Dr. N.G.P. ARTS AND SCIENCE COLLEGE (Autonomous)

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

B.Sc. Degree

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

Programme: B.Sc. Physics

Eligibility

A pass in Higher Secondary Examination in Academic stream or Vocational stream under Higher Secondary Board of Examination, Tamil Nadu with Physics as one of the subjects and as per the norms set by the Government of Tamil Nadu or an Examination accepted as equivalent there to by the Academic Council, subject to such conditions as may be prescribed thereto are permitted to appear and qualify for the **Bachelor of Physics Degree Examination** of this College after a program of study of three Academic years.

Programme Educational Objectives

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

1. Producing graduates who are well acquainted with the fundamentals of Physics and requisite skills, in order to use their knowledge in Physics in a wide range of practical applications.
2. Developing creative thinking and the power of imagination to enable graduates work in research in academia and industry for broader applications.
3. Relating the training of Physics graduates to the employment opportunities within the country.
4. To promote societal values through Physics related activities.

PROGRAMME OUTCOMES:

On the successful completion of the program, the following are the expectedoutcomes.

PO Number	PO Statement
PO1	Demonstrate an understanding of basic scientific principles,theories, and laws in Physics as well as an awareness of the changing nature of science.
PO2	Analyze, interpret, and evaluate scientific hypotheses and theories using rigorous methods use appropriate mathematical techniques and concepts to obtain quantitative solutions to problems in Physics.
PO3	Demonstrate basic experimental skills by the practice of setting up and conducting experiments with minimizing measurement errors.
PO4	Demonstrate a qualitative understanding of the core physics ideas and the relationship of this physics to the humanities through both written and oral communication.
PO5	Demonstrate an ability to recognize the need for life-long learningfor sustaining professional career.

UG - Credit distribution - Common for R6

For students admitted in AY 24-25 and onwards.

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
III (108 Credits)	Core (Credits 2,3,4,5)	16-19	70	I to VI
	Inter Departmental Course (IDC)	4	16	I to IV
	Discipline Specific Elective (DSE)	3	3 x 4 =12	V & VI
	Skill Enhancement Course(SEC)	4	8	III,IV,V& VI
	Industrial Training	1	2	V
IV (8 Credits)	Environmental Studies(AECC)	1	2	I
	Basic Tamil/ Advance Tamil /Human Rights &Women's Rights(AECC)	1	2	II
	Innovation & IPR/Innovation, IPR &Entrepreneurship (AECC)	1	2	VI
	Generic Elective(GE) (AEEC)	1	2	V
V (2 Credits)	NSS/NCC/YRC/RRC/Yoga/Sports/Clubs	-	2	I -II
TOTAL CREDITS			**142**	

CURRICULUM
PROGRAMME NAME – B.Sc., Physics
A.Y:24-25

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
First Semester												
Part- I												
24TLU1TA	Language-I	Tamil-I	4	1	-	5	60	3	25	75	100	3
24TLU1HA		Hindi-I										
24TLU1MA		Malayalam-I										
24TLU1FA		French–I										
Part- II												
24ELU1EA	Language-II	English -I	4	-	1	5	60	3	25	75	100	3
Part- III												
24PYU1CA	Core- I	Properties of Matter and Sound	4	1	-	5	60	3	25	75	100	4
24PYU1CB	Core -II	Mechanics	4	-	-	4	48	3	25	75	100	3
24PYU1CP	Core Practical -I	Properties of matter and Mechanics	-	-	4	4	48	3	40	60	100	2
24MTU1IM	IDC -I Practical	Fundamentals of Mathematics with MATLAB	3	-	2	5	60	3	40	60	100	3
Part-IV												
24MBU1AA	AECC-I	Environmental Studies	2	-	-	2	24		50	-	50	2
Part - V												
24PYU1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/Clubs	-	-	-	-	-	-	50	-	50	1
Total			21	2	7	30	360	-	-	-	700	21

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Second Semester												
Part-I												
24TLU2TA	Language-I	Tamil-II	4	1	-	5	60	3	25	75	100	3
24TLU2HA		Hindi-II										
24TLU2MA		Malayalam-II										
24TLU2FA		French–II										
Part– II												
24ELU2EA	Language-II	English - II	4	-	1	5	60	3	25	75	100	3
Part– III												
24PYU2CA	Core- III	Heat and Thermodynamics	4	-	-	4	48	3	25	75	100	4
24PYU2CB	Core -IV	Atomic Physics	4	1	-	5	60	3	25	75	100	4
24PYU2CP	Core Practical- II	Heat and Thermodynamics	-	-	4	4	48	3	40	60	100	2
24MTU2IM	IDC- II Practical	Statistical Analysis and Tools	3	-	2	5	60	3	40	60	100	4
Part-IV												
24TLU2AA/ 24TLU2AB/ 24CRU2AA	AECC-II	Basic Tamil/ Advance Tamil/ Human Rights and Women's Rights	2	-	-	2	24	2	50	-	50	2
Part-V												
24PYU2XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/Clubs	-	-	-	-	-	-	50	-	50	1
		Total	**21**	**2**	**7**	**30**	**360**	**-**	**-**	**-**	**700**	**23**

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Third Semester												
Part-I												
24TLU3TA	Language-I	Tamil-III	3	1	-	4	48	3	25	75	100	3
24TLU3HA		Hindi-III										
24TLU3MA		Malayalam-III										
24TLU3FA		French–III										
Part– II												
24ELU3EA	Language-II	English -III	3	1	-	4	48	3	25	75	100	3
Part– III												
24PYU3CA	Core -V	Electricity and Magnetism	4	-	-	4	48	3	25	75	100	4
24PYU3CB	Core -VI	Nuclear Physics	3	-	-	3	36	3	25	75	100	3
24PYU3CP	Core Practical- III	Electricity and Magnetism	-	-	4	4	48	3	40	60	100	2
24CEU3IM	IDC -III Practical	Chemistry-I	3	-	4	7	84	3	40	60	100	5
24PYU3SM	SEC-I Practical	Basic Computer Skills	2	-	2	4	48	3	40	60	100	2
		Total	18	02	10	30	360	-	-	-	700	22

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fourth Semester												
Part-I												
24TLU4TA	Language-I	Tamil-IV	3	1	-	4	48	3	25	75	100	3
24TLU4HA		Hindi-IV										
24TLU4MA		Malayalam-IV										
24TLU4FA		French–IV										
Part– II												
24ELU4EA	Language-II	English -IV	3	1	-	4	48	3	25	75	100	3
Part– III												
24PYU4CA	Core- VII	Optics and Spectroscopy	4	-	-	4	48	3	25	75	100	4
24PYU4CB	Core -VIII	Principles of Electronics and Communication	4	-	-	4	48	3	25	75	100	4
24PYU4CP	Core Practical- IV	Optics and Spectroscopy	-	-	4	4	48	3	40	60	100	2
24CEU4IM	IDC -IV Practical	Chemistry-II	3	-	4	7	84	3	40	60	100	5
24PYU4SA	SEC-II	Concepts and Programming in C	3	-	-	3	36	3	25	75	100	2
		Total	20	2	08	30	360	-	-	-	700	23

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Fifth Semester												
Part-III												
24PYU5CA	Core- IX	Mathematical Physics	4	1	-	5	60	3	25	75	100	5
24PYU5CB	Core -X	Classical and Statistical Methods	4	-	-	4	48	3	25	75	100	4
24PYU5CC	Core -XI	Solid State Physics	4	1	-	5	60	3	25	75	100	5
24PYU5CP	Core Practical- V	Advanced Physics	-	-	4	4	48	3	40	60	100	2
24PYU5CQ	Core Practical -VI	C Programming	-	-	4	4	48	3	40	60	100	2
24PYU5SA	SEC-III	Fundamental of IoT	2	-	-	2	24	3	25	75	100	2
24PYU5DA	DSE –I	Renewable energy Sources	4	-	-	4	48	3	25	75	100	4
24PYU5DB		Laser Physics										
24PYU5DC		Physics of Devices and Instrumentation										
24PYU5TA	IT	Industrial Training							40	60	100	2
Part IV												
	GE		2	-	-	2	24	2	50	-	50	2
		Total	20	2	8	30	360	-	-	-	850	28

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESE	Total	
Sixth Semester												
Part-III												
24PYU6CA	Core -XII	Relativity and Quantum Mechanics	4	-	-	4	48	3	25	75	100	4
24PYU6CB	Core -XIII	Digital electronics and Microprocessors	3	-	-	3	36	3	25	75	100	3
24PYU6CP	Core Practical -VII	Electronics	-	-	4	4	48	3	40	60	100	2
24PYU6CV	Core -XIV	Project and Viva voce	-	-	7	7	84	3	40	60	100	4
24PYU6SA	SEC-IV	Fundamentals of AI	2	-	-	2	24	3	25	75	100	2
24PYU6DA	DSE -II	Nanophysics	4	-	-	4	48	3	25	75	100	4
24PYU6DB		Materials Science										
24PYU6DC		Radiation Physics										
24PYU6DD	DSE -III	Solar Photovoltaic Technology	4	-	-	4	48	3	25	75	100	4
24PYU6DE		Astrophysics										
24PYU6DF		Biomedical Instrumentation										
Part-IV												
24BCU6AA	AECC-III	Innovation, IPR and Entrepreneurship	2	-	-	2	24	-	50	-	50	2
		Total	19	-	11	30	360	-	-	-	750	25
		Grand Total									4400	142

Total Credit should not exceed 142 credits

Theory : CIA 25: ESE 75
Practical/ IT/ Project : CIA 40: ESE 60

5/4/24
BoS Chairman/HoD
Department of Physics
Dr. N. G. P. Arts and Science College
Coimbatore – 641 048

Dr.N.G.P. Arts and Science College
APPROVED
BoS- 5/4/24 AC - 17/4/24 GB -

Academic Council
17/04/2024
DR.N.G.P. Arts and Science College

Dr.NGPASC
COIMBATORE | INDIA

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.	24PYU5DA	Renewable energy Sources
2.	24PYU5DB	Laser Physics
3.	24PYU5DC	Physics of Devices and Instrumentation

Semester VI (Elective II) List of Elective Courses

S.No.	Course Code	Name of the Course
1.	24PYU6DA	Nanophysics
2.	24PYU6DB	Materials Science
3.	24PYU6DC	Radiation Physics

Semester VI (Elective III) List of Elective Courses

S.No.	Course Code	Name of the Course
1.	24PYU6DD	Solar Photovoltaic Technology
2.	24PYU6DE	Astrophysics
3.	24PYU6DF	Biomedical Instrumentation

GENERIC ELECTIVE COURSE (GE)

The following course offered under Generic Elective Course

Semester V (GE)

S.No.	Course Code	Course Name
1.	24PYU5GA	Ecophysics

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.	24PYUSSA	Electrical and Electronic Appliances
2.	24PYUSSB	Biophysics

Semester – I TAMIL - I							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**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 Outcomes (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)	K3
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K3
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU1TA - TAMIL - I
Syllabus

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

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=p9QOHD12Yeo
	Total	60	

Text book	1.	தமிழ் மொழிப்பாடம் – 2024-2025தொகுப்பு: தமிழ்த்துறை, டாக்டர்என்.ஜி.பி. கலைஅறிவியல்கல்லூரி, கோயம்புத்தூர் – 641048.
Reference Books	1.	பேராசிரியர் புலவர் சோம. இளவரசு, தமிழ் இலக்கிய வரலாறு, எட்டாம் பதிப்பு – 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

Focus of the Course	Skill Development / Employability

Semester – I HINDI – I							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**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	K3
CO3	Expose the knowledge writing critical views on fiction	K3
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU1HA - HINDI – I
Syllabus

Unit	Content	Hrs	Resources
1	गद्य – नूतनगद्यसंग्रह (जयप्रकाश)पाठ1- रजियापाठ2- मक्रीलपाठ3- बहतापानीनिर्मला पाठ4- राष्ट्रपितामहात्मागाँधी	13	Text Book
2	कहानीकुंज- डॉनी.पी. 'अमिताभ'(पाठ 1-4)	13	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
	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	-
E-Resources and Website	-

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

Focus of the Course	Skill Development / Employability

Semester – I MALAYALAM- 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	K3
CO4	Apply creative ability	K3
CO5	Build the power of creative reading	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU1MA - MALAYALAM - I

Syllabus

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

Focus of the Course	Skill Development / Employability

Semester – I FRENCH - 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	K3
CO3	Select the Plural, Articles and the Hobbies	K3
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	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU1FA - FRENCH - I

Syllabus

Unit	Content			Hrs	Resources
1	**Objectifs de Communication**	**Tâche**	**Activités de réception et de production orale**	14	Text book Salut I Page 10
	• Saluer • Enter en contact • avec quelqu'un. • Se presenter. • S'excuser	En cours de cuisine, premiers contacts avec les members d'un groupe	• Comprendre des personnes qui se saluent. • Échanger pour entrer en contact, se présenter, saluer, s'excuser. • Communiquer avec *tu* ou *vous*. • Comprendre les consignes de classe • Épeler son nom et son prénom. Computer jusqu'à 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. Échanger pour se presenteret présenterquelqu'un	12	Text book Enchanté I Page 20
3	• Exprimers os 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 Autoévaluation du module I Page 40 – Préparation au DELF A1 page 42 Tu veux bien page 46
5	**Practical Application** Make in Own Sentences			10	-
	Total			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	-
E-Resources and Website	-

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

Focus of the Course	Skill Development / Employability

Semester – I

ENGLISH – I

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24ELU1EA	ENGLISH - I	LANGUAGE- II	48	-	12	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
Prerequisite	Basic comprehension of Language Skills

Course Outcomes (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	K3
CO3	Construct sentences and convey messages effectively in real life situations	K3
CO4	Apply different reading strategies with varying speed	K3
CO5	Prepare modules with their own ideas and present them coherently in a grammatically correct form	K3

Mapping with Program Outcomes:

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

Unit	Content	Hours	E-Contents / Resources
I	**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 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 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	12	Text Book
II	**Listening Skills** 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)	13	britishcouncil.org cambridgeenglish.org
III	**Speaking Skills** 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

	reading speed, reading aloud, Referencing skill- Word Power (Denotation and Connotation) - Reading comprehension, Data interpretation –Charts, Graphs, Advertisements - Cognitive Skills- Inference Making - Interpretation		
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
	Total	60	

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
	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 Magazines	https://academic.oup.com/journals
E-Resources and Website	https://learnenglish.britishcouncil.org/ https://www.cambridgeenglish.org/learning-english/activities-for-learners/

Learning Method	Chalk and Talk/Assignment/Seminar/ Interactive session

Focus of the Course	Skill Development/Employability

Semester – I
CORE: PROPERTIES OF MATTER AND SOUND

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU1CA	PROPERTIES OF MATTER AND SOUND	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand • The basic principles, theory and concepts of Properties of Matter and Sound. • The elastic properties of matter and the limits of elastic behavior. • The nature and production of sound waves.
Prerequisite	Knowledge On Basic Mathematics and Properties of Matter and Sound

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain the importance and applications of elastic modulus	K2
CO2	Utilize the basic properties of matter and do the experiments in laboratory to evaluate the properties.	K2
CO3	Explain the basics of viscosity and compare it using different methods.	K3
CO4	Show experiments in explaining basics of sound waves using sonometer.	K2
CO5	Summarize the production, detection, properties and uses of ultrasonic waves.	K3

Mapping with Program Outcomes:

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

24PYU1CA - PROPERTIES OF MATTER AND SOUND

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Elasticity** Relation between angle of shear and linear strain - Work done in strain – Relation between the elastic moduli - Bending of beams – Expression for the bending moment - Determination of young's modulus by uniform bending method - Torsion of a body – Expression for torque per unit twist – Torsional oscillations of a body - Rigidity modulus by dynamic torsion method (Torsional pendulum)..	14 h	Text Book
II	**Surface Tension and Determination** Molecular forces – Explanation of surface tension on kinetic theory – Work done in increasing area of a surface – Pressure difference across a liquid surface - Jaegar's method - Variation of surface tension with temperature - Experimental study of variation of surface tension with temperature	12 h	Reference Book
III	**Viscosity** Poiseuille's formula for the flow of a liquid through capillary tube – Ostwald's viscometer – Stokes method for coefficient of viscosity of a viscous liquid – Friction and lubrication – Modification of Poiseuille's formula for gases - Rankine's method for determination of η of a gas.	11 h	Text Book
IV	**Oscillation** Simple harmonic motion - Free vibration of a body - Damped vibration - Force vibrations - Saw tooth wave - Square wave - Composition of two simple harmonic motion in straight line - Lissajous figure - Experimental methods for obtaining Lissajous figure and uses.	11 h	NPTEL.
V	**Ultrasonics and Acoustics** Ultrasonics – Piezoelectric effect – Piezoelectric crystal method – Magnetostriction method – Applications - Acoustics of building – Sabine's Reverberation formula (No derivation) - Factors affecting acoustics of building - Sound distribution in an auditorium - Requisites for good acoustics.	11h	You Tube Videos
	TOTAL	**60 h**	

Text Book	1.	Murugeshan R, 2021, "Properties of matter", 3rd Edition, S. Chand & Co, New Delhi. (Unit 1, 2 & 5.
	2.	BrijLal and Subrahmanyam N, 2017, "Properties of Matter", 7th Edition, S. Chand and Co, New Delhi.
Reference Books	**1.**	Subramanyam N, 2019,"Text book of Sound", 3rd Edition, Vikas publications, New Delhi.
	2.	Gupta A. B, 2019, "Classical mechanics and properties of matter", 4th Edition,S. Chand & Co, New Delhi. (Unit 3 & 4.
	3.	Murugeshan R, 2016, "Properties Of Matter And Acoustic", 2nd Edition, Chand and Co, New Delhi.
	4.	Mathur D S, 2014," Elements of Properties of Matter", 3rd Edition, S. Chand and Co, New Delhi.

Journal and Magazines	https://archive.nptel.ac.in/courses/105/105/105105177/.
E-Resources and Website	https://kanchiuniv.ac.in/coursematerials/Physics%20book_Final%20(1).pdf
Learning Method	Chalk and Talk/Assignment/Seminar
Focus of the Course	Skill Development/ Entrepreneurial Development/ Entrepreneurial Development/ Innovations/ Intellectual Property Rights

Semester – I
CORE: MECHANICS

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU1CB	MECHANICS	CORE	48	-	-	3

Preamble	This course has been designed for students to learn and understand, • The basic laws and principles of Newtonian mechanics. • The Central forces and Conservative nature of central forces. • Apply the laws of mechanics in various application.
Prerequisite	Knowledge on Basic Mathematics and Mechanics

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Summarize the fundamental laws of mechanics and Apply them to solve problems.	K2
CO2	Utilize the principles of Moment of Inertia and do Experiments in laboratories.	K3
CO3	Illustrate gravitational field, potential and Kepler's Law.	K2
CO4	Solve the problems in central force motions and interpret it through derivational values.	K3
CO5	Demonstrate the importance of hydro dynamical Functions and its applications.	K2

Mapping with Program Outcomes:

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

24PYU1CB - MECHANICS
Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Collisions** Collisions - Calculation of final velocities of colliding particle - Elastic collision in two or three dimensions - Collisions - Elastic one-dimensional collision - Impulse of a force - Value of the scattering angle - Impulse and linear momentum – Newton's law of impact - Co-efficient of restitution - Motion of two smooth bodies perpendicular to the line of impact - Definitions for direct and oblique impact	10 h	Text Book
II	**Rigid Body dynamics and Applications** Moment of inertia – Theorems of perpendicular and parallel axes – Calculation of M.I for Rectangular, Cylindrical and Spherical Bodies – Compound pendulum – Theory – Determination of g and k..	8 h	Reference Book
III	**Gravitation and Applications** Newton's law of gravitation – G by Boy's method – Acceleration due to gravity - Motion of a planet in an elliptical orbit around the sun - Mass and density of earth - Conservation of angular momentum of a system, a consequence of a rotational invariance of potential energy of the system - Motion of a planet or a satellite in its orbit – Applications: Scattering of a positive particle by a massive nucleus - Effect on linear and angular speeds of a particle on contraction of its orbit - The shape of the galaxy	11 h	Text Book
IV	**Central Force Motion** Torque and angular acceleration – Acceleration of two objects connected by a cord - Acceleration of two connected objects when friction is present – Automobile Antilock Braking Systems (ABS) - Determination of motion of individual particle – System of variable mass.	9 h	NPTEL
V	**Statics and Hydrodynamics** Friction - Laws of friction - Experimental method for determining coefficient of friction - Hydrodynamics - Equation of continuity of flow – Bernoulli's theorem and its applications - Venturi meter - Pitot tube	10 h	You Tube Videos
	TOTAL	**48 h**	

Text Book	1.	Mathur D S,2014. "Mechanics, 4 th Edition,S. Chand and Co, New Delhi.
	2.	Halliday, D., Resnick, R., and Walker, J. Fundamentals of Physics, 9th edition. Wiley.
Reference Books	1.	Duraipandian P,2005, "Mechanics", 6th edition, S. Chand and Co, New Delhi
	2.	Murugesan P, 2014, "Properties of matter", S.Chand and Co, New Delhi.
	3.	Murugesan R, 2014, "Mechanics and Mathematical Physics", S.Chand and Co, New Delhi.
	4.	https://www.youtube.com/watch?v=C1XuwHLacao

Journal and Magazines	Charles Kittel, Walter Knight, Malvin Ruderman, Carl Helmholz, Burton Moyer, 2007, "Mechanics Berkeley Physics Course", Volume 1, Tata McGraw-Hill,NewDelhi.
E-Resources and Website	https://www.youtube.com/watch?v=C1XuwHLacao
Learning Method	Chalk and Talk/Assignment/Seminar
Focus of the Course	Skill Development/ Entrepreneurial Development/ Entrepreneurial Development/Innovations/ Intellectual Property Rights

Semester – I

CORE PRACTICAL: PROPERTIES OF MATTER AND MECHANICS

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU1CP	PROPERTIES OF MATTER AND MECHANICS	CORE PRACTICAL	-	-	48	2

1	Determination of 'g' and 'K' by compound pendulum.
2	Finding Young's Modulus-Uniform Bending (Microscopic Method)- Under DBT Star college Scheme
3	Determination of Rigidity Modulus – Static Torsion
4	Determination of the Coefficient of Viscosity of water by Capillary Flow Method (Poiseuille's Method).
5	Determination of Frequency of a tuning fork by Sonometer.
6	Determination of Rigidity modulus of a string.
7	Calculation of the Coefficient of Viscosity of the liquid by Stoke's Method
8	Study of the rate of flow of water through a capillary tube under different pressure heads.- Under DBT Star college Scheme
9	Determination of Surface tension of a liquid by drop weight method.
10	Finding Young's Modulus - Cantilever Depression.
11	Determination of Young's Modulus-Uniform Bending (Koenig's Method)
12	Determination of Young's Modulus-Non-uniform Bending (Microscopic Method) - Under DBT Star college Scheme

Text Book	1.	Ouseph C C, 2014, "Practical Physics and Electronics", Vishwanathan Publications, Chennai.
	2.	Samir Kumar Ghosh. Textbook of Advanced Practical Physics, NCBA Publishers.
	3	Chattopadhyay .D, 2015, "Advanced Course in Practical Physics", NCBA Publications, Kolkata.
	4	Murughesan R, 2014, "Thermal Physics", S Chand and Co, New Delhi.

Semester - I

IDC PRACTICAL: FUNDAMENTALS OF MATHEMATICS WITH MATLAB

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24MTU1IM	FUNDAMENTALS OF MATHEMATICS WITH MATLAB	IDC PRACTICAL	36	-	24	3

Preamble	This course has been designed for students to learn and understand • the techniques to solve Mathematical problems using programming knowledge • the applications of maxima and minima of functions • the method of constructing definite integrals
Prerequisite	Knowledge on Basic Mathematics

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Understand the basic concept of MATLAB	K1
CO2	Describe the vector and matrix	K2
CO3	Identify the maxima and minima of functions	K1
CO4	Describe first order and first degree differential equations	K2
CO5	Recognize the integration by parts	K2

Mapping with Program Outcomes:

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

24MTU11M - FUNDAMENTALS OF MATHEMATICS WITH MATLAB

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Creating Arrays:** Creating a one-dimensional array (vector) - creating a two-dimensional array (matrix) - variables in MATLAB - transpose operator - array addressing - adding elements to existing variables - deleting elements - built in functions - strings and strings as variables – problems 1. Creation of vector and matrix 2. Usage of zeros, ones and eye commands 3. Transposing a vector and matrix by transpose operator 4. Adding element to a vector and matrix	09	Text Book
II	**Mathematical operations with arrays:** Addition and subtraction - array multiplication - array division - element by element operations - using arrays in MATLAB - built in functions for analyzing arrays -generation of random numbers - MATLAB applications 5. Matrix operations such as addition, subtraction and multiplication 6. Inverse of a matrix 7. Solving three linear equations (array division method) 8. Built in functions for analyzing arrays	09	Reference Books 3 & 4
III	**Differential Calculus:** Maximum and minimum value of a function- necessary conditions for extreme values - sufficient condition - use of second order derivative- applications 9. Derivative of symbolic expressions 10. Evaluate the derivative at some particular point 11. Finding maxima and minima for a function	14	Text Book
IV	**Differential equations of first order and first degree:** Introduction - separation of variables - transformation of some equations in the form in which variables are separable -homogeneous equations - working rule - equations reducible to homogeneous form - Pfaffian differential equation - exact differential equation - Necessary and sufficient condition for a differential equation of first order and first degree to be exact - working rule - solved examples 12. Solve the Pfaffian differential equation 13. Solve the homogeneous differential equation	14	Text Book & NPTEL

	14. Solve the exact differential equation.		
V	**Integral Calculus:** Properties of definite integral - integration by parts - reduction formula - Bernoulli's formula. 15. Definite integrals of symbolic expressions 16. Integrals of matrix elements 17. Method of integration by parts	14	Text Book & You Tube Videos
	Total	60	

Text Book	**1.**	Amos Gilat, 2007, "MATLAB An Introduction with applications ", Wiley India Pvt. Ltd., New Delhi..
	2.	Shanti Narayan, 2003, "Differential Calculus", Eleventh Edition, S.Chand and Company Limited, New Delhi
	3.	Raisinghania M D, 2012,"Ordinary and Partial Differential Equations", S.Chand & co, New Delhi.
	4.	Narayanan S and Pillai T.K.M, 2008, "Calculus", Vol 2, Viswanathan Publishers, Chennai
Reference Books	**1.**	Narayanan S and Pillai T.K.M 2008, "Calculus", Vol 1, Viswanathan Publishers, Chennai.
	2.	Shanti Narayan, 2003, "Integral Calculus", Eleventh Edition, S Chand and Company Limited, New Delhi.
	3.	Rudra Pratap, 2017, "Getting started with MATLAB 7, A Quick Introduction for Scientists and Engineers", Oxford University Press, UK.
	4.	William J. Palm III, 2005, "Introduction to MATLAB for Engineers", The McGraw-Hill Companies, Inc., New York.

Journal and Magazines	https://oa.mg/journals/open-access-matlab-journals
E-Resources and Website	https://www.mathworks.com/help/matlab-online-server/ug/matlab-online.html https://nptel.ac.in/courses/111102137
Learning Method	Chalk and Talk/Assignment/Seminar
Focus of the Course	Skill Development/Employability

Semester – I

AECC I: ENVIRONMENTAL STUDIES

Semester	Course Code	Course Name	Category	L	T	P	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 Outcomes (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	K3
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	✓	✓	✓	✓	✓

24MBU1AA - ENVIRONMENTAL STUDIES
Syllabus

Unit	Content	Hours	E-Contents / Resources
I	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 i n 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 Books	1.	*Gleeson, B. and Low, N. (eds.)* 1999. **Global Ethics and Environment, London, Routledge**.
	2.	*Gleick, P.H.* 1993. **Water in Crisis. Pacific Institute for Studies in Dev., Environment & Security.** *Stockholm Env. Institute, Oxford Univ. Press.*
	3.	*Groom, Martha J. Gary K. Meffe, and Carl Ronald carroll.* 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 Environment

BoS Chairman/HoD
Department of Physics
Dr. N. G. P. Arts and Science College
Coimbatore – 641 048

Dr.N.G.P. Arts and Scien...
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BoS- 5/4/24 | AC - 17/4/24 | GB -

Academic Council
CHAIRMAN
Dr.N.G.P. Arts and Science College

Semester – II LANGUAGE: TAMIL - II							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	24TLU2TA	TAMIL - II	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 Outcomes (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)	K3
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K3
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU2TA	LANGUAGE: TAMIL - II

Syllabus

Unit	Content	Hrs	Resources
1	**அற இலக்கியம்** 1. இலக்கிய வரலாறு- பதினெண்கீழ்க்கணக்குநூல்கள் 2.திருக்குறள் அ. அறன்வலியுறுத்தல் – அறத்துப்பால் - அ. எண் - 04 ஆ. காலம் அறிதல் – பொருட்பால் - அ. எண் - 49 இ. உழவு - பொருட்பால் - அ. எண் - 104 ஈ. குறிப்பறிதல் - காமத்துப்பால் - அ. எண் - 110	13	தமிழ்மொழிப்பாடம் இரண்டாம் பருவம் 2024-2025
2	**அற இலக்கியம்** 1. நாலடியார் - அறிவுடைமை 2. மூதுரை - ஔவையார் - 10 பாடல்கள் 6, 7, 9, 10, 14, 16, 17, 23, 26, 30 3. இனியவைநாற்பது- பூதஞ்சேந்தனார் - முதல் 10 பாடல்கள்	13	தமிழ்மொழிப்பாடம் இரண்டாம் பருவம் 2024-2025
3	**அறநெறிக் கட்டுரைகள்** 1. இலக்கியவரலாறு - தமிழ் உரைநடையின் தோற்றமும் வளர்ச்சியும் 2. கலைகள் - உ.வே.சா 3. சங்க நெறிகள் - வ.சுப.மாணிக்கம்	10	தமிழ்மொழிப்பாடம் இரண்டாம் பருவம் 2024-2025
4	**அறநெறிக் கட்டுரைகள்** 1. வீர வணக்கம் - க. கைலாசபதி 2. தமிழர் பண்பாடு - டாக்டர் சோ.நா.கந்தசாமி 3. இணையத் தமிழ் வளர்ச்சி - முனைவர் ப.அர.நக்கீரன்	14	தமிழ்மொழிப்பாடம் இரண்டாம் பருவம் 2024-2025
5	**பயிற்சிப் பகுதி** 1.இலக்கணம் - வழு, வழுவமைதி, வழாநிலை 2.அலுவலகம் சார்ந்த கடிதம் - விண்ணப்பங்கள், வேண்டுகோள், முறையீடு 3.படைப்பாக்கம் - பொதுத்தலைப்பில் கட்டுரைகள் எழுதுதல்	10	தமிழ்மொழிப்பாடம் இரண்டாம் பருவம் 2024-2025
	Total	60	

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

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

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

Focus of the Course	Skill Development / Employability

Semester – II LANGUAGE: HINDI – II							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	24TLU2HA	HINDI – II	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	K3
CO3	Expose the knowledge writing critical views on fiction	K3
CO4	Build creative ability	K3
CO5	Apply the power of creative reading	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU2HA	LANGUAGE: HINDI – II

Syllabus

Unit	Content	Hrs	Resources
1	आधुनिकपद्य - शबरी(श्रीनरेशमेहता)	13	Text Book
2	उपन्यास: सेवासदन-प्रेमचन्द	13	Text Book
3	कहानी-किरीट- डा उषा पाठक / डा अचला पाण्डेय पाठ 1.कफ़न, 3. चीफ़ की दावत	12	Text Book
4	पत्र लेखन: (औपचारिक या अनौपचारिक)	12	Text Book
5	अनुवाद अभ्यास-III (केवल हिन्दी से अंग्रेजी में) (पाठ 1 to 10)	10	Text Book
	Total	60	

Text books		
	1.	प्रकाशक: लोकभारती प्रकाशन पहली मंजिल, दरबारी बिल्डिंग,महात्मा गाँधी मार्ग, इलाहाबाद. (Unit I)
	2.	प्रकाशक: सुमित्र प्रकाशन 204 लीला अपार्ट्मेंट्स, 15 हेस्टिंग्स रोड'अशोक नगर इलाहाबाद. (Unit II)
	3.	प्रकाशक: राधाकृष्ण प्रकाशन दिल्ली. (Unit III)
	4.	पुस्तक: व्याकरण प्रदिप - रामदेवप्रकाशक: हिन्दी भवन 36 इलाहाबाद. (Unit IV)
	5.	प्रकाशक: दक्षिण भारत प्रचार सभा चेनैई. (Unit V)

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

Focus of the Course	Skill Development / Employability

Semester – II LANGUAGE: MALAYALAM- II							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	24TLU2MA	MALAYALAM- II	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	K3
CO4	Apply creative ability	K3
CO5	Build the power of creative reading	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU2MA	LANGUAGE: MALAYALAM- II

Syllabus

Unit	Content	Hrs	Resources
1	**Novel** Enmakaje: Chapter1- Chapter 5	14	Text book
2	**Novel** Enmakaje: Chapter 6- Chapter 10	10	Text book
3	**Novel** Enmakaje: Chapter 11- Chapter 15	14	Text book
4	**Autobiography** Neermathalam Pootha Kalam: Chapter 1- Chapter 10	10	Text book
5	**Autobiography** Neermathalam Pootha Kalam: Chapter 11- Chapter 20	12	Text book
	Total	60	

Text books	1.	Ambika Suthan Mangad, Enmakaje (Novel), DC Books Kottayam, Kerala, India. (Unit I to III)
	2.	Madhavikkutty, Neermathalam Pootha Kalam (Autobiography), DC Books Kottayam, Kerala, India. (Unit IV & V)
Reference Books	1.	Malayala Novel Sahithyam, DC Books Kottayam, Kerala, India
	2.	Malayala Sahithya Charithram, National Books Kottayam, Kerala, India.

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

Focus of the Course	Skill Development / Employability

Semester – II LANGUAGE: FRENCH - II							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	24TLU2FA	FRENCH - II	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	K3
CO3	Select the Plural, Articles and the Hobbies	K3
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	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU2FA	LANGUAGE: FRENCH - II

Syllabus

Unit	Content	Hrs	Resources
1	Proposer, accepter, refuserune invitation. Indiquer la date. Organiser une soirée au cinéma avec des amis, par téléphone et par courriel. Comprendreunemessage d'invitationsurunrépondeurtéléphonique. Inviter quelqu'un accepter ourefuserl'invitation.	14	Text book
2	Prendreet fixer un rendez-vous. Demander etindiquerl'heure. Organiser une soirée au cinéma avec des amis, par téléphone et par courriel. Comprendre des personnes qui fixentunrendez-vous par téléphonique. Prendreun rendez-vous par telephone	12	Text book
3	Exprimer son point de vue positif et négatif. S'informersur le prix. S'informersur la quantitité. Exprimer la quantitité. En groupes, choisir un cadeau pour un ami. Exprimer son point de vuesur des idées de cadeau. Faire des achatsdans un magasin	14	Text book
4	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'interdiction. Donner des conseils à des personnesdans des situations données.	10	Text book
5	**Practical Application** Make in Own Sentences	10	-
	Total	60	

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

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

Focus of the Course	Skill Development / Employability

Semester – II LANGUAGE:ENGLISH - II							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	**24ELU2EA**	**ENGLISH – II**	**LANGUAGE – II**	**48**	**-**	**12**	**3**

Preamble	This course has been designed for students to learn and understand • language for specific purposes through literary works, enhancing listening and reading skills. • communicative competencies in academics through real-world contexts, improving speaking and listening. • business correspondence with clarity and accuracy, focusing on writing skills like emails and essays.
Prerequisite	Basic knowledge of English Language

Course Outcomes (Cos)		
CO Number	**Course Outcomes (COs) Statement**	**Bloom's Taxonomy Knowledge Level**
CO1	Interpret spoken English through active listening and respond effectively.	K1
CO2	Express effective speaking skills through structured and informal discussions.	K2
CO3	Analyse and comprehend literary and informational texts to enhance reading proficiency.	K2
CO4	Compose written content with clarity and coherence in various contexts.	K3
CO5	Apply essential soft skills for professional interactions, leadership, and communication.	K3

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	✓	✓			
CO2	✓		✓		
CO3			✓	✓	
CO4	✓			✓	
CO5			✓		

24ELU2EA | LANGUAGE: ENGLISH - II

Syllabus

Unit	Content	Hrs	Resources
I	**Listening** **Poem:** **Edgar A. Guest – Don't Quit** Repetition for emphasis - Tone and Emotional appeal **Langston Hughes – Still Here** Voice & Identity - Resilience & Endurance. **Short Story:** **R.K. Narayan – Engine Trouble** Emotional tone – Question for Reflection **Listening Talks:** ""Yes, We Can!" - Barack Obama (speech) – (Audio & Visual aids) **Grammar:** Articles & Prepositions	12	https://poetryace.com/ im-still-he re/
II	**Speaking** **Poem:** **Robert Frost –The Road not Taken** Persuading and supporting opinions – logical structure – clear articulation **D. H Lawrence – Snake** Observation and Patience - Respect and Humility **Speaking Skills:** Just a Minute Talk (JAM) – Small Talk, Interviewing a Celebrity. **Grammar:** One word substitution, Loan Words.	12	www.poetrysoup.com
III	**Reading** **Poem:** **Chinua Achebe – Love Cycle** Inferring and Interpreting - Synthesis of Ideas Connection and Understanding - Adaptability and Growth **Short story:** **Sudha Murthy – How I taught My Grandmother to Read** Building comprehension – Fluency & Expression **Grammar:** Syllabification, Mon/Di/polysyllabic Comparison - Odd one Out - Rearranging the sentences (Jumbled sentences).	12	https://www.poetryfou ndation.org/poems
IV	**Writing** **Prose:** **A. G. Gardiner: On Letter Writing** Clarity and Precision – Self expression **Writing Skills:** Story Building, Story Writing & Story Narration Emails (formal/informal) & General Essay Writing - (Descriptive or Narrative) **Grammar:** Spelling Pitfalls (wrongly spelt words), Agreement of verb and subject	12	https://www.gutenberg . org/
V	**Soft Skills** Expressing opinions through Role play– Interview Skills - Public Speaking - Group Discussions - Leadership Qualities - Communication on Verbal and Non-verbal	12	Social intelligence: The new science of human relationships -

			Daniel Goleman; 2006.
	Total	**60**	

	Note: Classroom activities on LSRW skills (Examined Internal only)

Text Books	1.	Martin Hewings. *Advanced English Grammar*. Cambridge University Press, 2000.
	2.	SP Bakshi, Richa Sharma. *Descriptive English*. Arihant Publications (India) Ltd., 2019.
	3.	Sheena Cameron, Louise Dempsey. *The Reading Book: A Complete Guide to Teaching Reading*. S & L. Publishing, 2019.
	4.	Phil Chambers. *Brilliant Speed Reading: Whatever you need to read, however*. Pearson, 2013.
	5.	Bailey, Stephen. *Academic Writing: A Practical Guide for Students*. Routledge, 2004.
	6.	Goleman, Daniel. *Social Intelligence: The New Science of Human Relationships*. Bantam Books, 2006.
Reference Books	1.	Nesfield, J. C. *English Grammar Composition and Usage*. Macmillan, 2019.
	2.	Krishnasamy. N. *Modern English: A Book of Grammar, Usage and Composition*. Macmillan, 1975.
	3.	Kumar, Ramendra. *Stories of Resilience*. Blue Rose Publications, 2020.
	4.	Thakur, SJ and Rout, S.K. *Objective General English*. B.K Publications, 2017.

Journals and Magazines	IOSR Journal of Humanities and Social Science (IOSR-JHSS) International Journal of English Literature and Social Sciences http://ijrep.com/wp-content/uploads/2019/03/18-22-SKILL-ENHANCEMENT-TEACHING-LSRW https://www.jetir.org/view?paper=JETIRDY06148
E-Resources and Website	https://learnenglish.britishcouncil.org/ https://www.yourarticlelibrary.com/

Learning Method	Chalk and Talk/Assignment/Seminar/ Group Discussion

Focus of the Course	Skill Development/ Employability

Semester – II
CORE: HEAT AND THERMODYNAMICS

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24PYU2CA	HEAT AND THERMODYNAMICS	CORE	48	-	-	4

Preamble	This course has been designed for students to learn and understand • The basic concepts of heat and thermodynamics. • The laws of thermodynamics and its properties. • The thermometric, calorimetric theory and its applications.
Prerequisite	Basic knowledge on thermodynamics

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Interpret kinetic theory of gases and their applications.	K2
CO2	Outline the thermodynamic laws and concept of entropy.	K2
CO3	Illustrate the methods of heat flow.	K3
CO4	Analyze the phenomena of thermometry and its measurement.	K4
CO5	Experiment with the specific heats of liquid and heat capacities.	K3

Mapping with Program Outcomes:

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

24PYU2CA	CORE - HEAT AND THERMODYNAMICS

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Kinetic Theory of Gases** Concept of ideal gas – Expression for pressure exerted on a gas - Derivation of gas laws – Degrees of freedom - Maxwell's law of equipartition of energy – Relation between molar specific heats and degrees of freedom - Van der Waals equation of state: Correction for pressure and correction for volume – Joule Kelvin effect: Temperature of inversion.	09 h	Text Book
II	**Thermodynamics** Zeroth law of thermodynamics – Concept of heat - Internal energy (U) - First law of thermodynamics – Specific heats of a gas – Adiabatic process - Isothermal process - Carnot's cycle - Second law of thermodynamics – Concept of entropy - Change in entropy - Entropy of a perfect gas - Third law of thermodynamics.	10 h	Text book
III	**Transmission of Heat** Conduction - Coefficient of thermal conductivity – Rectilinear flow of heat along a bar - Forbes Method to find K – Cylindrical flow of heat - Thermal conductivity of rubber – Thermal conductivity of glass - Wiedemann-Franz law - Thermopile – Properties of thermal radiation.	10 h	Text Book
IV	**Thermometry** Concept of heat and temperature – Relation between Celsius, Kelvin, Fahrenheit scale of temperatures - Platinum resistance thermometer - Determination of C_v by Joly's method – Gas equation – Low temperature measurement – High temperature measurement.	09 h	NPTEL
V	**Calorimetry** Newton's law of cooling – Specific heat of a liquid: Joule's electrical method - Calendar and Barnes'	10 h	You Tube Videos

	continuous flow method – Experimental determination of heat capacities - Two specific heats of a gas – Specific heat of a gas by Joly's differential steam calorimeter.		
	TOTAL	**48 h**	

Text Book	**1.**	Brij Lal, Subrahmanyam, 2014, "Heat Thermodynamics and Statistical Physics", 14th Edition, S. Chand and Co., Delhi.
	2.	Mathur D.S, 2014, "Heat and Thermodynamics", S. Chand and Co., Delhi..
Reference e Books	**1.**	Holman J.P, 2015, "Heat Transfer (in SI Units)", McGraw Hill Education, New Delhi
	2.	Kakani S.L, 2009, "Heat Thermodynamics and Statistical Physics", 3rd Edition S. Chand and Co., Delhi
	3.	Pramila Shukla, 2021, "Heat Thermodynamics", 1st Edition, Dreamtech Press, kindle eBook
	4.	Murughesan R, 2014, "Thermal Physics", 1st Edition, S. Chand and Co., Delhi
	5.	https://archive.org/details/michael-j.-moran-howard-n.-shapiro-daisie-d.-boettner-margaret-b.-bailey-fundame/page/n9/mode/2up

Journal and Magazines	M. Costa Gomes, The Journal of Chemical Thermodynamics, Elsevier. https://www.sciencedirect.com/journal/the-journal-of-chemical-thermodynamics
E-Resources and Website	https://www.youtube.com/watch?v=NyOYW07-L5g
Learning Method	Chalk and Talk/Assignment/Seminar
Focus of the Course	Skill Development/ / Entrepreneurial Development/Innovations/ Intellectual Property Rights

Semester – II
CORE: ATOMIC PHYSICS

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24PYU2CB	ATOMIC PHYSICS	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand • The concept of atomic physics with various atom model • The fine structure of spectral lines • The properties of X-rays, and photoelectric effect
Prerequisite	Knowledge on atomic model and their behavior

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain the positive rays and atom models	K2
CO2	Interpret the fine spectral notation of the atoms	K3
CO3	Illustrate the fine structure of spectral lines	K2
CO4	Demonstrate the concepts of X-ray and its properties	K3
CO5	Understand and apply the concept of photoelectric effect and its application	K4

Mapping with Program Outcomes:

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

24PYU2CB	CORE - ATOMIC PHYSICS

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Positive Rays and Mass Spectrograph** Discovery – Properties of positive rays - Thomson's parabola method – Aston's mass spectrograph – Bainbridge's mass spectrograph - Dempster mass spectrograph - Mass defect and packing fraction – Rutherford's experiments on scattering of α particle.	12 h	Text Book
II	**Structure of the Atom** Basic concept of Thomson's atom model - Bohr atom model - Bohr interpretation on hydrogen spectrum - Ritz combination principle - Correspondence principle - Sommerfeld's relativistic atom model - Vector atom model - Quantum numbers associated with vector atom model - Coupling schemes: L-S coupling - J-J coupling - The Pauli exclusion principle.	12 h	Reference Book
III	**Fine Structure of Spectral Lines** Critical potential - Atomic excitation - Experimental determination of critical potential: Franck and Hertz's method - Davis and Goucher's method. Optical spectra: Spectral terms - Spectral notation - Selection rules - Intensity rules - Interval rule - Normal Zeeman effect: Theory and experiment - Larmor's theorem- Anomalous Zeeman effect - Paschen-Back effect - Stark effect.	12 h	Text Book
IV	**X-Rays** Production of X-Rays – Properties - Absorption of X-Rays – Laue experiment - Bragg's law – Bragg's X-Ray spectrometer – X-Ray Spectra, Characteristic X-Ray Spectra - Moseley's Law and Its Importance – Compton Scattering: Theory and Experiment.	12 h	NPTEL
V	**The Photoelectric Effect** Experimental investigation on the Photoelectric Effect - Einstein's Photoelectric Equation – Millikan's Experiment - Photoelectric Cell - Photo Emissive Cell - Photo Voltaic Cell – Photoconductive Cell - Application of Photoelectric Cell.	12 h	You Tube Videos
	TOTAL	60 h	

Text Book	**1.**	Murugesan R, 2014, "Modern Physics", 17th Edition, S. Chand & Co., New Delhi.
	2.	Aruldhas G, 2013, "Modern Physics", 1st Edition, Prentice Hall India Learning Private Ltd., New Delhi.
Reference Books	**1.**	Subrahmanyam N, 2014, "Atomic and Nuclear Physics", 1st Edition, S. Chand & Co, New Delhi.
	2.	Theraja B. L, 2014, "Modern Physics" 1st Edition, S. Chand & Co, New Delhi.
	3.	Sehgal N. K, 2013, "Modern Physics" 9th Edition, S. Chand & Co, New Delhi
	4.	Basu C.C, 2015, "Atomic and Nuclear Physics" 1st Edition, NCBA, New Delhi
	5.	Rajam, J.B. ,1999, "Atomic Physics: Criticism of the theory of relativity" 1st Edition , Rajendra Ravindra Printers (Pvt). Ltd., New Delhi

Journal and Magazines	Charles E. Burkhardt, Jacob J. Leventhal, Topics in Atomic Physics, Springer New York, NY. https://doi.org/10.1007/0-387-31074-6
E-Resources and Website	https://www.youtube.com/watch?v=lUhJL7o6_cA.
Learning Method	Chalk and Talk/Assignment/Seminar
Focus of the Course	Skill Development/ Entrepreneurial Development/ Entrepreneurial Development/Innovations/ Intellectual Property Rights

Semester – II

CORE PRACTICAL: HEAT AND THERMODYNAMICS

Semester	Corse Code	Course Name	Category	L	T	P	Credits
II	24PYU2CP	HEAT AND THERMODYNAMICS	CORE PRACTICAL			4	2

Preamble	This course has been designed for students to learn and understand • The basic principles and law of thermodynamics • The thermal properties and variation of resistance with temperature • The specific resistance of different material
Prerequisite	Knowledge on basic heat experiments

Course Outcomes (Cos)		
CO Number	**Course Outcomes (COs) Statement**	**Bloom's Taxonomy Knowledge Level**
CO1	Acquire the knowledge of thermal behavior of solid	K2
CO2	Understand the thermodynamics laws and types of transmission of heat	K3
CO3	Analyse temperature coefficient and variation of resistance of the materials	K4
CO4	Describe the thermal properties of different materials.	K2
CO5	Categorize the thermodynamic laws and their applications.	K3

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1	✓		✓	✓	✓
CO2	✓			✓	✓
CO3		✓		✓	
CO4		✓	✓	✓	
CO5		✓	✓	✓	✓

24PYU2CP	CORE PRACTICAL: HEAT AND HERMODYNAMICS

Syllabus

S.No	Contents
1	Determination of thermal conductivity of a bad conductor using Lee's disc method.
2	Calculation of the temperature coefficient of resistance of the given coil using Carey-Foster's bridge.
3	Determination of specific heat capacity of the liquid using Joule's calorimeter.
4	Study the V-I characteristics of a thermistor.
5	Determination of band gap and resistivity of semiconductor at different temperatures by Four Probe Method.
6	Determination of Temperature Coefficient of Resistance using Post office box.
7	Analyze the variation of resistance with temperature using a thermistor. (Under DBT Star Scheme)
8	Determination of specific resistance of given coil of wire using Carey-Fosters bridge.
9	Determination of specific resistance of coil using post office box method.
10	Determination of temperature coefficient of resistance for given resistors. (Under DBT Star Scheme)
11	Determination of temperature coefficient of resistance for given copper strip. (Under DBT Star Scheme)
12	Band gap energy of a semiconductor by thermal method.

Any 10 Experiments

Manuals	1.	Ouseph C C, 2014, "Practical Physics and Electronics", Vishwanathan Publications, Chennai.
	2.	Samir Kumar Ghosh, 2008, "Textbook of Advanced Practical Physics", NCBA publishers
	3.	Chattopadhyay D, 2015, "Advanced Course in Practical Physics", NCBA publications, Kolkata
	4.	Murughesan R, 2014, "Thermal Physics", S. Chand and Co., New Delhi.
Learning Method		Demonstration/ Hands on Experiments/ Group Trials
Focus of the Course		Skill Development/ Employability/ Entrepreneurial Development/ Innovations

Semester - II

IDC PRACTICAL: STATISTICAL ANALYSIS AND TOOLS

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24MTU2IM	STATISTICAL ANALYSIS AND TOOLS	IDC PRACTICAL	36	-	24	4

Preamble	This course has been designed for students to learn and understand • The requirements of a good average and differentiate between average and dispersion • Importance and the limitations of Correlation and Regression Analysis • Analysis of Time Series
Prerequisite	Knowledge on Basic statistics

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Compute the various measures of central tendency	K1
CO2	Identify the measures of dispersion	K2
CO3	Explain the concepts of correlation	K1
CO4	Explain the concepts of regression	K2
CO5	Compute the component of time series	K2

Mapping with Program Outcomes:

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

24MTU2IM	IDC PRACTICAL: STATISTICAL ANALYSIS AND TOOLS

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Measures of Central Tendency**: Introduction - Arithmetic Mean - Median - Mode - Characteristics of Mean, Median and Mode - Geometric Mean - Harmonic Mean -Merits and Demerits of Mean, Median and Mode. **Practical** 1. Calculate Mean 2. Calculate Geometric Mean and Harmonic Mean 3. Calculate Median 4. Calculate Mode	09	Text Book
II	**Measures of Dispersion:** Introduction - Range - Interquartile Range - Mean Deviation -Coefficient of Mean Deviation - Standard Deviation **Practical** 5. Determine Range 6. Determine Inter-quartile Range 7. Determine Mean Deviation 8. Determine Standard Deviation	09	Text Book
III	**Correlation:** Introduction - Types of Correlation - Karl Pearson's Coefficient of Correlation - Properties - Merits and Demerits - Rank Coefficient of Correlation. **Practical** 9. Determine Correlation using Pearson method 10. Determine rank correlation for the given data 11. Determine rank correlation for repeated data	14	Text Book
IV	**Regression:** Introduction - Definition - Uses - Method of studying Regression - Graphic Method - Algebraic Method - Regression Line - Regression Equation. **Practical**	14	Text Book & You Tube Videos

	12. Determine regression line using Graphic Method 13. Determine regression line using Graphic Method 14. Determine regression equation.		
V	**Analysis of Time Series:** Meaning - uses - Secular Trend - Seasonal variation - Cyclical variation - Irregular variation - Measurement of Secular Trend - Graphic Method - Semi average Method - Moving average Method - Method of least squares **Practical** 15. Draw a Trend line using Semi average Method 16. Draw a Trend line using Moving average Method 17. Determine polynomial using method of Least Square Curve Fitting	**14**	**Text Book**
	Total	**60**	

Text Book	**1.**	Pillai R.S.N and Bagavathi V, 2017, "Statistics", 14th Edition, S. Chand and Company Ltd, New Delhi.
	2.	Dr.Bharti Motwani, 2021, "Data Analytics with R", Wiley India pvt. Ltd, New Delhi.
Reference Books	**1.**	Gupta S.P, 2014, "Statistical Methods", 34th Edition, Sultan chand and sons Educational Publishers, New Delhi.
	2.	Ken Black, 2009, "Business Statistics for Contemporary Decision Making", John Wiley and sons Pvt. Ltd, New Delhi.
	3.	Beri G C, 2010, "Business Statistics", Second Edition, Tata McGraw- Hill Pvt Ltd, New Delhi.
	4.	Sancheti. D.C and Kapoor V.K, 2010, "Statistics", Seventh Edition, S. Chand and Company Ltd, New Delhi.8.

Journal and Magazines	https://onlinelibrary.wiley.com/journal/19321872
E-Resources and Website	https://youtube.com/playlist?list=PLunlGNVWDAaY7AeDDzTeu4-DD3g7zmAXs&si=NHJItSkpnYVZijPa
Learning Method	Chalk and Talk/Assignment/Seminar
Focus of the Course	Skill Development/Employability

Semester – II AECC: BASIC TAMIL							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	**24TLU2AA**	**BASIC TAMIL**	**AECC**	**24**	**-**	**-**	**2**

Preamble	பிறமொழி பயிலும் மாணவர்களுக்கு அடிப்படைத் தமிழ் எழுத்துக்களைக் அறியச் செய்தல்
	தமிழ்மொழியில் உள்ள உயிர், மெய், உயிர்மெய் எழுத்துக்களைக் எழுதச் செய்தல்
	தமிழ்மொழியில் உள்ள அடிப்படைச் சொற்களை எழுதி, படிக்கச் செய்தல்
Prerequisite	தமிழ்மொழியினை முறையாக எழுதிப் படிக்கும் திறனை வளர்த்தல்

Course Outcomes (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)	K3
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K3
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU2AA	AECC: BASIC TAMIL

இளங்கலை 2024 –25 ஆம் கல்வியாண்டு முதல் சேர்வோர்க்குரியது
(10 மற்றும் 12 – ஆம் வகுப்பு வரை தமிழ் மொழிப்பாடம் பயிலாதவர்களுக்கு)

(பருவத் தேர்வு இல்லை)

Syllabus

Unit	Content	Hrs	Resources
1	**தமிழ் மொழியின் அடிப்படைக் கூறுகள்** எழுத்துகள் அறிமுகம் 1. உயிர் எழுத்துக்கள் - குறில் , நெடில் எழுத்துகள் 2. மெய் எழுத்துக்கள் - வல்லினம், மெல்லினம், இடையினம் 3. உயிர்மெய் எழுத்துக்கள் 4. பயிற்சி	05	அடிப்படைத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
2	**சொற்களின் அறிமுகம்** 1.பெயர்ச்சொல் 2.வினைச்சொல் – விளக்கம் (எ.கா.) 3.பயிற்சி	05	அடிப்படைத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
3	**குறிப்பு எழுதுதல்** 1. பெயர், முகவரி, பாடப்பிரிவு , கல்லூரியின் முகவரி 2. தமிழ் மாதங்கள்(12), வாரநாட்கள்(7) 3. எண்கள் (ஒன்று முதல் பத்து வரை), வடிவங்கள், வண்ணங்கள்	05	அடிப்படைத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
4	**குறிப்பு எழுதுதல்** 1. ஊர்வன, பறப்பன, விலங்குகள் 2.மனிதர்களின் உறவுப்பெயர்கள் 3. ஊர்களின்பெயர்கள் (எண்ணிக்கை 10)	05	அடிப்படைத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
5	**பயிற்சிப் பகுதி (உரையாடும் இடங்கள்)** வகுப்பறை, பேருந்து நிலையம், சந்தை– பேசுதல்,எழுதுதல்.	04	அடிப்படைத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
	Total	24	

Notes:

அகமதிப்பீட்டுத்தேர்வு – வினாத்தாள் அமைப்புமுறை- மொத்த மதிப்பெண்கள் - 50

பகுதி –அ

சரியான விடையைத் தேர்வு செய்தல் 10x2=20

பகுதி –ஆ

சரியா? தவறா? 10x2=20

பகுதி – இ

ஒரு பக்க அளவில் விடையளிக்க 1x10=10

குறிப்பு:

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

Text book	1.	அடிப்படைத் தமிழ் - 2024-2025 தொகுப்பு: தமிழ்த்துறை, டாக்டர்என்.ஜி.பி. கலை அறிவியல் கல்லூரி, கோயம்புத்தூர் – 641048.
Reference Books	1.	ஒன்றாம் வகுப்பு பாடநூல் - தமிழ்நாடு அரசு பாடநூல் கழகம், சென்னை.

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

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

Focus of the Course	Skill Development / Employability

Semester – II AECC: ADVANCED TAMIL							
Semester	**Course Code**	**Course Name**	**Category**	**L**	**T**	**P**	**Credits**
II	**24TLU2AB**	**ADVANCED TAMIL**	**AECC**	**24**	**-**	**-**	**2**

Preamble	மொழிப்பாடங்களின் வாயிலாக தமிழரின் பண்பாடு நாகரீகம், பகுத்தறிவு ஆகியவற்றை அறியச் செய்தல்
	கலை மற்றும் மரபுகளை அறியச் செய்தல்
	மாணவர்களின் படைப்பாக்கத்திறன்களை ஊக்குவித்தல்
Prerequisite	தமிழ்மொழியினை முறையாக எழுதிப் படிக்கும் திறனை வளர்த்தல்

Course Outcomes (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)	K3
CO3	பாடஇணைச்செயல்பாடுகள் (Co-curricular activities)	K3
CO4	சூழலியல் ஆக்கம் (Ecology)	K4
CO5	மொழி அறிவு (Tamil knowledge)	K4

Mapping with Program Outcomes:					
Cos / POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
CO1		✓	✓		✓
CO2	✓			✓	
CO3		✓			✓
CO4			✓		
CO5	✓			✓	✓

24TLU2AB	AECC: ADVANCED TAMIL

இளங்கலை 2024– 2025ஆம் கல்வியாண்டு முதல் சேர்வோர்க்குரியது
(10 மற்றும் 12 – ஆம் வகுப்புகளில் தமிழ் மொழிப்பாடம் பயின்றவர்களுக்கு உரியது)
(பருவத் தேர்வு இல்லை)

Syllabus

Unit	Content	Hrs	Resources
1	**கவிதைகள்** 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	05	சிறப்புத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
2	**கட்டுரை** கட்டுரைத் தொகுப்பு - நல்வாழ்வு - டாக்டர் மு.வரதராசன் 1. நம்பிக்கை 2. புலனடக்கம் 3. பண்பாடு	05	சிறப்புத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
3	**இலக்கணம்** 1.வல்லினம் மிகும் மற்றும் மிகா இடங்கள் 2. ர,ற,ல,ழ,ள,ந,ண,ன – வேறுபாடு அறிதல்	05	சிறப்புத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
4	**கடிதங்கள்** 1. பாராட்டுக் கடிதம் 2. நன்றிக் கடிதம் 3. அழைப்புக் கடிதம் 4. அலுவலக விண்ணப்பங்கள்	05	சிறப்புத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
5	**பயிற்சிப் பகுதி** படைப்பாக்கப் பகுதி: பொதுத் தலைப்புகளில் கவிதை,கட்டுரை எழுதச்செய்தல்	04	சிறப்புத் தமிழ்மொழிப் பாடம் இரண்டாம் பருவம் 2024-2025
	Total	24	

Notes

அக மதிப்பீட்டுத் தேர்வு - வினாத்தாள் அமைப்பு முறை- மொத்த மதிப்பெண்கள் - 50

பகுதி –அ

சரியான விடையைத் தேர்வு செய்தல் 10x1=10

பகுதி –ஆ

கோடிட்ட இடங்களை நிரப்புக. 10x2=20

பகுதி –இ

இரண்டு பக்க அளவில் விடையளிக்க 2x10=20

குறிப்பு:

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

Text book	1.	சிறப்புத் தமிழ் - 2024-2025 தொகுப்பு: தமிழ்த்துறை, டாக்டர்என்.ஜி.பி. கலை அறிவியல் கல்லூரி, கோயம்புத்தூர் – 641048.
Reference Books	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.

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

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

Focus of the Course	Skill Development / Employability

Semester – II AECC: HUMAN RIGHTS AND WOMEN'S RIGHTS							
Semester	Corse Code	Course Name	Category	L	T	P	Credits
II	24CRU2AA	HUMAN RIGHTS AND WOMEN'S RIGHTS	AECC	24	-	-	2

Preamble	This course has been designed for students to learn and understand • Concepts of Human Rights • Human Rights Violation and Redressal Mechanism. • Rights to Women and Child.
Prerequisite	Knowledge on Human and Women's Rights.

Course Outcomes (Cos)		
CO Number	**Course Outcomes (COs) Statement**	**Bloom's Taxonomy Knowledge Level**
CO1	Understand the basic concepts of Human Rights.	K2
CO2	Describe the Fundamental Rights.	K2
CO3	Relate Human Rights Violation and Redressal Mechanism.	K3
CO4	Infer the Rights of Women and Child.	K2
CO5	Apply Civil and Political Rights of Women.	K3

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

24CRU2AA	AECC: HUMAN RIGHTS AND WOMEN'S RIGHTS

Syllabus

Unit	Content	Hrs	Resources
I	**Introduction to Human Rights** 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.	4	Text Book
II	**Human Rights in India** 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.	5	Text Book
III	**Human Rights Violation and Redressal Mechanism** 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. Case study: Human rights violation.	5	Text Book
IV	**Rights of Women and Child** 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 study: Sexual offences.	5	Text Book
V	**Civil and Political Rights of Women** 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 and Police Akka App. Case study: Women's right to property	5	Text Book
	Total	**24**	

	Note: Case studies related to the above topics to be discussed (Examined Internal only)

Text book	1.	Lalit Parmar, 1998, "Human Rights", Anmol Publications Pvt. Limited, New Delhi. .
	2.	Krishna Pal Malik, 2009, "Women & Law ", Allahabad Law University, New Delhi.
Reference Books	1.	Mandagadde Rama Jois, 2015, "Human Rights", Bharatiya Values, Bharatiya Vidya Bhavan Publications, Mumbai.
	2.	Paras Diwan and Piyush Diwan, 1994, "Women and Legal Protection", South Asia Books, Andhra Pradesh.
	3.	Venkataram and Sandhiya. N, 2001, "Research in Value Education", APH Publishing Corporation, New Delhi.
	4.	Anand A. S, 2008, "Justice for Women: Concerns and Expressions", Universal Law Publishing Co., New Delhi. .

Journal and Magazines	Women and International Human Rights in Modern Times, Human Rights Law Review, Volume 24, Issue 2, June 2024. https://doi.org/10.1093/hrlr/ngae007
E-Resources and Website	Women's Rights as Human Rights, https://www.ohchr.org/sites/default/files/Documents/Events/WHRD/WomenRightsAreHR.pdf

Learning Method	Chalk and Talk/Assignment/Seminar/ Group Discussion/Case Study

Focus of the Course	Social Awareness/ Environment / Gender Sensitization / Constitutional Rights/ Human Values/ Ethics

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