

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. CHEMISTRY

Eligibility

A candidate who has A pass in Higher Secondary Examination with Mathematics, Physics, Chemistry, Biology/Computer Science 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 there to are permitted to appear and qualify for the **Bachelor of Science (CHEMISTRY)** Degree Examination of this College after a course 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. To understand the interdisciplinary nature of Chemistry and to integrate knowledge of Mathematics, Physics and other disciplines to a wide variety of chemical problems.
2. To enable the students to learn laboratory skills to design, safely conduct and interpret chemical research.
3. To develop the ability to effectively communicate scientific information and research results in written and oral formats.
4. To provide a broad foundation in Chemistry that stresses scientific reasoning and analytical problem solving with a molecular perspective.
5. To make students learn professionalism, including the ability to work in teams and apply basic ethical principles.



PROGRAMME OUTCOMES:

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

PO Number	PO Statement
PO1	Apply knowledge in scientific concepts, fundamental principles and varied theories to extend their relevance in day-to-day life.
PO2	Build the foundation in the current trends of chemistry with experimental skills
PO3	Make use research based knowledge in multidisciplinary approaches.
PO4	Extend the role and need of the chemist in societal, environmental contexts and demonstrate the knowledge for sustainable development.
PO5	Plan and organize as a member or leader in the diverse team and ability to engage in independent life – long learning in the broadest context of technological change.



Credit distribution - Common for R6

For students admitted in AY 24-25 and onwards.
Credit distribution for all UG programmes

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 Chemistry
A.Y: 2024-25

Course Code	Course Category	Course Name	L	T	P	Instruction Hours		Exam (h)	Max Marks			Credits
						Week	Total		CIA	ESR	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												
24CEU1CA	Core- I	General Chemistry - I	4	1	-	5	60	3	25	75	100	4
24CEU1CP	Core Practical- I	Volumetric Analysis and Preparation	-	-	6	6	72	3	40	60	100	3
24PYU1IM	IDC Practical - I	Physics - I	3	-	4	7	84	3	40	60	100	5
Part - IV												
24MBU1AA	AECC- I	Environmental studies	2	-	-	2	24		50	-	50	2
Part - V												
24CEU1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/Clubs	-	-	-				50	-	50	1
Total			17	2	11	30	360				600	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												
24CEU2CA	Core - II	General Chemistry - II	3	-	-	3	36	3	25	75	100	3
24CEU2CB	Core- III	General Chemistry - III	4	-	-	4	48	3	25	75	100	4
24CEU2CP	Core Practical- II	Organic Chemistry	-	-	4	4	48	3	40	60	100	2
24PYU2IM	IDC- II Practical	Physics - II	3	-	4	7	84	3	40	60	100	5
Part - IV												
24TLU2AA	AECC- II	Basic Tamil	2	-	-	2	24		50	-	50	2
24TLU2AB		Advanced Tamil										
24CRU2AA		Human Rights and Women's Rights										
Part - V												
24CEU2XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Clubs	-	-	-				50	-	50	1
Total			20	1	9	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												
24CEU3CA	Core- IV	Applied Chemistry	4	-	-	4	48	3	25	75	100	4
24CEU3CB	Core- V	Analytical Chemistry	4	-	-	4	48	3	25	75	100	4
24CEU3CP	Core Practical-III	Inorganic Chemistry	-	-	6	6	72	3	40	60	100	3
24CEU3SP	SEC- I Practical	Computer Applications for Chemistry	-	-	4	4	48	3	40	60	100	2
24MTU3IM	IDC- III Practical	Mathematics with MATLAB	2	-	2	4	48	3	40	60	100	3
Total			16	2	12	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												
24CEU4CA	Core - VI	Inorganic Chemistry - I	4	1	-	5	60	3	25	75	100	5
24CEU4CB	Core- VII	Spectroscopy and Chromatography	4	-	-	4	48	3	25	75	100	4
24CEU4CP	Core Practical- IV	Gravimetric Analysis	-	-	6	6	72	3	40	60	100	3
24CEU4SA	SEC- II	Green Chemistry	3	-	-	3	36	3	25	75	100	2
24MTU4IM	IDC- IV Practical	Statistical Analysis and Tools	2	-	2	4	48	3	40	60	100	3
Total			19	3	8	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												
24CEU5CA	Core- VIII	Inorganic Chemistry - II	4	-	-	4	48	3	25	75	100	4
24CEU5CB	Core- I X	Organic Chemistry - I	4	-	-	4	48	3	25	75	100	4
24CEU5CC	Core- X	Physical Chemistry - I	4	-	-	4	48	3	25	75	100	4
24CEU5CP	Core Practical- V	Physical Chemistry	-	-	6	6	72	3	40	60	100	3
24CEU5CQ	Core Practical- VI	Applied Chemistry	-	-	4	4	48	3	40	60	100	2
24CEU5SA	SEC- III	Nanomaterials and Nanotechnology	2	-	-	2	24	3	25	75	100	2
24CEU5DA	DSE- I	Industrial Chemistry	4	-	-	4	48	3	25	75	100	4
24CEU5DB		Agricultural Chemistry										
24CEU5DC		Forensic Chemistry										
24CEU5TA	IT	Industrial Training							40	60	100	2
Part - IV												
	GE		2	-	-	2	24	3	50	-	50	2
Total			20	-	10	30	360				850	27





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												
24CEU6CA	Core- XI	Organic Chemistry - II	4	1	-	5	60	3	25	75	100	5
24CEU6CB	Core- XII	Physical Chemistry - II	4	1	-	5	60	3	25	75	100	5
24CEU6CV	Core- XIII	Project and Viva voce	-	-	8	8	96	-	40	60	100	4
24CEU6SA	SEC- IV	Chemistry of Consumer	2	-	-	2	24	3	25	75	100	2
24CEU6DA	DSE- II	Polymer Chemistry	4	-	-	4	48	3	25	75	100	4
24CEU6DB		Food Chemistry										
24CEU6DC		Medicinal Chemistry										
24CEU6DD	DSE- III	Dye and Textile Chemistry	4	-	-	4	48	3	25	75	100	4
24CEU6DE		Dairy Chemistry										
24CEU6DF		Pharmaceutical Chemistry										
Part - IV												
24BCU6AA	AECC-III	Innovation, IPR and Entrepreneurship	2	-	-	2	24		50		50	2
Total			20	2	8	30	360				650	26
*Grand Total											4200	142

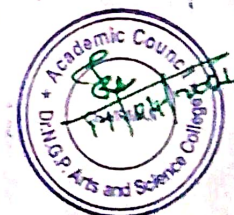
Total Credit should not exceed 142 credits

First year Tamil/ English : 5 hrs
Second year Tamil/ English : 4 hrs

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


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

 Dr.N.G.P. Arts and Science College		
APPROVED		
BoS- 15 th 06-04-24	AC- 17 th 17-04-24	GB -



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B.Sc. Chemistry (Students admitted during the AY 2024-25)

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	24CEU5DA	Industrial Chemistry
2	24CEU5DB	Agricultural Chemistry
3	24CEU5DC	Forensic Chemistry

Semester VI (Elective II)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	24CEU6DA	Polymer Chemistry
2	24CEU6DB	Food Chemistry
3	24CEU6DC	Medicinal Chemistry

Semester VI (Elective III)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	24CEU6DD	Dye and Textile Chemistry
2	24CEU6DE	Dairy Chemistry
3	24CEU6DF	Pharmaceutical Chemistry



GENERIC ELECTIVE COURSE (GE)

The following are the course offered under Generic Elective Course

Semester V

S. No.	Course Code	Course Name
1	24CEU5GA	Chemistry in Daily life

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	24CEUSSA	Chemistry in the Service of Mankind
2	24CEUSSB	Cosmetic Chemistry



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



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B.Sc. Chemistry (Students admitted during the AY 2024-25)

5	<p>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)</p>	10	<p>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</p>
	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
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Focus of the Course	Skill Development / Employability
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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 Taxonomy 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- राष्ट्रपितामहात्मागान्धी	13	Text Book
2	कहानीकुंज- डॉ.वी.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 लीलाअपाटर्मेंट्स, 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 चेन्नई -17
Reference Books		-

Journal and Magazines	-
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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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 Taxonomy 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
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Focus of the Course	Skill Development / Employability
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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 Taxonomy 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 <ul style="list-style-type: none"> • Saluer • Enter en contact • avec quelqu'un. • Se présenter. • S'excuser 	Tâche En cours de cuisine, premiers contacts avec les membres d'un groupe	Activités de réception et de production orale <ul style="list-style-type: none"> • Comprendre des personnes qui se saluent. • Échanger pour entrer en contact, se présenter, saluer, s'excuser. • Communiquer avec <i>tu</i> ou <i>vous</i>. • Comprendre les consignes de classe • Épeler son nom et son prénom. Computer jusqu'à 10	14	Text book Salut I Page 10
2	<ul style="list-style-type: none"> • Demander de se présenter. • Présenter quelqu'un 	Dans la classe de français, se présenter et remplir une fiche pour le professeur.	<ul style="list-style-type: none"> • Comprendre les informations essentielles dans un échange en milieu professionnel. Échanger pour se présenter et présenter quelqu'un	12	Text book Enchanté I Page 20
3	<ul style="list-style-type: none"> • Exprimer ses goûts. 	Dans un café, participer à une soirée de rencontres rapides et remplir de tâches d'appréciation	<ul style="list-style-type: none"> • Dans une soirée de rencontres rapides comprendre des personnes qui échangent sur elles et sur leurs goûts • Comprendre une personne qui parle 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 passées. Tu veux bien?	Organiser un programme d'activités pour accueillir une personne importante	Comprendre une personne demande un service à quelqu'un. Demander à quelqu'un de faire quelque chose. <ul style="list-style-type: none"> • 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, Imprimee en Roumanie par Canale en Janvier
Reference Book	1.	-

Journal and Magazines	-
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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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 <ul style="list-style-type: none"> 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's Taxonomy 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	<p>Genre Studies</p> <p>Mathew Arnold: Dover Beach- Author's Biography- title indications- outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques- Annotations</p> <p>Niyi Osundare: Our Earth Will Not Die- Author's Biography- title indications-outline- paraphrasing the poem- context of poem- form- poetic devices- enjambment- techniques- Annotations</p> <p>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</p> <p>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</p> <p>Sheila Nayampalli Baruna: Alone - Author's Biography- narrative structure- passage analysis- insight of ideas- cohesion and context- style- language techniques</p>	12	Text Book
II	<p>Listening Skills</p> <p>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)</p>	13	britishcouncil.org cambridgeenglish.org
III	<p>Speaking Skills</p> <p>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</p>	11	britishcouncil.org cambridgeenglish.org
IV	<p>Reading Skills</p> <p>Study Skills: Skimming and Scanning- Reading different kinds of texts- Types of reading-Developing a good</p>	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 I: GENERAL CHEMISTRY - I

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24CEU1CA	GENERAL CHEMISTRY - I	CORE	48	12	-	4

Preamble	<p>This course has been designed for students to learn and understand</p> <ul style="list-style-type: none"> • The chemical bonding and the concept of hybridization • The fundamentals of thermodynamics • The concepts of organic chemistry
Prerequisite	Knowledge on Basic Chemistry

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Compare the different atomic model structures	K2
CO2	Relate the types of bonding nature in various molecules based on their hybridization	K2
CO3	Classify the kinetic theory of gases	K2
CO4	Summarize the concept of thermodynamics to different systems	K2
CO5	Illustrate the concepts of organic chemistry	K2

Mapping with Program Outcomes:

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



24CEU1CA - GENERAL CHEMISTRY - I

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	Atomic Structure Rutherford atomic model – Bohr theory of hydrogen atom – Sommerfeld theory – Particle and wave character of electrons – De Broglie's equation – Davisson- Germer experiment – Heisenberg's uncertainty principle – Compton effect – Schrödinger wave equation – Eigen values and Eigen functions – Quantum numbers – Pauli's exclusion principle – Hund's rule and Aufbau principle	12	Text Book
II	Chemical Bonding Types of bonds – Ionic – Covalent – Coordinate – Metallic - Weaker bonds - Hybridization involving s, p and d orbitals – Properties of ionic, covalent and coordinate compounds – VSEPR theory- Valence bond theory. Molecular orbital theory – Molecular orbital configurations of simple homo nuclear and hetero nuclear diatomic molecules – Comparison between VBT and MOT	12	Reference Book
III	Gaseous State Kinetic molecular theory of gases – Maxwell's distribution of molecular velocities (derivation not needed) – Collision diameter – Collision number, collision frequency – Mean free path – Real and ideal gases – Deviation of real gases from ideal behavior-Equations of state -Derivation of Van der Waal's equation. Various methods for expressing concentrations of solutions – Vapour pressure of liquids –ideal and non-ideal solutions – Raoult's law – Vapour pressure of non-ideal solutions – Vapour pressure composition and boiling point composition curves	12	Text Book
IV	Thermodynamics System-Isolated system - Open system - Closed system. Surroundings - Extensive and intensive properties - Types of process. First law of thermodynamics - Internal energy. State function and path function - Exact and inexact differentials - Enthalpy of system, enthalpy of vaporization, enthalpy of fusion - Heat capacity of a system Relation between C_p and C_v in gaseous system. Joule Thomson effect, Joule Thomson coefficient and inversion temperature. Heat of neutralization - Heat of solution, heat of combustion, Kirchoff's equation - Flame and explosion temperature - Bomb calorimeter - Measuring enthalpy of combustion, Hess's law-Bond energy - Calculations of bond energy	12	NPTEL



V	Basic Organic Chemistry Electronic displacements: Inductive effect, electromeric effect, resonance hyperconjugation and steric effect. Strength of organic acids and bases - Factors affecting pK values. Cleavage of bonds: homolysis and heterolysis. Reactive intermediates: Structure and stability of carbocations, carbanions and free radicals	12	You Tube Videos
	Total	60	

Text Book	1.	Puri. B.R, Sharma. L.R and Pathania. M.S, 2017, "Principles of Physical Chemistry", 47 th edition, John Wiley and Sons & USA
Reference Books	1.	Madhan. R.D, 2016, "Modern Inorganic Chemistry", 10 th edition, Mc Graw Hill Company & USA
	2.	Lee. J.D, 2002, "A New Concise Inorganic Chemistry", 5 th edition, ELBS &UK
	3.	Jain. M.K and Sharma. S.C, 2012, "Modern Organic Chemistry", Vishal publishing Co & New Delhi
	4.	Puri. B.R, Sharma. L.R and Kalia. K.C, 2016, "Principles of Inorganic Chemistry", Vishal Publishing & Co & New Delhi

Journal and Magazines	https://www.lamar.edu/arts-sciences/_files/documents/chemistry-biochemistry/dorris/chapter8.pdf
E-Resources and Website	http://www.cnm.manchester.ac.uk/people/jonathan/CH0001081100.pdf

Learning Method	Chalk and Talk/Assignment/Seminar
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Focus of the Course	Skill Development/Employability
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24CEU1CP	VOLUMETRIC ANALYSIS AND PREPARATION	SEMESTER I
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Total Credits: 3
Total Instructions Hours: 72 h

S.No	Contents
1	Estimation of HCl by NaOH using a standard oxalic acid solution
2	Estimation of Na_2CO_3 by HCl using a standard Na_2CO_3 Solution.
3	Estimation of oxalic acid by KMnO_4 using a standard oxalic acid solution
4	Estimation iron(II) sulphate by KMnO_4 using a standard Mohr's salt solution.
5	Estimation of calcium(II) by KMnO_4 using standard oxalic acid solution
6	Estimation of iron(II) by potassium dichromate using standard Mohr's salt solution
7	Estimation of KMnO_4 by thiosulphate using a standard potassium dichromate solution
8	Estimation of copper(II) sulphate by $\text{K}_2\text{Cr}_2\text{O}_7$ solution
9	Preparation of Tetraamminecopper(II)sulphate
10	Preparation of Hexamminecobalt(II) chloride
11	Preparation of Prussian blue
12	Preparation of Hexathiourealead(II) nitrate
13	Separation of dyes using Paper Chromatography (Under DBT Star College Scheme)
14	Separation of dyes using Thinlayer Chromatography (Under DBT Star College Scheme)

Note: Any 10 Experiments



- 1 Venkateswaran. V, Veeraswamy. R and Kulandaivelu. A.R, 2017, "Principles of Practical Chemistry", 1st Edition, Sultan Chand & Sons & New Delhi
- 2 Mendham. J, Denney. R.C, Bames. J.D and Thomas. M, 1989. "Vogel's Text book of Quantitative Analysis", 6th Edition, Pearson Education & UK
- 3 Gopalan. R, Subramanian. P.S and Rengarajan. K, 2004, "Elements of Analytical Chemistry", 1st Edition, S. Chand and Sons & New Delhi
- 4 Giri. S, Bajpai. D.N and Panday. O.P, 2013, "Practical Chemistry Vol. I & II", 30th Edition, S. Chand & Company, New Delhi



Semester – I
IDC: PHYSICS - I

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU1IM	PHYSICS - I	IDC	3	-	4	5

Preamble	<p>This course has been designed for students to learn and understand</p> <ul style="list-style-type: none"> • The properties of electricity, crystals, and electronics • The thermal, and optical properties of the materials. • The basics of digital electronics
Prerequisite	Knowledge On Basic Mathematics and Properties of Matter and Electronics

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain the applications of electrical circuits	K2
CO2	Classify different types of bonds, bond theory and energy gaps	K2
CO3	Develop the different kinds of spectral formation	K3
CO4	Demonstrate the working of diodes and rectifiers	K2
CO5	Experiment with the logic gates	K3

Mapping with Program Outcomes:

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



Semester – I
IDC PRACTICAL: PHYSICS - I

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU1IM	PHYSICS - I	IDC PRACTICAL	3	-	4	5

Preamble	This course has been designed for students to learn and understand <ul style="list-style-type: none">• The properties of electricity, crystals, and electronics• The thermal, and optical properties of the materials.• The basics of digital electronics	
Prerequisite	Knowledge On Basic Mathematics and Properties of Matter and Electronics	
Course Outcomes (COs)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain the applications of electrical circuits	K2
CO2	Classify different types of bonds, bond theory and energy gaps	K2
CO3	Develop the different kinds of spectral formation	K3
CO4	Demonstrate the working of diodes and rectifiers	K2
CO5	Experiment with the logic gates	K3

Mapping with Program Outcomes:

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



	9.To determine band gap using Post office box method		
V	Digital Electronics 1's and 2's complement of a binary number and binary arithmetic - Steps in the fabrication of Monolithic IC's - General applications of IC's - Registers - Flip flops - JK flip flops - Half adder - Full adder 10.Verification of logic gate truth table. 11.Verification of De Morgan's law. 12.Construction and working of IC regulated power supply.	12 h	You Tube Videos
	TOTAL	84 h	

Text Book	1.	Murugesan R., 2016, "Modern Physics", 18 th Edition, S.Chand and Co, New Delhi.
	2.	E-book: Arthur B, 2003, "Concepts of Modern Physics", 6 th Edition, McGraw-Hill, New York.
Reference Books	1.	Sedha R.S., 2004, "A text book of Digital Electronics", 1 st Edition. S. Chand & Co, New Delhi.
	2.	David H, Robert R, Jearl W, 2014, "Fundamentals of Physics", 10 th Edition. John Willy Company Hoboken, New Jersey, United States.
	3.	Gupta Kumar, 2011, Solid State Physics, K Nath and co Meerut.
	4.	Brijal N and Subramanian, "Text book of optics", S.Chand& Company, New Delhi

Journal and Magazines	[E-book] Serway A.R., Jewett W.J.,2014, "Physics for Scientists and Engineers with Modern Physics",9 th Edition,Brooks/Cole, USA.
E-Resources and Website	Weblink: https://www.askiitians.com/revision-notes/physics/solid-and-electronic-device/
Learning Method	Chalk and Talk/ Assignment/Seminar/ Interactive session
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 <ul style="list-style-type: none">• 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 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 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.

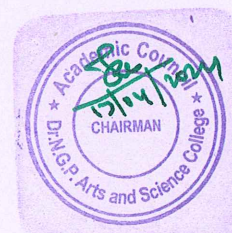
Journal and Magazines	https://www.hzu.edu.in/bed/E%20V%20S.pdf
E-Resource and Websites	https://www.ugc.gov.in/oldpdf/modelcurriculum/env.pdf

Learning Methods	Chalk and Talk/ Seminar/ Assignment
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Focus of the Course	Skill Development/Employability/Social Awareness and Environment
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M. Ravi
 BoS Chairman/HoD
 Department of Chemistry
 Dr N. G. P. Arts and Science College
 Coimbatore – 641 048

 Dr.N.G.P. Arts and Science College		
APPROVED		
BoS- 26-04-24	AC - 17-04-24	GB -



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 Taxonomy 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
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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 - ஓளவையார் - 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
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Focus of the Course	Skill Development / Employability
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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 Taxonomy 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
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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 अपार्टमेंट्स, 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 चेन्नई. (Unit V)

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

Unit				Content	Hrs	Resources
1	Proposer, accepter, refuser une invitation. Indiquer la date.	Organiser une soirée au cinéma avec des amis, par téléphone et par courriel.	Comprendre un message d'invitations sur un répondeur téléphonique. Inviter quelqu'un à accepter ou refuser l'invitation.	14	Text book	
2	Prendre et fixer un rendez-vous. Demander et indiquer l'heure.	Organiser une soirée au cinéma avec des amis, par téléphone et par courriel.	Comprendre des personnes qui fixent un rendez-vous par téléphonique. Prendre un rendez-vous par téléphone	12	Text book	
3	Exprimer son point de vue positif et négatif. S'informer sur le prix. S'informer sur la quantité. Exprimer la quantité.	En groupes, choisir un cadeau pour un ami.	Exprimer son point de vue sur des idées de cadeau. Faire des achats dans un magasin	14	Text book	
4	Demander et indiquer une direction. Localiser (près de, en face de ...). Exprimer l'obligation / Interdit. Conseiller.	Suivre un itinéraire à l'aide d'indications par téléphone et d'un plan. Par courrier électronique, donner des informations et des conseils à un ami qui veut voyager.	Comprendre des indications de direction. Comprendre des indications de lieu. Comprendre une chanson. Comprendre de courts messages qui expriment l'obligation ou l'interdiction. Donner des conseils à des personnes dans 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) (Méthode 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
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Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment
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Focus of the Course	Skill Development / Employability
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B.Sc. Chemistry (Students admitted during the AY 2024-25)



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						
	<ul style="list-style-type: none"> 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-here/
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.poetryfoundation.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)
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Text Books	1.	Martin Hewings. <i>Advanced English Grammar</i> . Cambridge University Press, 2000.
	2.	SP Bakshi, Richa Sharma. <i>Descriptive English</i> . Arihant Publications (India) Ltd., 2019.
	3.	Sheena Cameron, Louise Dempsey. <i>The Reading Book: A Complete Guide to Teaching Reading</i> . S & L. Publishing, 2019.
	4.	Phil Chambers. <i>Brilliant Speed Reading: Whatever you need to read, however</i> . Pearson, 2013.
	5.	Bailey, Stephen. <i>Academic Writing: A Practical Guide for Students</i> . Routledge, 2004.
	6.	Goleman, Daniel. <i>Social Intelligence: The New Science of Human Relationships</i> . Bantam Books, 2006.
Reference Books	1.	Nesfield, J. C. <i>English Grammar Composition and Usage</i> . Macmillan, 2019.
	2.	Krishnasamy. N. <i>Modern English: A Book of Grammar, Usage and Composition</i> . Macmillan, 1975.
	3.	Kumar, Ramendra. <i>Stories of Resilience</i> . Blue Rose Publications, 2020.
	4.	Thakur, SJ and Rout, S.K. <i>Objective General English</i> . 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
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Focus of the Course	Skill Development/ Employability
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Semester - II
CORE: GENERAL CHEMISTRY - II

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24CEU2CA	GENERAL CHEMISTRY - II	CORE	36	-	-	3

Preamble	This course has been designed for students to learn and understand <ul style="list-style-type: none">• The fundamentals of organic chemistry and preparation, reaction of alkenes and alkynes• The concept and reactivity of S-block elements• The need for second law of thermodynamics and entropy changes	
Prerequisite	Knowledge on fundamentals of chemistry	
Course Outcomes (COs)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain the fundamental concept of alkanes	K2
CO2	Illustrate the preparation and properties of alkenes and alkynes	K2
CO3	Summarize the position and properties of S-block elements	K2
CO4	Outline the basics of crystals and their characteristics	K2
CO5	Interpret the facts and limitations of second law of thermodynamics	K2

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



24CEU2CA

CORE : GENERAL CHEMISTRY - II

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	Alkanes Nomenclature of alkanes, preparation, physical and chemical properties. Conformation of ethane - Butane - Cyclohexane - Baeyer's strain - Equatorial and axial bonds - 1,3-diaxial strain - Conformation and reactivity – Conformation of mono and dimethyl cyclohexane	7	Text Book
II	Alkenes and Alkynes Preparation of alkenes - Dehydrohalogenation - Dehydration - Dehalogenation and reduction of alkynes. Reactions of alkenes - Addition of halogens - HX (Markovnikov's rule, peroxide effect) - H_2O - $HOCl$ - Hydroxylation with H_2O_2 - Alkaline $KMnO_4$ - Hydroboration - Oxidation - Ozonolysis Alkynes – Preparations and reactions – Reduction - Addition of H_2O and $HOCl$ - Ozonolysis - Polymerization - Acidity of alkynes	7	Reference Book
III	S - Block Elements General characteristics of alkali and alkaline earth metals - Anomalous behavior of lithium and beryllium - Diagonal relationships of lithium with magnesium and beryllium with aluminum - Preparation, properties and uses of lithium hydride - Sodium peroxide - Potassium iodide - Calcium carbide - Plaster of paris - Lithopone	7	Text Book
IV	Solid State Difference between crystalline and amorphous solids - Symmetry in crystal systems - Law of interfacial angles - Law of rational indices - Miller indices - Space lattice and unit cell - Bravais lattices - Bragg's equation - Radius ratio rule - Packing in crystals - Types of crystals - Structure of Sodium chloride ($NaCl$) and Cesium chloride ($CsCl$) - Concept of conductor - Semiconductor - Superconductor - Band theory - Types of semiconductor	7	NPTEL
V	Chemical Equilibrium, Zeroth and Third Law of Thermodynamics Second law of thermodynamics - Need for second law - Entropy - Entropy changes in isothermal expansion of an ideal	8	You Tube Videos



	gas - Entropy changes in reversible and irreversible processes - Entropy as a function of Temperature (T) and Volume (V) - Entropy as a function of T and Pressure (P) - Entropy of mixing of ideal gases - Physical significance of entropy - General conditions of equilibrium and spontaneity - Definition of Helmholtz free energy (A) and Gibbs free energy (G) - Physical significance of A and G - Temperature and pressure dependence of G		
	Total	36	

Text Book	1.	Madhan R.D, 2016, "Modern Inorganic Chemistry", 10 th Edition, Mc Graw Hill Company & USA.
Reference Books	1.	Puri B.R, Sharma L.R and Pathania M.S, 2017, "Principles of Physical Chemistry", 47 th Edition, John Wiley and Sons & USA.
	2.	Jain M.K and Sharma. S.C, 2017, "Modern Organic Chemistry", 5 th Vishal publishing Co & New Delhi.
	3.	Morrison R.T, 2016, "Organic Chemistry", 7 th Edition, Prentice Hall of India Pvt. Ltd., & New Delh
	4.	Glasstone S and Lewis D, 2014, "Elements of Physical Chemistry", 2 nd Edition, Macmillan Ltd & London.

Journal and Magazines	https://www.sjctni.edu/Department/ch/eLecture/Solid%20State.pdf
E-Resources and Website	https://www.ncert.nic.in/ncerts/l/kech203.pdf

Learning Method	Chalk and Talk/Assignment/Seminar
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Focus of the Course	Skill Development/Employability
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Semester - II
CORE: GENERAL CHEMISTRY - III

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24CEU2CB	GENERAL CHEMISTRY - III	CORE	48	-	-	4

Preamble	<p>This course has been designed for students to learn and understand</p> <ul style="list-style-type: none"> The concept of chemical metallurgy and the chemistry of group 13 and 14 elements About the aromaticity and electrophilic substitution reaction of benzene The Importance of chemical equilibrium, zeroth and third law of thermodynamics
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Prerequisite	
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Course Outcomes (COs)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Choose the different types of metals extraction process and its importance in chemical metallurgy	K2
CO2	Identify the periodic behavior and their properties of groups 13 and 14 elements	K2
CO3	Outline the properties of aromatic compounds and their reactions	K2
CO4	Compare the preparation and properties alkyl and aryl halides	K2
CO5	Apply the chemical equilibrium and laws of thermodynamics in different states	K3

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



Syllabus

Unit	Content	Hours	E-Contents / Resources
I	Process of Metallurgy Metallurgy - Minerals and ores - Ore dressing – Gravity separation - Froth flotation magnetic separation - Chemical separation - Calcination and roasting. Extraction of metal - Chemical reduction - Auto reduction - Electrolytic reduction - Metal displacement. Thermodynamic principles of metallurgy - Ellingham diagram, observations and its applications. Refining methods - Fractional crystallization - Van Arkel method - Electrolytic refining - Vapour phase refining - Ion exchange method. Occurrence, extraction, properties and uses of Germanium and Titanium - Properties and uses of GeCl_4 and TiO_2	10	Text Book
II	Chemistry of Groups 13 & 14 Elements Boron family – Physical properties – Anomalous properties of Boron - Diagonal relationship of boron with silicon. Preparation, properties, structure and uses of orthoboric acid, borax, borazine, boron nitride, diborane and bonding in diboranes. Relative strengths of boron trihalides as Lewis acids. Aluminium – Extraction of aluminium from bauxite – Preparation, properties and uses of aluminium chloride – Alum (Potash alum). Carbon family – Physical properties – Catenation - Classification of carbides - Preparation, structure and uses of silicones - Classification and structure of silicates	10	Reference Book
III	Arenes and Aromaticity Aromaticity - Huckel's rule (aromatic, non-aromatic and anti-aromatic molecules) – Structure of benzene – Kekule structure - Molecular orbital structure - Resonance energy and stability of benzene - Benzenoid and non-benzenoid compounds - Cyclic ions - Electrophilic substitution reactions - Energy profile diagram - Mechanism of halogenation, sulphonation and nitration - Friedel-Crafts alkylation and acylation	10	Text Book
IV	Alkyl and Aryl Halides Alkyl halides, preparation, chemical reactions - Mechanisms of nucleophilic aliphatic substitution reactions ($\text{S}_{\text{N}}1$ and $\text{S}_{\text{N}}2$) – Elimination reactions ($\text{E}1$ and $\text{E}2$). Substitution Vs. elimination. – Preparation, properties and uses of Aryl halides (Cl and Br substitution). Electrophilic and nucleophilic	10	NPTEL



	aromatic substitution reaction mechanisms. Comparison of alkyl and aryl halides towards nucleophilic substitution reactions		
V	Chemical Equilibrium, Zeroth and Third Law of Thermodynamics Law of mass action - Thermodynamic treatment of the law of mass action - Van't Hoff reaction isotherm, Temperature dependence of the equilibrium constant – Van't Hoff equation, integrated form of Van't Hoff equation. Homogeneous and heterogeneous systems (NH_3 , PCl_5 and CaCO_3) - Relationship between K_p and K_c - Factors affecting chemical equilibrium – Le Chatelier principle (Haber's and Contact processes) - Zeroth law of thermodynamics - Absolute temperature scale. Statement of third law - Nernst heat theorem	8	You Tube Videos
	Total	48	

Text Book	1.	Madhan R.D, 2016, "Modern Inorganic Chemistry", 10 th Edition, Mc Graw Hill Company & USA.
Reference Books	1.	Puri B.R, Sharma L.R and Pathania M.S, 2017, "Principles of Physical Chemistry", 47 th Edition, John Wiley and Sons & USA.
	2.	Jain M.K and Sharma. S.C, 2012, "Modern Organic Chemistry", 5 th Vishal publishing Co & New Delhi.
	3.	Lee J.D, 2002, "A New Concise Inorganic Chemistry", 5 th Edition, ELBS & UK
	4.	Glasstone S and Lewis D, 2014, "Elements of Physical Chemistry", 2 nd Edition, Macmillan Ltd & London.

Journal and Magazines	https://pubs.acs.org/doi/abs/10.1021/ja01388a022
E-Resources and Website	https://sdconline.net/wp-content/uploads/2021/03/Elements-of-Group-1314-and-15-1.pdf

Learning Method	Chalk and Talk/Assignment/Seminar
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Focus of the Course	Skill Development/Employability
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Semester – II CORE PRACTICAL: ORGANIC CHEMISTRY							
Semester	Corse Code	Course Name	Category	L	T	P	Credits
II	24CEU2CP	ORGANIC CHEMISTRY	CORE	-	-	48	2

Preamble	<p>This course has been designed for students to learn and understand</p> <ul style="list-style-type: none"> • The method of analysis to identify functional group of organic compounds • The nature of reagents used to identify a particular functional group • The procedure to prepare organic compounds
Prerequisite	Knowledge on various functional group present in organic compounds

Course Outcomes (Cos)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Evaluate carbohydrate and carboxylic acid in a compound	K4
CO2	Analyze amine, amide and phenolic group present in a compound	K4
CO3	Estimate the reagents used to identify aldehyde, ketone and ester	K3
CO4	Interpret diamide present in the organic compound	K4
CO5	Demonstrate preparation of organic compounds	K3

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



24CEU2CP	CORE PRACTICAL : ORGANIC CHEMISTRY
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Syllabus

S.No

Contents

- 1 Systematic analysis of organic compounds containing carbohydrate
- 2 Systematic analysis of organic compounds containing mono & di carboxylic acids
- 3 Systematic analysis of organic compounds containing amines
- 4 Systematic analysis of organic compounds containing amides
- 5 Systematic analysis of organic compounds containing phenol
- 6 Systematic analysis of organic compounds containing aldehydes
- 7 Systematic analysis of organic compounds containing ketones
- 8 Systematic analysis of organic compounds containing esters
- 9 Systematic analysis of organic compounds containing diamides
- 10 Preparation of Methyl salicylate from Salicylic acid (Esterification) (Under DBT Star College Scheme)
- 11 Preparation of Aspirin from Salicylic acid (Acetylation) (Under DBT Star College Scheme)
- 12 Preparation of *p*-Bromo acetanilide from aniline (Bromination) (Under DBT Star College Scheme)

Manuals	1.	Venkateswaran V, Veeraswamy R and Kulandaivelu A. R, 2017, "Principles of Practical Chemistry", 1 st Edition, Sultan Chand & Sons & New Delhi
	2.	Gnanapragasam N.S and Ramamurthy G, 2009, "Organic Chemistry Lab Manual", S. Viswanathan and Co. Pvt. Ltd & New Delhi.

Learning Method	Hands on Experiments
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Focus of the Course	Skill Development
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Semester – II
IDC: PHYSICS - II

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU2IM	PHYSICS - II	IDC	36	-	48	5

Preamble	This course has been designed for students to learn and understand <ul style="list-style-type: none">• The basic principles, theory and concepts of properties of matter.• The concepts of viscosity and surface tension.• The basic programming in microprocessor.	
Prerequisite	Knowledge On Basic Mathematics and Properties of Matter and Electronics	
Course Outcomes (COs)		
CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	Explain the importance and applications of young's modulus.	K2
CO2	Demonstrate the viscosity for a given liquid.	K2
CO3	Explain the basic of surface tension and vibration of wave.	K3
CO4	Illustrate the gravitational field and applications.	K3
CO5	Write the assembly language programs	K3

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



24PYU2IM

IDC: PHYSICS - II

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	Properties of Matter Young's Modulus – Rigidity Modulus – Poisson's Ratio – Bending of Beams – Expression for Bending Moment – Measurement of Young's Modulus – Uniform and Non-Uniform Bending. 1. Determine the Young's modulus of a given bar – Uniform bending (Microscopic method). 2. Determine the Young's modulus of a given bar – Non-Uniform bending (Microscopic method). 3. Determination of rigidity modulus of a string by using static method.	14 h	Text Book
II	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. 4. Determine the coefficient of viscosity of water by Poiseuille's Method. 5. Determine the coefficient of viscosity of water by Stoke's Method.	13 h	Reference Book
III	Surface Tension and Vibration Explanation of surface tension on kinetic theory – Work done in increasing area of a surface – Pressure difference across a liquid surface – Jaegar's method – Transverse and longitudinal modes of vibration – A.C. frequency measurement using sonometer. 6. Determine the surface tension of water by drop weight method. 7. Study the frequency of a tuning fork by sonometer.	15 h	Text Book
IV	Gravitation Newton's law of gravitation – Kepler's laws of planetary motion – Determination of 'G' Boy's experiment – Variation of 'g' with altitude and depth – Determination of 'g' with compound pendulum. 8. Compound Pendulum – Determination of 'g'. 9. Torsional pendulum – Determination of moment of	14 h	NPTEL



	inertia of given disc.		
V	Microprocessors 8085 instruction set 8085 Machine language - 8085 assembly language - ASCII codes - Writing and executing an assembly language program - High level language - Operating system. 10. Write the assembly language program for 8-bit subtraction. 11. Write the assembly language program for 8-bit addition. 12. Microprocessor – LED Interfacing.	16 h	You Tube Videos
	TOTAL	84 h	

Text Book	1.	Murugesan R, 2016, "Modern Physics", 18th Edition, S. Chand and Co, New Delhi.
	2.	Ramesh S. Gaonkar, 2013, Microprocessor architecture, Programming and application with 8085, 6th edition, New age international.
Reference Books	1.	Brij Lal and Subrahmanyam N, 2017, "Properties of Matter", 7th Edition, S. Chand and Co, New Delhi.
	2.	Subramanyam N, 2019, "Text book of Sound", 3rd Edition, Vikas publications, New Delhi.
	3.	Nagoor Kani A, 2012, "Microprocessors and Microcontrollers", 2nd Edition, Tata McGraw Hill Publishing Company Ltd., New Delhi.

Journal and Magazines	E-book: Godse A.P, Godse D.A, 2008, "Microprocessors and Microcontroller System" Technical Publications, Pune.
E-Resources and Website	Weblink: https://archive.nptel.ac.in/courses/108/105/108105102/
Learning Method	Chalk and Talk/ Assignment/Seminar/ Interactive session
Focus of the Course	Skill Development/Employability/ Innovation



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 Taxonomy 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 $10 \times 2 = 20$

பகுதி -ஆ

சரியா? தவறா? $10 \times 2 = 20$

பகுதி - இ

ஒரு பக்க அளவில் விடையளிக்க $1 \times 10 = 10$

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
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Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment
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Focus of the Course	Skill Development / Employability
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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 Taxonomy 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 $10 \times 1 = 10$

பகுதி -ஆ

கோடிட்ட இடங்களை நிரப்புக. $10 \times 2 = 20$

பகுதி -இ

இரண்டு பக்க அளவில் விடையளிக்க $2 \times 10 = 20$

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
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Learning Method	Lecture/ Tutorial / Student Seminar/GD/Assignment
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Focus of the Course	Skill Development / Employability
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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	<p>This course has been designed for students to learn and understand</p> <ul style="list-style-type: none"> • 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
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Focus of the Course	Social Awareness/ Environment / Gender Sensitization / Constitutional Rights/ Human Values/ Ethics
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APPROVED		
BoS- 16 th 07-11-24	AC- 18 th 26-11-24	GB -

