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

Programme: B. Sc., Mathematics

Eligibility:

Candidate for admission to the first year of the **B.Sc. Mathematics** degree course shall be required to have passed the higher secondary examination conducted by the Govt. of Tamil Nadu with Mathematics as one of the subjects are only eligible or other examinations accepted as equivalent there to by the academic council, subject to such other conditions as may be prescribed there for. Business Mathematics, General Mathematics and Statistics subject at HSC cannot be considered as equivalent to Mathematics.

Programme Educational Objectives:

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

1. Mathematics is the key to success in the field of science and engineering.
2. Today, the students need a thorough knowledge of fundamental basic principles, methods, results and a clear perception of the power of mathematical ideas and tools to use them effectively in modeling, interpreting and solving the real world problems.
3. Mathematics plays an important role in the context of globalization of Indian economy, modern technology and we find the applications of Computers in all walks of life from Agriculture to Atomic research.
4. This course is aimed at preparing the students to cope with the latest developments and compete with students from other universities and put them on the right track.

PROGRAMME OUTCOMES:

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

PO Number	PO statement
PO1	The learner will able to relate the concept underlying standard applications of Mathematics, Physics and Statistics
PO2	The learner will have an understanding on basic pure and applied Mathematics and able to formulate the Mathematical arguments in logical manner
PO3	The learner can be able to illustrate Mathematical concepts effectively by oral, written,computing and graphical means
PO4	The learner will make use of the theories of Mathematics and their applications in real world problems
PO5	The learners can be able to identify the complex physical problems and apply the Mathematical techniques to solve them

Credit distribution

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 to IV
II (12 Credits)	English	4	4 x 3 = 12	I to IV
III (108 Credits)	Core (Credits 2,3,4,5)	17	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	

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

CURRICULUM

B.Sc. Mathematics A.Y : 24 - 25

Course Code	Course Category	Course Name	L	T	P	Instruction Hours Week	Instruction Hours Total	Exam (h)	Max Marks CIA	Max Marks ESE	Max Marks Total	Credits
First Semester												
Part – I												
24TLU1TA	Language - I	Tamil-I	4	1	-	5	60	3	25	75	100	3
24TLU1HA		Hindi-I				5	60					
24TLU1MA		Malayalam-I				5	60					
24TLU1FA		French – I				5	60					
Part – II												
24ELU1EA	Language - II	English-I	4	-	1	5	60	3	25	75	100	3
Part – III												
24MTU1CA	Core-I	Calculus	4	2	-	6	72	3	25	75	100	4
24MTU1CB	Core-II	Analytical Geometry with GEOGEBRA	4	1	-	5	60	3	25	75	100	4
24PYU1IM	IDC - I Practical	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												
24MTU1XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/Club	-	-	-	-	-	-	50	-	50	1
Total						30	360				600	22

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				5	60					
24TLU2MA		Malayalam-II				5	60					
24TLU2FA		French – II				5	60					
Part – II												
24ELU2EA	Language - II	English-II	4	-	1	5	60	3	25	75	100	3
Part – III												
24MTU2CA	Core-III	Differential Equations	4	2	-	6	72	3	25	75	100	4
24MTU2CB	Core-IV	Fourier Series and Integral Transforms	4	1	-	5	60	3	25	75	100	4
24PYU2IM	IDC-II Practical	Physics - II	3	-	4	7	84	3	40	60	100	5
Part – IV												
24TLU2AA / 24TLU2AB/ 24CRU2AA	AECC-II	Basic Tamil/ Advanced Tamil/ Human Rights and Women's Rights	2	-	-	2	24	-	50	-	50	2
Part – V												
24MTU2XA	Extension Activity	NSS/NCC/ YRC/RRC/ Yoga/Sports/ Club	-	-	-	-	-	-	50	-	50	1
Total						30	360				600	22

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				4	48					
24TLU3MA		Malayalam-III				4	48					
24TLU3FA		French – III				4	48					
Part – II												
24ELU3EA	Language - II	English- III	3	1	-	4	48	3	25	75	100	3
Part – III												
24MTU3CA	Core V	Mechanics	4	1	-	5	60	3	25	75	100	4
24MTU3CB	Core – VI	Probability Theory	4	1	-	5	60	3	25	75	100	4
24MTU3CC	Core – VII	Numerical Methods	4	-	-	4	48	3	25	75	100	4
24ATU3IB	IDC - III	Business Accounting	3	1	-	4	48	3	25	75	100	3
24MTU3SA	SEC - I	Optimization Techniques	2	2	-	4	48	3	25	75	100	2
Total						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	
Fourth Semester												
Part – I												
24TLU4TA	Language – I	Tamil-IV	3	1	-	4	48	3	25	75	100	3
24TLU4HA		Hindi-IV				4	48					
24TLU4MA		Malayalam-IV				4	48					
24TLU4FA		French – IV				4	48					
Part – II												
24ELU4EA	Language – II	English –IV	3	1	-	4	48	3	25	75	100	3
Part – III												
24MTU4CA	Core - VIII	Elements of Mathematical Analysis	4	1	-	5	60	3	25	75	100	4
24MTU4CB	Core – IX	Mathematical Statistics	4	1	-	5	60	3	25	75	100	4
24MTU4CC	Core – X	Mathematical Modeling	4	-	-	4	48	3	25	75	100	4
24DAU4IA	IDC - IV	Introduction to Data Science	3	1	-	4	48	3	25	75	100	3
24MTU4SA	SEC-II	Advanced Optimization Techniques	2	2	-	4	48	3	25	75	100	2
Total						30	360				700	23

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Course Code	Course Category	Course Name	L	T	P	Instruction Hours Week	Instruction Hours Total	Exam (h)	CIA	ESE	Total	Credits
Fifth Semester												
Part – III												
24MTU5CA	Core – XI	Modern Algebra	4	-	-	4	48	3	25	75	100	4
24MTU5CB	Core – XII	Real Analysis	4	1	-	5	60	3	25	75	100	4
24MTU5CC	Core – XIII	Number Theory	4	-	-	4	48	3	25	75	100	4
24MTU5CM	Core – XIV Practical	Programming in MATLAB	3	-	4	7	84	3	40	60	100	5
24MTU5SP	SEC – III Practical	R Programming	-	-	4	4	48	3	40	60	100	2
24MTU5DA	DSE-I	Fuzzy sets and Fuzzy Logic	4	-	-	4	48	3	25	75	100	4
24MTU5DB		Discrete Mathematics				4	48					
24MTU5DC		Mathematical Foundations in Cryptography				4	48					
24MTU5TA	IT	Industrial Training	-	-	-	-	-	-	40	60	100	2
Part – IV												
	GE		2	-	-	2	24	-	50	-	50	2
Total						30	360				750	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												
24MTU6CA	Core - XV	Complex Analysis	4	-	-	4	48	3	25	75	100	4
24MTU6CB	Core -XVI	Linear Algebra	4	1	-	5	60	3	25	75	100	4
24MTU6CM	Core -XVII Practical	Fundamentals of Computing and Python Programming	3	-	4	7	84	3	40	60	100	5
24MTU6SP	SEC-IV Practical	Linear Programming using Spread Sheet	-	-	4	4	48	3	40	60	100	2
24MTU6DA	DSE-II	Cryptography				4	48					
24MTU6DB		Graph Theory	4	-	-	4	48	3	25	75	100	4
24MTU6DC		Mathematical Fundamentals in Pharmacokinetics				4	48					
24MTU6DD	DSE-III	Combinatorics				4	48					
24MTU6DE		Automata Theory & formal Languages	4	-	-	4	48	3	25	75	100	4
24MTU6DF		Mathematical models in Econometrics				4	48					
Part – IV												
24BCU6AA	AECC-III	Innovation, IPR & Entrepreneurship	2			2	24		50	-	50	2
Total						30	360				650	25
*Grand Total											4000	142

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

Dr. N.G.P. Arts and Science College
APPROVED
BoS- 17th 04.04.2024 | AC - 17th 17.04.2024 | GB -

CHAIRMAN

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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	24MTU5DA	Fuzzy sets and Fuzzy Logic
2	24MTU5DB	Discrete Mathematics
3	24MTU5DC	Mathematical Foundations in Cryptography

Semester VI (Elective II)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	24MTU6DA	Cryptography
2	24MTU6DB	Graph Theory
3	24MTU6DC	Mathematical Fundamentals in Pharmacokinetics

Semester VI (Elective III)

List of Elective Courses

S. No.	Course Code	Name of the Course
1	24MTU6DD	Combinatorics
2	24MTU6DE	Automata Theory & formal Languages
3	24MTU6DF	Mathematical models in Econometrics

GENERIC ELECTIVE COURSE (GE)

The following are the course offered under Generic Elective Course

Semester V

S. No.	Course Code	Course Name
1	24MTU5GA	Vedic Mathematics

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	24MTUSSA	History of Mathematics
2	24MTUSSB	Introduction to Vedic Mathematics

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Semester – I

TAMIL - I

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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	✓			✓	✓

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24TLU1TA - TAMIL -I

Syllabus:

Unit	Content	Hrs	Resources
1	**மறுமலர்ச்சிக் கவிதைகள்** 1. இலக்கிய வரலாறு -மறுமலர்ச்சிக் கவிஞர்களின்தமிழ்ப்பணிகள் 2. பாரதேசம்- 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	தமிழ்மொழிப் பாடம் 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	தமிழ்மொழிப் பாடம் 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	14	தமிழ்மொழிப் பாடம் முதற்பருவம்

			2024-2025 https://www.youtube.com/watch?v=78u7iTN3OU8
	4. பொம்மை - ஜெயகாந்தன் 5. காய்ச்சமரம் - கி. ராஜநாராயணன் 6. காட்டில் ஒருமான்- அம்பை 7.வேட்கை - சூர்யகாந்தன்		
5	**பயிற்சிப் பகுதி** **அ. இலக்கணம்** 1. வல்லின ஒற்று மிகும், மிகா இடங்கள் - ஒற்றுப்பிழை நீக்கிளழுதுதல் 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	தமிழ்மொழிப் பாடம் 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

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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 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- डाँवी.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 लीलाअपार्टमेंट्स, 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	✓			✓	✓

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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 • Ēpeler 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. Ēchanger pour se presenteret présenterquelqu'un	12	Text book Enchanté I Page 20
3	• Exprimers es gouts.	Dans un café, participer à une soirée de rencontres rapides et remplir de taches d'appréciation	• Dans une soirée de recontresrapid comprendre des personnes qui échangent sur elles et sur leurs goût • Comprendre une personne qui parler des goûts de quelqu'un d'autre	14	Text book J'adore I Page 30
4	Demander à quelqu'un de faire quelque chose. Demander poliment. Parler d'actions passes. Tu veux bien?	Organiser un programme d'activités pour accueillir une personne importante	Comprendre une personne demande un service à quelqu'un. Demanderà quelqu'un de faire quelque chose. • Imaginer et raconter au passé à partir de situations dessinées.	10	Text book 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

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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 • 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	✓		✓		✓

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24ELU1EA - ENGLISH - I
Syllabus

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 - I : CALCULUS

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24MTU1CA	CALCULUS	CORE	48	24	-	4

Preamble	This course has been designed for students to learn and understand
	• the behavior of vector valued functions
	• the method of finding maxima and minima corresponding to a curve
	• the influence of various operators on vector functions and its applications
Prerequisite	

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	identify the parametric equation and curvature of arcs	K1
CO2	describe the directional derivative and gradient of curve	K2
CO3	identify the extreme values of functions of two variables	K3
CO4	evaluate line integral through Green's theorem	K3
CO5	illustrate the applications of surface integrals and method of solving them	K3

Mapping with Program Outcomes:

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

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24MTU1CA - CALCULUS
Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Parametric curves and Vector Valued Functions:** Parametric equations - tangent lines - arc length of vector valued functions – unit tangent, normal and binomial vectors – curvatures.	16	Textbook
II	**Partial derivatives:** Partial derivatives – differentiability, differentials and local linearity – chain rule - directional derivatives and gradients.	14	Textbook/ Reference book1
III	**Maxima and Minima:** Tangent planes and normal vectors – maxima and minima of functions of two variables - Lagrange's multipliers	16	Textbook
IV	**Line Integrals:** Vector fields - line integrals – independence of path and conservative vector fields – Green's theorem.	13	Textbook/ Reference books 2-4
V	**Surface Integrals:** Surface integrals – applications of surface integrals – divergence theorem.	13	Textbook/ Reference book2-4
	Total	72	

Text Book	1.	Howard Anton, Irl Bivens, Stephan Davis, 2012, "Calculus Tenth Edition", John Wiley and Sons Inc., New York.
Reference Books	1.	Maurice D. Weir, Joel Hass, 2017, "Thomas' Calculus Twelfth Edition", Pearson India Education Services Pvt. Ltd, New Delhi.
	2.	Gorge V. Thomas, Ross L. Finney, 2010, "Calculus and Analytic Geometry Nineth Edition, Pearson India Education Services Pvt. Ltd, New Delhi.
	3.	Kanti Kumar Verma and Deepak Kumar, 2015, "The elements of vector calculus, AITBS Publishers, New Delhi.
	4.	Shanti Narayan, Mittal, P.K, 2020, "A text book of Vector Analysis", Revised Edition, S Chand and Company Limited, New Delhi.

Journal and Magazines	https://www.scitechnol.com/scholarly/calculus-journals-articles-ppts-list.php
	https://maa.org/press/periodicals/mathematics-magazine
E-Resources and Website	https://www.coursera.org/courses?query=vector%20calculus
	https://www.edx.org/learn/calculus

Learning Method	Chalk and Talk, Assignment

Focus of the Course	Skill development

Semester - I
CORE - II: ANALYTICAL GEOMETRY WITH GEOGEBRA

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24MTU1CB	ANALYTICAL GEOMETRY WITH GEOGEBRA	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand • the relation between plane and straight line • the influence of planes in the construction of various forms of a sphere • the properties of the conicoids
Prerequisite	Knowledge on Basic two dimensional geometry

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	describe the equation of plane under given conditions	K1
CO2	identify the shortest distance between two lines and validate the co-planarity of lines	K1
CO3	explain the relation between a sphere and a plane	K2
CO4	recognize the equations of right circular cone and cylinder	K2
CO5	illustrate the geometrical concepts behind conicoid	K3

Mapping with Program Outcomes:

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

24MTU1CB - ANALYTICAL GEOMETRY WITH GEOGEBRA

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**The Plane:** Different forms – a point in relation to a plane – a plane in relation to another plane – bisector of two intersecting planes – locus of a plane - executing simple geometric problems using GeoGebra	12	Text Book & Reference Book
II	**The Straight Line:** Different forms – co-planarity of straight lines – distance of a point from a straight line – shortest distance between two straight lines – intersection of three planes - executing simple geometric problems using GeoGebra	13	Text Book & Reference Book
III	**The Sphere:** Different forms of a sphere – Points, lines, planes and spheres in relation to a sphere – system of spheres – tangent planes and normal - executing simple geometric problems using GeoGebra	11	Text Book & Reference Book
IV	**Conicoids:** The cone – cylinder – ellipsoid – hyperboloid – paraboloid – Surfaces of revolutions - executing simple geometric problems using GeoGebra	12	Text Book & Reference Book
V	**Ruled Surfaces:** Tangents and normals – ruled surfaces, generators – diameters, diametral planes and conjugate diameters – sections of conicoids, Umbilics - executing simple geometric problems using GeoGebra	12	Text Book, & You Tube Videos
	Total	60	

Text Book	1.	Dipak Chatterjee, 2003, "Analytic Solid Geometry", Prentice Hall of India Private Limited, New Delhi.
Reference Books	1.	Abraham Albert, 2016, "Solid Analytic Geometry", Dover Publications, New York.
	2.	Durai Pandian, Laxmi Durai Pandian and Mukilan, 2003, "Analytical Geometry 3D", S.Chand and company Pvt. Ltd., New Delhi..
	3.	GeoGebra Manual – The Offical Manual of GeoGebra Research.shu.ac.uk/GeoGebra/GIF – Guides/official GeoGebra manual.pdf(2011).
	4.	Manicavachagom Pillay T.K. and Natarajan T. 2011, Analytical Geometry (Three Dimensions), S. Viswanathan Publishers, Chennai.

Journal and Magazines	https://www.researchgate.net/topic/Analytical-Geometry/publications
E-Resources and Website	https://www.math.utah.edu/~emina/teaching/5270s13/Intro_to_Geogebra.pdf

Learning Method	Chalk and Talk/Assignment/Seminar

Focus of the Course	Skill Development/Employability

Semester – I
IDC PRACTICAL: PHYSICS-I

Semester	Course Code	Course Name	Category	L	T	P	Credits
I	24PYU1IM	PHYSICS-I	IDC Practical	36	-	48	5

Preamble	This course has been designed for students to learn and understand
	• 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		✓		✓	

24PYU1IM - IDC PRACTICAL : PHYSICS- I

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Electricity** Capacitors – Types of capacitors - Spherical capacitor - Cylindrical capacitor - Carey-Foster's bridge – Working of potentiometer - Calibration of voltmeter - Calibration of ammeter 1.Calibration of low range voltmeter using potentiometer 2. Determination of unknown resistance using Carey Foster's bridge 3. Calibration of low range ammeter using potentiometer	20 h	Text Book
II	**Crystals** Ionic crystals - Covalent crystals - Metallic bond - Band theory of solids - Tunnel diodes - Energy bands - Superconductivity - Bound electron pairs - Hall effect - Experimental determination of hall coefficient. 4.Determination of band gap of semiconductors using four probe method 5.Determination of band gap of semiconductor by thermal method	20 h	Reference Book
III	**Optics** Interference in the thin film - Air wedge – Thickness of a thin wire – Newton's rings – Determination of wavelength using Newton's rings - Theory of transmission grating – Normal incidence 6.Determination of wavelength of mercury lines by grating minimum deviation method 7.Determination of the radius of curvature in Newton's rings	20 h	Text Book
IV	**Analog Electronics** Bridge rectifiers – Band gap determination using post office box – Transistor characteristics in common base and common emitter mode - Transistor single stage amplifier- Expression for input impedance - Output impedance and current gain 8.Characterization of junction diode 9.To determine band gap using Post office box method	12 h	NPTEL

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V	**Digital Electronics**	12 h	You Tube Videos
	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.		
	TOTAL	84 h	

Text Book	1.	Murugesan R., 2016, "Modern Physics", 18th Edition, S.Chand and Co, New Delhi.
	2.	E-book]Arthur B, 2003, "Concepts of Modern Physics", 6th Edition, McGraw-Hill, New York.
Reference Books	1.	Sedha R.S., 2004, "A text book of Digital Electronics", 1st Edition. S. Chand & Co, New Delhi.
	2.	David H, Robert R, Jearl W, 2014, "Fundamentals of Physics", 10th 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",9th 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

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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	✓	✓	✓	✓	✓

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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

Focus of the Course	Skill Development/Employability/Social Awareness and Environment

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

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

APPROVED

BoS- 17th	AC - 17th	GB -
04.04.2024	17.04.2024	

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COIMBATORE | INDIA

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

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 - ஒளவையார் - 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

<table>
<tr><td colspan="8" align="center">Semester – II
LANGUAGE: MALAYALAM- II</td></tr>
<tr><td>Semester</td><td>Course Code</td><td>Course Name</td><td>Category</td><td>L</td><td>T</td><td>P</td><td>Credits</td></tr>
<tr><td>II</td><td>24TLU2MA</td><td>MALAYALAM- II</td><td>LANGUAGE- I</td><td>48</td><td>12</td><td>-</td><td>3</td></tr>
</table>

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	✓			✓	✓

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

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

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COIMBATORE | INDIA

B.Sc.Mathematics(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 • 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 -

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

			Daniel Goleman; 2006.
	Total	**60**	

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

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COIMBATORE | INDIA

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

Semester - II
CORE: DIFFERENTIAL EQUATIONS

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24MTU2CA	DIFFERENTIAL EQUATIONS	CORE	48	24	-	4

Preamble	This course has been designed for students to learn and understand
	• the method of solving linear differential equations with constant coefficients
	• the application of differential equations
	• the solvability of linear and non-linear partial differential equations of order one
Prerequisite	Basics of differentiation

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	find the Particular integral of linear differential equations	K1
CO2	solve second order differential equations	K2
CO3	apply the differential equations in physical problems	K3
CO4	discuss the method of solving linear partial differential equations of order one	K2
CO5	solve non-linear partial differential equations of order one	K3

Mapping with Program Outcomes:

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

24MTU2CA	CORE: DIFFERENTIAL EQUATIONS

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Linear differential equations with constant coefficients:** Linear differential equations with constant coefficients- determination of complementary function- working rule - symbolic function $1/f(D)$- general method of getting P.I- working rule for finding P.I- methods of finding P.I- X= e^{ax}, sin ax, cos ax, x^m, $e^{ax}.V$, xV.	16	Textbook
II	**Linear differential equations of second order:** General form-complete solution of y''+Py'+Qy=R - rule for getting an integral belonging to C.F - working rules- reduction to normal form- transformation of the equation by changing the independent variable- method of variation of parameters- solutions by operators.	12	Textbook
III	**Applications of differential equations:** Introduction- mixture problems - Newton's second law and Hooke's law- differential equation of the vibrations of mass on a spring- Free, undamped motion- Free, damped motion- forced motion- resonance phenomena.	14	Textbook
IV	**Linear partial differential equations of order one:** Origin of PDE - derivation of PDE by the elimination of arbitrary constant and function - Cauchy problem - Lagrange's equation- Lagrange's method of solving Pp+Qq = R - Type 1 based on rule I- type 2 based on rule II- type 3 based on rule III- type 4 based on rule IV- miscellaneous examples.	14	Textbook
V	**Non-linear partial differential equations of order one:** Complete integral- particular integral- singular and general integral- geometrical interpretation- method of getting singular integral- compatible system of first order equations- Charpit's method- methods of solutions to certain standard forms- standard forms I, II, III and IV.	16	Textbook
	Total	72	

Text Book	1.	Raisinghania M. D, 2022, "Ordinary and Partial Differential Equations", 20th Edition, S. Chand & Company Limited, New Delhi.
Reference Books	1.	Narayanan S and Manicavachagam Pillay T.K, 2014, "Differential Equations and its Applications", S. Viswanathan Printers and Publishers Pvt Ltd, Chennai.
	2.	Bali N.P,2004, "Differential Equations", Laxmi Publications Limited, New Delhi.
	3.	Zafar Ahsan ,2016, "Differential Equations and their Applications", PHI Learning Private Limited, New Delhi.
	4.	Kandasamy P and Thilagavathi K, 2004, "Mathematics for B.Sc. Branch-I" Volume III, S. Chand and Company Ltd, New Delhi.

Journal and Magazines	https://www.sciencedirect.com/journal/journal-of-differential-equations
E-Resources and Website	https://www.khanacademy.org/math/differential-equations https://nptel.ac.in/courses/111/105/111105077/

Learning Method	Chalk and Talk, Assignment

Focus of the Course	Skill development

Semester - II
CORE: FOURIER SERIES AND INTEGRAL TRANSFORMS

Semester	Course Code	Course Name	Category	L	T	P	Credits
II	24MTU2CB	FOURIER SERIES AND INTEGRAL TRANSFORMS	CORE	48	12	-	4

Preamble	This course has been designed for students to learn and understand
	• the behavior of Fourier series
	• the different types of integral transforms
	• the method of solving boundary value problem using Integral transforms
Prerequisite	Basics of Integration

Course Outcomes (COs)

CO Number	Course Outcomes (COs) Statement	Bloom's Taxonomy Knowledge Level
CO1	describe the given function in the form of Fourier series	K2
CO2	identify the Fourier transform of a function	K1
CO3	illustrate the application of Inverse Fourier transform	K3
CO4	explain the properties of Laplace transform	K2
CO5	apply the concept of Inverse Laplace transform to solve differential equations	K3

Mapping with Program Outcomes:

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

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

24MTU2CB	CORE: FOURIER SERIES AND INTEGRAL TRANSFORMS

Syllabus

Unit	Content	Hours	E-Contents / Resources
I	**Fourier series:** The Fourier coefficients-the problem of convergence-even and odd functions. Cosine and sine series-extension to arbitrary intervals	13	Text Book 1
II	**Fourier Transform:** Fourier transforms- Fourier sine and cosine transforms- linearity property – change of scale property- Modulation theorem- evaluation by inversion theorems- Fourier transform of some particular functions- convolution of functions- convolution theorem - Parseval's relations.	12	Text Book 2 & Reference Book 3
III	**Applications of Fourier Transform:** Fourier transforms of rational functions- examples - solution of integral equations of convolution type- Fourier transform of functions of several variables- application of Fourier transform to boundary value problems	10	Text Book 2 & Reference Book 2
IV	**Laplace Transform:** Definitions- Sufficient conditions - linearity property - Laplace transforms of some elementary functions- first and second shift theorem- change of scale property- examples- Laplace transform of derivatives and integrals- Laplace transform of $t^n f(t)$, $f(t)/t$, periodic function - initial and final value theorems- examples - convolution.	12	Text Book 2 & Reference Book 4
V	**Inverse Laplace Transform and applications:** Introduction- calculation of Laplace inversion of some elementary functions-method of partial fractions of the ratio of two polynomials -general evaluation technique of inverse Laplace transform- inversion formula from a different stand point: Tricomi's method-application of Laplace transform.	13	Text Book 2 & Reference Book 4
Total		**60**	

Text Book	1.	George F.Simmons, 2019, "Differential Equations with Applications and Historical Notes", Mc Graw Hill Education (India) Pvt. Ltd., New Delhi.
	2.	Baidyanath Patra, 2018, "An Introduction to Integral Transforms", First edition, CRC Press, London.
Reference Books	1.	Lokenath Debnath and Dambaru Bhatta, 2014," Integral Transforms and their applications", third edition, CRC Press, London.
	2.	Parmanand Gupta, 2019, "Topics in Laplace and Fourier Transforms", First edition, Laxmi Publications Pvt. Ltd., New Delhi.
	3.	Veerarajan T, 2022," Fourier Series and Integral Transforms ", Yes Dee Publishing Pvt. Ltd., Chennai.
	4.	Ray Hanna J and John H.Rowland, 1990, "Fourier Seires, Transforms and Boundary Value Problems", Second edition, John wiley & Sons, Inc, New York.

Journal and Magazines	https://link.springer.com/chapter/10.1007/978-1-4757-0872-1_8
E-Resources and Website	https://www.youtube.com/watch?v=vQLH7qTeJRM&list=PLclocfvsa bE2SEux3yPIOSNkYVRjVGeZu

Learning Method	Chalk and Board

Focus of the Course	Skill Development, Employability

Semester – II
IDC PRACTICAL: PHYSICS - II

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

Preamble	This course has been designed for students to learn and understand
	• 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 PRACTICAL: 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	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	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	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 inertia of given disc.	14	NPTEL
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	You Tube Videos
	TOTAL	84	

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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://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

<table>
<tr><td colspan="8" align="center">Semester – II
AECC: BASIC TAMIL</td></tr>
</table>

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	✓			✓	✓

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| 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	

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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	

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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

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

Dr.N.G.P. Arts and Science College
APPROVED
BoS- 18th 07.11.2024 AC- 18th 26.11.2024 GB -