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

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore
Approved by Government of Tamilnadu and Accredited by NAAC with 'A++' Grade (3rdCycle)
Dr. N.G.P.- Kalapatti Road, Coimbatore-641048, Tamilnadu, India
Web: www.drngpasc.ac.in | Email: info@drngpasc.ac.in | Phone:+91-422-2369100

REGULATIONS 2023-24 for Under Graduate Programme

(Outcome Based Education model with Choice Based Credit System)

Bachelor of Computer Applications

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

Programme: BCA

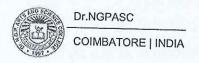
Eligibility

Candidates for admission to the first year of the Bachelor of Computer Applications 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 thereto 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 / Computer Applications 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 concepts of key areas in Computer Applications.
PO2	Develop student's profession and ethical attitudes, effective communication, team work and logical proficiency.
PO3	Apply knowledge of mathematical, algorithmic and computing skills.
PO4	Make use of modern tools and techniques to develop software.
PO5	Develop practical skills to fulfill the needs of industry and society.

Bachelor of Computer Applications

Credits Distribution

Part	Subjects	No. of Papers	Credit	Semester No.
I (12 Credits)	Tamil / Hindi / French/Malayalam	4	4 x 3 = 12	I - IV
II (12 Credits)	English	4	4 x 3 = 12	I - IV
	Core (Credits 3)	2	$2 \times 3 = 6$	I - VI
	Core (Credits 4)	11	11x4 = 44	I - VI
	Core Practical (Credits 2)	05	05x2=10	I - VI
III (108	Core Practical (Credits 5) - Embedded	02	02x5=10	III-IV
Credits)	Inter Departmental Course (IDC)	4	4x4=16	I - 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
	Environmental Studies (AECC)	1	1x2=2	I
IV	Basic Tamil/Advanced Tamil/Human Rights, & Women's Rights (AECC)	1	1x2=2	II
8 Credits)	Generic Elective (GE)		1x2=2	V
	Innovation & IPR/ Innovation, IPR & Entrepreneurship (AECC)	1	1x2=2	VI
V 2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/C lubs		1x2=2	I - II
	TOTAL CREDITS		142	

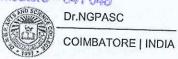


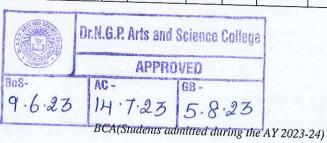
CURRICULUM

BCA PROGRAMME

Course Code	Course	Course Name			Max I	Marks	Credits			
In the second	Category				r	(hours)	CIA	ESE	Total	Ortun
First Semester								1 201	1	
Part– I			H			gerre 4.		16.7		
231TL1A1TA		Tamil–I	1	T	П					
231TL1A1HA		Hindi-I	W.A.				25		L. SLA	
231TL1A1MA	Language-I	Malayalam-I	4	1	-	3		75	100	3
231TL1A1FA		French -I								
Part-II				1						- V
231EL1A1EA	Language-II	English -I	4	-	1	3	25	75	100	3
Part– III					1					
234AIIA1CA	Core-I	Problem Solving and Programming in C	4	1	(c)	3	25	75	100	4
234CA1A1CP	Core Practical-I	C Programming	-	-	4	3	40	60	100	2
34IT1A1CA	Core-II	Digital Computer Fundamentals	4	-	-	3	25	75	100	4
32MT1A1IC	IDC-I	Numerical Methods and Statistics	4	1	PANE 1	3	25	75	100	4
Part-IV		The state of the s	1)	ley Y		40 40				
33MB1A1AA	AECC-I	Environmental Studies	2	-	-	3	50	30'53	50	2
Part-V										
34CA1A1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs	HA.	-			50	-	50	1
	Total		22	3	5		-	-	700	23

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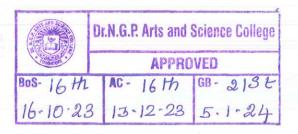




Course Code	Course	Course Name				Exa	I	Iax Ma	rks	
15	Category		L	T	P	m (hrs)	CIA	ESE	Total	Credit
Second Semeste	er					(====)				
Part-I				1 3						
231TL1A2TA		Tamil-II		1						
231TL1A2HA		Hindi-II								
231TL1A2MA		Malayalam-II	4	1	-	3	- 25	75	100	3
231TL1A2FA	Language-I	French -II								-47
Part- II										4,
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
234CA1A2CP	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	3									
231TL1A2AA		Basic Tamil								
231TL1A2AB	AECC-II	Advanced Tamil								
235CR1A2AA		Human Rights and Women's Rights	2	-	77 <u>=</u>	-	50	-	50	2
Part-V		· · · · ·								
234CA1A2XA	Extension Activity	NSS/NCC/YRC /RRC/Yoga /Sports/Clubs				1	50	-	50	1
		Total	22	3	5		per.		700	23

R. N. 16/W/23

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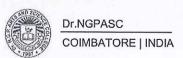


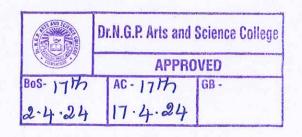




Course Code	Course	Course Ni-	L	m	D	Exam	M	ax Ma	ırks	Cuadite
Course Code	Category	Course Name	L	Т	P	(h)	CIA	ESE	Total	Credits
Third Semester			1 /							
Part - I					197					
231TL1A3TA		Tamil–III								
231TL1A3HA	T	Hindi-III	3	1		2	25	75	100	2
231TL1A3MA	Language-I	Malayalam-III				3	25			3
231TL1A3FA		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
234CT1A3EP	Core Practical- III	Java Programming	3	1	4	3	40	60	100	5
234CS1A3CA	Core-VI	Operating Systems	3	1	1	3	25	75	100	3
234CA1A3SP	SEC Practical-I	SQL Programming	-		4	3	40	60	100	2
235PA1A3IA	IDC-III	Business Accounting	4	-	-	3	25	75	100	4
	Total		20	2	8		_		700	24

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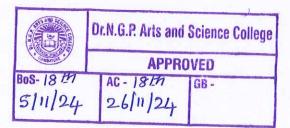




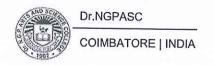


Course Code	Course	Course Name	L	Т	P	Exam	M	ax Ma	rks	Credits
	Category	Sourse I (ame		1	•	(h)	CIA	ESE	Total	
Fourth Semeste	er									
Part–I										
231TL1A4TA		Tamil-IV							=	
231TL1A4HA		Hindi -IV			_	3	25		100	
231TL1A4MA	Language-I	Malayalam - IV	3	1	-			75		3
231TL1A4FA		French - IV			10.3					
Part -II										
231EL1A4EA	Language-II	English -IV	3	1	-	3	25	75	100	3
Part -III							1			
234CT1A4CA	Core-VII	Computer Networks	4	-	-	3	25	75	100	4
234CA1A4EP	Core Practical-IV	Python Programming	3		4	3	40	60	100	5
234CA1A4CA	Core-VIII	Cyber Security	3		-	3	25	75	100	3
234CA1A4SP	SEC Practical-II	Big Data Technologies	-		4	3	40	60	100	2
232MT1A4IC	IDC-IV	Operations Research	4	-	-	3	25	75	100	4
	Total		20	2	8		_	-	700	24

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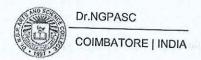




Course Code	Course	Course Name	L	T	P	Exam	N	Iax M	arks	~
	Category	- Comise Hame	L		1	(h)	CIA	ESE	Total	Credits
Fifth Semester										AME
Part-III										
234CA1A5CA	Core - IX	Artificial Intelligence	4	-	-	3	25	75	100	4
234CA1A5CB	Core - X	C# Programming	4	-	-	3	25	75	100	4
234CA1A5CC	Core - XI	Software Engineering	4	-		3	25	75	100	4
234CA1A5CP	Core Practical - V	Software Testing	-	-	4	3	40	60	100	2
234CA1A5CQ	Core Practical - VI	C# Programming	-	-	4	3	40	60	100	2
234CA1A5SP	SEC Practical - III	Creative Web Design	-	1	4	3	40	60	100	2
234CA1A5DA		Computer Graphics								
234CA1A5DB		Data Mining	4	-	-	3	25	75	100	4
234CA1A5DC	DSE - I	Internet of Things				. 4		1	2	
234CA1A5TA	HTP.	Industrial Training	-	-	-	3	25	75	100	2
Part-IV					d'au	434		ingi II		
	GE		2	-	-	3	50		50	2
	Total		18	-	12	_	_		850	26

Course Code	Course	Course Name	L	T	P	Exam	N	Iax Ma	ırks	
Tylking suifa	Category	- Course Hame	-	1	r	(h)	CIA	ESE	Total	Credit
Sixth Semester										
Part-III										
234CA1A6CA	Core - XII	Open Source Technologies	4	-	-	3	25	75	100	4
234CA1A6CP	Core Practical - VII	Open Source Technologies	-	_	4	3	40	60	100	2
234CA1A6CV	Core - XIII	Project Work		- 10	8	3	25	75	100	4
234CA1A6SP	SEC Practical - IV	Multimedia Technologies		-	4	3	40	60	100	2
234CA1A6DA		Computer Vision								
234CA1A6DB	DSE –II	Machine Learning	4	-	-	3	25	75	100	4
234CA1A6DC		Cloud Technologies								
34CA1A6DD		Augmented Reality and Virtual Reality			Ext.					
34CA1A6DE	DSE - III	Deep Learning	4	-	-	3	25	75	100	4
34CA1A6DF		Blockchain Technologies					4,340			elu!
ART IV		To stand			- 10	American IV			da.eh	
233BC1A6AA	AECC - III	Innovation, IPR and Entrepreneurship	2	-	-	3	50		50	2
	Total		14 -		16	-	-	- 6	550	22
		* Grand total							4300	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	234CA1A5DA	Computer Graphics
2	234CA1A5DB	Data Mining
3	234CA1A5DC	Internet of Things

Semester VI (Elective II)

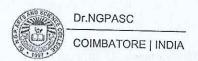
List of Elective Courses

S. No.	Course Code	Name of the Course
1	234CA1A6DA	Computer Vision
2	234CA1A6DB	Machine Learning
3	234CA1A6DC	Cloud Technologies

Semester VI (Elective III)

List of Elective Courses

S. No.	Course Code	Name of the Course						
1	234CA1A6DD	Augmented Reality and Virtual Reality						
2	234CA1A6DE	Deep Learning						
3	234CA1A6DF	Blockchain Technologies						



GENERIC ELECTIVE COURSES (GE)

The following are the courses offered under Generic Elective Course

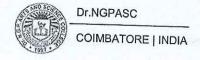
Semester V (GE)

EXTRA CREDIT COURSES

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

Semester III

S. No.	Course Code	Name of the Course
	234CA1ASSA	Program logic and Computer Fundamentals
2	234CA1ASSB	Internet Technologies



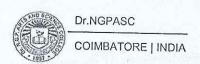
UG-REGULATION (R5)

(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):

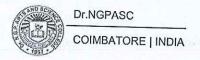
The Ability Enhancement Compulsory Courses such as i)Environmental Studies, ii) Human Rights and Womens' Rights, iii) Innovation and IPR/ Innovation, IPR and Entrepreneurship are offered during I,II and VI Semester.

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



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

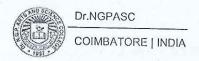
Project Work : 1 credit for 2 hours of project work per week

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 45 th working day)	5
2	Model (All 5 Units) (On completion of 85 th working day)	5
3	Attendance	5
4	Library Usage	5
5	Skill Enhancement *	5

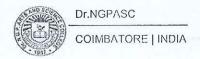
Total 25

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.

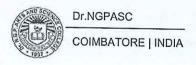
*Components for "Skill Enhancement" may include the following:

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 classListening SkillsBehaviour
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 ProblemDesign and quality of surveyAnalysis 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



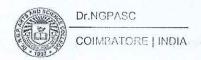
		Analysis of the ReportPresentation
8	Book Review	 Content Interpretation and Inferences of the text Supporting Details Presentation
9	Journal Review	 Analytical Thinking Interpretation and Inferences Exploring the perception if chosen genre Presentation
10	e-content Creation	 Logo/ Tagline Purpose Content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

ii) Distribution of External Marks (ESE) Total

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	Million Branch Co.	External Marks
1	Practical	durantah menangan berangan ber	40
2	Record	dismont A. E. S. L. C.	10
3	Viva- voce		10
	Taurin	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

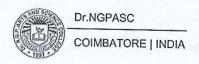
S.No.	Particulars	Internal Marks
1	Review I	15
2	Review II	20
3	Attendance	5
	Tot	ral 40

ii) Distribution of External Marks

S.No Particulars	External Marks
Project Work / Internship / Industrial trainin Presentation	g 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 4^{th} semester

Credit transfer will be decided by equivalence committee

S. No.	Course Code	Course Name	Proposed NPTEL Course	Credit
1	n ar nerara sa C		Option - 1 Paper title	
i la	eliu salivijaji di		Option – 2 Paper title	2
			Option - 3 Paper title	
2			Option - 1 Paper title	2
			Option – 2 Paper title	
			Option – 3 Paper title	

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
			Course II	Option 1- Paper Title Option 2- Paper Title Option 3- Paper Title	Paper in V or VI semester

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)	
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.

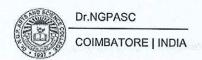
Self study Course

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

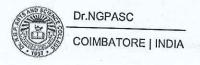
Development of model/ Products /Prototype /Process/App/Registration of Patents/ Copyrights/Trademarks/Sponsored Projects /Consultancy

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)
	The second secon

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	
4	Practical Record	10
5	Test-III & Viva –Voce(10+10)	20
	Total	50

Question paper pattern AECC & AEEC

Test	MARKS	DESCRIPTION	TOTAL	
CIA Test I	$50 \times 1 = 50 \text{ Marks}$		TOTAL	Remarks
1 Hour First 2.5 Units	30 X 1 – 30 Warks	MCQ	50 Marks	Marks secured will be
HE DI RING BUT				Converted
CIA test II/	$50 \times 1 = 50 \text{ Marks}$	1400	2 1 N	to 15 marks
Model test	ook 1 oo warks	MCQ	50	Marks secured
1 Hour	THE NAME OF THE PARTY OF	parest expedience	Marks	will be
All five Units				Converted
			WHITE THE	to 15 marks

Question pa	per pattern	Total Marks - 50	
Basic Tam Section -A Choose the correct answer Section -B	10x2=20	Advanced Tam Section -A Choose the correct answer	
True or false Section -C	10x2=20	Section -B Fill in the blanks Section -C	10x2=20
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 1/2 Hours-2.5 Units] - 25 Marks

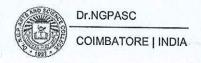
SECTION	MARKS	DESCRIPTION	TOTAL	Remarks	
Section - A	8 x 0.5 = 04 Mark	MCQ		Marks	
Section - B	3 x 3 = 09 Mark	Answer ALL Questions	25 Mark	secured will be	
Section - C	2 x 6 = 12 Mark	Either or Type ALL Questions Carry Equal Marks		converted To 5 mark	

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

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

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

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

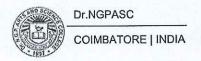
CO Number	CO Statement	Knowledge Level	
CO1 வாழ்க்கைத் திறன்கள் (Life Skills)- மாணவர்களி செயலாக்கத் திறனை ஊக்குவித்தல்		К3	
CO2	மதிப்புக்கல்வி (Attitude and Value education)		
CO3	பாட இணைச்செயல்பாடுகள் (Co-curricular activities)	K4	
CO4	CO4 சூழலியல் ஆக்கம் (Ecology)		
CO5	மொழி அறிவு (Tamil knowledge)	K5	

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		√		Water to the second	
CO2		✓			
CO3	A ROS WARD	1		Man Wei	H Name of the last
CO4		1			
CO5		✓	- 4 fp L		

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

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I மறுமலர்ச்சிக் கவிதைகள்

13 h

1. இலக்கிய வரலாறு தமிழ்ப்பணிகள்

மறுமலர்ச்சிக்

கவிஞர்களின்

2. பாரததேசம்

- பாரதியார்

3. 山頃

- 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' கண்ணதாசன்

எனத் தொடங்கும் பாடல்

Unit II புதுக்கவிதைகள்

13 h

1. இலக்கிய வரலாறு

புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும்

2. கடமையைச் செய்

- மீரா

3. மலையாளக் காற்று

- சிற்பி

4. ஓப்பிலாத சமுதாயம்

- அப்துல் ரகுமான்

5. கன்னிமாடம் 6. கரிக்கிறது தாய்ப்பால்

- மு.மேத்தா

7. ஐந்தாம் வகுப்பு 'அ' பிரிவு - நா. முத்துக்குமார்

- ஆரூர் தமிழ்நாடன்

8. ஹைகூ கவிதைகள்

- 10 கவிதைகள்

Unit III பெண்ணியம்

09 h

1. தொலைந்து போனேன்

- தாமரை

2. நீரில் அலையும் முகம்

- அ. வெண்ணிலா - பொன்மணி வைரமுத்து

3. தற்காத்தல்

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

- ஜெயகாந்தன்

4. பொம்மை 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 அறிகல்)

ஆ. படைப்பாக்கம்

1. கவிதை - எழுதுதல் (15 வரிகள் முதல் 30 வரிகள் வரை)

2.சிறுகதை - எழுதுதல்

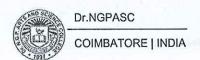
(குறைந்தது 3 பக்கங்கள்)

Text Book

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

References

- பேராசிரியர் புலவர் சோம. இளவரசு, எட்டாம் பதிப்பு 2014, தமிழ் 1 இலக்கிய வரலாறு – மணிவாசகர் பதிப்பகம், சென்னை – 600 108.
- பேராசிரியர் முனைவர் பாக்கியமேரி, முதற் பதிப்பு -2 இலக்கணம் -இலக்கிய வரலாறு - மொழித்திறன் - பூவேந்தன் பதிப்பகம், சென்னை-600 004.
- 3 இணையதள முகவரி: https://www.tamilvu.org



Course Code	Course Name	Category	L	T	P	Credit
231TL1A1HA	HINDI-I	LANGUAGE-1		1		
		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	por
CO1		1	200	104	PO5
CO2		1			
CO3		1			
CO4	A Marie State	1	Care com	da Vaxon majere	
CO5		1	Sea of Friends	The The State of	

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

231TL1A1HA HINDI-I SEMESTER I

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

13 h Unit I गद्य – नूतनगद्यसंग्रह(जयप्रकाश)पाठ 1- रजियापाठ 2- मक्रीलपाठ 3- बहतापानीनिर्मला पाठ ४- राष्ट्रपितामहात्मागाँधी 13 h Unit II कहानीकुंज- डाँवी.पी. 'अमिताभ'(पाठ 1-4) Unit III 12 h व्याकरण: शब्दविचार (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: सुमित्रप्रकाशन 204 लीलाअपार्ट्मेंट्स, 15 हेस्टिंग्सरोड'अशोकनगरइलाहाबाद-211001
- 2 प्रकाशक: गोविन्दप्रकाशनसदरबाजार, मथुराउत्तरप्रदेश-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	Т	P	Credit
231TL1A1MA	MALAYALAM- I	LANGUAGE - I	-	-		0
		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, 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

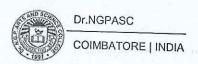
CO Number	CO Statement	Knowledge Level
CO1	Learn the fundamentals of novels and stories	K1
CO2	Understand the principles of translation work	K2
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Apply creative ability	
CO5	Build the power of creative reading	K3
	1	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	noa		
CO1		102	PO3	PO4	PO5
CO2		V			
		V			
CO3		✓			710
CO4		1			
CO5	Market Sales Legal	1			Mar - Market

COURSE FOCUSES ON

✓	Skill Development	1	Entrepreneurial Development
✓	Employability		Innovations
✓	Intellectual Property Rights	✓	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/



231TL1A1MA MALAYALAM - I SEMESTER I

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

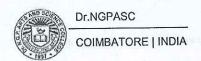
Unit I	Novel		14 h
Pathumma	yude Adu		
Unit II	Novel		10 h
Pathumma	yude Adu		
Unit III	Short Story		14 h
Nalinakan	thi		
Unit IV	Short Story		10 h
Nalinakan	thi		
Unit V	Practical Applicat	ion	12 h
Expansion	of ideas, General Essa	ay and Translation	

Text Books

- 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	Т	P	Credit
231TL1A1FA	FRENCH - I	LANGUAGE - 1	-			Credit
DEAMORE		EMNGUAGE :	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
- 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

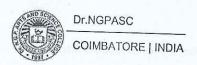
CO Number	mber CO Statement			
CO1	CO1 Learn the Basic verbs, numbers and accents			
CO2	Apply the adjectives and the classroom environment in France	K1		
CO3	Select the Plural, Articles and the Hobbies	K2		
CO4	Measure the Cultural Activity in France	K2 K3		
CO5	Explanation 1			

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	DOS		
CO1		102	PO3	PO4	PO5
CO2					
CO3	T 2 18 27 18 1	1			
CO4		√ ·	1.587 Harty, 11790 13	ed the volution that	i i i i i i i i i i i i i i i i i i i
CO5					

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CUU.		1.6 16	1 1 - 1	

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



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. Ēchanger 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 E

Enchanté I Page 20

12 h

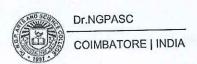
Objectifs de Communication	Tâche	Activités de réception et de production orale
Demander de se presenter.Présenter quelqu'un.	Dans la classe de français, se presenter et remplir une fiche pour le professeur.	 Comprendre les informations essentielles dans un échange en milieu professionnel. Échanger pour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

ns un café, ticiper ne soirée rencontres ides et remplir	 Exprimer ses goûts Comprendre une demande laissée sur un répondeur téléphonique. Parler de ses projets de week-end
aches ppréciation	
Préparation au DELF A1 p	page 42
aniser un programme tivités pour accueillir une	Comprendre une personne demande un service à quelqu'un,
	Demander à quelqu'un de faire quelque chose. Imaginer et raconter au passé à
	onne importante

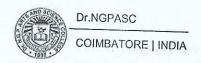
Unit V Practical Application

10 h

Make in Own Sentences

Text Book

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

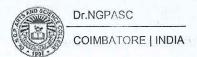
CO Number	CO Statement	Knowledge Level	
CO1	CO1 Identify the various aspects in poetry		
CO2	Infer linguistic and non-linguistic features of the context for understanding and interpreting		
CO3	Construct sentences and convey messages effectively in real life situations		
CO4 Apply different reading strategies with varying speed		К3	
CO5	Prepare modules with their own ideas and present them coherently in a grammatically correct form	КЗ	

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓			
CO2		1			- 21,521,191
CO3	- distribution	√		462 WO 1400	harten
CO4		1	deventable of	Hafyydga Infredi	Tage - Section
CO5		✓			

COURSE FOCUSES ON

1	Skill Development	1	Entrepreneurial Development
✓	Employability	1	Innovations
√	Intellectual Property Rights	1	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics



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 indicationsoutline- paraphrasing the poem- context of poem- form- poetic devicesenjambment- techniques- Annotations

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

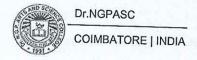
14 h

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

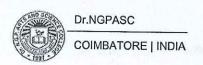
12 h

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

- Gardiner, A. G. 1926. Alpha of the Plough: Second series, J.M. Dent & Sons Ltd., London, United Kingdom. pg.no-151-156. (Unit I)
- 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)
- Mithra, S. M. 1919. Hindu Tales from the Sanskrit, Macmillan & Co Ltd., London, United Kingdom. pg.no-127-142. (Unit I)
- Nation, I. S. P and Jonathan Newton. 2009. Teaching ESL/EFL Listening and Speaking. Routledge, New York, United States. (Unit II)
- Prabha, Dr. R. Vithya & S. Nithya Devi. 2019. Sparkle. (1st Edn.) McGraw Hill Education, Chennai, India. (Unit III– V)

- 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.
- OnSuperstitions."THEHISTORIAN,thehistorian1947.wordpress.com/2019/0 3/08/on-superstitions-by-a-g-gardiner. Accessed 3 Aug. 2022.
- Swales, John M. & Feak, Christine B. 2012. Academic Writing for Graduate Students: Essential Tasks and Skills, University of Michigan Press, Michigan, United States.
- 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	Т	P	Credit
234AI1A1CA	PROBLEM SOLVING AND PROGRAMMING IN C	CORE	4	1	-	4

This course has been designed for students to learn and understand

- The fundamental aspects of programming and problem solving
- The Clanguage fundamentals
- The representation and working of arrays, pointers, functions and files

COURSE OUTCOMES

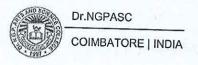
On the successful completion of the course, students will be able to

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.	
CO4	Develop programs using arrays and functions	K3
CO5	Execute programs using pointers, structures and files	K3
	Tograms using pointers, structures and files	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	1		a part of set both	✓	
CO2	1			√	
CO3	1	1	*	✓	
CO4	✓	✓	✓	· /	
CO5	✓	1	1		Marian Maria

COUR	SE FOCUSES ON	Control of the contro
✓	Skill Development	Entrepreneurial Development
V	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/ Human Values/
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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

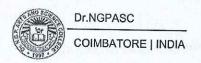
12 h

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.

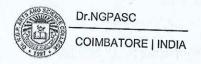


Structures: Defining a structure – Declaring structure variables – Accessing structure member – Array of structures - Structure within structures - Unions. Files: Defining and opening a File – Closing a file – I/O Operations on files - Dynamic memory allocation - Command Line Arguments.

Text Books

- Ashok N. Kamthane, 2009, "Programming and Data Structures", 1st Edition, Pearson Education.
- Byron Gottfried, 2018, "Schaum's Outline of Programming with C", 4th Edition, McGraw Hill Education.

- E.Balagurusamy, 2017, "Programming in ANSI C", 7th Edition, TMH.
- 2 H. Schildt, 2000, "C: The Complete Reference", 4th Edition, TMH.
- ReemaThareja , 2015, "Programming in C", 2nd Edition, Oxford University Press.
- Anita Goel, Ajay Mittal, 2016, "Computer Fundamentals and Programming in C", 1st Edition, Pearson.



234CA1A1CP

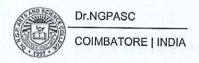
CORE PRACTICAL: C PROGRAMMING

SEMESTER I

Total Credits: 2
Total Instructions Hours: 48 h

S.No	Contents
1	Program using Operators
2	Program to illustrate I/O Statements
3	Program to perform Conditional Statements
4	Program to demonstrate Looping Statements
5	Program to demonstrate String Handling Functions
6	Program to perform Dynamic Arrays
7	Program to perform Recursion
8	Program to implement Structure
9	Program to demonstrate Storage classes & Pre-processor Directives
10	Program to demonstrate Dynamic Memory Allocation
11	Program to implement Files
12	Program to illustrate Command Line Arguments

Note: Out of 12 - 10 Mandatory



Course Code	Course Name	Category	L	Т	P	Credi
234IT1A1CA	DIGITAL COMPUTER FUNDAMENTALS	CORE	4		-	4

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

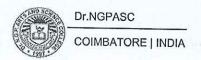
On the successful completion of the course, students will be able to

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	К3
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	- And France		1	1	
CO2	1		CANCE STREET	1	
CO3	1	mangy 🗸 mi La	1	1	1
CO4	✓		1	✓	
CO5	√		1	1	

COURS	SE FOCUSES ON	
1	Skill Development	Entrepreneurial Development
	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/ Human Values/



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

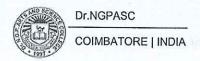
Introduction- Flip-flops-Clocked RS Flip-flop - D Flip-flop - JK Flip-flop - Design of Counters- Registers - Ripple Counters.

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.



45

Text Books

- M.Morris Mano, 2019, "Digital Logic and Computer Design", Pearson India Education.
- Soumitra Kumar Mandal, 2018, "Microprocessors and Microcontrollers Architecture, Programming and Interfacing using 8085, 8086, 8051", 15th Edition, Tata Mc Graw Hill Education.

- S. Salivahanan and S Arivazhagan, 2018, "Digital Circuits and Design", 5th Edition, Oxford University Press, Noida
- Thomas Floyd L., 2015, "Digital Fundamentals", 11th Edition, Pearson Publication Ltd, New Delhi
- M Morris Mano, 2016, "Digital Logic and Computer Design", 5th edition, Pearson
- Aditya P Mathur, 2016, "Introduction to Microprocessor", 3rd Edition, McGraw Hill Education.

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

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

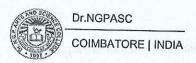
On the successful completion of the course, students will be able to

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	✓	1	✓	And - July	ad make
CO2	✓		. 1	1	714
CO3	✓		✓	✓	
CO4	Special Control		1	1	1
CO5	1	empty of targ	1	1	1

Entrepreneurial Development
Innovations
Gender Sensitization
Constitutional Rights/ Human Values/



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.

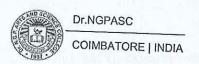
Unit V Test of Significance and Chi-square Test

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



Text Books

(33)

- Sastry S.S., 2012, "Introductory methods of Numerical Analysis", Prentice-Hall of India, New Delhi (Unit I to II)
- Agarwal B L, 2013, Basic Statistics, New age International (P) Limited publishers, New Delhi. (Unit III to V).

- 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
- Wenkataraman M K, 2004,"Numerical Methods in Science and Engineering", 4th Edition, NPC.
- 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	Т	P	Credit
233MB1A1AA	ENVIRONMENTAL STUDIES	AECC	2	-	-	2

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

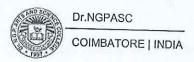
On the successful completion of the course, students will be able to

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		1			
CO2		1		-1-1	
CO3		→			
CO4		✓			
CO5		✓			

<u> </u>	Skill Development	Entrepreneurial Development
1	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/ Human Values/



233MB1A1AA

73

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.

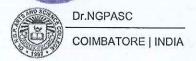
Unit III Biodiversity and Conservation

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, manwildlife conflicts, biological invasions; Conservation of biodiversity: In-situ and Exsitu 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;



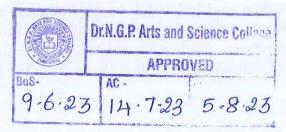
Human Communities and the Environment & Field Work: Human population and growth: Impacts on environment, human health and welfares. Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. Environmental communication and public awareness. Visit to an area to 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

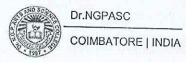
- 1 Carson, R. 2002. Silent Spring. Houghton Mifflin Harcourt.
- 2 Gadgil, M., & Guha, R.1993. This Fissured Land: An Ecological History of India. Univ. of California Press.

- Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment, London, Routledge
- 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
- Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. Science, 339: 36-37.
- 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.









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

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

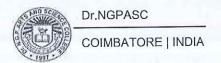
On the successful completion of the course, students will be able to

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)	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓			✓
CO2		✓			✓
CO3		✓			√
CO4		1			✓
CO5		1			√

✓	Skill Development	1	Entrepreneurial Development
✓	Employability	1	Innovations
✓	Intellectual Property Rights	/	Gender Sensitization
✓	Social Awareness/ Environment	/	Constitutional Rights/ Human Values/ Ethics



231TL1A2TA TAMIL- II SEMESTER II

Total Credits: 3

Total Instruction Hours: 60 h

Syllabus

Unit I அற இலக்கியம்

13 h

- 1. இலக்கிய வரலாறு- பதினெண்கீழ்க்கணக்குநூல்கள்
- 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. முதுரை ஔவையார் 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

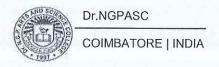
15 h

- 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

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

- 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	Т	P	Credit
231TL1A2HA	HINDI- II	LANGUAGE- I	4	1	-	3

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

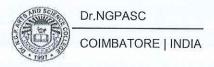
On the successful completion of the course, students will be able to

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	КЗ
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓			✓
CO2		✓			√
CO3		✓			√
CO4		✓			1
CO5		✓			√

/	Skill Development	✓	Entrepreneurial Development
✓	Employability	/	Innovations
✓	Intellectual Property Rights	1	Gender Sensitization
✓	Social Awareness/ Environment	✓	Constitutional Rights/ Human Values/ Ethics



231T	L1A2HA	HINDI- II		SEMES	TER II
			Total	Credits:	3
			Total Instruction	n Hours:	60 h
		Syllabus			
Unit	I				13 h
आधुनि	नेकपद्य – शब	री(श्रीनरेशमेहता)			
Unit	II				13 h
उपन्य	ास: सेवासदन	-प्रेमचन्द			
Unit	III				12 h
कहार्न	गी-किरीट- ड	उषा पाठक / डा अचला पाण्डेय			
पाठ 1	।.कफ़न, ३. च	ोफ़ की दावत			
Unit	IV				12 h
पत्र ले	खनः (औपच	रिक या अनौपचारिक)			
Unit	V				10 h
अनुव	ाद अभ्यास-॥	। (केवल हिन्दी से अंग्रेजी में) (पाठ 1 to	10)		
Text	Books				
1	प्रकाशक: इलाहाबाद.	लोकभारती प्रकाशन पहली मंजिल, (Unit I)	दरबारी बिल्डिंग,	महात्मा गाँ	धी मार्ग,
2	प्रकाशक: र (Unit II)	नुमित्र प्रकाशन २०४ लीला अपार्ट्मेंट्स, १	5 हेस्टिंग्स रोड′अश	ोक नगर इ	लाहाबाद.
3	प्रकाशक: र	ाधाकृष्ण प्रकाशन दिल्ली. (Unit III)			
4	पुस्तक: व्य	करण प्रदिप – रामदेवप्रकाशक: हिन्दी भ	वन ३६ इलाहाबाद.	(Unit IV)	
5	प्रकाशक:	दक्षिण भारत प्रचार सभा चेनैई. (Unit V)			

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

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

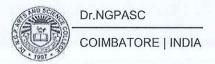
On the successful completion of the course, students will be able to

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	КЗ
CO5	Apply the power of creative reading	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		→			1
CO2		√			√
CO3		✓			✓
CO4		✓			✓
CO5		✓			✓

✓	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

Text Books

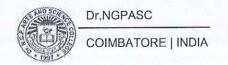
- Ambika SuthanMangad, Enmakaje (Novel), DC Books Kottayam, Kerala, India. (Unit I to III)
- 2 Madhavikkutty, NeermathalamPootha Kalam (Autobiography), DC Books Kottayam, Kerala, India. (Unit IV & V)

References

1 MalayalaNovelSahithyam, DC Books Kottayam, Kerala, India.

NeermathalamPootha Kalam: Chapter 11- Chapter 20

2 MalayalaSahithyaCharithram, National Books Kottayam, Kerala, India.



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

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	КЗ
CO5	Evaluate the sentiments, life style of the French people and the usage of the conditional tense	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓			✓
CO2		✓			✓
CO3		√			✓
CO4		· · ·			✓
CO5		✓	The Sufficient of the		1

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

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.	d'invitationsurunréponde
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Unit II

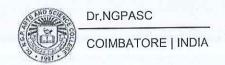
12 h

Prendreet fixer un rendez-vous. Demander etindiquerl'heure.	Organiser une soirée au cinéma avec des amis, par téléphone et par courriel.	personnes qui
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Unit III

12 h

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



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.

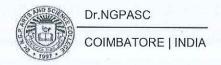
Unit V

10 h

Make in Own Sentences

Text Book

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	Т	P	Credit
231EL1A2EA	ENGLISH- II	LANGUAGE- II	4	-	1	3

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

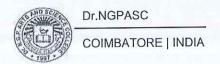
On the successful completion of the course, students will be able to

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	КЗ
CO5	Develop the skill of writing through descriptions, narrations and essays	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		1			✓
CO2		1			✓
CO3		1	A Atrucare N.		✓
CO4		1			✓
CO5	والوباتي	1			✓

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

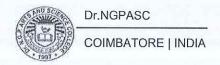
12 h

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

- 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)
- Gardiner, Alfred George. On Habits (n.d.). < Https://www.Gutenberg.Org/Files/47429-H/47429-H.Html/ (Unit I)
 - Murthy, Sudha. The Enchanted Scorpions. (n.d.). <a href="https://www.
- 3 <u>ssgopalganj.in/online/EBooks/CLASS%20VI/Grandma's%20Bag%20of%20</u> Stories%20by%20Sudha%20Murthy.pdf/> pp-34-39. (Unit I)
- Pinski, David. A Dollar a One-act Play.www.one-act-plays.com/comedies/dollar.html/ (Unit I)
- 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)
- Raman, Meenakshi & Sangeeta Sharma. 2016. Technical Communication-Principles And Practice, Oxford University Press, New Delhi, India. (Unit IV)
- Viswamohan, Aysha. 2017. English For Technical Communication (With CD), McGraw Hill (India) Private Limited, New Delhi, India. (Unit V)

- 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
- Krishnaswamy. N, LalithaKrishnaswamy& B.S. Valke. 2015. Eco English,
- 3 Learning English through Environment Issues. An Integrated, Interactive Anthology. Bloomsbury Publications, New Delhi, India.
- Syamala. V. 2002. Effective English Communication for You. Emerald Publishers, Chennai, Tamil Nadu, India.

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

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

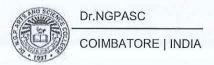
On the successful completion of the course, students will be able to

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	КЗ	
CO4	Apply non linear data structures such as trees and graphs in problem solving	К3	
CO5	Analyze the various sorting, searching algorithms and hashing techniques	K4	

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		Yara Ta		V 1
CO2	✓	✓	~	V 1	✓
CO3	✓	1	1	1	1
CO4	✓	✓	√	V	✓
CO5	✓	✓ ·	√	✓	√

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



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

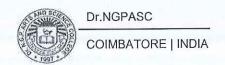
14 h

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

- 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.

- Mark Allen Weiss, 2014, "Data Structures and Algorithm Analysis in C++", Third Edition, Pearson education.
- Yashavant Kanetker, 2003, "Data Structure Through C++ Paperback", 4th Edition, BPB Publications.
- 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	Т	P	Credit
234CS1A2CA	OBJECT ORIENTED PROGRAMMING WITH C++	CORE	4	-	~	4

This course has been designed for students to learn and understand

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

COURSE OUTCOMES

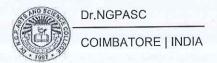
On the successful completion of the course, students will be able to

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

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	/				✓
CO2	✓	1	✓	✓	✓
CO3	✓	1	✓	✓	✓
CO4	/	✓	1	✓	✓
CO5	✓	✓	✓	✓	✓

COURS	E FOCUSES ON	
✓	Skill Development	Entrepreneurial Development
V	Employability	Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	Constitutional Rights/ Human Values/ Ethics



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

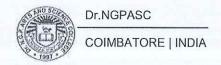
10 h

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

- Ashok Kamthane, 2017, "Object-Oriented Programming with ANSI and Turbo C++ 3rd Edition", Pearson (Unit 1.1 to 1.3).
- Behrouz A. Forouzan, Richard F. Gilberg, 2020, "C++ Programming: An Object-Oriented Approach", McGraw-Hill Education (Unit I to V).

- Bjarne Stroustrup, 2022, "C++ Programming Language, Fourth Edition" Pearson.
- E Balagurusamy, 2020, "Object-Oriented Programming with C++, 8th Edition", McGraw Hill Education
- 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/

234CA1A2CP

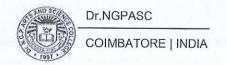
CORE PRACTICAL-II: DATA STRUCTURES AND C++

SEMESTER II

Total Credits: 2
Total Instructions Hours: 48 h

S.No	Contents
1	Program to demonstrate the operations of Stack
2	Program to implement the operations of Queue
3	Program to illustrateLinear and Binary Search
4	Program to implement Bubble sort and Quick sort
5	Program to design Singly Linked List
6	Program to illustrateTree Traversal
7	Program to implement Classes and Objects
8	Program to demonstrate Method overloading
9	Program to analyze Constructors and Destructors
10	Program to implement Inheritance
11	Program to apply Virtual functions
12	Program to demonstrate Evcention Handling

Note: Out of 12 - 10 Mandatory



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

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

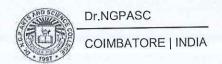
CO Number	CO Statement	Knowledge Level
CO1	Learn the concept of set theory	K1
CO2	Interpret the various optimization problems in term of relations and functions	К3
CO3	Identify applications of logical operators	K2
CO4	Determine the concept of graph theory and trees	K2
CO5	Apply the concept Finite state automation in defining the grammars.	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓	✓	✓
CO2	✓		✓	Macjori e jahan	1
CO3	1	✓	√	1	✓
CO4	√			✓	
CO5	s remark to the		✓	✓	✓

COURSE FOCUSES ON Skill Development Employability Innovations Gender Sensitization Social Awareness/ Environment Constitutional Rights/ Human Values/

Ethics



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.

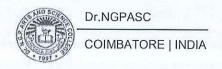
Trees: Introduction - binary trees - complete binary tree - tree of an Algebraic expression - traversing binary trees.

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



Text Books

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

- Tremblay J.P. and ManoharR, 1997,"Discrete Mathematics Structures with Applications to computer science", 2nd Edition, McGraw Hill International, New York
- VenkataramanM.K. SridharanN. and Chandarasekaran N, 2000,"Discrete Mathematics", The National publishing Company, Chennai.
- 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

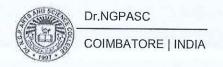
Total Credits: 2

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 05h1. பெயர், முகவரி, பாடப்பிரிவு , கல்லூரியின் முகவரி 2. தமிழ் மாதங்கள்(12), வாரநாட்கள்(7) 3. எண்கள் (ஒன்று முதல் பத்து வரை), வடிவங்கள், வண்ணங்கள் Unit IV குறிப்பு எழுதுதல் 05h1. 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

10x2=20

பகுதி – இ

ஒரு பக்க அளவில் விடையளிக்க

1x10=10

குறிப்பு:

சரியா? தவறா?

• அனைத்து அலகுகளில் இருந்தும் வினாக்கள் அமைதல் வேண்டும்

பகுதி இ–க்கான வினாக்கள் இதுஅல்லது அதுஎன்ற அடிப்படையில் அமைதல் வேண்டும்

Text Book

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

- 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

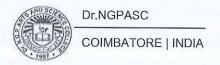
SEMESTER II

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

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

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

- 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	Т	P	Credit
235CR1A2AA	HUMAN RIGHTS AND WOMEN'S RIGHTS	AECC	2	1	-	2

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

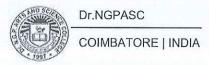
On the successful completion of the course, students will be able to

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.	КЗ
CO4	State the Rights to Women and Child.	K2
CO5	Apply Civil and Political Rights of Women.	К3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓			✓
CO2		✓			.1
CO3		✓			
CO4		✓			✓
CO5		✓			✓

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



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

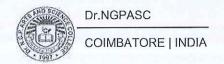
05 h

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 to Sexual 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.



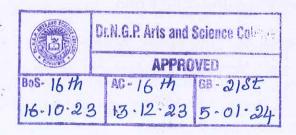
Text Books

- Lalit Parmar, 1998, "Human Rights", Anmol Publications Pvt. Limited, New Delhi.
- 2 Krishna Pal Malik, 2009, "Women & Law ", Allahabad Law University, New Delhi.

References

- Mandagadde Rama Jois, 2015, "Human Rights", Bharatiya Values, Bharatiya Vidya Bhavan Publications, Mumbai.
- Paras Diwan and Piyush Diwan, 1994, "Women and Legal Protection", South Asia Books, Andhra Pradesh.
- Venkataram and Sandhiya. N, 2001, "Research in Value Education", APH Publishing Corporation, New Delhi.
- Anand A S, 2008, "Justice for Women: Concerns and Expressions", Universal Law Publishing Co., New Delhi.

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

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

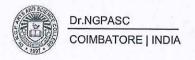
On the successful completion of the course, students will be able to

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)	К3
CO5	மொழி அறிவு(Tamil knowledge)	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	1	✓	✓		The latest
CO2		A MANAGEMENT		✓	
CO3		✓			
CO4	✓		√		T. WILL
CO5	1			✓	7-1-1

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



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

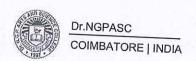
10 h

- 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



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

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

Text Book

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

- 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: <u>https://www.tamilvu.org</u>

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

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	
CO2	Understand the principles of translation work	K1
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K2
CO5	Apply the power of creative reading	K3
	1 11-5 Forest of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

PO1	PO2	PO3	PO4	70-
1		100	FO4	PO5
			✓	✓
	1			1
✓		1	/	
1	1			✓
	PO1 ✓	PO1 PO2	PO1 PO2 PO3	PO1 PO2 PO3 PO4

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

231TL1A3HA	HINDI- III	SEMESTER III
		Total Caralia

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

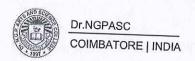
Unit V

08 h

अनुवादअभ्यास-III (केवलहिन्दीसेअंग्रेजीमें) (पाठ10 to 20)

Text Books

- प्रकाशक: जवाहर पुस्तकालय सदर बाजार, मथुराउत्तर प्रदेश-281001(Unit I)
- 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	Т	P	Credi
231TL1A3MA	MALAYALAM- III	LANGUAGE-I	3	1	_	3

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	
CO3	Expose the knowledge writing critical views on fiction	K2
CO4	Build creative ability	K2
CO5	Apply the power of creative reading	K3
	11 7 Porter of electrive reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	1			104	105
CO2	1			Y	
CO3		1	<u> </u>		~
CO4	✓				,
CO5	✓	√	/	Y	· ·

✓	Skill Development	1	Entrepreneurial Development
1	Employability	V	Innovations
✓	Intellectual Property Rights	1	Gender Sensitization
✓	Social Awareness/ Environment	/	Constitutional Rights/ Human Values/

231TL1A3MA	MALAYALAM- III	
	MILATALAW-III	SEMESTER III

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

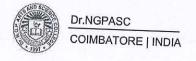
Unit I Poetry	101
Kumaranasan	10 h
Unit II Poetry	10.1
Kumaranasan	10 h
Unit III Poetry	101
Kumaranasan	10 h
Unit IV Poetry	101
VayalarRamavarma	10 h
Unit V Poetry	00.1
VayalarRamavarma	08 h

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.



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

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	КЗ

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	1		6		1
CO2	✓	✓	winds diedene		
CO3			1	1	
CO4	· /	✓			1
CO5	✓	ragail rimya Ya	/	·	1

✓	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:** Total Instruction Hours: 48 h **Syllabus** Unit I 10 h Décrireun lieu. Comprehendre la description Comprendreune partird'unerecherche Situer d'un lieu. presentation de catalogue de documents, Décrireunevilleouunerégionq touristique. composer u'onaime. Comprendre des presentation Interrogersur la situation of pictogrammes. touristique pour un d'un lieu. Comprendre magazine ou un site Comprendre des indications description d'un lieu et internet. sur la fréquenced'actions. d'une situation precise dans un message électronique. Unit II 10 h Se situerdans A Comprehendre la Comprendreune temps. partird'unerecherc description d'un lieu. presentation de he de documents, Décrireunevilleouunerégio catalogue touristique. composer ngu'onaime. une Comprendre des presentation Interrogersur la situation pictogrammes. touristique pour un of d'un lieu. Comprendre la magazine ou un Comprendre des description d'un lieu et site internet. indications sur la d'une situation precise fréquenced'actions. dans un message électronique. Unit III 10 h Raconter. Raconterune scene Comprehendre le récit d Ecrire une biographie a Décrire les insolite à l'oreal et à ún voyage. partir d'eléments écrits. étapesd'une l'écrit. Raconterses actions action. quotidiennes.

Unit IV

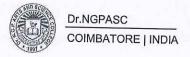
Exprimer l'intensité et la quantité. ° Interroger.	Raconterune scene insoliteà l'oreal et à l'écrit.	Comprehendre le ún voyage. Raconterses quotidiennes.	récit d actions	Ecrire une biographie a partir d'eléments écrits.
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Unit V

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	Т	P	Credi
231EL1A3EA	ENGLISH - III	LANGUAGE- II	3	1	_	3

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	
CO2	Organize the various abilities and sub-skills involved in reading	K2
	Triliga the involved in reading	K3
CO3	Utilize the importance of speaking skills and developing it through various practices	КЗ
CO4	Master diverse business communication formats and skills	TCA
CO5	Acquire all-round mature outlook to function effectively in different	K4
203	context context to function effectively in different	K4

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	non		
CO1		102	PO3	PO4	PO5
COI			1		1
CO2	✓	✓		1	<u> </u>
CO3	1	TOTAL TOTAL	1	· ·	
CO4	✓				✓
CO5	rı -	[/]	, v		1
	LI	[,]	LI I	[✓]	П

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

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

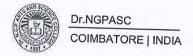
12 h

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

- 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)
- 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)

- 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	Т	P	Credit
234CA1A3CA	DATABASE MANAGEMENT SYSTEMS	CORE	4	-	_	4

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

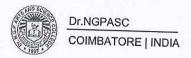
On the successful completion of the course, students will be able to

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

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		1	101	103
CO2	1	- 175-20	/	1	V
CO3	1		1		V
CO4	1	Per Hallery	1	4	Y
CO5	1			Maria de la constanta de la co	✓

✓	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.

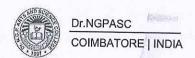
Unit V PL/SQL Composite Data Types and Named Blocks

10 h

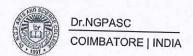
PL/SQL Composite Data Types: PL/SQL Records - PL/SQL Tables - PL/SQL Varrays. Named Blocks: Procedures - Functions - Packages - Triggers.

Text Books

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



- 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	Т	P	Credit
234CT1A3EP	JAVA PROGRAMMING	CORE PRACTICAL	3	-	4	5

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 last 1 1 1 1 2	
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	✓	✓	1	_	/
CO2	1	✓	√		
CO3	✓	✓	√		
CO4	✓	✓	√	√	1
CO5	✓	1	1		,

COUR	SE FOCUSES ON		
✓	Skill Development	✓	Entrepreneurial Development
✓	Employability	1,30	Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/

234CT1A3EP

JAVA PROGRAMMING

SEMESTER III

Total Credits: 5

Total Instruction Hours:

36 L + 48 P h

Syllabus

Unit I Class and Methods

7Lh

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

7Lh

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

7Lh

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

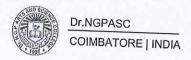
- 9. Program to create user-defined package.
- 10. Program to implement exception handling.
- 11. Program to apply string handling functions.

Unit IV Multithreading and Collections

7Lh

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

8Lh

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

- Herbett Schildt, 2022, "Java: The Complete Reference", Twelfth Edition, Tata McGraw-Hill Publishing Company Limited, New Delhi.
- Paul Deitel and Harvey Deitel, 2015, "Java How to Program", Tenth Edition Deitel & Associates, Inc Publications.

- 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.
- John R. Hubbard, 2020, "Programming with JAVA", Second Edition, Tata McGraw Hill Publications.
- 4 https://www.javatpoint.com/java-tutorial

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

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	CO2 Compute the waiting time and turnaround time using different process scheduling algorithms			
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	✓	1		1	1
CO2	1	1	1		1
CO3	✓	1	1	/	/
CO4	✓	1	1	✓	/
CO5	1	1		1	1

✓	Skill Development	1	Entrepreneurial Development
✓	Employability	/	Innovations
	Intellectual Property Rights		Gender Sensitization
	Social Awareness/ Environment		Constitutional Rights/ Human Values/ Ethics

234CS1A3CA

OPERATING SYSTEMS

SEMESTER III

Total Credits: 3

Total Instruction Hours: 36 h

Syllabus

Unit I Introduction to Operating Systems

6h

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

8h

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

61

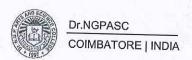
Secondary-Storage Structure: Disk Structure - Disk Scheduling: FCFS Scheduling - SSTF Scheduling SCAN Scheduling-C-SCAN Scheduling-LOOK Scheduling- Selection of a Disk Scheduling Algorithm - RAID structure.

Case Studies: Linux System, Mobile Operating System.

Text Books

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

- Andrew S. Tanenbaum, 2018, "Modern Operating Systems 4e", Pearson Education India.
- Mukesh Singhal, Niranjan G. Shivaratri, 2019, "Advanced Concepts in Operaring System", 10th edition, McgrawHill.
- William Stallings, 2017, "Operating Systems: Internals and Design Principles", 9th Edition, Pearson Education.
- Herbert Bos, S.Tanenbaum, 2020, "Modern Operating System", 6th Edition Pearson education.



234CA1A3SP

SEC PRACTICAL: SQL PROGRAMMING

SEMESTER III

Total Credits: 2
Total Instructions Hours: 48h

S.No

List of Experiments

- Program to create DDL commands in SQL.
- 2 Program to create DML commands in SQL.

Program to create an employee table and perform the following SQL Queries

Viewing all databases, creating a Database, viewing all Tables in a Database, Creating

Tables (With and Without Constraints), Inserting/Updating/Deleting Records in a Table, Saving (Commit) and Undoing (rollback).

Program to perform different types of functions in SQL

Number function

Aggregate Function

4 Character Function

Conversion Function

Date Function

Program to create different types of operators in SQL

Arithmetic Operators

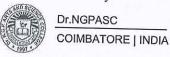
Logical Operators

5 Comparison Operator
Special Operator

Set Operation

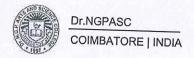
- 6 Program to write a query for Sorting.
- 7 Program to Perform Join Operations on SQL Tables.
- 8 Program to Demonstrate SQL Sub Queries on Tables.
- 9 Program to create a View for a table in SQL.
- Program to create Students Information table in PL/SQL to find the total, average
- marks and results of each student
 - Program to demonstrate PL/SQL to show the uses of implicit cursor without using

any attribute.



- Program to implement PL/SQL to show the uses of explicit cursor without using any attribute.
- Program to design a PL/SQL to prepare the Electricity Bill using Array.
- Program to create a Trigger and perform the following Queries (Creation of insert trigger, delete trigger, update trigger).
- Program to implement the concept of Packages using Procedure and Function.

Note: Out of 15 – 12 Mandatory



Course Code	Course Name	Category L		Т	P	Credit
235PA1A3IA	BUSINESS ACCOUNTING	IDC	4	-	-	4

This course has been designed for students to learn and understand

- The rules of accounting used to enter the business transactions in asystematic manner to maintain books of accounts
- The procedures involved
- The concepts in preparation of accounts

COURSE OUTCOMES

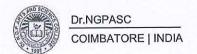
On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level			
CO1	CO1 Know the book keeping concepts and conventions of accounting and rules of accounting and its types.				
CO2	CO2 Capture the procedures relating to pass journal entriesposting of ledger, trial balance and subsidiary books.				
CO3	CO3 Obtain knowledge to prepare final accounts of a sole Trader.				
CO4 Know the consignment accounting and the theoretical aspect of joint venture.		КЗ			
CO5	CO5 Classify and apply appropriate methods of depreciation.				

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		✓	√	1	and William
CO2		~		The state of the state of	1
CO3			1		1
CO4	align as t	- Table 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1		1	
CO5			✓	1	1

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



235PA1A3IA

BUSINESS ACCOUNTING

SEMESTER III

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I Fundamentals of Book Keeping

8h

Fundamentals of Book Keeping: Definition, objectives, methods of accounting, Branches of accounting, Types of Accounts and Accounting rules – AccountingConcepts and Conventions – double entry system – advantage – difference betweendouble entry and single entry

Unit II Accounting Books

10 h

Journal, ledger, and Trial balance, subsidiary books – purchase book, sales books, purchase returns book, sales returns book and cash book with single, double andtriple column cash book

Unit III Final Accounts

10 h

Final Accounts of a sole trader - Trading Account, Profit and Loss Account and Balance Sheet with simple adjustments.

Unit IV Accounting for consignments and Joint ventures

12 h

Accounting for consignments and Joint ventures: Consignment Meaning, definition, features, account sales, valuation of unsold stock, goods sent on consignment at cost price various commission to consignee (only Problem). Joint venture: Meaning, features, distinction between joint venture and partnership, joint venture and consignment. (Only Theory).

Unit V Depreciation

8h

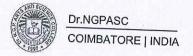
Depreciation - Meaning- Features- Methods- Straight Line Method- WDV Method - Annuity Method.

Note:Distribution of Marks between problems and theory shall be 80% and 20%

Text Books

- Reddy.T.S. and Murthy.A. 2023, Financial Accounting [Second Revised Edition] Margham Publications, Chennai
- Jain.S.P., and Narang, K.L 2021, Advanced Accountancy Principles of Accounting Including GST Volume I [Twentieth Revised Edition]. Kalyani Publishers, New Delhi.

- Shukla M.C Grewal T.S Gupta S.C. 2022, Advanced Accounts Volume I [Nineteenth Edition]. S.Chand& Company Pvt Ltd, New Delhi.
- 2 Maheswari S.K., and Reddy T.S, 2005,"Advanced Accountancy", Vikas publishers, New Delhi



234CA1ASSA

SELF STUDY: PROGRAM LOGIC AND COMPUTER FUNDAMENTALS

SEMESTER III

Total Credits: 1

Syllabus

Unit I Introduction to Computer

Introduction to Computer - Computer System Hardware - Computer Memory.

Unit II Input and Output Devices

Input and Output Devices - Interaction of user and computer.

Unit III Programming Fundamentals and Internet

Computer Programming fundamentals - Internet and Internet services.

Unit IV Information Systems

Information Systems - Multimedia.

Unit V Ms Office

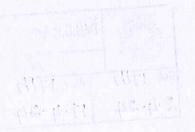
Ms-Word 2007 - Ms-Excel 2007 - Ms -Powerpoint 2007.

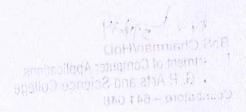
Text Books

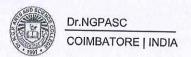
1 Anita Goel, 2010, Computer Architecture, Pearson Publications, 1st Edition.

- V. Rajaraman, 2014, "Fundamental of Computers", Prentice- Hall India Ltd., New Delhi.
- 2 Sinha P.K, 2007, "Computer Fundamentals", BPB Publications, New Delhi
- 3 Dubey, Manoj, 2013, "P C Packages", Kamal Prakashan Publications, Indore.









234CA1ASSB

SELF STUDY: INTERNET TECHNOLOGIES

SEMESTER III

Total Credit: 1

Syllabus

Unit I Introduction

The Internet and Changing IT World - Internet Defined -A brief History of Internet - Administration of Internet - IT Foundations - The Internet and Technology Trends.

Unit II World Wide Web

The Development of the web - Key Web Technologies: URLs, HTTP and HTML - The Invisible Web - Web 2.0 - The Mobile Web - The Social Web - Virtualization , Grids and Clouds - Using the Web

Unit III Network and Connection Technologies

Network Basics-The OSI Reference Model-Key Concepts and Terminology: Network Hardware – Wired Network Topologies – Wireless Networks – Protocols - Connecting to Internet –ISP, Modems, Analog Phone services, Broadband services.

Unit IV Internet Technologies

TCP/IP- UDP and ICMP - Higher Level Internet Protocols: Making the Internet Work- Email: SMTP,POP,IMAP -Protocols for information services- Gopher Protocol, HTTP Protocol.

Unit V Web Design and Graphics

Web Design Overview-Site Planning Typography and Fonts - Graphics and Color in Design.

Text Books

Joseph B. Miller "Internet Technologies and Information services", ABC-CLIO, LLC, Second Edition, 2014.

References

Margaret Levine Young, Doug Muder, Dave Kay, Kathy Warfel, Alison Barrows, " Internet: The Complete Reference", McGraw-Hill.

Bos Chairman/HoD

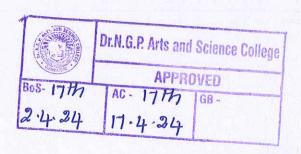
Interest of Computer Applications

G. P. Arts and Science College

Coimbatore – 641 048

Dr.NGPASC

COIMBATORE | INDIA





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

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

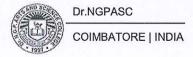
On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level		
CO1	வாழ்க்கைத் திறன்கள் (Life Skills)- மாணவர்களின் செயலாக்கத் திறனை ஊக்குவித்தல்	КЗ		
CO2	O2 மதிப்புக்கல்வி (Attitude and Value education)			
CO3	3 பாட இணைச்செயல்பாடுகள் (Co-curricular activities)			
CO4 சூழலியல் ஆக்கம் (Ecology)		K4		
CO5	CO5 மொழி அறிவு (Tamil knowledge)			

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		1			
CO2		1			
CO3		1			
CO4		1			
CO5		1			TE LINE

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



231TL1A4TA TAMIL-IV SEMESTER IV

Total Credits: 3

Total Instruction Hours: 48 h

Syllabus

Unit I எட்டுத்தொகை

10 h

1. நற்றிணை – குறிஞ்சித் திணை

l.பா.எண் : 01 – கபிலர்

II.பா.எண் : 88 – நல்லந்துவனார்

III.பா.எண் : 102 – செம்பியனார்

2. குறுந்தொகை – முல்லைத்திணை

l.பா.எண் : 65 – கோவூர்கிழார்

II. பா.எண் : 167 – கூடலூர்கிழார்

மருதத்திணை

l.பா.எண் : 08 – ஆலங்குடி வங்கனார்

II.பா.எண் : 61 – தும்பிசேர்கீரனார்

III.பா.எண் :196 – மிளைக் கந்தன்

நெய்தல் திணை

l.பா.எண் : 57 – சிறைக்குடி ஆந்தையார்

Unit II எட்டுத்தொகை

08 h

1. கலித்தொகை – பாலைக்கலி

l.பா.எண் : 09 *–* பெருங்கடுங்கோ

2. அகநானூறு - மருதத்திணை

l.பா.எண் : 86 – நல்லாவூர்கிழார்

3. புறநானூறு

l.பா.எண் : 188 – பாண்டியன் அறிவுடை நம்பி

II.பா.எண் : 192 – கணியன் பூங்குன்றனார்

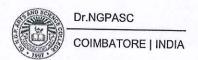
III.பா.எண் : 279 – ஒக்கூர் மாசாத்தியார்

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

- l. 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

- 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	Т	P	Credi
231TL1A4HA	HINDI - IV	LANGUAGE- I	3	1	_	3

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

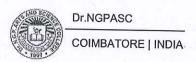
On the successful completion of the course, students will be able to

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		✓			1.753.00
CO3		1	remarkly for the		
CO4		✓			
CO5	V	1			

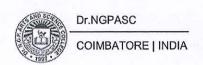
✓	Skill Development	-	Entrepreneurial Development
✓	Employability	-	Innovations
-	Intellectual Property Rights	-	Gender Sensitization
-	Social Awareness/ Environment	-	Constitutional Rights/ Human Values/



231TL1A4HA	HINDI- IV	SEMEST	ER IV
	Tot	al Credits:	3
	Total Instruct	ion 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- ॥।			

Text Books

- वडाई सर्वेश्वरदयाल सक्सेना प्रकाशक: वाणी प्रकाशन 21-A, दिरयागंज नई दिल्ली-110002. (Unit I)
- एकांकी पंचामृत डाँ राम कुमार (भोर और तारा छोड्कर) प्रकाशक: जवाहर पुस्तकालय 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 (पाठ 10 to 20). (Unit V)



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

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	КЗ
CO5	Apply the power of creative reading	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		1			
CO2		/			
CO3		/			
CO4		1			
CO5		/		ese France de no 1997	

✓	Skill Development		Entrepreneurial Development
1	Employability		Innovations
-	Intellectual Property Rights	T-1	Gender Sensitization
-	Social Awareness/ Environment	-	Constitutional Rights/ Human Values/ Ethics

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

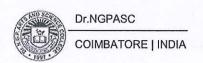
Perumthachan-Vasudevan Nair

Text Books

- Nair, Sreekandan C.N. 2023. Saketham, Drama. DC Books Kottayam, Kerala, India. (Unit I to III)
- Nair, Vasudevan M.T. 1994. Perumthachan- Screenplay. DC Books Kottayam, Kerala, India. (Unit IV & V)

Reference

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



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

This course has been designed for students to learn and understand

- $^{\bullet}$ 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

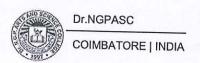
On the successful completion of the course, students will be able to

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	

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1		1		101	103
CO2		1			
CO3		/			
CO4		1			
CO5	·	/			

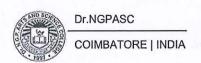
✓	Skill Development	 Entrepreneurial Development
✓	Employability	 Innovations
	Intellectual Property Rights	Gender Sensitization
	Social Awareness/ Environment	 Constitutional Rights/ Human Values/



231TL1A4FA	FRI	ENCH - IV	SEMESTER IV
	5	Total Ins Syllabus	Total Credits: 3 truction Hours: 48 h
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 ur extrait de roman.
Unit II			10 h
ExprimerPaccord ou le désaccord. ° Se situerdans le temps.	professional, crecruiter quelquún et e	Décrire des personnes. Comprendre des personnes qui experiment leur accord puleurdésaccord.	Comprendre de différences de points de vueexprimétesdans de message électronique. Raconter unsourvenir.
Unit III	والمرافعة فالبراث	i i marga yang persebagai	10 h
Pavenir. I'c vc gr fic	iscuter de organisation d'un oyage de oupepuispréparerune che projet et la mplit.	chanson. Echangersursesprojets de vacancy	Comprendre le message d'une carte d'anniversaire
Unit IV			10 h
° Exprimer des souhaits. ° Décrirequelq u'u n	Discuter l'organisation d' voyage groupepuispréparere fiche projet et templit.	de Discuter du 'un programme de la de soire à venir une Addresser des la souhaits à quelqu'un.	message d'une carte d'anniversaire

Text Book

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



Make in Own Sentences based on the above Lessons

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

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

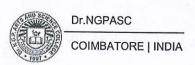
On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level		
CO1	CO1 Summarize main points and supporting details from listening to public addresses and demonstrate poem comprehension.			
CO2	CO2 Demonstrate clear and expressive speech while engaging in role-play and dramatization activities.			
CO3	CO3 Interpret textual elements such as themes, tone, and authorial intent in various reading materials.			
CO4	CO4 Develop clear summaries and paraphrases, maintaining the essence of the original text.			
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		1	MIT WILLIAM		11:14
CO2		1			
CO3		1	Late Company of the control		Taring .
CO4		1		S in mast	
CO5		1			

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



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

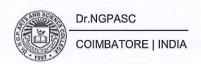
Grammar - Paraphrasing - Use of Paraphrasing, Characteristics of a good paraphrase, The Paraphrase of Poetry, Special Hints, Method of Procedure

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



Text Books

- 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)
- 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)
- Orwell, George. "Why I Write." George Orwell: An Anthology of His Prose, edited by John Carey, Harcourt, 2000. pp. 232-237. (Unit IV)
- Meyer, John. The Soft Skills Handbook for Corporate Success: Essential Strategies for Business Professionals. 2nd ed., Business Insights, 2020. (Unit V)

References

- Lawrence, D.H. The Complete Poems of D.H. Lawrence. Edited by V.J. Harding, 1st ed., Heinemann, 1992.
- Buczynski, Mark. Soft Skills for the Workplace: How to Build Successful Relationships and Advance Your Career. 2nd ed., Wiley, 2018.
- 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	Т	P	Credit
234CT1A4CA	COMPUTER NETWORKS	CORE	4	_	- J	4

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

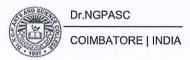
On the successful completion of the course, students will be able to

CO Number	CO Statement	
CO1		
CO2		
CO3		
CO4	Identify the services provided by Transport layer to upper layers and differentiate TCP and UDP Protocols.	К3
CO5	Infer the working principles of Application layer.	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		✓		1
CO2	✓	1111	✓	1	1
CO3	✓	~	✓	✓	1
CO4	✓	✓	✓		1
CO5	1	100 P. 10 - 100 -	1	per continues in	√

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



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

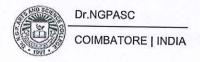
8 h

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

- Andrew S. Tanenbaum, Nick Feamster, David J. Wetherall, 2022, "Computer Networks", Sixth Edition, Pearson.
- 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.
- James F. Kurose, Keith W. Ross, 2021, "Computer Networking: A Top-Down Approach", Seventh Edition, Pearson.

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

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

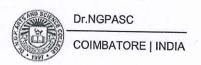
On the successful completion of the course, students will be able to

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	1				1
CO2	1		1	✓	1
CO3	1	1	✓	1	1
CO4	1	1	1	/	1
CO5	1	1	1	1	-

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



234CA1A4EP PYTHON PROGRAMMING SEMESTER IV

Total Credits: 5

36 L+

Total Instruction Hours:

48 Ph

Syllabus

Unit I **Fundamentals and Decision Making**

7L +9Ph

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**

7L +

9Ph

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

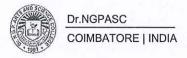
8L +

10 Ph

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

7L +

10 Ph

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

7L +

10 Ph

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

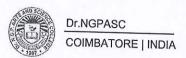
- 15. Programs for Sorting and Ranking.
- 16. Programs to read CSV files.
- 17. Programs to read and write HTML Files.
- 18. Design the GUI application for the registration form.
- 19. Design and create Menus using GUI.

Text Books

- 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

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



- 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

Course Code	Course Name	Category	L	T	P	Credit
234CA1A4CA	CYBER SECURITY	CORE	3		_	3
PREAMBLE						J

This course has been designed for students to learn and understand

- Information Security and Cyber Security
- Cyber Crime and Security Challenges
- Legal perspectives of Cyber Crime and Cyber Security

COURSE OUTCOMES

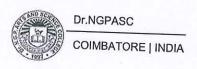
On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge Level
CO1	Learn the basics of Information security and Cyber security.	K1
CO2	Describe the fundamentals of Cyber Crime.	
CO3	Illustrate the different types of Cyber Attacks.	K1
CO4	Interpret the Security measures for Mobile and Wireless Devices.	K2
CO5	Discover the Legal perspectives of Cyber Crime and Cyber Security.	K2
DDING M	ATH PROCE AMME OF THE COLUMN	K2

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	1				103
CO2	✓	1			
CO3	1	✓			
CO4	1		✓	√	
CO5	1	1			-

V	Skill Development	Entrepreneurial Development
✓	Employability	Innovations
1 4	Intellectual Property Rights	Gender Sensitization
✓	Social Awareness/ Environment	Constitutional Rights/ Human Values/



234CA1A4CA

CYBER SECURITY

SEMESTER IV

Total Credits: 3

Total Instruction Hours: 36 h

Syllabus

Unit I Information Security and Cyber Security

7 h

Information Security: Principles, Supporting principles, Policies – Cyber Security: Overview, Difference between Information Security and Cyber Security, Common Threats, Importance, Strategy components.

Unit II Cyber Crime

8 h

Introduction: Cyberspace, Cybersquatting, Cyberpunk, Cyberwarfare - Origin - Classification - Types of Cybercriminals - Global Perspective on Cyber Crimes .

Unit III Cyber Attacks

7h

Introduction - Strategic Attacks - Types of Attacks-Password Cracking - Malwares - DoS Attacks - SQL Injection and Buffer Overflow - Phishing and Identity Theft - Attacks on Wireless Networks.

Unit IV Security Challenges

7 h

Proliferation of Mobile and Wireless Devices – Trends in Mobility Wireless Era – Security Challenges – Registry Settings – Authentication Service Security – Attack on Mobile Phones – Security Implications for Organizations – Organizational Measures for Handling Mobile Phones – Security Policies and measures for Laptops.

Unit V Legal Perspectives

7 h

Cyber Law: Contract Aspects, Security Aspects, Intellectual Property Aspect - Information Technology Act 2000: Introduction - Objectives, Salient features, Scheme - Intermediary Liability - Penalties, Adjudication, Appeals - Offences - IT Act 2008 and its Amendments.

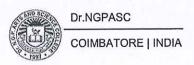
Text Books

Ashish Mishra, 2023, "Modern Cybersecurity Strategies for Enterprises", 1st

Edition, BPB Publications.

Nilakshi Jain and Ramesh Menon, 2021, "Cyber Security and Cyber Laws", 1st

² Edition , Wiley India Pvt Ltd.



References

- Mayank Bhushan, Rajkumar Singh Rathore and Aatif Jamshed, 2017, Fundamentals of Cyber Security, 1st Edition, BPB Publications.
 - Nina Godbole and Sunita Belapure, 2022, "Cyber Security Understanding
- 2 Cyber Crimes, Computer Forensics and Legal Perspectives", Wiley India Pvt Ltd.

234CA1A4SP

SEC PRACTICAL: BIG DATA TECHNOLOGIES

SEMESTER IV

Total Credits:

2

Total Instructions Hours:

48 h

S.No **Contents** 1 Create views and collection using MongoDB. 2 Perform CRUD operations using MongoDB. 3 Program to manipulate arrays in documents using MongoDB. 4 Implement MapReduce for data processing and analysis in MongoDB. 5 MongoDB Program to Import and Export Data to and from a .csv file. Configure the Hadoop HDFS commands for managing files and directories. 7 Pig script to perform a text analysis operation. Create Pig script to load data. Program to create tables in Hive. 10 Implement Data Lake preparation activity in hive. 11 Program to implement Data model of HBase. 12 Perform CRUD operations in HBase.

Course Code	Course Name	Category	L	Т	P	Credit
232MT1A4IC	OPERATIONS RESEARCH	IDC	4	_	_	4

This course has been designed for students to learn and understand

- the Mathematical formulation of LPP
- the method of finding optimized solutions for transportation and assignment problems
- the concept and applications of decision theory and networks

COURSE OUTCOMES

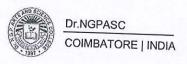
On the successful completion of the course, students will be able to

CO Number	CO Statement	Knowledge
CO1	identify the feasible solution using Graphical method	Level
CO2	illustrate the optimality analysis in Transportation problem	K1
CO3	illustrate the concept habital in transportation problem	K2
CO4	illustrate the concept behind the travelling salesman problem	K2
	compare various strategies and identify appropriate one	K3
CO5	estimate the project duration for the shortest path using CPM and PERT	K3

MAPPING WITH PROGRAMME OUTCOMES

COs/POs	PO1	PO2	PO3	PO4	PO5
CO1	✓		1	And padring	2.00
CO2	✓		1		1
CO3	✓	✓	1		
CO4	✓		/		V
CO5	√	. /	-/		

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



232MT1A4IC

OPERATIONS RESEARCH

SEMESTER IV

Total Credits: 4

Total Instruction Hours: 48 h

Syllabus

Unit I Linear Programming Problem

9 h

Definition - Basic requirements - assumptions - advantages and drawbacks - general model of LPP - application areas - formulation - examples - Graphical method - some special cases in LPP.

Unit II Transportation Problem

9 h

Formulation - solution procedure - methods for finding initial solution - test for optimality - variations - sensitivity analysis - prohibited and preferred routes - transhipment problem.

Unit III Assignment Problem

10 h

Mathematical model of assignment problem - solution methods - assignment algorithm - special variations - restrictions on assignments.

Unit IV Decision Analysis

10 h

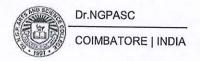
Few management applications - ingredients of decision problem - types - Bayesian decision rule-Posterior analysis - decision tree analysis.

Unit V Project Network Analysis

10 h

Development of network analysis concept - developing the project network - critical path analysis - critical path method - programme evaluation and review technique - analysis of time cost relationship - resource allocation.

Note: Distribution of marks 80% Problem and 20% Theory



Text Books

Kapoor V K, 2022, "Operations Research: Quantitative Techniques for Management", Ninth Edition, Sultan Chand and Sons Educational Publishers, New Delhi

References

- 1 Kanti Swarup, Gupta P K and Man Mohan, 2007, "Operations Research" Fifth Edition, S. Chand & Sons Education Publications, New Delhi
- 2 Gupta P K, Hira D S, 2014, "Operations Research", Seventh Edition, S. Chand & Company Pvt. Ltd, New Delhi
- 3 Hamdy A Taha, 2014, "Operations Research: An Introduction", Nineth Edition, Pearson Education Publishers Private Limited, New Delhi
- 4 Gupta P K and Gupta S P, 2014, "Quantitative Techniques & Operations Research", Sultan Chand and Sons, New Delhi

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APPROVED

Bos- 18th | AC - 18th | GB - | 26 | 11 | 24 | |

