Management

Note: Out of 12 programs 10 mandatory

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Course Code	Course Name	Category	L	T	P	Credit
234IT1A1CA	DIGITAL COMPUTER FUNDAMENTALS	CORE	4	-	-	4

PREAMBLE

This course has been designed for students to learn and understand

- The concepts of number system and circuits
- The principles of logic gates and memory
- The design and architecture of microprocessors and microcontrollers

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the types of number systems, Boolean Algebra	K2
CO2	Understand and analyze Logic gates	K2
CO3	Illustrate the concepts of combinational circuits	K3
CO4	Understand the different types of sequential logic and memory organization	K2
CO5	Understand the architecture of microprocessors and microcontrollers	K2

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓		
CO2	✓		✓	✓	
CO3	✓	✓	✓	✓	
CO4	✓	✓	✓	✓	
CO5	✓	✓	✓	✓	

COURSE FOCUSES ON

✓ Skill Development	☐ Entrepreneurial Development
☐ Employability	☐ Innovations
☐ Intellectual Property Rights	☐ Gender Sensitization
☐ Social Awareness/ Environment	☐ Constitutional Rights/ Human Values/ Ethics

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234IT1A1CA	DIGITAL COMPUTER FUNDAMENTALS	SEMESTER I

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I   Binary Systems and Boolean Algebra   10 h

Binary Numbers- Number base conversions- Octal and Hexadecimal conversions- Complements- Binary codes - Decimal codes.

Basic Definitions-Boolean functions- Canonical standard forms: Minterms and Maxterms - Sum of Minterms-Product of Maxterms-conversion between canonical forms.

Unit II   Logic Gates and Boolean functions   8 h

Digital Logic Gates: AND, OR, Inverter, Buffer, NAND, NOT, Exclusive-OR, Exclusive-NOR.

The Map method-Two and three-variable Maps-Four variable Map - Five and Six-Variable Maps- Product of Sum simplification - Don't care conditions.

Unit III   Combinational Logic   10 h

Adders: Half-Adder, Full-Adder. Subtractors Half-Subtractor, Full-Subtractor. Multilevel NAND Circuits: Universal Gate. Multilevel NOR Circuits: Universal Gate. Binary Parallel Adder- Decimal Adder - BCD Adder. Decoders: Demultiplexers-Encoders - Multiplexer.

Unit IV   Sequential Logic & Memory Unit   10 h

Introduction- Flip-flops-Clocked RS Flip-flop - D Flip-flop - JK Flip-flop - Design of Counters- Registers -Ripple Counters.

The Memory Unit - Random Access Memories: Integrated-circuit Memory-Magnetic-core Memory.

Unit V   Introduction to Microprocessors and Microcontrollers   10 h

Introduction – Microprocessor- Microcomputer- Architecture of Microprocessors-History- Evolution- Microprocessor Applications- Evolution of Microcontrollers-Application of Microcontrollers. Architecture of 8085 Microprocessor- Pin diagram of 8085 Microprocessor.

Text Books

1 M.Morris Mano, 2019, "Digital Logic and Computer Design", Pearson India Education.

2 Soumitra Kumar Mandal, 2018, "Microprocessors and Microcontrollers – Architecture, Programming and Interfacing using 8085, 8086, 8051", 15th Edition, Tata Mc Graw Hill Education.

References

1 S. Salivahanan and S Arivazhagan, 2018, "Digital Circuits and Design", 5th Edition, Oxford University Press, Noida

2 Thomas Floyd L., 2015, "Digital Fundamentals", 11th Edition, Pearson Publication Ltd, New Delhi

3 M Morris Mano, 2016, " Digital Logic and Computer Design", 5th edition, Pearson

4 Aditya P Mathur, 2016, "Introduction to Microprocessor", 3rd Edition, McGraw Hill Education.

Course Code	Course Name	Category	L	T	P	Credit
232MT1A1IC	NUMERICAL METHODS AND STATISTICS	IDC	4	1	-	4

PREAMBLE

This course has been designed for students to learn and understand

- the method of solving linear system of equations
- the relation between two attributes and measure their efficiency
- the method of checking the validity of parameters through test statistic

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	recognize the direct and indirect methods for solving algebraic equations	K1
CO2	discuss the method of solving differential and integral problems	K2
CO3	define the parameters of central tendencies and dispersion.	K1
CO4	demonstrate the applications of correlation and regression	K2
CO5	analyze the validity of the values of parameters through hypothesis testing.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓	✓	✓
CO2	✓	✓	✓	✓	✓
CO3		✓	✓	✓	✓
CO4	✓		✓	✓	✓
CO5	✓	✓	✓	✓	✓

COURSE FOCUSES ON

✓ Skill Development		☐ Entrepreneurial Development
✓ Employability		☐ Innovations
☐ Intellectual Property Rights		☐ Gender Sensitization
☐ Social Awareness/ Environment		☐ Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

232MT1A1IC	NUMERICAL METHODS AND STATISTICS	SEMESTER I

Total Credits: 4

Total Instruction Hours: 60 h

Syllabus

Unit I	Solution of Algebraic, Transcendental and Linear systems of Equations	13 h

Introduction - Newton-Raphson method- direct methods -matrix inversion method - gaussian elimination method - Gauss Jordan method - iterative methods - Gauss Seidel method - Gauss Jacobi method

Unit II	Interpolation, Numerical Differentiation and Integration	12 h

Introduction - Finite difference - Newton's formula for forward and backward interpolation – Interpolation with unevenly spaced points: Lagrange's interpolation- Numerical differentiation - maximum and minimum values of a tabulated Function - Numerical integration - Trapezoidal rule - Simpson's 1/3 Rule - Simpson's 3/8 Rule.

Unit III	Classification, Measures of Central tendency and Dispersion	13 h

Frequency distribution - Characteristics of a good measure of central tendency - Mean - Arithmetic Mean - pooled mean - Geometric Mean - Harmonic Mean -Median - Mode.

Measures of Dispersion - purposes - properties -Range - Inter quartile range –Mean deviation - Variance - Standard Deviation - coefficient of variation.

Unit IV	Correlation and Regression	11 h

Scatter diagram - Least square method of fitting a regression line - properties - regression line of X on Y- Correlation methods - determination of correlation by graphical method - Correlation Coefficient - Correlation in grouped bivariate data - relationship between correlation coefficients and regression coefficient - Rank correlation.

Unit V	Test of Significance and Chi-square Test	11 h

Test of hypothesis for population variance -two types of error - level of significance - critical region - one and two tailed test - size and power of a test -randomized test - non- randomized test - degrees of freedom - student's t-test - test of equality of two population means - paired t- test

Chi-square Test: test of hypothesis for population variance - test of goodness of fit - test in one way classification - Contingency table - Test of independence of factors - Yate's correction.

Note: 20% Theory and 80% Problem

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Text Books

1. Sastry S.S., 2012, "Introductory methods of Numerical Analysis", Prentice-Hall of India, New Delhi (Unit I to II)

2. Agarwal B L, 2013, Basic Statistics, New age International (P) Limited publishers, New Delhi. (Unit III to V).

References

1. Gupta C.B. and Vijay Gupta, 2007,"Introduction to Statistical Methods", S.Chand & Co, New Delhi

2. Sanchetti D.C. Kapoor, V.K. 2010. Statistic, S.Chand & Co, New Delhi

3. Venkataraman M K, 2004,"Numerical Methods in Science and Engineering", 4th Edition, NPC.

4. Veerarajan T, Ramachandran T, 2004, "Theory and Problems in Numerical Methods With Programs in C and C++", 10th Edition, Tata Mc- Graw Hill Publishing Company Limited, New Delhi .

Course Code	Course Name	Category	L	T	P	Credit
233MB1A1AA	ENVIRONMENTAL STUDIES	AECC	2	-	-	2

PREAMBLE

This course has been designed for students to learn and understand

- Multi disciplinary aspects of Environmental studies
- Importance to conserve the Biodiversity
- Causes of Pollution and its control

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the importance of natural resources in order to conserve for the future.	K2
CO2	Infer on Natural resources and its conservation	K2
CO3	Apply the knowledge on Biodiversity and its conservation	K3
CO4	Relate effects, causes and control of air, water, soil and noise pollution etc.,	K2
CO5	Build awareness about sustainable development and Environmental protection	K2

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1					✓
CO2					✓
CO3					✓
CO4					✓
CO5					✓

✓	Skill Development		Entrepreneurial Development
✓✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

233MB1A1AA	ENVIRONMENTAL STUDIES	SEMESTER I

Total Credits: 2

Total Instruction Hours: 24 h

Syllabus

Unit I   Introduction to Environmental studies & Ecosystems   5 h

Introduction to Environmental studies& Ecosystems: Multidisciplinary nature of environmental studies; components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance; Concept of sustainability and sustainable development. Ecosystem- Structure and function of ecosystem; Energy flow in an ecosystem: food chain, food web and ecological succession.

Unit II   Natural Resources: Renewable and Non-renewable Resources   5 h

Natural Resources: Renewable and Non-renewable Resources: Land Resources and land use change; Land degradation, soil erosion and desertification. Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Water: Use and overexploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs.

Unit III   Biodiversity and Conservation   5 h

Biodiversity and Conservation: Levels of biological diversity: genetic, species and ecosystem diversity; Biogeography zones of India; Biodiversity patterns and global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Unit IV   Environmental Pollution, Environmental Policies & Practices   5 h

Environmental Pollution, Environmental Policies & Practices: Environmental pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution. Nuclear hazards and human health risks. Solid waste management: Control measures of urban and industrial waste. Pollution case studies. Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture. Environment Laws: Environment Protection Act; Prevention & Control of Pollution Act – Air & Water. Wildlife Protection Act; Forest Conservation Act;

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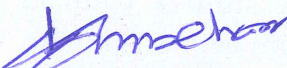**Unit V   Human Communities and the Environment& Field Work   4 h**

Human Communities and the Environment & Field Work: Human population and growth: Impacts on environment, human health and welfares. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. Environmental communication and public awareness. Visit to an area to document environmental assets; river/forest/flora/fauna, etc. Population explosion – Family Welfare Programmes. Role of Information Technology in Environment and human health. Role of the Colleges, Teachers and Students in village adoption towards clean, green and make in villages in various aspects.

Text Books

1   Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt.

2   Gadgil, M., & Guha, R.1993. This Fissured Land: An Ecological History of India. Univ. of California Press.

References

1   Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge

2   Gleick, P.H. 1993. Water in Crisis. Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute, Oxford Univ. Press

3   Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll. Principles of Conservation Biology. Sunderland: Sinauer Associates, 2006

4   Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. Science, 339: 36-37.

5   McCully, P.1996. Rivers no more: the environmental effects of dams (pp. 29-64). Zed Books

6   McNeil, John R. 2000. Something New Under the Sun: An Environmental History of the Twentieth Century

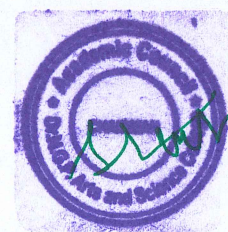7   Odum, E.P., Odum, h.T. & Andrews, J.1971. Fundamentals of Ecology. Philadelphia: Saunders.

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Course Code	Course Name	Category	L	T	P	Credit
231TL1A2TA	TAMIL- II	LANGUAGE- I	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடுநாகரீகம்,பகுத்தறிவு ஆகியவற்றை அறியச் செய்தல்
- கலை மற்றும் மரபுகளை அறியச் செய்தல்
- மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	வாழ்க்கைத்திறன்கள் (Life Skills) மாணவர்களின் செயலாக்கத்திறனை ஊக்குவித்தல்	K1
CO2	மதிப்புக்கல்வி (Attitude and Value education)	K2
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K2
CO4	சூழலியல் ஆக்கம் (Ecology)	K3
CO5	மொழி அறிவு (Tamil knowledge)	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓	✓		
CO2	✓			✓	
CO3	✓	✓			
CO4	✓		✓		
CO5	✓			✓	

COURSE FOCUSES ON

- ✓ Skill Development
- ✓ Employability
- ✓ Intellectual Property Rights
- ✓ Social Awareness/ Environment
- ✓ Entrepreneurial Development
- ✓ Innovations
- ✓ Gender Sensitization
- ✓ Constitutional Rights/ Human Values/ Ethics

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231TL1A2TA	TAMIL- II	SEMESTER II

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I   அற இலக்கியம்   13 h

1. இலக்கிய வரலாறு- பதினென்கீழ்க்கணக்குநூல்கள்

2.திருக்குறள்

அ. அறன்வலியுறுத்தல்- அ. எண் 04

ஆ. நட்பாராய்தல்   - அ. எண் 80

இ. நாடு- அ. எண் 74

ஈ. குறிப்பறிதல்- அ. எண் 110

Unit II   அற இலக்கியம்   13 h

1. நாலடியார்   - அறிவுடைமை
2. மூதுரை   - ஒளவையார் - 10 பாடல்கள் 6, 7, 9, 10, 14, 16, 17, 23, 26, 30
3. இனியவைநாற்பது- பூதஞ்சேந்தனார் - முதல் 10 பாடல்கள்

Unit III   அறநெறிக் கட்டுரைகள்   09 h

1. இலக்கியவரலாறு - தமிழ் உரைநடையின் தோற்றமும் வளர்ச்சியும்

2. கலைகள்-உ.வே.சா

3. சங்க நெறிகள்- வ.சுப.மாணிக்கம்

Unit IV   அறநெறிக் கட்டுரைகள்   15 h

1. வீர வணக்கம்   - க.கைலாசபதி
2. தமிழர் பண்பாடு - டாக்டர் சோ.நா.கந்தசாமி
3. இணையத் தமிழ் வளர்ச்சி - முனைவர் ப.அர.நக்கீரன்

Unit V   பயிற்சிப் பகுதி   10 h

1.இலக்கணம்-வழு, வழுவமைதி,வழாநிலை

2.அலுவலகம் சார்ந்த கடிதம் -விண்ணப்பங்கள், வேண்டுகோள்,முறையீடு

3.படைப்பாக்கம்-பொதுத்தலைப்பில் கட்டுரைகள் எழுதுதல்

Text Book

1   தமிழ் மொழிப்பாடம்-2023-2024,தொகுப்பு: தமிழ்த்துறை, டாக்டர் என்.ஜி.பி. கலை அறிவியல் கல்லூரி,கோயம்புத்தூர். வெளியீடு: நியூ செஞ்சுரி புக் ஹவுஸ்,சென்னை. (Unit I to V)

References

1   பேராசிரியர் புலவர் சோம. இளவரசு,எட்டாம் பதிப்பு. 2014. தமிழ் இலக்கிய வரலாறு- மணிவாசகர் பதிப்பகம்,சென்னை.

2   பேராசிரியர் முனைவர் பாக்கியமேரி,முதற் பதிப்பு. 2013. இலக்கணம்-இலக்கிய வரலாறு- மொழித்திறன்- பூவேந்தன் பதிப்பகம்,சென்னை. .

3   தமிழ் இணையக் கல்விக்கழகம் - TAMIL VIRTUAL ACADEMY. வலைதள முகவரி: https://www.tamilvu.org

Course Code	Course Name	Category	L	T	P	Credit
231TL1A2HA	HINDI - II	LANGUAGE- I	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature
- the techniques for expansion of ideas and translation process

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	✓
CO2	✓	✓			✓
CO3	✓		✓	✓	✓
CO4	✓		✓		✓
CO5	✓	✓	✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231TL1A2HA	HINDI – II	SEMESTER II

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I — 13 h

आधुनिकपद्य – शबरी(श्रीनरेशमेहता)

Unit II — 13 h

उपन्यास: सेवासदन-प्रेमचन्द

Unit III — 12 h

कहानी-किरीट- डा उषा पाठक / डा अचला पाण्डेय

पाठ 1.कफ़न, 3. चीफ़ की दावत

Unit IV — 12 h

पत्र लेखन: (औपचारिक या अनौपचारिक)

Unit V — 10 h

अनुवाद अभ्यास-III (केवल हिन्दी से अंग्रेजी में) (पाठ 1 to 10)

Text Books

1. प्रकाशक: लोकभारती प्रकाशन पहली मंजिल, दरबारी बिल्डिंग,महात्मा गाँधी मार्ग, इलाहाबाद. (Unit I)

2. प्रकाशक: सुमित्र प्रकाशन 204 लीला अपार्ट्मेंट्स, 15 हेस्टिंग्स रोड'अशोक नगर इलाहाबाद. (Unit II)

3. प्रकाशक: राधाकृष्ण प्रकाशन दिल्ली. (Unit III)

4. पुस्तक: व्याकरण प्रदिप – रामदेवप्रकाशक: हिन्दी भवन 36 इलाहाबाद. (Unit IV)

5. प्रकाशक: दक्षिण भारत प्रचार सभा चेनैई. (Unit V)

Course Code	Course Name	Category	L	T	P	Credit
231TL1A2MA	MALAYALAM- II	LANGUAGE - I	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process
- the competency in translating simple Malayalam sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	✓
CO2	✓				✓
CO3	✓	✓	✓		✓
CO4	✓		✓	✓	✓
CO5	✓	✓	✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231TL1A2MA	MALAYALAM- II	SEMESTER II

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I	**Novel**	12 h

Enmakaje: Chapter1- Chapter5

Unit II	**Novel**	10 h

Enmakaje: Chapter 6- Chapter 10

Unit III	**Novel**	12 h

Enmakaje: Chapter 11- Chapter 15

Unit IV	**Autobiography**	14 h

NeermathalamPoothaKalam: Chapter 1- Chapter 10

Unit V	**Autobiography**	12 h

NeermathalamPootha Kalam: Chapter 11- Chapter 20

Text Books

1. Ambika SuthanMangad, Enmakaje (Novel), DC Books Kottayam, Kerala, India. (Unit I to III)

2. Madhavikkutty, NeermathalamPootha Kalam (Autobiography), DC Books Kottayam, Kerala, India. (Unit IV & V)

References

1. MalayalaNovelSahithyam, DC Books Kottayam, Kerala, India.

2. MalayalaSahithyaCharithram, National Books Kottayam, Kerala, India.

Course Code	Course Name	Category	L	T	P	Credit
231TL1A2FA	FRENCH- II	LANGUAGE - I	4	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the Competence in General Communication Skills – Oral + Written- Comprehension & Expression
- the Culture, life style and the civilization aspects of the French people as well as of France
- the students to acquire Competency in translating simple French sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the Basic verbs, numbers and accents	K1
CO2	Apply the adjectives and the classroom environment in France	K2
CO3	Select the Plural, Articles and the Hobbies	K2
CO4	Measure the Cultural Activity in France	K3
CO5	Evaluate the sentiments, life style of the French people and the usage of the conditional tense	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓				✓
CO2	✓	✓			✓
CO3			✓	✓	✓
CO4	✓		✓		✓
CO5	✓	✓	✓	✓	✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

231TL1A2FA	FRENCH- II	SEMESTER II

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I   12 h

Proposer, accepter, refuserune invitation. Indiquer la date.	Organiser une soirée au cinéma avec des amis, par téléphone et par courriel.	Comprendreunemessage d'invitationsurunréponde urtéléphonique. Inviter quelqu'un accepter ourefuserl'invitation.

Unit II   12 h

Prendreet fixer un rendez-vous. Demander etindiquerl'heure.	Organiser une soirée au cinéma avec des amis, par téléphone et par courriel.	Comprendre des personnes qui fixentunrendez-vous par téléphonique. Prendreun rendez-vous par telephone

Unit III   12 h

Exprimer son point de vue positif et négatif. S'informersur le prix. S'informersur la quantitité. Exprimer la quantitité.	En groupes, choisir un cadeau pour un ami.	Exprimer son point de vuesur des idées de cadeau. Faire des achatsdans un magasin

Unit IV   14 h

Demander etindiquerune direction. Localiser (près de, en face de ….). Exprimerl'obligationl' Interdit.Conseiller.	Suivre un itinéraire à l'aided'indications par telephone et d'un plan. Par courrierélectronique, donner des informations et des conseils à un ami qui veut voyager.	Comprendre des indications de direction. Comprendre des indications de lieu. Comprendreune chanson. Comprendre de courts messages qui experiment l'obligationoul'interdictio n.

		Donner des conseils à des personnesdans des situations données.

Unit V

10 h

Make in Own Sentences

Text Book

1	Regine Merieux, Yves Loiseau, "LATITUDES - 1" (Page No: 56-101) (Methode de Français), Goyal Publisher & Distributors Pvt.Ltd., 86 UB Jawahar Nagar (Kamala Nagar), New Delhi-7 Les Editions Dider, Paris, 2008- Imprime en Roumanie par Canale en Janvier 2012. (Unit I to IV)

Course Code	Course Name	Category	L	T	P	Credit
231EL1A2EA	ENGLISH- II	LANGUAGE- II	4	-	1	3

PREAMBLE

This course has been designed for students to learn and understand

- the language for specific purposes through various literary manuscripts
- the process of communicative competencies in academics through authentic contexts
- the different formats of business correspondence with lucidity and accuracy via various media

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Identify and appreciate the eminent writers' works of various genres	K1
CO2	Infer and comprehend complex situational talks	K2
CO3	Relate formal and informal communicative contexts to speak fluently	K2
CO4	Construct the denotative and connotative meanings while reading specialized texts	K3
CO5	Develop the skill of writing through descriptions, narrations and essays	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓	✓	✓	
CO2		✓			✓
CO3		✓			✓
CO4	✓	✓	✓		✓
CO5			✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

| 231EL1A2EA | ENGLISH- II | SEMESTER II |

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I   Genre Studies   15 h

John Keats: To a Friend Who Sent Me Some Roses - Author's Note - title indications-outline-paraphrasing the poem- context of poem- form- poetic devices- techniques- Style
A. G. Gardiner: On Habits - Author's Note- Title indications- Outline -Passage Analysis - context of the Prose - Narrative techniques- Style
Sudha Murthy: The Enchanted Scorpions- Author's Note - title indications-Plot summary- Outline of the story -devices- Narrative techniques- Style
David Pinski: A Dollar- Author's Note- Title indications -Plot Summary- Critical Analysis-Themes- Character analysis - Terms- Symbols

Unit II   Listening Skills   10 h

Listening to Talks/Lectures by Specialists on selected subject-specific topics-Listening to Public Announcements- Listening to Instructions and Directions-Listening to Speeches- Listening to process/event descriptions to identify causes & effects

Unit III   Speaking Skills   11 h

Small Talk- Mini Presentations and Making Recommendations- Group Discussions, Debates, and Expressing opinions through Role play- Picture Description-Giving Instruction to Use a Product- Presenting a Product- Summarizing a Lecture-Narrating Personal Experiences/ Events- Interviewing a Celebrity- Scientific Lectures- Educational Videos- Debates- Different Viewpoints on an Issue

Unit IV   Reading Skills   12 h

Reading Biographies, Newspaper Reports, Technical Blogs- ReadingAdvertisements - Gadget Reviews- Newspaper Articles - Journal Reports – Reading Editorials & Blogs-Case Studies- Excerpts from Literary Texts

Unit V   Writing Skills   12 h

Inferring & Interpreting- Predicting Reorganizing Material- Summary Writing Based on the Reading Passages- Writing - Emails & Essay Writing (Descriptive or Narrative)-Grammar - Tenses- Question Types: Wh/ Yes or No/ and Tags

Text Books

| 1 | Keats, John. To a Friend Who Sent Me Some Roses. <https://www.Poets.org , 1820, poets.org/poem/ friend-who-sent-me-some-roses.html/> (Unit I) |

2   Gardiner, Alfred George. On Habits (n.d.). <Https://Www. Gutenberg. Org/ Files/47429/47429-H/47429-H.Html/> (Unit I)

3   Murthy, Sudha. The Enchanted Scorpions. (n.d.). <https://www. ssgopalganj.in/online/EBooks/CLASS%20VI/Grandma's%20Bag%20of%20 Stories%20by%20Sudha%20Murthy.pdf/> pp-34-39. (Unit I)

4   Pinski, David. A Dollar - a One-act Play.<www.one-act-plays.com/ comedies/dollar.html/> (Unit I)

5   Hart, Steve, Aravind R. Nair, Veena Bhambhani. 2016. Embark: English for Undergraduates. Cambridge University Press, New Delhi, India. (Unit II)

6   Lakshminarayan. 2012. A Course Book On Technical English. Scitech Publications Pvt. Ltd., New Delhi, India. (Unit III)

7   Raman, Meenakshi & Sangeeta Sharma. 2016. Technical Communication-Principles And Practice, Oxford University Press, New Delhi, India. (Unit IV)

8   Viswamohan, Aysha. 2017. English For Technical Communication (With CD), McGraw Hill (India) Private Limited, New Delhi, India. (Unit V)

References

1   Bajwa and Kaushik. 2010. Springboard to Success- Workbook for Developing English and Employability Skills. Orient Black Swan, Chennai, India.

2   Chellammal, V. 2003. Learning to Communicate. Allied Publishing House, New Delhi, India

3   Krishnaswamy. N, LalithaKrishnaswamy& B.S. Valke. 2015. Eco English, Learning English through Environment Issues. An Integrated, Interactive Anthology. Bloomsbury Publications, New Delhi, India.

4   Syamala. V. 2002. Effective English Communication for You. Emerald Publishers, Chennai, Tamil Nadu, India.

Course Code	Course Name	Category	L	T	P	Credit
234CA1A2CA	DATA STRUCTURES	CORE	4	1	-	4

PREAMBLE

This course has been designed for students to learn and understand

* Fundamental concept of data structure with effective utilization of space and time

* Linear and nonlinear data structures

* Different Searching, Sorting and Hashing techniques

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the fundamentals of data structures and algorithmic complexity	K2
CO2	Demonstrate the operations of Stack and Queue and their applications	K2
CO3	Implement operations on linked list and its variants	K3
CO4	Apply non linear data structures such as trees and graphs in problem solving	K3
CO5	Analyze the various sorting, searching algorithms and hashing techniques	K4

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓				✓
CO2	✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓

COURSE FOCUSES ON

✓	Skill Development	☐	Entrepreneurial Development
✓	Employability	☐	Innovations
☐	Intellectual Property Rights	☐	Gender Sensitization
☐	Social Awareness/ Environment	☐	Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

234CA1A2CA	DATA STRUCTURES	SEMESTER II

Total Credits: 4

Total Instruction Hours: 60 h

Syllabus

Unit I   Introduction to Data Structures and Arrays   10 h

Introduction: Basic Terminology -Classification of Data Structures -Operations on Data Structures-Abstract Data Type-Algorithms-Time and Space Complexity -Big O Notation-Omega Notation (Ω) -Theta Notation (Φ). Arrays: Declaration of Arrays-Accessing the elements of an array-Storing values in Arrays-Operations on Arrays. Applications of Arrays: Sparse Matrices

Unit II   Stacks and Queues   12 h

Stacks: Array Representation of Stacks- Operations on a Stack-Linked Representation of Stacks. Applications of Stacks: Evaluation of Arithmetic Expressions –Recursion. Queues: Array Representation of Queues - Operations on Queues -Linked Representation of Queues - Circular Queues. Applications of Queues: JOB Scheduling

Unit III   Linked Lists   12 h

Singly Linked Lists: Inserting a node in a Linked List- Deleting a node from a Linked List. Circular Linked Lists: Inserting a node in a Circular Linked List - Deleting a node from a Circular Linked List. Doubly Linked Lists: Inserting a node in a Doubly Linked List - Deleting a node from a Doubly Linked List. Applications of Linked Lists: Polynomial Addition

Unit IV   Trees and Graphs   14 h

Trees: Binary Trees – Representation of Binary Trees -Creating a Binary Tree - Traversing a Binary Tree- Binary Search Trees and its Operations - Threaded Binary Trees. Applications of Trees: Expression Trees. Graphs: Graph Terminology - Representation of Graphs - Graph Traversal Algorithms.Applications of Graphs: Shortest Path Algorithm : Dijkstra's Algorithm. Minimum Spanning Trees : Prim's Algorithm

Unit V   Searching , Sorting and Hashing   12 h

Searching: Linear search –Binary Search. Sorting: Bubble Sort - Insertion Sort - Selection Sort – Quick Sort-Merge Sort -Heap Sort. Hashing and Collision: Hash Tables - Hash Functions - Collision. Applications of Hashing: Keyword Table in a Compiler.

Text Books

1   Reema Thareja, 2018, "Data Structures using C", Second Edition, Oxford University Press.

2   G A V Pai, 2017, "Data Structures and Algorithms: Concepts - Techniques and Applications", McGraw Hill Education.

References

1   Mark Allen Weiss, 2014, "Data Structures and Algorithm Analysis in C++", Third Edition , Pearson education.

2   Yashavant Kanetker,   2003, "Data Structure Through C++ Paperback" ,4th Edition, BPB Publications.

3   Lipchitz (Schaum's Outline Series), 2010,"Data Structures with C", McGraw Hill Education.

4   https://www.tutorialspoint.com/data_structures_algorithms/index.htm

Course Code	Course Name	Category	L	T	P	Credit
234CS1A2CA	OBJECT ORIENTED PROGRAMMING WITH C++	CORE	4	-	-	4

PREAMBLE

This course has been designed for students to learn and understand

- The object orientedprogramming principles.
- The structure and features of C++.
- The design and implementation of OOPs concepts using C++.

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Describe the concepts of object oriented programming and basic constructs of C++ programming	K1
CO2	Design simple applications using classes and objects	K2
CO3	Illustrate the concept of Inheritance and apply pointers and strings	K3
CO4	Apply polymorphism and exception handling in program design	K3
CO5	Implement programs using File Management and STL	K4

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓		✓	✓
CO2	✓	✓	✓		
CO3	✓	✓	✓		
CO4	✓	✓	✓	✓	
CO5	✓	✓	✓		

COURSE FOCUSES ON

✓	Skill Development	☐	Entrepreneurial Development
✓	Employability	☐	Innovations
☐	Intellectual Property Rights	☐	Gender Sensitization
☐	Social Awareness/ Environment	☐	Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

234CS1A2CA	OBJECT ORIENTED PROGRAMMING WITH C++	SEMESTER II

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I   Introduction to Object Oriented Programming   8 h

Introduction - Programming Paradigms - Key concepts of Object-Oriented Programming – Applications of Object-Oriented Programming - Variable, Value and Constant - Components of a C++ Program - Data Types - Expressions - Type Conversion - Order of Evaluation - Formatting Data: Manipulators in Input/Output-Branching and Looping.

Unit II   Classes and Arrays   10 h

User-Defined Types: Classes-Class Definition-Member function- Access Modifiers-Inline function- Constructors and Destructors- Instance Members: Instance Data Members-Instance Member Functions -Static Members - Arrays: One-Dimensional Arrays - Multidimensional Arrays. Case Study: Wave Array

Unit III   Pointers, Strings and Inheritance   10 h

References - Pointers - Pointer Types and Pointer variables - Constant Modifiers – Pointer to Pointer- Arrays and Pointers - Strings: C ++ String Class -C++ String Library – Inheritance: Private, Public and Protected Inheritance - Association - Dependency

Unit IV   Polymorphism and Exception Handling   10 h

Polymorphism- Binding- Abstract Class : Pure Virtual Functions - Multiple Inheritance - Overloading Principles - Overloading as Member- Nonmember: Friend function-Exception Handling : Approach- Exceptions in Classes - Standard Exception Classes – Templates: Function Template - Class Template.

Unit V   File Handling and Standard Template Library   10 h

Input and Output stream – Stream Classes - Console Streams - Console Objects - Stream State - File Streams - File I/O - Opening Modes - Sequential Vs Random Access - String Streams - Formatting Data: Direct use of Flags, Fields and Variables - Predefined Manipulators-Standard Template Library: Iterators, Sequence Containers, Container Adapters.

Text Books

1. Ashok Kamthane, 2017, "Object-Oriented Programming with ANSI and Turbo C++ 3rd Edition", Pearson (Unit 1.1 to 1.3).

2. Behrouz A. Forouzan, Richard F. Gilberg, 2020, "C++ Programming: An Object-Oriented Approach", McGraw-Hill Education (Unit I to V).

References

1. Bjarne Stroustrup, 2022, "C++ Programming Language, Fourth Edition" Pearson.

2. E Balagurusamy, 2020, "Object-Oriented Programming with C++, 8th Edition", McGraw Hill Education

3. M. Ashwin, V. Sreeprada, M. Santhosh, 2022, "A Hand Book on C++ Programming", Notion Press

4. YashavantKanetkar, 2020, "Let Us C++", BPB Publications.

5. https://www.codecademy.com/

6. https://www.simplilearn.com/

234IT1A2CP	CORE PRACTICAL: DATA STRUCTURES AND C++	SEMESTER II

Total Credits: 2
Total Instructions Hours: 48 h

S.No	List of Experiments
1	Implement class and objects
2	Implement the concept of polymorphism
3	Demonstrate inheritance
4	Implement File operations
5	Implement the concept of Exception Handling
6	Demonstrate Virtual Functions
7	Implement Stack Concept
8	Implement Queue Concept
9	Implement Sorting
10	Implement Binary Searching
11	Implement Traversal Algorithm
12	Implement a Linked List

Note: Out of 12 programs 10 mandatory

Course Code	Course Name	Category	L	T	P	Credit
232MT1A2IC	DISCRETE MATHEMATICS	IDC	4	1	-	4

PREAMBLE

This course has been designed for students to learn and understand

- the logical operators and applications
- the concept of relation and functions.
- the application of graph theory, trees and automata.

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the concept of set theory	K1
CO2	Interpret the various optimization problems in term of relations and functions	K3
CO3	Identify applications of logical operators	K2
CO4	Determine the concept of graph theory and trees	K2
CO5	Apply the concept Finite state automation in defining the grammars.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1					
CO2					
CO3					
CO4					
CO5					

COURSE FOCUSES ON

✓	Skill Development	☐	Entrepreneurial Development
✓	Employability	☐	Innovations
☐	Intellectual Property Rights	☐	Gender Sensitization
☐	Social Awareness/ Environment	☐	Constitutional Rights/ Human Values/ Ethics

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COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

232MT1A2IC	DISCRETE MATHEMATICS	SEMESTER II

Total Credits: 4

Total Instruction Hours: 60 h

Syllabus

Unit I   Set Theory   10 h

Introduction - set and its elements - set description - types - Venn-Euler Diagrams - set operations and laws of set theory - fundamental products - index and indexed sets - partitions of sets - minsets - countable and uncountable sets - Algebra of sets and duality - computer representation - the inclusion and exclusion principle- Fuzzy sets

Unit II   Relations and Functions   12 h

Relations: Introduction - cartesian product of sets - binary relations – set operations on relations - types– partial order relations – equivalence relation and classes- Functions: Introduction - types – invertible functions - composition of functions.

Unit III   Mathematical Logic   10 h

Introduction - propositional calculus – basic logical operations - statements generated by a set - conditional statements -converse, inverse and contrapositive statements - biconditional - tautologies - contradiction - contingency - argument - methods of proof - equivalence and implication - predicate calculus-quantifiers

Unit IV   Graph Theory and Trees   14 h

Introduction - paths, cycles and connectivity - subgraphs - types - isomorphic and homeomorphic graphs - representation of graphs in computer memory- Eulerian and Hamiltonian graphs-cartesian product- shortest path.

Trees: Introduction - binary trees - complete binary tree - tree of an Algebraic expression - traversing binary trees.

Unit V   Language, Grammar and Automata   14 h

Introduction - language: the set theory of strings - languages – regular expressions and regular languages – grammar – finite state machine – finite state automata.

Note: 20% Theory and 80% Problem

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Text Books

1   Sharma J.K., 2022 "Discrete Mathematics", 4th Edition, Trinity Press, New Delhi.

References

1   Tremblay J.P. and ManoharR, 1997,"Discrete Mathematics Structures withApplications to computer science", 2nd Edition,McGraw Hill International, New York

2   VenkataramanM.K. SridharanN. and Chandarasekaran N, 2000,"Discrete Mathematics", The National publishing Company, Chennai.

3   KolmanB,Busby R.C.andRoss S.C,2006,"Discrete Mathematical Structures",5th Edition., Prentice hall of India Pvt. Ltd., New Delhi

4   Kenneth H Rosen, 1999, "Discrete Mathematics and its Applications",4th Edition, McGraw-Hill Professional, New Delhi.

231TL1A2AA	PART- IV: BASIC TAMIL	SEMESTER II

Total Credits: 2

Total Instruction Hours: 24 h

இளங்கலை 2023–24ஆம் கல்வியாண்டு முதல் சேர்வோர்க்குரியது

(10 மற்றும் 12– ஆம் வகுப்பு வரை தமிழ் மொழிப்பாடம் பயிலாதவர்களுக்கு)

(பருவத் தேர்வு இல்லை)
Syllabus

Unit I   தமிழ் மொழியின் அடிப்படைக் கூறுகள்   05 h

எழுத்துகள் அறிமுகம்

1. உயிர் எழுத்துக்கள் - குறில் , நெடில் எழுத்துகள்

2. மெய் எழுத்துக்கள் - வல்லினம், மெல்லினம், இடையினம்

3. உயிர்மெய் எழுத்துக்கள்

4. பயிற்சி

Unit II   சொற்களின் அறிமுகம்   05 h

1.பெயர்ச்சொல்

2.வினைச்சொல் – விளக்கம் (எ.கா.)

3.பயிற்சி

Unit III   குறிப்பு எழுதுதல்   05 h

1. பெயர், முகவரி, பாடப்பிரிவு , கல்லூரியின் முகவரி

2. தமிழ் மாதங்கள்(12), வாரநாட்கள்(7)

3. எண்கள் (ஒன்று முதல் பத்து வரை), வடிவங்கள், வண்ணங்கள்

Unit IV   குறிப்பு எழுதுதல்   05 h

1. ஊர்வன, பறப்பன, விலங்குகள்

2.மனிதர்களின் உறவுப்பெயர்கள்

3. ஊர்களின்பெயர்கள் (எண்ணிக்கை 10)

Unit V   பயிற்சிப் பகுதி   04 h

பயிற்சிப் பகுதி (உரையாடும் இடங்கள்)

வகுப்பறை, பேருந்து நிலையம், சந்தை– பேசுதல்,எழுதுதல்.

Notes:

அகமதிப்பீட்டுத்தேர்வு – வினாத்தாள் அமைப்புமுறை- மொத்த மதிப்பெண்கள் - 50

	பகுதி –அ
சரியான விடையைத் தேர்வு செய்தல் 10	x2=20
	பகுதி –ஆ
சரியா? தவறா?	10x2=20
	பகுதி – இ
ஒரு பக்க அளவில் விடையளிக்க	1x10=10

குறிப்பு:

- அனைத்து அலகுகளில் இருந்தும் வினாக்கள் அமைதல் வேண்டும்
- பகுதி இ–க்கான வினாக்கள் இதுஅல்லது அதுஎன்ற அடிப்படையில் அமைதல் வேண்டும்

Text Book

1 அடிப்படைத் தமிழ் - 2023-2024,தொகுப்பு: தமிழ்த்துறை, டாக்டர் என்.ஜி.பி கலை அறிவியல் கல்லூரி,கோயம்புத்தூர்.வெளியீடு: நியூ செஞ்சுரி புக் ஹவுஸ்,சென்னை. (Unit I to IV)

References

1 ஒன்றாம் வகுப்பு பாடநூல் - தமிழ்நாடு அரசு பாடநூல் கழகம்,சென்னை.

2 தமிழ் இணையக் கல்விக்கழகம் - TAMIL VIRTUAL ACADEMY வலைதள முகவரி: <https://www.tamilvu.org/>

231TL1A2AB	PART- IV: ADVANCED TAMIL	SEMESTER II

Total Credits: 2

Total Instruction Hours: 24 h

இளங்கலை 2023– 2024 ஆம் கல்வியாண்டு முதல் சேர்வோர்க்குரியது

(10 மற்றும் 12– ஆம் வகுப்புகளில் தமிழ் மொழிப்பாடம் பயின்றவர்களுக்கு உரியது)

(பருவத் தேர்வு இல்லை)

Syllabus

Unit I	கவிதைகள்	06 h

1. தமிழ்நாடு - பாரதியார்

2.மனதில் உறுதி வேண்டும் - பாரதியார்

3. இன்பத்தமிழ் - பாரதிதாசன்

4.வேலைகளல்லவேள்விகள் - தாராபாரதி

5.தமிழா! நீ பேசுவது தமிழா! - காசியானந்தன்

6. நட்புக் காலம்(10 கவிதைகள்)- அறிவுமதி கவிதைகள்

Unit II	கட்டுரை	05 h

கட்டுரைத் தொகுப்பு -நல்வாழ்வு - டாக்டர் மு.வரதராசன்

1. நம்பிக்கை

2. புலனடக்கம்

3. பண்பாடு

Unit III	இலக்கணம்	04 h

1.வல்லினம் மிகும் மற்றும் மிகா இடங்கள்

2. ர,ற,ல,ழ,ள,ந,ண,ன – வேறுபாடு அறிதல்

Unit IV	கடிதங்கள்	05 h

1. பாராட்டுக் கடிதம்

2. நன்றிக் கடிதம்

3. அழைப்புக் கடிதம்

4. அலுவலக விண்ணப்பங்கள்

Unit V	பயிற்சிப் பகுதி	04 h

படைப்பாக்கப் பகுதி

பொதுத் தலைப்புகளில் கவிதை,கட்டுரை எழுதச்செய்தல்

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COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Notes

அக மதிப்பீட்டுத் தேர்வு - வினாத்தாள் அமைப்பு முறை- மொத்த மதிப்பெண்கள் 50

		பகுதி –அ
சரியான விடையைத் தேர்வு செய்தல்	10	x1=10
		பகுதி –ஆ
கோடிட்ட இடங்களை நிரப்புக.		10x2=20
		பகுதி –இ
இரண்டு பக்க அளவில் விடையளிக்க		2x10=20

குறிப்பு:

- அனைத்து அலகுகளில் இருந்தும் வினாக்கள் அமைதல் வேண்டும்
- பகுதி இ–க்கான வினாக்கள் இதுஅல்லது அதுஎன்ற அடிப்படையில் அமைதல் வேண்டும்

Text Book

1. சிறப்புத் தமிழ் - 2023-2024, தொகுப்பு: தமிழ்த்துறை , டாக்டர் என்.ஜி.பி. கலை அறிவியல் கல்லூரி, கோயம்புத்தூர். வெளியீடு: நியூ செஞ்சுரி புக் ஹவுஸ், சென்னை. (Unit- I to IV)

References

1. பேராசிரியர் புலவர் சோம. இளவரசு ,எட்டாம் பதிப்பு. 2014 . தமிழ் இலக்கிய வரலாறு – மணிவாசகர் பதிப்பகம்,சென்னை.

2. டாக்டர் மு.வரதராசன். 2010. நல்வாழ்வு, பாரி நிலையம், சென்னை.

3. பேராசிரியர் முனைவர் பாக்கியமேரி ,முதற் பதிப்பு.2013. இலக்கணம் - இலக்கிய வரலாறு - மொழித்திறன்- பூவேந்தன் பதிப்பகம், சென்னை..

4. தமிழ் இணையக் கல்விக்கழகம் - TAMIL VIRTUAL ACADEMY. வலைதள முகவரி : <https://www.tamilvu.org/ >

Course Code	Course Name	Category	L	T	P	Credit
235CR1A2AA	HUMAN RIGHTS AND WOMEN'S RIGHTS	AECC	2	-	-	2

PREAMBLE

This course has been designed for students to learn and understand

- Concepts of Human Rights.
- Human Right Violations and Redressal Mechanism.
- Rights to Women and Child.

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the basic concepts of Human Rights.	K1
CO2	Describe the Fundamental Rights.	K2
CO3	Relate Human Right Violations and Redressal Mechanism.	K3
CO4	State the Rights to Women and Child.	K2
CO5	Apply Civil and Political Rights of Women.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓		✓	✓
CO2		✓	✓	✓	✓
CO3				✓	✓
CO4		✓		✓	✓
CO5	✓	✓	✓	✓	✓

☐	Skill Development	☐	Entrepreneurial Development
☐	Employability	☐	Innovations
☐	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

| 235CR1A2AA | HUMAN RIGHTS AND WOMEN'S RIGHTS | SEMESTER II |

Total Credits: 2

Total Instruction Hours: 24 h

Syllabus

Unit I   Introduction to Human Rights   04 h

Meaning - Definition - Nature - Content - Legitimacy of Human Rights - Origin and Development of Human Rights - Theories - Principles of Magna Carta - Modern Movements of Human Rights - The Future of Human Rights. Case studies related to human rights.

Unit II   Human Rights in India   05 h

The Constitution of India: Fundamental Rights - Right to Life and Liberty - Directive Principles of State Policy - Fundamental Duties - Individual and Group Rights - Other facets of Human Rights - Measures for Protection of Human Rights in India.

Unit III   Human Right Violations and Redressal Mechanism   05 h

Human Rights: Infringement of Human Right by State Machinery and by Individual - Remedies for State action and inaction - Constitutional Remedies - Public Interest Litigation (PIL) - Protection of Human Rights Act, 1993 - National Human Rights Commission - State Human Rights Commissions - Constitution of Human Right Courts.

Unit IV   Rights to Women and Child   05 h

Matrimonial protection - Protection against dowry - Protection to pregnancy - Sexual offences - Law relating to work Place - Directive principles of Constitution (Article 39 a, d, e & Article 42, 43 & 46) - Trafficking of women - Constitutional Rights - Personal Laws - Protection of children against Sexual Offences Act, 2012 (POCSO).Case studies related toSexual offences.

Unit V   Civil and Political Rights of Women   05 h

Right of Inheritance - Right to live with decency and dignity - The Married women's Property Act, 1874 - Women's right to property - Women Reservation Bill - National Commission for Women - Political participation -Pre-independent political participation of women - Participation of Women in post independent period. Kavalan App.Case studies related to women rights.
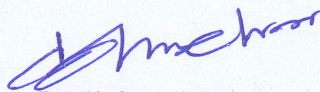
Text Books

1. Lalit Parmar, 1998, "Human Rights", Anmol Publications Pvt. Limited, New Delhi.

2. Krishna Pal Malik, 2009, "Women & Law ", Allahabad Law University, New Delhi.

References

1. Mandagadde Rama Jois, 2015, "Human Rights", Bharatiya Values, Bharatiya Vidya Bhavan Publications, Mumbai.

2. Paras Diwan and Piyush Diwan, 1994, "Women and Legal Protection", South Asia Books, Andhra Pradesh.

3. Venkataram and Sandhiya. N, 2001, "Research in Value Education", APH Publishing Corporation, New Delhi.

4. Anand A S, 2008, "Justice for Women: Concerns and Expressions", Universal Law Publishing Co., New Delhi.

BoS Chairman/HOD
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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

Course Code	Course Name	Category	L	T	P	Credit
231TL1A3TA	**TAMIL- III**	**LANGUAGE- I**	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடுநாகரீகம்,பகுத்தறிவு ஆகியவற்றை அறியச் செய்தல்

- கலை மற்றும் மரபுகளை அறியச் செய்தல்

- மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	வாழ்க்கைத்திறன்கள் (Life Skills)- மாணவர்களின் செயலாக்கத்திறனை ஊக்குவித்தல்	K1
CO2	மதிப்புக்கல்வி (Attitude and Value education)	K2
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K2
CO4	சூழலியல் ஆக்கம் (Ecology)	K3
CO5	மொழி அறிவு(Tamil knowledge)	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓	✓		
CO2				✓	
CO3		✓			
CO4	✓		✓		
CO5	✓			✓	

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

| 231TL1A3TA | **TAMIL- III** | **SEMESTER III** |

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   காப்பியங்கள்   10 h

1.சிலப்பதிகாரம் –வழக்குரை காதை

2. மணிமேகலை–ஆதிரை பிச்சையிட்ட காதை

Unit II   காப்பியங்கள்   10 h

1. கம்பராமாயணம் -கும்பகர்ணன் வதைப்படலம்: பா. எண் : 60 முதல் – 100 வரை

2. பெரிய புராணம் - அதிபத்த நாயனார்புராணம்

Unit III   சிற்றிலக்கியங்கள்   10 h

1.திருக்குற்றாலக்குறவஞ்சி - வசந்தவல்லி பந்தாடிய சிறப்பு   (6: 4கண்ணிகள்)

2.கலிங்கத்துப்பரணி-களம்பாடியது: போர்க்களக் காட்சி- பா.எண்: 472 முதல்- 502 வரை

Unit IV   இலக்கிய வரலாறு   10 h

1.காப்பியம் – வரையறை,ஐம்பெருங் காப்பியங்கள்,ஐஞ்சிறு காப்பியங்கள்

2.கம்பராமாயணம், பெரிய புராணம் – குறிப்பு

3. சிற்றிலக்கியங்களின் தோற்றமும் வளர்ச்சியும்

Unit V   இலக்கணம் &பயிற்சிப் பகுதி   08 h

அ. இலக்கணம்

1.'பா' வகைகள் : வெண்பா, ஆசிரியப்பா, கலிப்பா, வஞ்சிப்பா - பொது இலக்கணம் மட்டும்.

2. அணி: உவமையணி, உருவக அணி, இல்பொருள் உவமையணி விளக்கம், உதாரணம்.

ஆ. பயிற்சிப் பகுதி

Dr.NGPASC

COIMBATORE | INDIA

B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

1.வாசகர் கடிதம்: நாளிதழ், வானொலி, செய்தி ஊடகங்களுக்கு விமர்சனம் எழுதுதல்

2.திரைக்கதை விமர்சனம்: மத்திய மற்றும் மாநில அரசு விருது பெற்ற தமிழ்த் திரைப்படங்கள் மட்டும்

Text Book

1
தமிழ் மொழிப்பாடம்-2023 -2024 ,தொகுப்பு: தமிழ்த்துறை, டாக்டர் என்.ஜி.பி. கலை அறிவியல் கல்லூரி,கோயம்புத்தூர். வெளியீடு: நியூ செஞ்சுரி புக் ஹவுஸ்,சென்னை. (Unit I to V)

References

1
பேராசிரியர் புலவர் சோம. இளவரசு,எட்டாம் பதிப்பு-2014,தமிழ் இலக்கிய வரலாறு- மணிவாசகர் பதிப்பகம்,சென்னை.

2
பேராசிரியர் முனைவர் பாக்கியமேரி,முதற் பதிப்பு- 2013,இலக்கணம்- இலக்கிய வரலாறு- மொழித்திறன்- பூவேந்தன் பதிப்பகம்,சென்னை. .

3
தமிழ் இணையக் கல்விக்கழகம் - TAMIL VIRTUAL ACADEMY. வலைதள முகவரி: https://www.tamilvu.org

Course Code	Course Name	Category	L	T	P	Credit
231TL1A3HA	**HINDI- III**	**LANGUAGE- I**	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill

- the various concepts and techniques for criticizing literature

- the techniques for expansion of ideas and translation process

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	✓
CO2		✓			✓
CO3	✓		✓	✓	
CO4					✓
CO5	✓	✓	✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231TL1A3HA	HINDI– III	SEMESTER III

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   10 h

पद्य – काव्य पराशर (भोलानाथ)

 (प्राचीन- कबीर, तुलसी, सुर, मीरा, आधुनिक- मैथिलीशरण गुप्त, अरूण कमल)

Unit II   10 h

हिन्दी साहित्य का इतिहास: (साधारण ज्ञान)

Unit III   10 h

अलंकार:अनुप्रास,यमक, श्लेष, वक्रोक्ति, उपमा,रूपक

Unit IV   10 h

संवादलेखन

Unit V   08 h

अनुवादअभ्यास-III (केवलहिन्दीसेअंग्रेजीमें)

(पाठ10 to 20)

Text Books

1   प्रकाशक: जवाहर पुस्तकालय सदर बाजार, मथुराउत्तर प्रदेश-281001(Unit I)

2   आचार्य रामचन्द्र शुक्ललोकभारती प्रकाशन इलाहाबाद. (Unit II)

3   प्रकाशक: विनोद पुस्तक मंदिरआगरा-282002 (Unit III)

4   पुस्तक: व्याकरणप्रदिप–रामदेवप्रकाशक: हिन्दीभवन36 इलाहाबाद-211024(Unit IV)

5   प्रकाशक: दक्षिण भारत प्रचार सभा चेनैई -17(Unit V)

Course Code	Course Name	Category	L	T	P	Credit
231TL1A3MA	**MALAYALAM- III**	**LANGUAGE**-I	**3**	**1**	**-**	**3**

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process
- the competency in translating simple Malayalam sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	
CO2	✓				✓
CO3		✓	✓		
CO4	✓			✓	✓
CO5	✓	✓	✓		✓

COURSE FOCUS ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

231TL1A3MA	MALAYALAM- III	SEMESTER III

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   Poetry   10 h

Kumaranasan

Unit II   Poetry   10 h

Kumaranasan

Unit III   Poetry   10 h

Kumaranasan

Unit IV   Poetry   10 h

VayalarRamavarma

Unit V   Poetry   08 h

VayalarRamavarma

Text Books

1. Kumaranasan. 1998. Chinthavishtayaya Sitha. DC Books Kottayam, Kerala, India.(Unit I to III)

2 Ayisha (Poem), National Book Stall Kottayam, Kerala, India. (Unit IV & V)

Reference

1. Dr.M.Leelavathy.Kavitha Sahithya Charithram. Sahithya Academy Thrissur, Kerala, India.

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Course Code	Course Name	Category	L	T	P	Credit
231TL1A3FA	FRENCH- III	LANGUAGE- I	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the Competence in General Communication Skills – Oral + Written- Comprehension & Expression
- the Culture, life style and the civilization aspects of the French people as well as of France
- the students to acquire Competency in translating simple French sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the Basic verbs, numbers and accents	K1
CO2	Apply the adjectives and the classroom environment in France	K2
CO3	Select the Plural, Articles and the Hobbies	K2
CO4	Measure the Cultural Activity in France	K3
CO5	Evaluate the sentiments, life style of the French people and the usage of the conditional tense	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓				✓
CO2	✓	✓			
CO3			✓	✓	
CO4	✓	✓			✓
CO5	✓		✓	✓	✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231TL1A3FA	FRENCH- III	SEMESTER III

Total Credits: 3
Total Instruction Hours: 48 h

Syllabus

Unit I   10 h

° Décrireun lieu. ° Situer	A partird'unerecherche de documents, composer une presentation touristique pour un magazine ou un site internet.	Comprehendre la description d'un lieu. Décrireunevilleouunerégionqu'onaime. Interrogersur la situation of d'un lieu. Comprendre des indications sur la fréquenced'actions.	Comprendreune presentation de catalogue touristique. Comprendre des pictogrammes. Comprendre la description d'un lieu et d'une situation precise dans un message électronique.

Unit II   10 h

Se situerdans le temps.	A partird'unerecherche de documents, composer une presentation touristique pour un magazine ou un site internet.	Comprehendre la description d'un lieu. Décrireunevilleouunerégionqu'onaime. Interrogersur la situation of d'un lieu. Comprendre des indications sur la fréquenced'actions.	Comprendreune presentation de catalogue touristique. Comprendre des pictogrammes. Comprendre la description d'un lieu et d'une situation precise dans un message électronique.

Unit III   10 h

Raconter. ° Décrire les étapesd'une action.	Raconterune scene insolite à l'oreal et à l'écrit.	Comprehendre le récit d ún voyage. Raconterses actions quotidiennes.	Ecrire une biographie a partir d'eléments écrits.

Unit IV   10 h

Exprimer l'intensité et la quantité. ° Interroger.	Raconterune scene insoliteà l'oreal et à l'écrit.	Comprehendre le récit d ún voyage. Raconterses actions quotidiennes.	Ecrire une biographie a partir d'eléments écrits.

Unit V   08 h

Make in Own Sentences based on the above Lessons

Text Book

1   LATITUDES 1 (Méthode de français) Pages from 102-127, Author : RegineMérieux, Yves Loiseau(Unit I to IV)

Course Code	Course Name	Category	L	T	P	Credit
231EL1A3EA	**ENGLISH - III**	**LANGUAGE- II**	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the basics of English grammar and specific usage

- the importance of the vocabulary and its use in different contexts

- the necessity of communication and composition writing skills

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Infer the specific usage of while-listening process	K2
CO2	Organize the various abilities and sub-skills involved in reading	K3
CO3	Utilize the importance of speaking skills and developing it through various practices	K3
CO4	Master diverse business communication formats and skills	K4
CO5	Acquire all-round mature outlook to function effectively in different context	K4

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1			✓		✓
CO2	✓	✓		✓	
CO3	✓		✓		✓
CO4	✓		✓		]
CO5	[]	[✓]	[]	[✓]	[]

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics

231EL1A3EA	**ENGLISH - III**	**SEMESTER** III

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   Listening and Reading   09 h

Listening in casual conversation, Small group and Conference setting - Listening for Factual Information- Barriers of Listening- Developing Listening skills- Poor listening vs Effective Listening - Basics of Reading- Efficient and Inefficient Readers- Advantages of Reading- Four Basic steps of Effective Reading- Stumbling blocks in becoming an effective Reader- Strategies for Comprehending and Retaining content- Effective Note Taking while Reading

Unit II   Speaking   09 h

Purpose of General Conversations- Advantages, Features of a good conversation- Tips for improving Conversation- Public Speaking- Importance of Public Speaking- Benefits, Tips, Overcoming fear of Public Speaking- Preparatory steps - Structuring the contents- Audience Awareness- Mode of Delivery

Unit III   Writing Skills   10 h

Preparing an Effective CV or a Resume with Job Applications- Employers expectation - Organize the material– Useful suggestions- Cover Letter- Content to be included– Tone of the letter- Report Writing- importance– features- Types – main parts– Feasibility report– Accident report- Scientific report- Memos – Introduction– Structure- Proposal Writing

Unit IV   English for Communication & Skill for Employment   12 h

Notices, Agendas and Minutes- Business correspondence- Speeches- Meetings, Vocabulary Development- Editing Skills, and Reference Skills- Reading and Replying to E-Mails- Making Presentations- Interview Techniques- Group Discussion, and Oral Presentation Skills- Interacting with Superiors, and Listening to Reports and Customer Complaints- Preparing the minutes of a meeting- Presenting Data in Verbal and Non-verbal modes- The Correct Attitude of Employment

Unit V   Soft Skills   08 h

Importance of soft skills- Attributes- Social Skills- Thinking- Negotiating- Exhibiting- Identifying - Soft Skills training -Train Yourself- Practicing soft skills- Measuring attitude – Self-Discovery: Importance of knowing yourself- Process - SWOT analysis – Benefits – Usage – SWOT Analysis grid- Art of Negotiation

Text Books

1 Camp and Satterwhite. 1998. College English and Communication. 7th Edition Glencoe Mchrawttill Publishers, New York, Unites States of America. (Unit I, II, III)

2 Kumar, Sanjay and Lata Pushp. 2018. Language and Communication Skills for Engineers. First Edition, Oxford University Press, India. (Unit I, II, III)

3 Mohan, Krishna and Banerji, Meera. 2009. Developing Communication skills. 2nd Edition, Macmillcan, India. (Unit I, II, III, IV)

4 Alex. Soft Skills. 2009. S. Chand Publishing, New Delhi, India. (Unit V)

References

1 Ghosh, B.N. Editor. 2017. Managing Soft Skills for Personality Development. McGraw- Hill Education, Chennai, India.

2 Miles Craven. 2008. Cambridge English Skills Real Listening and Speaking. First Edition, Cambridge University Press, United Kingdom.

3 Mishra, Gauri and Ranjana Kaul.2016. Language Through Literature. Primus Books, India.

4 Pillai G, Radhakrishna. 2000. English for Success. Emerald Publishers, Chennai, India.

Course Code	Course Name	Category	L	T	P	Credit
234CA1A3CA	**DATABASE MANAGEMENT SYSTEMS**	**CORE**	4	-	-	4

PREAMBLE

This course has been designed for students to learn and understand

- The functional components of the DBMS and the normalization forms in building an effective database tables
- Queries using Relational Algebra, Relational Calculus and SQL
- The Development of application programs using PL/SQL

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the basic concepts of database, design, modeling and normalization	K1
CO2	Illustrate knowledge on Database Environment	K2
CO3	Demonstrate the DML Commands	K2
CO4	Interpret the concepts of PL/SQL	K3
CO5	Apply the various Composite data types	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓	✓	✓
CO2	✓		✓	✓	✓
CO3	✓		✓	✓	✓
CO4	✓		✓	✓	✓
CO5	✓		✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

234CA1A3CA	**DATABASE MANAGEMENT SYSTEMS**	**SEMESTER** III

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I   Database Concepts and Normalization   10 h

Database Concepts: A Relational approach: Database – Relationships – DBMS –Relational Data Model – Integrity Rules – Theoretical Relational Languages. Database Design: Data Modeling and Normalization: Data Modeling – Dependency – Database Design – Normal forms – Dependency Diagrams – De normalization –Another Example of Normalization.

Unit II   Structured Query Language   8 h

Oracle9i: An introduction – SQL* plus Environment - Structured Query Language (SQL). Oracle Tables (DDL): Naming Rules and conventions – Data Types – Constraints – Creating Oracle Table – Displaying Table Information – Altering an Existing Table – Dropping, Renaming, Truncating Table – Table Types – Spooling – Error codes.

Unit III   Working with Tables   10 h

Data Management and Retrieval: DML – adding a new Row/Record – Customized Prompts – Updating and Deleting an Existing Rows/Records – Retrieving Data from Table – Arithmetic Operations – Restricting Data with WHERE clause – Sorting – Revisiting Substitution Variables – DEFINE command – CASE structure. Functions and Grouping: Built-in functions – Grouping Data. Multiple Tables: Joins and Set operations: Join – Set operations.

Unit IV   Fundamentals of PL/SQL   10 h

PL/SQL: History – Fundamentals – Block Structure – Comments – Data Types –Other Data Types – Declaration – Assignment operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control Structures and Embedded SQL: Control Structures – Nested Blocks – SQL in PL/SQL – Data Manipulation – Transaction Control statements. PL/SQL Cursors and Exceptions: Cursors – Implicit & Explicit Cursors and Attributes – Cursor FOR loops – SELECT…FOR UPDATE – WHERE CURRENT OF clause – Exceptions – Types of Exceptions.

Unit V   PL/SQL Composite Data Types and Named Blocks   10 h

PL/SQL Composite Data Types: PL/SQL Records – PL/SQL Tables – PL/SQL Varrays. Named Blocks: Procedures – Functions – Packages –Triggers.

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Text Books

1   Nilesh Shah, 2016, "Database Systems Using ORACLE", 2nd Edition. PHI.

References

1   Arun Majumdar & Pritimoy Bhattacharya, 2007, "Database Management Systems", TMH.

2   Kevin Loney, George Koch, and the Experts at TUSC,2002, "Oracle 9i: The Complete Reference", TMH, Copy Right .

Course Code	Course Name	Category	L	T	P	Credit
234CS1A3CA	OPERATING SYSTEMS	CORE	3	-	-	3

PREAMBLE

This course has been designed for students to learn and understand

- The operations performed by OS as resource manager
- The various logical aspects of scheduling various processes
- The mechanisms in memory and Storage management.

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the role of operating systems with its functions and services.	K2
CO2	Compute the waiting time and turnaround time using different process scheduling algorithms	K3
CO3	Illustrate the methods for handling and preventing deadlocks	K3
CO4	Apply the various mechanisms involved in contemporary OS	K3
CO5	Allocate an deallocate memory space in secondary storages using scheduling methods	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓		✓	✓
CO2	✓	✓	✓		✓
CO3	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓
CO5	✓	✓		✓	✓

✓	Skill Development		Entrepreneurial Development
✓	Employability	✓	Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

234CS1A3CA	OPERATING SYSTEMS	**SEMESTER** III

Total Credits: 3

Total Instruction Hours: 36 h

Syllabus

Unit I   Introduction to Operating Systems   6 h

Computer System Organization - Computer System Architecture - Operating System Structure - Distributed Systems - Open Source Operating Systems – Operating System Generation.

Unit II   Process Scheduling   8 h

 Process Concepts - Operations on Processes. Basic Concepts - Scheduling Criteria - Scheduling Algorithms: First-Come First-Served Scheduling - Shortest-Job-First Scheduling - Priority Scheduling - Round-Robin Scheduling - Multilevel Queue Scheduling. Synchronization: Background - The Critical - Section Problem - Semaphores.

Unit III   Deadlocks   8 h

Deadlocks: Deadlock Characterization - Methods for Handling Deadlock - Deadlock Prevention - Deadlock Avoidance: Safe State - Resource-Allocation Graph Algorithm - Banker's Algorithm - Deadlock Detection - Recovery from Deadlock.

Unit IV   Memory Management   8 h

 Memory Management: Swapping - Contiguous Memory Allocation - Paging – Structure of Page Table - Segmentation. Virtual Memory: Demand Paging - Page Replacement: Basic Page Replacement - FIFO Page Replacement - Optimal Page Replacement - LRU Page Replacement.

Unit V   Storage Management   6 h

Secondary-Storage Structure : Disk Structure - Disk Scheduling: FCFS Scheduling - SSTF Scheduling SCAN Scheduling-C-SCAN Scheduling-LOOK Scheduling-Selection of a Disk Scheduling Algorithm - RAID structure.

Case Studies: Linux System, Mobile Operating System.

Text Books

1   Silberschatz , Galvin , Gagne, 2018, "Operating System Concepts", 9th Edition, Wiley.

References

1   Andrew S. Tanenbaum, 2018,"Modern Operating Systems 4e", Pearson Education India.

2   Mukesh Singhal, Niranjan G. Shivaratri, 2019, "Advanced Concepts in Operaring System", 10th edition, McgrawHill.

3   William Stallings, 2017, "Operating Systems: Internals and Design Principles", 9th Edition, Pearson Education.

4   Herbert Bos, S.Tanenbaum, 2020,"Modern Operating System", 6th Edition Pearson education.

Course Code	Course Name	Category	L	T	P	Credit
234CT1A3EP	**JAVA PROGRAMMING**	**CORE PRACTICAL**	**3**	**-**	**4**	**5**

PREAMBLE

This course has been designed for students to learn and understand

- The object-oriented paradigm in the Java programming language.

- The multithreading, exception handling concepts.

- The swing programming and database concepts.

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the fundamentals of Java Programming.	K2
CO2	Observe the basics and different types of Inheritance	K2
CO3	Acquire the knowledge in Packages, Exceptions concepts and String handling.	K3
CO4	Demonstrate Multithreading and Collections concepts.	K3
CO5	Apply Swing and JDBC concepts to create Java Applications.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓	✓	-	✓
CO2	✓	✓	✓		
CO3	✓	✓	✓		
CO4	✓	✓	✓	✓	✓
CO5	✓	✓	✓		✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

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B.Sc.(Information Technology) (Students admitted during the AY 2023-24)

234CT1A3EP	JAVA PROGRAMMING	SEMESTER III

Total Credits: 5

Total Instruction Hours: 36 L + 48 P h

Syllabus

Unit I   Class and Methods   7 L h

Object Oriented Programming - Data types, Variable, Arrays, and Constants - Operators - Control statements. Class, Members, and Methods - Class instantiation - Access modifiers - Method overloading - Constructors - Static members and methods.

1. Program to understand class, methods and objects.

2. Program to implement method overloading.

3. Program to distinguish the different types of constructors.

4. Program to demonstrate static members and methods

Unit II   Inheritance   7 L h

Inheritance: Basics - Types - Super keyword - Method overriding - Abstract class - Final methods and classes – Interfaces

5. Program to illustrate different types of inheritance.

6. Program to implement method overriding.

7. Program to demonstrate abstract class.

8. Program to defend multiple inheritance using interface.

Unit III   Packages, Exceptions, and Strings   7 L h

Java built-in packages - User defined packages - Exception handling fundamentals - Built-in exceptions - User-defined exceptions - String handling using String, StringBuffer, and StringBuilder classes

9. Program to create user-defined package.

10. Program to implement exception handling.

11. Program to apply string handling functions.

Unit IV   Multithreading and Collections   7 L h

Multithreading: Thread Life Cycle - Thread Creation - Thread Priorities. Collections overview - Collection Interfaces and Classes: Stack, Queue, ArrayList, LinkedList.

12. Program to demonstrate multithreading.

13. Programs to implement ArrayList.

14. Programs to implement (i) Stack (ii) Queue.

Unit V   Swing and JDBC   8 L h

MVC architecture - Basics of Swing - Difference between AWT and Swing - Swing packages - A simple swing application - Event handling - Accessing databases with Java DataBase Connectivity (JDBC).

15. Develop a Swing application to manipulate student database records.

Text Books

1   Herbett Schildt, 2022, "Java: The Complete Reference", Twelfth Edition, Tata McGraw-Hill Publishing Company Limited, New Delhi.

2   Paul Deitel and Harvey Deitel, 2015, "Java How to Program", Tenth Edition Deitel & Associates, Inc Publications.

References

1   E.Balaguruswamy, 2023, "Programming with Java ", Seventh Edition, Tata McGraw Hill Publications.

2   Dr. Muneer Ahmad Dar, 2020, "JAVA Programming Simplified: From Novice to Professional", BPB Publications.

3   John R. Hubbard, 2020, "Programming with JAVA", Second Edition, Tata McGraw Hill Publications.

4   https://www.javatpoint.com/java-tutorial

234IT1A3SP	SEC I: SQL AND PL/SQL	**SEMESTER III**

Total Credits: 2
Total Instructions Hours: 48 h

S.No	List of Experiments
1	Program to implement DDL commands with constraints
2	Program to implement DML commands
3	Program to implement different types of function
4	Program to implement different types of operators
5	Program to implement different types of Joins
6	Program to implement Group By & having clause, Order by clause, Indexing and Views
7	Program to implement aggregate functions
8	Program to implement packages
9	Program to implement PL/SQL cursor and exceptions
10	Program to implement SQL procedures
11	Program to implement SQL Triggers
12	Program to prepare report using SQL Queries

Course Code	Course Name	Category	L	T	P	Credit
235AT1A3IA	BUSINESS ACCOUNTING	IDC	4	-	-	4

PREAMBLE

This course has been designed for students to learn and understand

- the basic accounting concepts and conventions
- the preparation of different types of Cash books
- the purpose of preparing the Final Accounts

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	know the basic concepts of accounting	K1
CO2	understand the Journal transaction for posting the ledger	K2
CO3	apply the knowledge of accounting process in the preparation of subsidiary books	K3
CO4	prepare the Bank Reconciliation Statement	K3
CO5	examine the Final Accounts	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1					
CO2					
CO3					✓
CO4			✓	✓	
CO5			✓	✓	✓

235AT1A3IA	BUSINESS ACCOUNTING	**SEMESTER** III

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I   Basic Accounting Concepts   08 h

Need for Accounting - Objectives - Branches of Accounting - Book-keeping vs Accounting - Functions and Importance of Accounting - Advantages and Limitations - Users of accounting information - Accounting Concepts and Conventions. Accounting Standards (AS) - International Financial Reporting Standards (IFRS) - Accounting Standards in India.

Case Study on Accounting Concepts

Unit II   Journal, Ledger and Trial Balance   10 h

Journal: Recording of entries in Journal with narration - Ledger: Posting from journal to respective ledgers. Trial balance - Need for preparing Trial Balance - Features - Objectives of preparing Trial Balance - Limitations - Methods of preparing Trial Balance - Suspense account.

Unit III   Subsidiary Books   10 h

Subsidiary Books - Types of subsidiary books - Advantages of subsidiary books - Purchases book - Purchases returns book -Sales book - Sales returns book - Bills receivable book -Bills payable book. Cash Book - Importance - Types of cash book - Single column cash book - Double column cash book - Three column cash book - Petty Cash book.

Unit IV   Bank Reconciliation Statement   10 h

Bank Reconciliation Statement-Difference between Cash book and Pass book-Preparation of Bank Reconciliation Statement.

 Case Study on Bank Reconciliation Statement

Unit V   Final Accounts   10 h

Preparation of Trading Account, Profit and Loss Account and Balance Sheet with simple adjustments.

Case Study on Final Accounts

Note: The question paper shall cover 20% theory and 80% problem. Case laws related to the above topics to be examined (Examined internal only)

Text Books

1 Reddy T.S. and Murthy A, 2023, "Financial Accounting", Sixth Edition, Margham   Publications, Chennai.

2 Nagarajan,K.L.,Vinayaka, Nand Mani P.L. 2019. "Principles of Accountancy", Fifth   Edition. Sultan Chand & Company Ltd, New Delhi

References

1 Dr. Maheswari, S.N., 2017, Financial Accounting, Fifth Edition,Vikas Publishing House, New Delhi).

2 Arulandam. M. A and Ramaan. K.S, 2019 Advanced Accountancy. Revised Edition 2016, Himalaya Publishing House, Mumbai.

3 Jain, S.P. and Narang , K.N. , 2018, Financial Accounting, Tenth Edition, Kalyani Publishers, New Delhi.

4 Gupta R.L 2019. Financial Accounting, Ninth Edition, Sultan Chand & Company Ltd., New Delhi

234IT1ASSA	SELF STUDY: DATA SCIENCE CONCEPTS	SEMESTER III

Total Credit: 1

Syllabus

Unit I   Introduction

AI, Machine learning and Data Science : What is Data Science, Extracting Patterns, Building Models , Learning Algorithms , Associated Fields- Case for data science : Volume, Dimensions.

Unit II   Data Science Process

Prior Knowledge: Objective, Subject area, data - Data Preparation: Data Exploration, Data Quality, Missing Values, Data types and Conversions, Transformations-, Feature Selection , Data Sampling.

Unit III   Data Exploration

Objectives - Data sets : Types of data- Descriptive statistics, Univariate Exploration, Multivariate Exploration - Data Visualization : Univariate Visualization, Multivariate Visualization, Visualizing High-Dimensional Data.

Unit IV   Classification

Decision Trees : How It Works, How to Implement - Rule Induction : Approaches to Developing a Rule Set, How It Works, How to Implement- K- Nearest Neighbours - How It Works, How to Implement.

Unit V   Regression Models

Linear regression : How it Works, How to Implement - Check points - Logistic Regression : How it Works, How to Implement - Mining Association rules : Itemsets, Rule Generation, Apriori Algorithm

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Text Books

1. Vijay Kotu, Bala deshpande, 2019, "Data Science - Concepts and Practices ", MK Publishers, Second Edition.

2. V. K. Jain , 2018, "Data Science and Analytics ", Khanna Publishing.

References

1. A. Ali, 2022, " Data Science for Beginners", Hack Book Works Pubishers.

2. Dr Gypsy Anand/ DrRupam Sharma, 2020, "Data Science Fundamentals And Practical Approaches ", BPB Publications.

3. N. Meenakshi K. E. Rajakumari S. Hariharasitaraman, 2015, "Data Science and Machine Learning", Notion Press Publishing.

4. Joel Grus, 2019, "Data Science From Scratch", Shroff/O'Reilly, Second edition.

234IT1ASSB	**SELF STUDY:** NETWORK PROTOCOLS	**SEMESTER III**

Total Credit: 1

Syllabus

Unit I   Network Models

Network Models: What is a Model- why use a model?- OSI Model:OSI-Beyond the Layers, OSI/ITU-T Protocols – Introducing TCP/IP: TCP/IP and the RFCs-The Practical Side of TCP/IP-Encapsulation-Addressing-Equipment.

Unit II   Ethernet and Internet Protocol

Ethernet:Structure: Preamble, Source and Destination MAC Addresses, Control Field, Data Field, Frame Check Sequence. Ethernet Operation- Physical Layer: Cabling –Encoding:10Base-T, 100Base-T, 1000Base-T-Topologies.Internet Protocol: Structure-Addressing- Operation-Security Warning.

Unit III   Address Resolution Protocol

Address   Resolution   Protocol: Techniques-   Protocol   Description-StructureAddressing in the ARP Request- Addressing in the ARP Reply- Operation – Additional Operations-Security Warning-IPv6..

Unit IV   Network Equipment and ICMP

Network Equipment: Tables and Hosts -Hubs or Repeaters-Switches and BridgesAccess Points-Routers- Multilayer Switches and Home Gateways- Security. Internet Control Message Protocol: Structure- Operation and Types: Echo Request and Echo Reply, Redirect (Type 5), Time to Live Exceeded(Type 11), Destination Unreachable (Type 3) -IPv6.

Unit V   Subnetting and Other Masking Acrobatics

Subnetting and Other Masking Acrobatics: What is a Subnet?-Subnet PatternsSubnet IP Addressing- A shorthand Technique- Effect on Address SpaceSupernetting-Supernetted Network-Classless Inter-Domain Routing

Text Books

1 Bruce Hartpence, 2011, "Packet Guide to Core Network Protocols", First Edition, O'Reilly.

References

1 Andrew S. Tanenbaum, 2011, "COMPUTER NETWORKS", 5th edition, PHI.

2 Javvin, 2005, "Network Protocols Handbook", 2nd Edition, Javvin Technologies Inc., USA

BoS Chairman/HOD
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02|4|24	17|4|24	

CHAIRMAN

Course Code	Course Name	Category	L	T	P	Credit
231TL1A4TA	TAMIL - IV	LANGUAGE- I	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடு நாகரீகம், பகுத்தறிவு ஆகியவற்றை அறியச் செய்தல்
- கலை மற்றும் மரபுகளை அறியச் செய்தல்
- மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	வாழ்க்கைத் திறன்கள் (Life Skills)- மாணவர்களின் செயலாக்கத் திறனை ஊக்குவித்தல்	K3
CO2	மதிப்புக்கல்வி (Attitude and Value education)	K4
CO3	பாட இணைச்செயல்பாடுகள் (Co-curricular activities)	K4
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K5

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1					
CO2					
CO3		✓			✓
CO4			✓		
CO5					

COURSE FOCUSES ON

✓	Skill Development	-	Entrepreneurial Development
✓	Employability	-	Innovations
-	Intellectual Property Rights	-	Gender Sensitization
-	Social Awareness/ Environment	-	Constitutional Rights/ Human Values/ Ethics

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COIMBATORE | INDIA

B.Sc(Information Technology)(Students Admitted during the Academic Year 2023-24)

231TL1A4TA	TAMIL - IV	SEMESTER IV

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I எட்டுத்தொகை   10 h

1. நற்றிணை – குறிஞ்சித் திணை

    I.பா.எண் : 01 – கபிலர்

    II.பா.எண் : 88 – நல்லந்துவனார்

    III.பா.எண் : 102 – செம்பியனார்

2. குறுந்தொகை – முல்லைத்திணை

    I.பா.எண் : 65 – கோவூர்கிழார்

    II. பா.எண் : 167 – கூடலூர்கிழார்

   மருதத்திணை

    I.பா.எண் : 08 – ஆலங்குடி வங்கனார்

    II.பா.எண் : 61 – தும்பிசேர்கீரனார்

    III.பா.எண் :196 – மிளைக் கந்தன்

   நெய்தல் திணை

    I.பா.எண் : 57 – சிறைக்குடி ஆந்தையார்

Unit II எட்டுத்தொகை   08 h

1. கலித்தொகை – பாலைக்கலி

    I.பா.எண் : 09 – பெருங்கடுங்கோ

2. அகநானூறு – மருதத்திணை

    I.பா.எண் : 86 – நல்லாவூர்கிழார்

3. புறநானூறு –

    I.பா.எண் : 188 – பாண்டியன் அறிவுடை நம்பி

    II.பா.எண் : 192 – கணியன் பூங்குன்றனார்

    III.பா.எண் : 279 – ஒக்கூர் மாசாத்தியார்

    IV.பா.எண் : 312 – பொன்முடியார்

Unit III பத்துப்பாட்டு   10 h

1. பட்டினப் பாலை – கடியலூர் உருத்திரங் கண்ணனார் -1முதல் 218 வரிகள் வரை மட்டும்.

Unit IV   இலக்கிய வரலாறு   10 h

1. எட்டுத் தொகை நூல்கள்
2. பத்துப்பாட்டு நூல்கள்

Unit V   இலக்கணம் மற்றும் திறனாய்வுப் பகுதி   10 h

I. இலக்கணம்

    1. அகத்திணை   – அன்பின் ஐந்திணை - விளக்கம்

    2. புறத்திணை   – 12 திணைகள்   - விளக்கம்

II. பயிற்சிப் பகுதி

சங்கப் பாடல்கள் குறித்து திறனாய்வு செய்தல்.

Note: பயிற்சிப் பகுதியில் வினாக்கள் அமைத்தல் கூடாது.

Text Book

    செய்யுள் திரட்டு - மொழிப் பாடம் - 2023- 24

1   தொகுப்பு: தமிழ்த்துறை, டாக்டர் என்.ஜி.பி. கலை அறிவியல்
    கல்லூரி,(Unit I - V)

References

1   பேராசிரியர் புலவர் சோம. இளவரசு, எட்டாம் பதிப்பு -2014, தமிழ்
    இலக்கிய வரலாறு -   மணிவாசகர் பதிப்பகம், சென்னை.

    பேராசிரியர் முனைவர் பாக்கியமேரி, முதற் பதிப்பு- 2013,
2   இலக்கணம் -இலக்கிய வரலாறு - மொழித்திறன் -பூவேந்தன்
    பதிப்பகம், சென்னை.

3   தமிழ் இணையக் கல்விக்கழகம்.<http://www.tamilvu.org/>

Course Code	Course Name	Category	L	T	P	Credit
231TL1A4HA	HINDI - IV	LANGUAGE- I	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature
- the techniques for expansion of ideas and translation process

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1					
CO2					✓
CO3	✓		✓	✓	
CO4					
CO5	✓	✓	✓		✓

COURSE FOCUSES ON

✓	Skill Development	-	Entrepreneurial Development
✓	Employability	-	Innovations
-	Intellectual Property Rights	-	Gender Sensitization
-	Social Awareness/ Environment	-	Constitutional Rights/ Human Values/ Ethics

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COIMBATORE | INDIA

B.Sc(Information Technology)(Students Admitted during the Academic Year 2023-24)

231TL1A4HA	HINDI– IV	SEMESTER IV

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   10 h

नाटक

Unit II   10 h

एकांकी

Unit III   10 h

काव्य मंजरी

Unit IV   10 h

सूचना लेखन

Unit V   08 h

अनुवाद अभ्यास- III

Text Books

1. लडाई – सर्वेश्वरदयाल सक्सेना प्रकाशक: वाणी प्रकाशन 21-A, दरियागंज नई दिल्ली-110002. (Unit I)

2. एकांकी पंचामृत – डाँ राम कुमार (भोर और तारा छोड्कर) प्रकाशक: जवाहर पुस्तकालयं सदर बाजार, मथुरा उत्तर प्रदेश-281001. (Unit II)

3. काव्य मंजरी- (डा मुन्ना तिवारी) मैथिलीशरण गुप्त- मनुष्यता, जयशंकर प्रसाद- बीती विभावरी जागरी सूर्यकान्त त्रिपाठी निराला- तोडती पत्थर और भिक्षुक. (Unit III)

4. सूचना लेखन पुस्तक: व्याकरण प्रदिप – रामदेव प्रकाशक: हिन्दी भवन 36 इलाहाबाद -211024. (Unit IV)

5. अनुवाद अभ्यास (केवल अंग्रेजी से हिन्दी में) (पाठ 10 to 20) प्रकाशक: दक्षिण भारत प्रचार सभा चेनैई -17 (पाठ10 to 20). (Unit V)

Course Code	Course Name	Category	L	T	P	Credit
231TL1A4MA	MALAYALAM- IV	LANGUAGE - I	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the writing ability and develop reading skill
- the various concepts and techniques for criticizing literature, to learn the techniques for expansion of ideas and translation process
- the competency in translating simple Malayalam sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓			✓	
CO2	✓				✓
CO3		✓	✓		
CO4	✓			✓	✓
CO5	✓	✓	✓		✓

COURSE FOCUS ON

✓	Skill Development	-	Entrepreneurial Development
✓	Employability	-	Innovations
-	Intellectual Property Rights	-	Gender Sensitization
-	Social Awareness/ Environment	-	Constitutional Rights/ Human Values/ Ethics

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COIMBATORE | INDIA

B.Sc(Information Technology)(Students Admitted during the Academic Year 2023-24)

231TL1A4MA	MALAYALAM- IV	SEMESTER IV

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   **Drama**

10 h

Saketham- Sreekandan Nair

Unit II   **Drama**

10 h

Saketham- Sreekandan Nair

Unit III   **Drama**

10 h

Saketham- Sreekandan Nair

Unit IV   **Screen Play**

10 h

Perumthachan- Vasudevan Nair

Unit V   **Screen Play**

08 h

Perumthachan- Vasudevan Nair

Text Books

1. Nair, Sreekandan C.N. 2023. Saketham, Drama. DC Books Kottayam, Kerala, India. (Unit I to III)

2. Nair, Vasudevan M.T. 1994. Perumthachan- Screenplay. DC Books Kottayam, Kerala, India. (Unit IV & V)

Reference

1. Sankarapillai. 2005. Malayala Nataka Sahithya Charithram, Kerala Sahithya Akademi Publishers, Kerala, India.

Course Code	Course Name	Category	L	T	P	Credit
231TL1A4FA	FRENCH - IV	LANGUAGE- I	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- the Competence in General Communication Skills – Oral + Written- Comprehension & Expression
- the Culture, life style and the civilization aspects of the French people as well as of France
- the students to acquire Competency in translating simple French sentences into English and vice versa

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Learn the Basic verbs, numbers and accents	K1
CO2	Apply the adjectives and the classroom environment in France	K2
CO3	Select the Plural, Articles and the Hobbies	K2
CO4	Measure the Cultural Activity in France	K3
CO5	Evaluate the sentiments, life style of the French people and the usage of the conditional tense	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓				✓
CO2	✓	✓			
CO3			✓	✓	
CO4	✓	✓			✓
CO5	✓		✓	✓	✓

COURSE FOCUSES ON

✓	Skill Development	-	Entrepreneurial Development
✓	Employability	-	Innovations
-	Intellectual Property Rights	-	Gender Sensitization
-	Social Awareness/ Environment	-	Constitutional Rights/ Human Values/ Ethics

231TL1A4FA	FRENCH - IV	SEMESTER IV

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   10 h

°Décrirequelqu'un. ° Comparer	En milieu professional, recruiter quelquún et justifier sonchoix.	S'exprimersur les styles de vêtemantReconnaitre des personnes à partit de descriptions.	Comprendre la description de personnesdans un extrait de roman.

Unit II   10 h

ExprimerPaccord ou le désaccord. ° Se situerdans le temps.	En milieu professional, recruiter quelquún et justifier sonchoix.	Décrire des personnes. Comprendre des personnes qui experiment leur accord ouleurdésaccord.	Comprendre des différences de points de vueexprimétesdans de message électronique. Raconter unsourvenir.

Unit III   10 h

° Parler de Pavenir.	Discuter de l'organisation d'un voyage de groupepuispréparerune fiche projet et la templit.	Comprendreune chanson. Echangersursesprojets de vacancy	Comprendre le message d'une carte d'anniversaire

Unit IV   10 h

° Exprimer des souhaits. ° Décrirequelq u'u n	Discuter de l'organisation d'un voyage de groupepuispréparerune fiche projet et la templit.	Discuter du programme de la soire à venir. Addresser des souhaits à quelqu'un.	Comprendre le message d'une carte d'anniversaire

Unit V   08 h

Make in Own Sentences based on the above Lessons

Text Book

1. LATITUDES 1 (Méthode de français) Pages from 128-151, Author : Regine Mérieux, Yves Loiseau (Unit I to IV)

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Course Code	Course Name	Category	L	T	P	Credit
231EL1A4EA	ENGLISH - IV	LANGUAGE II	3	1	-	3

PREAMBLE

This course has been designed for students to learn and understand

- how language shapes society, enhancing critical reading, writing, and thinking skills through various literary forms
- the fundamentals of writing, including essay composition, persuasive communication, and creative expression
- the process of critical thinking through the analysis of literature

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Summarize main points and supporting details from listening to public addresses and demonstrate poem comprehension.	K2
CO2	Demonstrate clear and expressive speech while engaging in role-play and dramatization activities.	K3
CO3	Interpret textual elements such as themes, tone, and authorial intent in various reading materials.	K3
CO4	Produce clear summaries and paraphrases, maintaining the essence of the original text.	K3
CO5	Prepare for job interviews by employing appropriate interview techniques, confidence, and professionalism.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1			✓		✓
CO2			✓		
CO3			✓		
CO4			✓		
CO5			✓		✓

COURSE FOCUSES ON

✓	Skill Development		Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
✓	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

Dr.NGPASC
COIMBATORE | INDIA

B.Sc(Information Technology)(Students Admitted during the Academic Year 2023-24)

231EL1A4EA	ENGLISH - IV	SEMESTER IV

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I   **Listening**   10 h

Nissim Ezekeil - Goodbye Party for Miss Pushpa T.S.
D.H. Lawrence - Last Lessons of the Afternoon
Dr. APJ Abdul Kalam's speech at European Union
Listening for subtext – Tone and Emotion – Vivid Language and Pacing – Listening for Vision and Hope – Use of Storytelling
Punctuations: Periods, Commas, Semicolons, Colons, Apostrophes, Ellipses, Exclamation Points

Unit II   **Speaking**   10 h

Oscar Wilde - The Importance of Being Earnest
Direct Speech and Indirect Speech - Commands and Requests, Exclamations and Wishes, Conversion of Indirect to Direct
Rules for changing direct speech into indirect speech

Unit III   **Reading**   09 h

Gita Hariharan - The Remains of the Feast -
Langston Hughes - Thank You M'am
Making Inferences and Predictions - Identifying Author's Purpose and Tone- Contextual Vocabulary Building
Tenses: The Uses of Present, Past and Future Tenses

Unit IV   **Writing Skills**   10 h

George Orwell - Why I Write
Summarizing vs. Paraphrasing - Expressing Purpose and Intent in Writing- Constructing Strong Arguments and Opinions
Grammar - Paraphrasing - Use of Paraphrasing, Characteristics of a good paraphrase, The Paraphrase of Poetry, Special Hints, Method of Procedure

Unit V   **Soft Skills**   09 h

Steve Jobs - 2005 Stanford Commencement Address - Effective Communication - Presentation Skills
Business Corporate Soft Skills - Six common corporate conversation faux pas, Decision making Techniques, Negotiation Styles Job Interviews - Preparatory Steps for Job Interviews - Interview Skill Tips

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B.Sc(Information Technology)(Students Admitted during the Academic Year 2023-24)

Text Books

1. Straus, Jane, Lester Kaufman, and Tom Stern, editors. The Blue Book of Grammar and Punctuation: An Easy-to-Use Guide with Clear Rules, Real-World Examples, and Reproducible Quizzes. 12th ed., Jossey-Bass, 2021. (Unit I)

2. Wilde, Oscar. The Importance of Being Earnest. Edited by Norman Page, 2nd ed., Penguin Classics, 2000. (Unit II)

3. Hariharan, Gita. The Remains of the Feast. 1st ed., Penguin Books India, 1992. (Unit III)

4. Orwell, George. "Why I Write." George Orwell: An Anthology of His Prose, edited by John Carey, Harcourt, 2000. pp. 232-237. (Unit IV)

5. Meyer, John. The Soft Skills Handbook for Corporate Success: Essential Strategies for Business Professionals. 2nd ed., Business Insights, 2020. (Unit V)

References

1. Lawrence, D.H. The Complete Poems of D.H. Lawrence. Edited by V.J. Harding, 1st ed., Heinemann, 1992.

2. Buczynski, Mark. Soft Skills for the Workplace: How to Build Successful Relationships and Advance Your Career. 2nd ed., Wiley, 2018.

3. Hughes, Langston. "Thank You, M'am." The Penguin Anthology of American Poetry, edited by Rita Dove, Penguin Books, 2006, pp. 530-533.

4. Nelson, Brian. The Soft Skills Handbook: Essential Skills for the Workplace. 3rd ed., Business Publishing, 2019.

Course Code	Course Name	Category	L	T	P	Credit
234CT1A4CA	COMPUTER NETWORKS	CORE	4	-	-	4

PREAMBLE

This course has been designed for students to learn and understand

- the fundamental networking concepts and reference models
- various layers and their functionalities
- the concepts of wireless networks

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Describe the working of OSI, TCP/IP Reference Model and the services offered by Physical layer.	K2
CO2	Interpret the design issues, protocols used in Data Link layer and the concepts of wireless networks.	K2
CO3	Understand routing algorithms in Network layer and its perspective over the internet.	K2
CO4	Identify the services provided by Transport layer to upper layers and differentiate TCP and UDP Protocols.	K3
CO5	Infer the working principles of Application layer.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓		✓
CO2	✓		✓	✓	✓
CO3	✓		✓		✓
CO4	✓		✓		✓
CO5	✓		✓	✓	✓

✓	Skill Development	☐	Entrepreneurial Development
✓	Employability	☐	Innovations
☐	Intellectual Property Rights	☐	Gender Sensitization
☐	Social Awareness/ Environment	☐	Constitutional Rights/ Human Values/ Ethics

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234CT1A4CA	COMPUTER NETWORKS	SEMESTER IV

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I   Introduction to Networks   10 h

Networks: Introduction, Uses, Types - Network Technology - Network Protocols - Reference Models: OSI, TCP/IP - Physical Layer: Guided Transmission Media - Wireless Transmission - Radio Transmission - Microwave Transmission - Cellular networks.

Unit II   Data Link Layer   12 h

Data Link Layer Design Issues: Services provided to the Network Layer - Framing - Error Control - Flow Control - Error correcting codes - Error detecting codes - Medium Access Control Sub layer: Channel allocation problem - ALOHA - Carrier sense multiple access protocols - Data Link Layer Switching: Bridges, Switches, Routers. Wireless Networks: Introduction – Wireless Link and Network Characteristics - 802.11 Wireless LAN: Architecture - MAC Protocol.

Unit III   Network Layer   10 h

Network Topologies - Services provided to the Transport Layer - Routing Algorithms: Shortest Path Algorithm - Distance Vector Routing - Link State Routing - Software-Defined Networking (SDN): Control Plane - Data Plane - Network Layer in the Internet: The IP Version 4 Protocol - IP Addresses - IP Version 6 - Internet Control Protocols.

Unit IV   Transport Layer   8 h

Services provided to the upper layers - Transport Protocols: UDP - Remote Procedure Call - Real-Time Transport Protocols - TCP: Service Model - TCP Protocol, TCP Segment Header - TCP Connection Establishment and Release - TCP Sliding Window - TCP Congestion Control.

Unit V   Application Layer   8 h

Domain Name System (DNS): DNS Lookup Process - DNS Name Space and Hierarchy - Name Resolution - Electronic Mail: Architecture and Services - Message Formats - Message Transfer - World Wide Web: Architecture - HTTP and HTTPS.

Text Books

1. Andrew S. Tanenbaum, Nick Feamster, David J. Wetherall, 2022, "Computer Networks", Sixth Edition, Pearson.

2. Behrouz A. Forouzan, 2020, "Data Communications and Networking with TCP/IP Protocol Suite", Fifth Edition, Tata McGraw Hill.

References

1. William Stallings, 2018, "Data and Computer Communications", Tenth Edition, Pearson.

2. Larry L. Peterson, Bruce S. Davie, 2018, "Computer Networks: A Systems Approach", Fifth Edition, Elsevier.

3. James F. Kurose, Keith W. Ross, 2021, "Computer Networking: A Top-Down Approach", Seventh Edition, Pearson.

Course Code	Course Name	Category	L	T	P	Credit
234IT1A4CA	SOFTWARE ENGINEERING	CORE	3	-	-	3

PREAMBLE

This course has been designed for students to learn and understand

- principles of Software Engineering
- software development process
- software testing methodologies

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Understand the concept of software engineering	K2
CO2	Identify software engineering process models	K1
CO3	Summarize software requirements for building software design	K2
CO4	Understand design concepts and architectural design	K2
CO5	Interpret various software testing strategies	K2

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓	✓		✓
CO2	✓		✓	✓	✓
CO3	✓		✓	✓	✓
CO4	✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

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B.Sc(Information Technology)(Students Admitted during the Academic Year 2023-24)

234IT1A4CA	SOFTWARE ENGINEERING	SEMESTER IV

Total Credits: 3
Total Instruction Hours: 36 h

Syllabus

Unit I   INTRODUCTION TO SOFTWARE ENGINEERING   6 h

Nature of Software: Defining Software, Software Application Domains, Legacy Software - The changing nature of Software: Web Apps - Mobile Applications - Cloud Computing - Product Line Software - Defining the Discipline - Software Process: Process Framework - Umbrella Activities - Process Adaptation - Software Engineering Practice: Essence of practice - General Principles - Generic Process Model - Defining a Framework Activity- identifying the task.

Unit II   SOFTWARE PROCESS   8 h

Perspective Process Model: Waterfall Model, Incremental Process Model, The RAD Model - Evolutionary process model: Prototyping, The Spiral model - Concurrent development model - Agile development: Agile Process - Extreme Programming - Agile Process models: Scrum - Dynamic Systems Development methods - Agile modeling - Agile unified process.

Unit III   REQUIREMENTS   7 h

Requirements Engineering - Establishing groundwork - Eliciting requirements - Developing Use Cases - Building analysis model - Negotiating Requirements - Requirement Monitoring - Validating Requirements.

Unit IV   DESIGN CONCEPTS AND ARCHITECTURAL DESIGN   7 h

Design Concepts: Abstraction – Architecture – Patterns – Modularity - Information Hiding - Functional Independence – Refinement – Aspects – Refactoring - and Object Oriented Design Concept - Design Classes - Design Model: Data Design Elements - Architectural Design Elements - Interface Design Elements – Component - level Design Elements - Architectural Design: Software Architecture - Architectural Genres - Architectural Styles - Architectural Considerations - Architectural Decisions - Architectural Design.

Unit V   SOFTWARE TESTING   8 h

A strategic Approach to Software Testing – Strategic Issues- Unit Testing- Integration testing - Validation testing: Validation-Test Criteria, Alpha and Beta testing - System Testing: Recovery Testing - Security Testing - Stress testing - Performance Testing - Deployment testing - The art of debugging - White box testing - black box testing- An overview of Software Testing Tools.

Text Books

1   Roger   S.Pressman.   Bruce   R.Maxim,2019,"Software   Engineering   A Practitioner's Approach", , Eight Edition ,McGraw Hill Education

References

1   Hitesh Mohapatra, Amiya Kumar Rath,2020, "Fundamentals of Software Engineering", First Edition, BPB Publications.

2   Ian Sommerville,2017, "Software Engineering", Tenth Edition, Pearson Education.

3   https://katalon.com/resources-center/blog/automation-testing-tools

Course Code	Course Name	Category	L	T	P	Credit
234CA1A4EP	PYTHON PROGRAMMING	CORE PRACTICAL	3	-	4	5

PREAMBLE

This course has been designed for students to learn and understand

- The fundamentals of python
- The usage of data structure programming paradigm in python
- The implementation of various applications using python

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	Acquire knowledge on basic concepts of Python Language.	K1
CO2	Describe the working of functions and modules.	K2
CO3	Interpret manipulation of strings, lists, tuples, sets and dictionaries.	K2
CO4	Demonstrate Numpy library operations on array.	K3
CO5	Perform the manipulations in Pandas library.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓		✓	✓
CO2	✓	✓	✓	✓	✓
CO3	✓	✓	✓	✓	✓
CO4	✓	✓	✓	✓	✓
CO5	✓	✓	✓	✓	✓

COURSE FOCUSES ON

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	✓	Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

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234CA1A4EP	PYTHON PROGRAMMING	SEMESTER IV

Total Credits: 5

Total Instruction Hours: 36 L + 48 P h

Syllabus

Unit I   **Fundamentals and Decision Making**   7 L + 9 P h

Features of Python – Literals - Constants - Variables and Identifiers -Data Types -Input Operation- Comments-Indentation-Operators and Expressions - Other Data types – Type Conversion.

Decision Control Statements: Conditional Branching Statements - Basic Loop Structures -Nested Loops - Statements: Break, Continue, Pass - Else with Loops.

Exercises

1. Programs to demonstrate Operators.

2. Programs to evaluate Expressions.

3. Programs to illustrate Decision Making.

4. Programs using Repetitive Statements.

Unit II   **Functions and Modules**   7 L + 9 P h

Introduction - Defining Functions - Function Call - Variable Scope and life Time - Return Statements - Lambda Functions - Recursive Functions – Modules - Packages.

Exercises

5. Programs to illustrate User defined functions.

6. Programs to demonstrate Lambda function.

7. Programs to demonstrate Recursive functions.

Unit III   **Strings and Data Structures**   8 L + 10 P h

Strings: Concatenating, Appending, Multiplying - Formatting Operators - Built-in String Methods – Slice Operation - in and not-in Operators - Comparing Strings - Iterating Strings - Data Structures: Sequence, Lists, Tuples, Sets, Dictionaries.

Exercises

8. Programs to demonstrate String Operations.

9. Programs to implement Lists.

10. Programs to implement Tuples.

11. Programs to implement Sets.

12. Programs to implement Dictionaries.

Unit IV   NumPy Library

7 L +
10 P h

Ndarray - Basic Operations: Indexing, Slicing, Iterating - Conditions and Boolean Arrays - Shape Manipulation - Array Manipulation - Structured Arrays - Reading and Writing Array Data on Files.

Exercises

13. Programs for basic operations on Ndarrays.

14. Programs to implement Structured Arrays.

Unit V   Pandas

7 L +
10 P h

Pandas Data Structures - Functionalities on Indices - Operations between Data Structures - Function Application and Mapping - Sorting and Ranking - Not a Number - Reading and Writing Data: CSV, Textual Files, HTML Files.

Exercises

15. Programs for Sorting and Ranking.

16. Programs to read CSV files.

17. Programs to read and write HTML Files.

18. Design the GUI application for the registration form.

19. Design and create Menus using GUI.

Text Books

1 Reema Thareja, 2020, "Python Programming using Problem Solving Approach", 1st Edition, oxford University Press.

2 Fabio Nelli , 2015, "Python Data Analytics" ,1st Edition, Apress.

References

1 Wes McKinney,2017,"Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython",2nd Edition, O'Reilly Media, Inc.

2 Moore, Alan D, 2021 , " Python GUI Programming with Tkinter: Design and Build Functional and User-friendly GUI Applications", Packt Publishing, 2021.

3 S.A. Kulkarni,2018,"Problem Solving and Python Programming", 2nd Edition, Yes Dee Publishing Pvt Ltd.

4 www.python.org

234IT1A4SP	SEC Practical: PHP Programming	SEMESTER IV

Total Credits: 2
Total Hours: 48 h

S.No	List of Experiments
1	Implement arithmetic operations that takes two numbers and an operator (+, -, *, /) as input and produce the results.
2	Generate and display the Fibonacci sequence up to a specified number of terms.
3	Implement sorting in ascending order.
4	Count number of words in a given sentence.
5	Implement a login system in PHP where users can log in with a username and password.
6	Design a scientific calculator using PHP
7	Develop a basic PHP-based quiz application that presents multiple-choice questions to users and provides instant feedback on their answers.
8	Build a simple PHP application that performs CRUD (Create, Read, Update, Delete) operations on a predefined dataset.
9	Design a webpage for Student Profile.
10	Develop a user registration form that allows users to create an account with a unique username and password and it stores the user information in a MySQL database.
11	Develop a simple product inventory management system that allows users to add, view and delete products. Store the product information, such as name, description, and quantity in MySQL database.
12	Build a system that calculate student grades and overall GPA in a MySQL database

Course Code	Course Name	Category	L	T	P	Credit
235CO1A4IB	HUMAN RESOURCE MANAGEMENT	IDC	4	-	-	4

PREAMBLE

This course has been designed for students to learn and understand

- the importance of human resource management.
- the various methods of performance appraisal.
- the qualities of a leader and controlling methods.

COURSE OUTCOMES

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

CO Number	CO Statement	Knowledge Level
CO1	understand the concept and importance of Human Resource Management.	K2
CO2	summarize the human resource planning.	K2
CO3	Interpret the human behavior process.	K3
CO4	Show and dramatize the organizational behaviors and Conflicts.	K3
CO5	Illustrate the qualities required for a leader	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1					✓
CO2					✓
CO3			✓		✓
CO4			✓		✓
CO5			✓		✓

COURSE FOCUSES ON:.

✓	Skill Development	✓	Entrepreneurial Development
✓	Employability		Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

235CO1A4IB	HUMAN RESOURCE MANAGEMENT	SEMESTER IV

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I   Human Resource Management   8 h

Meaning – Importance – Evaluation – Objectives – Scope -Hawthorn Studies and its implications – Organization structure.

Unit II   Human resource planning   8 h

Human resource planning – Job analysis – Role analysis – Selection and Recruitment – Right Sizing - Testing – Interview- SWOC analysis - Training – Promotion

Case study on Recruitment and Selection.

Unit III   Human Resource Development   10 h

Human Resource Development - Performance appraisal – Job evaluation and merit rating – Job satisfaction. Human behavior: Process - Perception – Motivation - theories of Motivation - Personality development - Determinants of Personality – Theories of personality

Case study on human behavior process.

Unit IV   Organizational Discipline   12 h

Meaning – Causes of Indiscipline – Acts of Indiscipline – Procedure for Disciplinary Action – Organization conflict- Conflict in organizational behaviors – Individual aspect of conflict – Management of conflict - Whistle Blowing - Grievance – Meaning – Characteristics of Grievances – Causes of Grievance – Methods of knowing Grievance – Grievance Redressal Procedure

Case study on conflict in organizational behavior.

Unit V   Direction   10 h

Direction – Supervision – Control - Leadership –Types of Leadership - Leadership theories, Theories of supervision.

Note: Case Studies related to the above Topics to be discussed Examined Internally.

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Text Books

1   Aswathappa. K, 2024, Human Resource Management: Text and Cases, 10th Edition, MC Graw Hill Education India Pvt Ltd., Chennai.

2   Gupta, C.B., 2022, Human Resource Management, 19th Edition, Sulthan Chand and Sons, New Delhi.

References

1   Prasad,L.M., 2019, Organizational behavior, 6th Edition, S. Chand Publishing, New Delhi.

2   Balaji. C.D., 2018, Human Resource Management, 1st Edition, Margham Publication, Chennai.

3   Fred Luthans., 2015, Organizational Behaviour, 10th Edition, Tata McGraw-Hill Education, New Delhi.

4   Memoria, C.B., 2014, Personnel Management, 24th Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.

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2. Gupta, C.B., 2022, Human Resource Management, 19th Edition, Sulthan Chand and Sons, New Delhi.

References

1. Prasad,L.M., 2019, Organizational behavior, 6th Edition, S. Chand Publishing, New Delhi.

2. Balaji. C.D., 2018, Human Resource Management, 1st Edition, Margham Publication, Chennai.

3. Fred Luthans., 2015, Organizational Behaviour, 10th Edition, Tata McGraw-Hill Education, New Delhi.

4. Memoria, C.B., 2014, Personnel Management, 24th Edition, Himalaya Publishing House Pvt. Ltd., Mumbai.

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