

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

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

Approved by Government of Tamil Nadu and Accredited by NAAC with 'A++' Grade (3rd Cycle-3.64 CGPA)

Dr. N.G.P. - KalapattiRoad, Coimbatore-641048, Tamil Nadu, India

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REGULATIONS 2024-25 for Under Graduate Programme (Outcome Based Education model with Choice Based Credit System)

Bachelor of Science in Information Technology Degree

(For the students admitted during the academic year 2024-25)

Programme: B. Sc (Information Technology)

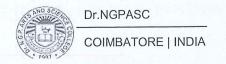
Eligibility

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

Programme Educational Objectives

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

- 1. Demonstrating a substantial understanding of concepts in key areas of Information Technology and its applications.
- 2. Analysis and synthesis involved in Computer System, Information System and Computer applications.
- 3. To develop a software and in its design and implementation for professional competence
- 4. To equip and train the students to meet the requirement of the IT Industries and Public Sectors.
- 5. To stimulate an interest in computing as an academic discipline with a view to encouraging progression to research and higher studies.



PROGRAMME OUTCOMES

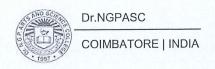
On the successful completion of the program, the following are the expected outcomes.

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

B. Sc. INFORMATION TECHNOLOGY (For the students admitted during the Academic Year 2024-2025)

Credit Distributions

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



CURRICULUM B. Sc. INFORMATION TECHNOLOGY

	Course	ndr fit until				31.3	ation h)	Exam		Max N	Marks	Credits
Course Code	Category	Course Name	L	T	P	Week	Total	(h)	CIA	ESE	Total	Credits
First Semester												
Part-I												
24TLU1TA		Tamil–I				5	60					
24TLU1HA		Hindi-I				5	60					
24TLU1MA	Language-I	Malayalam-I	4	1	-	5	60	3	25	75	100	3
24TLU1FA		French –I				5	60					
Part-II												
24ELU1EA	Language-II	English -I	4	-	1	5	60	3	25	75	100	3
Part-III												
24AIU1CA	Core-I	Problem Solving and Programming in C	4	1		5	60	3	25	75	100	4
24ITU1CP	Core Practical-I	C Programming	-	5 -	4	4	48	3	40	60	100	2
24ITU1CA	Core-II	Digital Computer Fundamentals	4	-	-	4	48	3	25	75	100	4
24MTU1IC	IDC-I	Numerical Methods and Statistics	4	1		5	60	3	25	75	100	4
Part-IV												
24MBU1AA	AECC-I	Environmental Studies	2	-	ı	2	24	a Turk	50		50	2
Part-V							I de la companya de l					
24ITU1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs	-	-		-	-	- -	50	7	50	1
	Total		22	3	5	30	360	<u>-</u>	-	_	700	23

Course	Course	Course Name	L	T	P	Dura (h	The same of the sa	Exam (h)		Ma Mar		Credits
Code	Category	Course Ivallie	L	1	1	Week	Total	(11)	CIA	ESE	Total	Credito
Second Seme	ster											
Part-I										A 10.00		
24TLU2TA		Tamil–II				5	60					
24TLU2HA		Hindi-II	4	1	-	5	60	3	25	75	100	3
24TLU2MA	Language-I	Malayalam-II				5	60					
24TLU2FA		French -II				5	60		id: Y			
Part-II												
24ELU2EA	Language-II	English -II	4	1	1	5	60	3	25	75	100	3
Part-III												
24CAU2CA	Core-III	Data Structures	4	1	-	5	60	3	25	75	100	4
24CSU2CA	Core-IV	Object Oriented Programming with C++	4	-	-	4	48	3	25	75	100	4
24ITU2CP	Core Practical-II	Data Structures and C++	-	_	4	4	48	3	40	60	100	2
24MTU2IC	IDC-II	Discrete Mathematics	4	1	-	5	60	3	25	75	100	4
Part-IV												
24TLU2AA		Basic Tamil				2	24					
24TLU2AB		Advanced Tamil	2	_	_	2	24	_	50	_	50	2
24CRU2AA	AECC-II	Human Rights and Women's Rights	_			2	24					
Part-V												
24ITU2XA	Extension Activity	NSS/ NCC/ YRC/ RRC/ Yoga/Sports/ Clubs	-	_	-	-	-	-	50	-	50	1
	Total		22	3	5	30	360	-	-	-	700	23

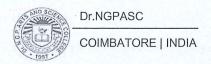
	Course				n e	Dura (h		Exam	N	Iax M	arks	
Course Code	Category	Course Name	L	Т	P	Week	Total	(h)	CIA	ESE	Total	Credits
Third Semeste	r										170	
Part-I												
24TLU3TA		Tamil-III				4	48					
24TLU3HA	Language-I	Hindi - III	3	1	_	4	48	3	25	75	100	3
24TLU3MA	Language-1	Malayalam - III		1		4	48	3	25	73	100	3
24TLU3FA		French - III				4	48					
Part-II												
24ELU3EA	Language-II	English -III	3	1	-	4	48	3	25	75	100	3
Part-III												
24CAU3CA	Core -V	Database Management Systems	4	-	-	4	48	3	25	75	100	4
24CSU3CA	Core -VI	Operating Systems	3	-	-	3	36	3	25	75	100	3
24CTU3CM	Core Practical-III	Java Programming	3	-	4	7	84	3	40	60	100	5
24ITU3SP	SEC-I	SQL and PL/SQL	-	1-	4	4	48	3	40	60	100	2
24ATU3IA	IDC-III	Business Accounting	4	-	_	4	48	3	25	75	100	4
	Total		20	2	8	30	360	-	-	-	700	24

	Course				- , 1	Dura (h		Exam	N	Iax M	arks	
Course Code	Category	Course Name	L	T	P	Week	Total	(h)	CIA	ESE	Total	Credits
Fourth Semest	er							Trans.				
Part-I										ring.		
24TLU4TA		Tamil–IV				4	48					
24TLU4HA	Language-I	Hindi - IV	3	1	_	4	48	3	25	75	100	3
24TLU4MA	Language	Malayalam - IV				4	48					
24TLU4FA		French - IV			li de	4	48				41	
Part-II												
24ELU4EA	Language-II	English -IV	3	1	-	4	48	3	25	75	100	3
Part-III					i v							
24CTU4CA	Core-VII	Computer Networks	4	1-	-	4	48	3	25	75	100	4
24ITU4CA	Core-VIII	Software Engineering	3	-	-	3	36	3	25	75	100	3
24CAU4CM	Core Practical-IV	Python Programming	3	-	4	7	84	3	40	60	100	5
24ITU4SP	SEC-II	PHP Programming	-	-	4	4	48	3	40	60	100	2
24COU4IB	IDC-IV	Human Resource Management	4	-	-	4	48	3	25	75	100	4
	Total		20	2	8	30	360	-	-	-	700	24

C	Course						ation h)	Exam	N	Iax M	arks	
Course Code	Category	Course Name	L	T	P	Week	Total		CIA	ESE	Total	Credits
Fifth Semest	ter											
Part-III											***	
24ITU5CA	Core-IX	Full Stack Development	4	1	-	5	60	3	25	75	100	4
24ITU5CB	Core-X	Cyber Security and Ethics	4	1	-	5	60	3	25	75	100	4
24ITU5CC	Core-XI	Cloud Computing	4	1		5	60	3	25	75	100	4
24ITU5CP	Core Practical-III	Full Stack Development	-	=	4	4	48	3	40	60	100	2
24ITU5SP	SEC-III	Mobile Application Development	-	ы	4	4	48	3	40	60	100	2
24ITU5DA		Mobile Computing				5	60					
24ITU5DB	- DSE-I	Principles of Data Mining and Data Warehousing	4	1	_	5	60	3	25	75	100	4
24ITU5DC	DSE-I	Software Quality Assurance				5	60					
24ITU5TA	IT	Industrial Training	-	-	-	-	-	3	40	60	100	2
Part-IV	The state of the s					1						
	GE		2	=	-	2	24	-	50	-	50	2
	Total		18	4	8	30	360	-	-	-	750	24

Course	Course					Durat	ion(h)	Exam	N	Max M	larks	
Code	Category	Course Name	L	T	P	Week	Total	(h)	CIA	ESE	Total	Credit
Sixth Semes	ter											
Part-III												
24ITU6CA	Core-XII	Internet of Things	4	-	-	4	48	3	25	75	100	4
24ITU6CB	Core-XIII	Big Data Analytics	4	-	-	4	48	3	25	75	100	4
24ITU6SP	SEC-IV	Data Analysis with R			4	4	48	3	40	60	100	2
24ITU6CV	Core Project- XIV	Project Work	-	7-	8	8	96	3	40	60	100	4
24ITU6DA	DSE-II	Blockchain Technology and Applications				4	48					
24ITU6DB		Artificial Intelligence and Machine Learning	4	-	-	4	48	3	25	75	100	4
24ITU6DC		Software Project Management				4	48	0.557				
24ITU6DD		Augmented Reality and Virtual Reality				4	48					
24ITU6DE	DSE-III	Deep Learning	4		-	4	48	3	25	75	100	4
24ITU6DF		DevOps				4	48					
Part-IV												
24BCU6AA	AECC-III	Innovation, IPR & Entrepreneurship	2	-	-	2	24	-	50	30.5/	50	2
	Total		18	-	12	30	360	- -	-	-	650	24
		*(Franc	d tot	al						4200	142

^{*}Total Credit Should not exceed 142 credits



DISCIPLINE SPECIFIC ELECTIVE

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

Semester V (Elective I)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	24ITU5DA	Mobile Computing
2	24ITU5DB	Principles of Data Mining and Data Warehousing
3	24ITU5DC	Software Quality Assurance

Semester VI (Elective II)

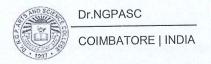
List of Elective Courses

S. No.	Course Code	Name of the Course
1	24ITU6DA	Blockchain Technology and Applications
2	24ITU6DB	Artificial Intelligence and Machine Learning
3	24ITU6DC	Software Project Management

Semester VI (Elective III)

List of Elective Courses

S.No.	Course Code	Name of the Course
1	24ITU6DD	Augmented Reality and Virtual Reality
2	24ITU6DE	Deep Learning
3	24ITU6DF	DevOps



GENERIC ELECTIVE COURSES (GE)

The following are the courses offered under Generic Elective Course

Semester V(GE)

S.No.	Course Code	Course Name
1	24ITU5GA	Business Information Systems

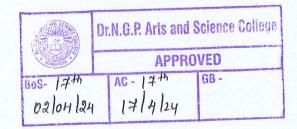
EXTRA CREDIT COURSES

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

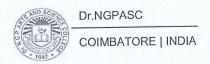
Semester III

S.No.	Course Code Course Name		
1	24ITUSSA	Human Computer Interaction Design	
2	24ITUSSB	Network Protocols	

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Department of Information Technology
Dr. N.G.P. Arts And Science College
Colmbatore - 641 048







			Semester – I				
			TAMIL - I				
Semester	Course Code	Course Name	Category	L	Т	P	Credits
I	24TLU1TA	TAMIL - I	LANGUAGE- I	48	12	-	3

Preamble	மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடுநாகரீகம், பகுத்தறிவு
	ஆகியவற்றை அறியச் செய்தல்
	கலை மற்றும் மரபுகளை அறியச் செய்தல்
	மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்
Prerequisite	தமிழ் மொழி எழுதி படிக்கும் திறன்

Course O	utcomes (Cos)	
CO.No.	Course Outcomes (COs) Statement	Bloom's Tax anomy Knowledge Level
CO1	வாழ்க்கைத்திறன்கள் (Life Skills)-மாணவர்களின் செயலாக்கத்திறனை ஊக்குவித்தல்	K2
CO2	மதிப்புக்கல்வி (Attitude and Value education)	КЗ
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K3
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K4

Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1		✓	✓		✓
CO2	√			✓	
CO3	F.	✓			✓
CO4			✓		
CO5	✓			✓	✓

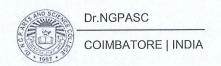
Unit	Content	Hrs	Resources
1	மறுமலர்ச்சிக் கவிதைகள்		
	1. இலக்கிய வரலாறு -மறுமலர்ச்சிக் கவிஞர்களின்தமிழ்ப்பணிகள்		
	2. பாரததேசம்- பாரதியார்		
	3. படி - பாரதிதாசன்		தமிழ்மொழிப்பாடம்
	4. தமிழரின் பெருமை- நாமக்கல்கவிஞர்	13	முதற்பருவம் 2024-2025
	5. தமிழ்க் கொலை புரியாதீர்- புலவர் குழந்தை		https://www.youtube.com/
	6. திரைத்தமிழ்		watch?v=Up55uhkk9zI
	அ) 'விஞ்ஞானத்த வளர்க்கப் போறண்டி' எனத்தொடங்கும் பாடல் - உடுமலை நாராயண கவி		
	பட்டுக்கோட்டை கல்யாண சுந்தரனார்		
	இ) 'சமரசம் உலாவும் இடமே' எனத்தொடங்கும் பாடல் - மருதகாசி		
	மருத்காசு ஈ) 'உன்னை அறிந்தால்' எனத்தொடங்கும் பாடல்-கண்ணதாசன்		
2	புதுக்கவிதைகள்		
	புதுகையினத்தன் 1. இலக்கிய வரலாறு- புதுக்கவிதையின் தோற்றமும் வளர்ச்சியும்		
-	2. கடமையைச் செய்- மீரா		 தமிழ்மொழிப்பாடம்
	3. ஓடு ஓடு சங்கிலி - சிற்பி பாலசுப்பிரமணியம்		ு தமாழனமா மூப்பாடம் முதற்பருவம்
	4. ஒப்பிலாத சமுதாயம் - அப்துல் ரகுமான்	13	2024-2025
1.3	5. மரங்கள் - மு.மேத்தா		https://www.youtube.com/
	6. கரிக்கிறது தாய்ப்பால்- ஆரூர் தமிழ்நாடன்		watch?v=dX9ZaNJMaco
	7. ஐந்தாம் வகுப்பு 'அ' பிரிவு - நா. முத்துக்குமார்		
	8. ஹைகூ கவிதைகள் - 10 கவிதைகள்		
3	பெண்ணியம்		தமிழ்மொழிப்பாடம்
	1. தொலைந்து போனேன் - தாமரை	10	முதற்பருவம்
	2. நீரில் அலையும் முகம் - அ. வெண்ணிலா		2024-2025 https://www.youtube.com/
	3. தற்காத்தல் - பொன்மணி வைரமுத்து		watch?v=DLabokqWEdg
	4. ஏனிந்த வித்தியாசங்கள் ? - மல்லிகா		Materia Deadenqvieug
	5. புதையுண்ட வாழ்க்கை - சுகந்தி சுப்ரமணியன்		
4	1.இலக்கிய வரலாறு-சிறுகதையின் தோற்றமும் வளர்ச்சியும்		0.0 0.
	2. கனகாம்பரம்- கு.ப.ராஜகோபாலன்	14	தமிழ்மொழிப்பாடம்
	3. கடிதம்- புதுமைப்பித்தன்		முதற்பருவம் 2024-2025
	4. பொம்மை - ஜெயகாந்தன் 5. காய்ச்சமரம் - கி. ராஜநாராயணன்		https://www.youtube.com/
	6. காட்டில் ஒருமான்- அம்பை		watch?v=78u7iTN3OU8
	7.வேட்கை - சூர்யகாந்தன்		

5	பயிற்சிப் பகுதி அ. இலக்கணம் 1. வல்லின ஒற்று மிகும், மிகா இடங்கள் - ஒற்றுப்பிழை நீக்கிஎழுதுதல் 2. ர,ற-ல,ழ,ள - ண,ந,னவேறுபாடு - ஒலிப்பு நெறி, சொற்பொருள் வேறுபாடு அறிதல் ஆ. படைப்பாக்கம் 1. கவிதை- எழுதுதல் (15 வரிகள் முதல் 30 வரிகள் வரை) 2.சிறுகதை - எழுதுதல் (குறைந்தது 3 பக்கங்கள்)	10	தமிழ்மொழிப்பாடம் முதற்பருவம் 2024-2025 https://www.youtube.com/ watch?v=B3wfM0QL6N8 https://www.youtube.com/ watch?v=FchTlqAtwBU https://www.youtube.com/ watch?v=gCP3gC-JQU4 https://www.youtube.com/ watch?v=gQP3gC-JQU4
	Total	60	

Text book	1.	தமிழ் மொழிப்பாடம் – 2024-2025தொகுப்பு: தமிழ்த்துறை, டாக்டர்என்.ஜி.பி.
		கலைஅறிவியல்கல்லூரி, கோயம்புத்தூர் – 641048.
Reference	1.	பேராசிரியர் புலவர் சோம. இளவரசு, தமிழ் இலக்கிய வரலாறு, எட்டாம் பதிப்பு –
Books		2024, மணிவாசகர் பதிப்பகம், சென்னை – 600 108.
	2.	பேராசிரியர் முனைவர் பாக்கியமேரி, முதற் பதிப்பு – 2023, இலக்கணம்,
		இலக்கியவரலாறு , மொழித்திறன் – பூவேந்தன் பதிப்பகம், சென்னை – 600 004.

Journal and Magazines	இலக்கியஇதழ்கள்
E-Resources and Website	https://www.tamilvu.org

Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment	
	두드 아내는 아내는 사람들이 가득하는 것이 되었다면 하는 사람들이 되는 것이 되었다면 하는 것이 없는 것이 없는 것이 없는 것이 없는 것이 없는데 없다면 없다면 없다면 없다면 없다면 없다면 없다면 다른데 없다면	



erri i ji u			Semester – I				
HINDI – I							
Semester	Course Code	Course Name	Category	L	Т	P	Credits
I	24TLU1HA	HINDI – I	LANGUAGE-I	48	12	-	3

Preamble	The writing ability and develop reading skill
	The various concepts and techniques for criticizing literature
	The techniques for expansion of ideas and translation process
Prerequisite	To understand the language Hindi for communication

Course Outcomes (Cos)				
CO. No.	Course Outcomes (COs) Statement	Bloom's Tax anomy Knowledge Level		
CO1	Learn the fundamentals of novels and stories	K2		
CO2	Understand the principles of translation work	К3		
CO3	Expose the knowledge writing critical views on fiction	K3		
CO4	Build creative ability	К3		
CO5	Apply the power of creative reading	K4		

Cos / POs	PO1	PO2	PO3	PO4	PO5
CO1		√	✓	engan eng	✓
CO2	✓			✓	
CO3		✓			✓
CO4			√		
CO5	✓			✓	✓.

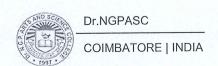
Unit	Content	Hrs	Resources
1	गद्य – नूतनगद्यसंग्रह (जयप्रकाश)पाठ1- रजियापाठ2- मक्रीलपाठ3-	13	
	बहतापानीनिर्मला पाठ4- राष्ट्रपितामहात्मागाँधी	enary i	Text Book
		13	
2	कहानीकुंज- डाँवी.पी. 'अमिताभ'(पाठ 1-4)	15	Text Book
3	व्याकरण : शब्दविचार (संज्ञा, सर्वनाम,विशेषण)	12	Text Book
4	अनुच्छेदलेखन	12	Text Book
5	अनुवादअभ्यास-III (केवलअंग्रेजीसेहिन्दीमें) (पाठ1 to 10)	10	Text Book
DEB.	Total	60	

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
Reference Books		

Journal and Magazines	<u>-</u>
E-Resources and	
Website	

Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment	
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Focus of the Course	Skill Development / Employability
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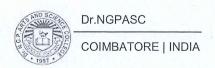


		Semes	ter – I				
		MALAYA	ALAM- I				
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24TLU1MA	MALAYALAM- I	LANGUAGE- I	48	12	-	3

Preamble	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
Prerequisite	To understand the language Malayalam for communication

Course Outcomes (Cos)				
CO. No.	Course Outcomes (COs) Statement	Bloom's Tax anomy Knowledge Level		
CO1	Learn the fundamentals of novels and stories	K2		
CO2	Understand the principles of translation work	K3		
CO3	Expose the knowledge writing critical views on fiction	К3		
CO4	Apply creative ability	К3		
CO5	Build the power of creative reading	K4		

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



Unit	Content	Hrs	Resources
1	Novel	14	Text book
	PathummayudeAdu		The property of the second
2	Novel	10	Text book
	PathummayudeAdu		
3	Short Story	14	Text book
	Nalinakanthi		
4	Short Story	10	Text book
	Nalinakanthi		
5	Practical Application	12	Text book
	Expansion of ideas, General Essay and Translation		
	Total	60	

Text books	1.	Vaikkam Muhammed Basheer, "PathummayudeAdu" (NOVEL), DC Books & Kottayam
	2.	T.Padmanabhan, "Nalinakanthi" (Short Story), DC Books & Kottayam.
Reference Books	1.	MalayalaNovel Sahithyam.
	2.	MalayalaCherukathaInnale Innu.

Journal and Magazines	
E-Resources and	
Website	

Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment
8	

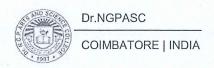
Focus of the Course	Skill Development / Employability
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		Se	mester – I				
		FF	RENCH - I				
Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24TLU1FA	FRENCH - I	LANGUAGE- I	48	12	-	3

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

Course Outcomes (Cos)					
CO. No.	Course Outcomes (COs) Statement	Bloom's Tax anomy Knowledge Level			
CO1	Learn the Basic verbs, numbers and accents	K2			
CO2	Apply the adjectives and the classroom environment in France	К3			
CO3	Select the Plural, Articles and the Hobbies	K3			
CO4	Measure the Cultural Activity in France	К3			
CO5	Evaluate the sentiments, life style of the French people and the usage of the conditional tense	K4			

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



Unit		Co	ontent	Hrs	Resources	
1	Objectifs de Communic ation	Communic production orale ation		14	Text book Salut I	
	 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 		Page 10	
2	Demander de se presenter.Présenter quelqu'un	Dans la classe de français, se presenter et remplir une fiche pour le professeur.	 Comprendre les informations essentielles dans un échange en milieu professionnel. Ēchanger pour se presenteret présenterquelqu'un 	12	Text book Enchanté I Page 20	
3	Exprimers es gouts.	Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation	 Dans une soirée de recontresrapid comprendre des personnes qui échangent sur elles et sur leurs goût Comprendre une personne qui parler des goûts de quelqu'un d'autre 	14	Text book J'adore I Page 30	
4	Demander à quelqu'un de faire quelque chose. Demander poliment. Parler d'actions passes. Tu veux bien?	Organiser un programme d'activités pour accueillir une personne importante	Comprendre une personne demande un service à quelqu'un. Demanderà quelqu'un de faire quelque chose. • Imaginer et raconter au passé à partir de situations dessinées.	10	Text book Autoévalua tion du module I Page 40 – Préparation au DELF A1 page 42 Tu veux bien page 46	
5	Practical Appl Make in Own S			10	-	
1.1			Гotal	60		

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

Journal and Magazines	Content of the conten	
E-Resources and Website		

Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment	
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Focus of the Course	Skill Development / Employability
	Cities 2 0 1 of Control of Control

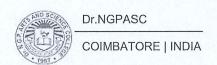
Semester – I

ENGLISH - I

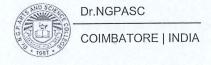
Semester	Course Code	Course Name	Category	L	Т	P	Credits
I	24ELU1EA	ENGLISH - I	LANGUAGE- II	48	-	12	3

Preamble	This course has been designed for students to learn and under	erstand					
	 the effect of dialogue, imagery and varied genres 	 the effect of dialogue, imagery and varied genres 					
	 any spontaneous spoken discourse and respond to the 	nem with proper sentence					
	structure						
	the transactional concept of English language						
Prerequisi	te Basic comprehension of Language Skills	And the state of t					
Course Ou	tcomes (COs)						
CO Number	Course Outcomes (COs) Statement	Bloom'sTaxonomy Knowledge Level					
CO1	Identify the various aspects in poetry	K2					
CO2	Infer linguistic and non-linguistic features of the context for understanding and interpreting	К3					
CO3	Construct sentences and convey messages effectively in real life situations	К3					
CO4	Apply different reading strategies with varying speed	K3					
CO5	Prepare modules with their own ideas and present them coherently in a grammatically correct form	К3					

Iapping with P	rogram Outcor	nes:			
COs / POs	PO1	PO2	PO3	PO4	PO5
CO1	✓	✓	√		
CO2		✓	ydaol √ that wa	de de la	
CO3	✓		✓	✓	√
CO4		✓	Balledon (Shinathar)	✓	
CO5	✓		✓	# - 20°G (1907)	✓



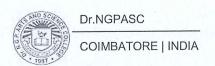
Unit	Content	Hours	E-Contents / Resources
	Genre Studies Mathew Arnold: Dover Beach- Author's Biography- title indications- outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques— Annotations		
	NiyiOsundare: Our Earth Will Not Die- Author's Biography- title indications-outline- paraphrasing the poem- context of poem- form- poetic devices-enjambment- techniques— Annotations	ang Bray ME Germanya Marin and	
I	Charles Lamb: Christ's Hospital Five and Thirty Years Ago- Author's biography- Narrative structure-Exploration of the text- passage analysis- insight of ideas- cohesion and context- style- language techniques-Annotation	12	Text Book
	James Hanson: A Famed Life - Ten Minute Comedy for Two Women - Author's Biography- Plot Summary- Detailed summary and Analysis- Themes- Important Quotations- Characters- Description - analysis- Terms- Symbols- Critical analysis		
	Sheila Nayampalli Baruna: Alone - Author's Biography- narrative structure- passage analysis- insight of ideas- cohesion and context- style- language techniques		
П	Listening Vs. hearing- Types of listening, Tips to enhance Listening Skills, Non-verbal and Verbal signs of active listening- Comprehensive Listening- Listening to prerecorded audios on speeches, interviews and conversations- Listening Activities- Listening and responding to complaints (formal situation), Listening to problems and offering solutions (informal)	13	britishcouncil.org cambridgeenglish.org
	Speaking Skills	X	
Ш	Formal occasions- Introducing oneself, Introducing others, Enquiries and Seeking permission, neural speaking -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	11	britishcouncil.org cambridgeenglish.org
IV	Reading Skills Study Skills: Skimming and Scanning- Reading different kinds of texts- Types of reading-Developing a good	12	britishcouncil.org cambridgeenglish.org



	Total	60	
V	Writing Skills Sentence patterns, Note- making and note taking- Strategies - Paragraph writing: Structure and Principles - Academic Writing - Formal and Informal Letters, Report, Book /Movie Review - Infographics Writing	12	britishcouncil.org cambridgeenglish.org
	reading speed, reading aloud, Referencing skill- Word Power (Denotation and Connotation) - Reading comprehension, Data interpretation —Charts, Graphs, Advertisements - Cognitive Skills- Inference Making - Interpretation		

Text Books	1.	https://www.poetryfoundation.org/poems/43588/dover-beach.
	2.	https://portal.abuad.edu.ng/lecturer/documents/1586771577our_earth_will_not_die.doc
i kana dauna dah	3.	http://l-adam-mekler.com/chucktwo.pdf.
	4.	https://offthewallplays.com/wp-content/uploads/2017/04/1_pdfsam_A-famed-life-full-with-title-page.pdf.
	5.	Nation, I. S. P and Jonathan Newton. 2009. Teaching ESL/EFL Listening and Speaking. Routledge, New York, United States of America.
	6.	Prabha, Dr. R. Vithya& S. Nithya Devi. 2019. Sparkle. (1st Edn.) McGraw - Hill Education, Chennai, India.
Reference Books	1.	Rudzka, Brygida -Ostyn, 2003. Word Power: Phrasal Verbs and Compounds: A Cognitive Approach, Mouton de Gruyter, New York, United States of America
	2.	Swales, John M. & Feak, Christine B. 2012. Academic Writing for Graduate Students: Essential Tasks and Skills, University of Michigan Press, Michigan, United States of America.
	3.	Sen, Leena. 2007. Communication Skills, Second Edition, Prentice Hall India Learning Private Limited, New Delhi, India.
	4.	O. Greene, John. 2021. Essentials of Communication Skill and Skill Enhancement: A Primer for Students and Professionals, Routledge publishers, United Kingdom.

Journal and	https://academic.oup.com/journals
Magazines	
E-Resources and	https://learnenglish.britishcouncil.org/
Website	https://www.cambridgeenglish.org/learning-english/activities-for-learners/
Learning Method	Chalk and Talk/Assignment/Seminar/ Interactive session
Focus of the	Skill Development/Employability
Course	

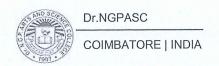


Semester - I CORE - I: Problem Solving and Programming in C

Semester	Course Code	Course Name	Category	L	Т	P	Credits
I	24AIU1CA	PROBLEM SOLVING AND PROGRAMMING IN C	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and un the fundamental aspects of programming and probl the C language fundamentals the representation and working of arrays, pointers,	lem solving
Prerequisit	e Knowledge on Logical Thinking	
Course Ou	tcomes (COs)	
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy 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.	К3
CO4	Develop programs using arrays and functions	К3
CO5	Execute programs using pointers, structures and files	K3

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



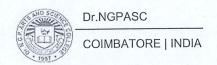
Unit	Content	Hours	E-Contents / Resources
I	Introduction: Types of Programming Languages — High level Languages — Assembly Languages — Machine Level Languages — System Software — Operating Systems — Compiler — Linker and Interpreter. Problem Solving Strategies: Steps involved in problem solving - Algorithms - Flow Charts - Symbols used in Flow Charts - Pseudo Codes — Structured Programming - Sequence — Selection — Repetition — Modular Programming.	12	Text Book/ Reference Book/ NPTEL
Ш	C 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.	12	Text Book/ Reference Book
Ш	Branching: Simple if Statement – if-else statement – elseif Ladder – Switch statement – goto, break and continue statements. Looping: while loop – do-while loop -for loopnested for loop – Pre-processor Directives: Macro substitution – File inclusion – Compiler control directives. Arrays: Introduction – Types of arrays – Declaration and Initialization of Arrays – Dynamic Arrays.	12	Text Book/ Reference Book
IV	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.	12	Text Book/ Reference Book/ NPTEL
V	Structures: Defining a structure – Declaring structure variables – Accessing structure members – 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.	12	Text Book/ Reference Book
	Total	60	

Text Books	1.	Ashok N. Kamthane, 2009, "Programming and Data Structures", 1st Edition, Pearson Education.
	2.	Byron Gottfried, 2018, "Schaum's Outline of Programming with C", 4th Edition, McGraw Hill Education.
	1.	E. Balagurusamy, 2017, "Programming in ANSI C", 7thEdition, TMH.
Reference	2.	H. Schildt, 2000, "C: The Complete Reference", 4th Edition, TMH
Books	Books 3. ReemaThareja, 2015, "Programming in C", 2nd Edition, Oxford Univer	
	4.	Anita Goel, Ajay Mittal, 2016,"Computer Fundamentals and Programming in C",1st Edition, Pearson

Journal and Magazines	
E-Resources and Website	https://nptel.ac.in

Learning Methods	Lecture, Demonstration, Online Compilers, Coding Platforms
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Focus of the Course	Skill Development/Employability
Course	



24ITU1CP

CORE PRACTICAL I: C PROGRAMMING

SEMESTER I

Total Credits: 2
Total Instructions Hours: 48 h

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

Semester - I Core: DIGITAL COMPUTER FUNDAMENTALS

Semester	Course Code	Course Name	Category	L	Т	P	Credits
I	24ITU1CA	DIGITAL COMPUTER FUNDAMENTALS	Core	48	-	1	4

Preamble	This course has been designed for students to learn and understand			
	• the concepts of number system and circuits			
	• the principles of logic gates and memory			
	 the design and architecture of microprocessors and microcontrollers 			
Prerequisite	Knowledge on basic digital system			

Course Outcomes (COs) CO Bloom's Taxonomy Course Outcomes (COs) Statement Number **Knowledge Level** CO₁ Understand the types of number systems, Boolean Algebra K2 CO₂ Understand and analyze Logic gates K2 CO₃ Illustrate the concepts of combinational circuits K3 Understand the different types of sequential logic and memory CO₄ K2 organization Understand the architecture microprocessors and CO₅ K2 microcontrollers

Mapping with P	Mapping with Program Outcomes:						
COs / POs	PO1	PO2	PO3	PO4	PO5		
CO1	√		1	✓			
CO2	✓			√			
CO3	✓	✓	✓	√	✓		
CO4	✓		✓	✓			
CO5	✓		✓	√			

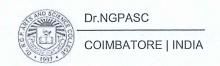
Unit	Content	Hours	E-Contents / Resources
I	Binary Numbers- Number base conversions- Octal and Hexadecimal conversions- Compliments- Binary codes - Decimal codes. Basic Definitions-Boolean functions- Canonical standard forms: Minterms and Maxterms - Sum of Minterms-Product of Minterms-conversion between canonical forms.	10	Text Book 1 / Reference Book1
П	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.	08	Text Book 1 / Reference Book 3
Ш	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.	10	Text Book 1 / Reference Book1
IV	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.	10	Text Book – 1 & NPTEL
V	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.	10	Text Book 2 / Reference Book 4 & You Tube Videos
	Total	48	

Text Books	1.	M.Morris Mano, 2019, "Digital Logic and Computer Design", Pearson India Education.
	2.	Soumitra Kumar Mandal, 2018, "Microprocessors and Microcontrollers – Architecture, Programming and Interfacing using 8085, 8086, 8051", 15 th Edition, Tata Mc Graw Hill Education.
Reference Books	1.	S. Salivahanan and S Arivazhagan, 2018,"Digital Circuits and Design", 5th Edition, Oxford University Press, Noida
	2.	Thomas Floyd L., 2015, "Digital Fundamentals", 11th Edition, Pearson Publication Ltd, New Delhi
	3.	M Morris Mano, 2016, "Digital Logic and Computer Design", 5th edition, Pearson
	4.	Aditya P Mathur, 2016, "Introduction to Microprocessor", 3rd Edition, McGraw Hill Education.

Journal and Magazines	International Jo https://journal.uob.echttps://www.pcmag.co	Computing 456789/12?id=ab	and oout	Digital	System-
E-Resources and Website	https://nptel.ac.in https://www.coursera https://www.nesoaca		<u>s</u>		

Learning Methods	Lecture/Simulation/Demo/Mind Mapping

Focus of the	Skill Development/Employability
Course	



Semester - I IDC 1: NUMERICAL METHODS AND STATISTICS

Semester	Course Code	Course Name	Category	L	Т	P	Credits
I	24MTU1IC	NUMERICAL METHODS AND STATISTICS	IDC	48	12	-	

Preamble	This course has been designed for students to learn an the method of solving linear system of equat the relation between two attributes and meas the method of checking the validity of param	ions ure their efficiency
Prerequisi	te Knowledge on Basic Mathematics	
Course Ou	tcomes (COs)	
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy 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 Program Outcomes:						
COs / POs	PO1	PO2	PO3	PO4	PO5	
CO1	n - Darkevill	gazata care car	√	✓	√	
CO2	1-21-2005	aad sajekha hali san da d	Sistema al London		1	
CO3		responsibility of			√	
CO4						
CO5					√	

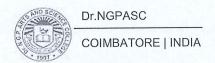
Unit	Content	Hours	E-Contents / Resources
I	Solution of Algebraic, Transcendental and Linear systems of Equations: Introduction - Newton-Raphson method- direct methods -matrix inversion method - Gaussian elimination method - Gauss Jordan method - iterative methods - Gauss Seidel method - Gauss Jacobi method	13	Text Book
П	Interpolation, Numerical Differentiation and Integration: 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.	12	Text Book & Reference Book
Ш	Classification, Measures of Central tendency and Dispersion: 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.	13	Text Book
IV	Correlation and Regression: 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.	11	Text Book & NPTEL
V	Test of Significance and Chi-square Test: 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.	11	Text Book & You Tube Videos
	Total	60	

Text Book	1.	Sastry S.S., 2012, "Introductory methods of Numerical Analysis", Prentice-Hall of India, New Delhi (Unit I to II)
	2.	Agarwal B L, 2013, Basic Statistics, New age International (P) Limited publishers, New Delhi. (Unit III to V).
Reference Books	1.	Gupta C.B. and Vijay Gupta, 2007,"Introduction to Statistical Methods", S.Chand & Co, New Delhi
	2.	Sanchetti D.C. Kapoor, V.K. 2010. Statistic, S.Chand & Co, New Delhi
	3.	Venkataraman M K, 2004,"Numerical Methods in Science and Engineering", 4 th Edition, NPC.
	4.	Veerarajan T, Ramachandran T, 2004, "Theory and Problems in Numerical Methods With Programs in C and C++", 10 th Edition, Tata Mc- Graw Hill Publishing Company Limited, New Delhi.

Journal and Magazines	https://www.worldscientific.com/worldscinet/bms
E-Resources and Website	https://nptel.ac.in

Chalk and Talk/Assignment/Seminar
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Focus of the Course	Skill Development/Employability
Course	

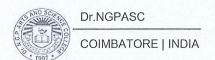


Semester – I AECC I: ENVIRONMENTAL STUDIES

Semester	Course Code	Course Name	Category	L	Т	р	Credits
I	24MBU1AA	ENVIRONMENTAL STUDIES	AECC	24	-	-	2

Preamble	This course has been designed for students to learn and understand	
	Multi-disciplinary aspects of Environmental studies	
	 Importance to conserve the biodiversity 	
	Causes of Pollution and its control	
Prerequisite	Aware the basics of environmental components	
Course Outco	mes (Cos)	
CO Number	Course Outcomes (Cos) Statement	Bloom's Taxonomy Knowledge Level
CO1	To understand the importance of natural resources in order to conserve for the future	K1
CO2	To impart knowledge on Natural resources and its conservation	K2
CO3	To impart knowledge on Biodiversity and its conservation	К3
CO4	To create awareness on effects, causes and control of air, water, soil and noise pollution etc.,	K4
CO5	To build awareness about sustainable development and Environmental protection	K1

Mapping with Programme Outcomes						
Cos/POs	PO1	PO2	PO3	PO4	PO5	
CO1	√	✓	✓	✓	√	
CO2	✓	√	✓	✓	√	
CO3	✓	✓	✓	✓	√	
CO4	✓	√	√			
CO5	✓	√	√	✓	√	



Unit	Content	Hours	E-Contents / Resources
Ι	Introduction to Environmental studies& Ecosystems: components of environment – atmosphere, hydrosphere, lithosphere and biosphere. Scope and importance - Energy flow in an ecosystem: food chain, food web and ecological succession.	5	Text book and Website
II	Natural Resources: Renewable and Non-renewable Resources: Land Resources and land use - Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and tribal populations. Conflicts over water (international & inter-state). Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing energy needs.	5	Text book and Website
III	Biodiversity and Conservation: Global biodiversity hot spots. India as a mega-biodiversity nation; Endangered and endemic species of India. Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.	4	Text book and Website
IV	Environmental Pollution: types, causes, effects and controls; Air, water, soil, chemical and noise pollution. Nuclear hazards and human health risks. Environment Laws: Environment Protection Act; Prevention & Control of Pollution Act – Air & Water. Wildlife Protection Act; Forest Conservation Act;	5	Text book and Website
V	Environmental ethics: Role of Indian and other religions and cultures in environmental conservation. 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.	5	Text book and Website
	Total	24	-/-

Text Book	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.
Reference	1.	Gleeson, B. and Low, N. (eds.) 1999. Global Ethics and Environment,
Books London, Routledge		London, Routledge.
	2.	Gleick, P.H. 1993. Water in Crisis. Pacific Institute for Studies in Dev.,
14500		Environment & Security. Stockholm Env. Institute, Oxford Univ. Press.
	3.	Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll. 2006, Principles
		of Conservation Biology. Sunderland: Sinauer Associates.
	4.	Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's
		Himalaya dams. Science, 339: 36-37.

Journal and Magazines	https://www.hzu.edu.in/bed/E%20V%20S.pdf
E-Resource and Websites	https://www.ugc.gov.in/oldpdf/modelcurriculum/env.pdf

Learning Methods	Chalk and Talk/ Seminar/ Assignment

Focus of the Course	Skill Development/Employability/Social Awareness and Environme	nt
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Bo\$ Chairman/HOD
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