Curriculum Framework under Choice Based Credit System (CBCS) and
Syllabus for Outcome Based Education (OBE) in

B.Sc (Mathematics)

Degree Programme
for the students admitted from the academic year 2021 – 22 and onwards

SREE SARASWATHI THYAGARAJA COLLEGE

An Autonomous, NAACRe–Accreditedwith 'A' Grade, ISO 9001:2008 CertifiedInstitution, Affiliated toBharathiar University,Coimbatore,ApprovedbyAICTEforMBA/MCA and by UGCfor2(f) & 12(B)status

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SREE SARASWATHI THYAGARAJA COLLEGE (AUTONOMOUS)

DEPARTMENT OF UG MATHEMATICS

Vision of the Department:

- To become a premier center, promoting Mathematics locally andglobally

Mission of the Department

To materialize the vision, the Department of Mathematics focuses on the following:

- To provide necessarybackground
- For producing a meaningful career in Mathematics and relatedfields
- For acquiring, mathematical skills and employabilityskills

Program Educational Objectives (PEOs)

The graduate will be able to

PEO1	Analyze social and environmental aspects with professional values, ethics,equity and to transform the knowledge, skills and expertise in the core field.
PEO2	Involve in lifelong learning to adapt educational needs in a changing world to maintain their competency and to contribute to the advancement of knowledge in a multi-disciplinary environment.
PEO3	Develop problem solving skills and teaching skills
PEO4	Identify their future academic goal for lifelong learning and will use their course as a training ground to develop their positive attitude, skills which will enable them to become a multi-faceted personality shining in any chosen field.

Program Outcomes (POs)

At the end of the B.Sc mathematics Programme, graduates will be able to

PO1	Demonstrate professionally with social, cultural and ethical responsibility as an individual as well as in multifaceted teams with positive attitude
PO2	Adapt to sustain in emerging era and constantly upgrade skills towards independent and lifelong learning.
PO3	Communicate complex concepts with professionalism by adapting appropriate resources and modern tools.
PO4	Develop the skill to understand and apply the abstract concept of mathematics.
PO5	Formulate, develop and enhance logical reasoning skills, arithmetic skills, aptitude skills, communication skills, self-confidence for better employability.

Program Specific Outcomes (PSOs)

PSO1	Apply the knowledge gained during the course of the program to identify, formulate and solve real life problems to meet the core competency with continuous up gradation.

PSO2 Apply the knowledge of ethical and management principles required to work in a team with stewardship of the society.

PSO3 Develop proficiency to clear CSIR/ NET/SET

PSO4 Understand the basic concepts, advancements and its various applications

PSO5 Understand and apply various tools of Mathematics in solving real life problems

Mapping the Programme Outcomes with Programme Educational Objectives

POs/PEOs	PEO1	PEO2	PEO3	PEO4
PO1	S	S	M	S
PO2	S	S	M	S
PO3	M	S	S	M
PO4	S	M	S	M
PO5	S	S	S	S

S- Strong; L- Low; M-Medium

Mapping the Programme Specific Outcomes with Programme Educational Objectives

POs/PEOs	PEO1	PEO2	PEO3	PEO4
PSO1	S	S	S	S
PSO2	S	S	S	S
PSO3	L	S	M	S
PSO4	S	S	S	S
PSO5	S	S	M	S

S- Strong; L- Low; M-Medium

Curriculum Framework with Choice Based Credit System (CBCS) and Syllabus for Outcome Based Education (OBE) in Bachelor of Science (B. Sc.) degree program for the students admitted from the academic year 2021 – 22 onwards

The CBCS provides a 'Cafeteria' type approach in which students can choose courses of their choice from a list of electives, core, allied, Non-Major, value based and skill based courses undergo additional courses and acquire more than the require credits and adopt an interdisciplinary approach to learning. The Choice Based Credit System (CBCS) preserves the identity, autonomy and uniqueness of every Programme and at the same time student centric in curriculum designing and skill imparting.

The Department of Mathematics allows enhanced academic mobility and enriched employability for the students. The curriculum with CBCS helps the students to experience their choice of courses and credits for their horizontal and vertical mobility.

Outcome Based Education:

"Outcome-Based Education" (OBE) is considered as a student- centered instruction model that focuses on measuring student performance through outcomes. Outcomes include knowledge, skills and attitudes. In the OBE model, the required knowledge and skill sets for a particular degree is predetermined and the students are evaluated for all the required parameters (Outcomes) during the course of the program.

For B.Sc. Mathematics Programme, a student must earn 140 credits as mentioned in the below table.

Summary of Courses Pattern and Credit Distribution in Choice Based Credit System

Part	Curriculum Structure	No. of Courses	Credits to be earned
I	Languages	04	12
II	English	04	12
III	Core (Major) Courses	16	72
	Allied Courses	05	16
	Core Electives (Choices given within core)	03	12
IV	Non-Major Electives (NME) (Choices given within Physics/ Chemistry/ Psychology/ English/ Mathematics)	02	04
	Value Based Courses (VBC)	02	04
	Skill Based Courses (SBC) (1 SBC offered as IDC within Physics/ Chemistry/ Psychology/ English/ Mathematics)	04	08
V	Extension Activities	01	Grade
Total		**41**	**140**
ECC	i) MOOC	2	4
	ii)Professional English for Physical Sciences	2	8
Total		4	12

Part – I: Language 1: Part – I comprises of Tamil/Hindi/Malayalam/French

Part – II: Language 2: Part – II English

Part – III: Core Courses: A set of ***major papers*** that include Theory, Practical, Allied, Core Electives, in the major field of study selected by the student. Core courses are mandatory in nature.

Part – IV: Non - Major Electives (NME): A set of non – major elective courses that are offered as choices of the students, outside of their major discipline. The courses other than the core and allied shall be opted by the students as Non – Major Elective.

Value Based Courses (VBC): Courses offered on cross-cutting issues relevant to the current pressing concerns both nationally and internationally such as gender, environment and sustainability, human values and professional ethics, development of creative and divergent competencies.

Skill Based Courses (SBC): The courses offered as skill - based courses under Part IV of the Programme are aimed at imparting Advanced Skill to the students. This comprises of four courses from 3rd to 6th semesters.

Massive Open Online Courses (MOOC): According to the guidelines of UGC, the students are encouraged to avail this option of enriching by enrolling themselves in the MOOC provided by various portals such as SWAYAM, NPTEL, etc. As per University Grants Commission (UGC) notification published in the gazette of India about UGC (Credit Framework for Online Learning Courses through SWAYAM) Regulation, 2016 on 19th July 2016, The Massive Open Online Course (MOOC) through SWAYAM platform is compulsory. The institute is transferring the credit earned through SWAYAM on receipt of MOOC's completion certificate and it shall incorporate these marks/credits in the overall mark sheet of the student.

Extra Credit Course (ECC): The courses offered as Extra Credit courses under Part IV of the Programme are aimed to enhance the English proficiency of the students to increase the self – learning, original thinking/understanding and employability. This comprises of two courses in 1st and 2nd semesters.

Part – V: Extension Activities: Students shall be actively participating in the extension activities such as National Service Scheme (NSS), YOGA, Youth Red Cross (YRC), Sports, and Red Ribbon Club (RRC). Each student should take part in at-least in any one of these activities for earning.

Part		Course type	Course Code	Name of the course	Ins. Hrs/	CIA	Ext	Tot	Cr
		Semester – I							
I	Language 1	Theory	21XXX1L10	Part – 1 Languages	5	50	50	100	3
II	Language 2	Theory	21GEN1L10	Communicative English– I	5	50	50	100	3
III	Core1	Theory	21BMA1C10	Theory of Matrices and Trigonometry	5	50	50	100	4
	Core2	Theory	21BMA1C20	Classical Algebra	6	50	50	100	4
	Allied 1	Theory	21BMA1A10	Theory of Probability	5	50	50	100	4
IV	**VBC1**	Theory	18DHE1V10	Environmental Studies	2	50	-	50	2
IV	**ECC 1**	Theory	21GEN1Z10	Professional English – I for Physical Sciences	2+2 *	50*	50*	100*	4*
				Total for Semester – I	**30+ 2***			**550+ 100***	**20+ 4***

		Semester – II							
I	Language 1	Theory	21XXX2L20	Part – 1 Languages	5	50	50	100	3
II	Language 2	Theory	21GEN2L20	Communicative English– II	5	50	50	100	3
III	Core3	Theory	21BMA2C10	Differential and Integral Calculus	6	50	50	100	4
	Core 4	Theory	21BMA2C20	Differential Equations and Laplace Transforms	5	50	50	100	4
	Allied 2	Theory	21BMA2A10	Mathematical Statistics	5	50	50	100	4
IV	**VBC 2**	Theory	18DHE2V20	Value Education & Human Rights	2	50	-	50	2
IV	**ECC 2**	Theory	21GEN2Z10	Professional English – II for Physical Sciences	2+2 *	50*	50*	100*	4*
				Total for Semester – II	**30+ 2***			**550+ 100***	**20+ 4***

		Semester – III							
I	Language 1	Theory	21XXX3L30	Part – 1 Languages	5	50	50	100	3
II	Language 2	Theory	21GEN3L30	English Paper– III	5	50	50	100	3
III	Core 5	Theory	21BMA3C10	Statics	5	50	50	100	4
	Core 6	Theory	21BMA3C20	Solid Geometry	6	50	50	100	4
	Allied 3	Theory	21BPHGAA0	Allied Physics I	3	30	45	75	3
			-	Allied Practical	2	-	-	-	-
IV	**SBC1**	Theory	21BMA3S10	General Intelligence and Reasoning	2	30	45	75	2
IV	**NME1**	Theory	21TAM3N10 21TAM3N20 19BEN3N11 19BMA3N11 19BPH3N10 19BCH3N10 19BPY3N10	A) Basic Tamil –I B) Advanced Tamil – I C) Basic English for Competitive Examinations-I D) Numerical Ability-I E) Physics of Sports F) Chemistry for Everyday life -I G) Psychology Life Skills-I	2	-	50	50	2
				Total for Semester – III	**30**			**600**	**21**
		Semester – IV							
I	Language 1	Theory	21XXX4L40	Part – 1 Languages	5	50	50	100	3
II	Language 2	Theory	21GEN4L40	English Paper– IV	5	50	50	100	3
III	Core 7	Theory	21BMA4C10	Operations Research	6	50	50	100	4
III	Core 8	Theory	21BMA4C20	Dynamics	5	50	50	100	4
III	**Allied 4**	Theory	21BPHGAB0	Allied Physics II	3	30	45	75	3
	Allied 5	Practical	21BPHGAC0	Allied lab- Physics Practical	2	25	25	50	2
IV	**SBC 2**	Practical	21BMAGSA0	Lab : Statistics Practical using SPSS	2	30	45	75	2
IV	**NME 2**	Theory	21TAM4N30 21TAM4N40 19BEN4N20 19BMA4N21 19BPH4N20 19BCH4N20 19BPY4N20	A) Basic Tamil –II B) Advanced Tamil –II C)Basic English for Competitive Examinations –II D) Numerical Ability-II E) Physics of Music F) Chemistry for Everyday life -2 G) Psychology Life Skills-II	2	-	50	50	2
				Total for Semester – IV	**30**			**650**	**23**
		Semester – V							
III	Core 9	Theory	21BMA5C10	Real Analysis - I	6	50	50	100	5
III	Core 10	Theory	21BMA5C20	Complex Analysis - I	6	50	50	100	5
III	Core 11	Theory	21BMA5C30	Modern Algebra-I	6	50	50	100	5
III	Core 12	Theory	21BMA5C40	Vector Calculus and Fourier Series	6	50	50	100	5
III	**CE1**	Theory	21BMA5EA0 21BMA5BB0	A) Programming in C++ B) Numerical Methods - I	4	50	50	100	4
IV	**SBC 3**	Theory Practical	21BMA5S10 21BMA5S20	A) Verbal Reasoning – I B) Programming in C++ Lab	2	30	45	75	2
V	**ETN**	-	18ETN5XXX	**Extension Activities**	Grade				
				Total for Semester – V	**30**			**575**	**26**

		Semester – VI							
III	Core13	Theory	21BMA6C10	Real Analysis –II	5	50	50	100	5
	Core 14	Theory	21BMA6C20	Complex Analysis –II	5	50	50	100	5
	Core 15	Theory	21BMA6C30	Modern Algebra-II	5	50	50	100	5
	Core 16	Theory	21BMAGC10	Discrete Mathematics	5	50	50	100	5
	CE2	Theory	21BMA6EA0 21BMA6EB0	A)Python Programming B) Numerical Methods - II	4	50	50	100	4
	CE3	Theory	21BMA6EC0 21BMA6ED0	A) Graph Theory B) Number Theory	4	50	50	100	4
IV	**SBC 4**	Theory Practical	21BMA6S10 21BMA6S20	A) Verbal Reasoning –II B)Python Programming Lab	2	30	45	75	2
				Total for Semester – VI	**30**			**675**	**30**
				Grand Total				**3600 +200 ***	**140 +8***

*Ins.Hrs= Instructional hours.

*Extra credit courses are offered outside the regular hours

** Note: As per UGC Guidelines SWAYAM, MOOC, NPTEL, Coursera, etc (online) Courses are made compulsory for students of B.Sc (Mathematics) programme admitted during 2021-22 onwards. Every student has to compulsorily complete 2 SWAYAM / MOOC courses preferably during II – V semester and earn 4 credits (2 credits per course) to become eligible for the award of degree. Credits will appear in the consolidated mark sheet only.

This Regulation regarding SWAYAM-MOOC courses was subsequently amended in Standing Committee meeting held on 9th Dec, 2020 as …

As per UGC Guidelines Online Courses are made compulsory for the students of all Under Graduate & Post Graduate programmes admitted during 2021-22 and onwards. Every student has to compulsorily complete 2 MOOC courses and earn 4 credits (2 credits per course) during the course of study to become eligible for the award of degree. Credits will appear only in the consolidated mark sheet.

LIST OF PART – 1 LANGUAGE COURSES (CBCS)

S.NO.	SEMESTER	COURSE CODE	COURSE NAME
1	I	21TAM1L10	Tamil - I
2	I	21HIN1L10	Hindi - I
3	I	21MAL1L10	Malayalam - I
4	I	21FRE1L10	French - I
5	II	21TAM2L20	Tamil - II
6	II	21HIN2L20	Hindi - II
7	II	21MAL2L20	Malayalam - II
8	II	21FRE2L20	French - II
9	III	21TAM3L30	Tamil - III
10	III	21HIN3L30	Hindi - III
11	III	21MAL3L30	Malayalam - III
12	III	21FRE3L30	French - III
13	IV	21TAM4L40	Tamil - IV
14	IV	21HIN4L40	Hindi - IV
15	IV	21MAL4L40	Malayalam - IV
16	IV	21FRE4L40	French - IV

LIST OF ALLIED COURSES

S. NO.	COURSE CODE	COURSE NAME
	Semester – I	
1	21BMA1A10	Theory of Probability
	Semester – II	
2	21BMA2A10	Mathematical Statistics
	Semester –III	
3	21BPHGAA0	Allied Physics –I
*	-	Allied Physics Practical (Annual Pattern)
	Semester –IV	
4	21BPHGAB0	Allied Physics –II
5	21BPHGAC0	Allied Physics Practical (Annual Pattern)

LIST OF SKILL BASED COURSES

S. NO.	COURSE CODE	COURSE NAME
	Semester – III, IV, V, VI	
1	21BMA3S10	General Intelligence and Reasoning
2	21BMAGSA0	Statistics Practical using SPSS
3	21BMA5S10	Verbal Reasoning –I
4	21BMA5S20	Programming in C++Lab
5	21BMA6S10	Verbal Reasoning –II
6	21BMA6S20	Python Programming Lab

LIST OF VALUE BASED COURSES

S. NO.	COURSE CODE	COURSE NAME
1	18DHE1V10	Environmental Science
2	18DHE2V20	Value Education &Human Rights

Students from B. Sc. Physics/ Chemistry/ Psychology/ English/ Mathematics (other than the courses offered by their department) to choose any one of the courses from the following list of Non- major courses offered from the below departments

LIST OF NON – MAJOR ELECTIVES

S. NO.	COURSE CODE	COURSE NAME
1	21TAM3N10	Basic Tamil –I
2	21TAM3N20	Advanced Tamil – I
3	21TAM4N30	Basic Tamil –II
4	21TAM4N40	Advanced Tamil -II
5	19BEN3N11	Basic English for Competitive Examinations – I
6	19BEN4N20	Basic English for Competitive Examinations -II
7	19BMA3N11	Numerical Ability-I
8	19BMA4N21	Numerical Ability-II
9	19BPH3N10	Physics of Sports (Physics Department)
10	19BPH4N20	Physics of Music ((Physics Department)
11	19BCH3N10	Chemistry for Everyday life -1 (Chemistry Department)
12	19BCH4N20	Chemistry for Everyday life -2 (Chemistry Department)
13	19BPY3N10	Psychology Life Skills-I (Psychology Department)
14	19BPY4N20	Psychology Life Skills-II (Psychology Department)

LISTOF COREELECTIVES

S. NO.	COURSE CODE	COURSE NAME
1	21BMA5EA0	Programming in C++
2	21BMA5EB0	Numerical Methods -I
3	21BMA6EA0	Python Programming
4	21BMA6EB0	Numerical Methods -II
5	21BMA6EC0	Graph Theory
6	21BMA6ED0	Number Theory

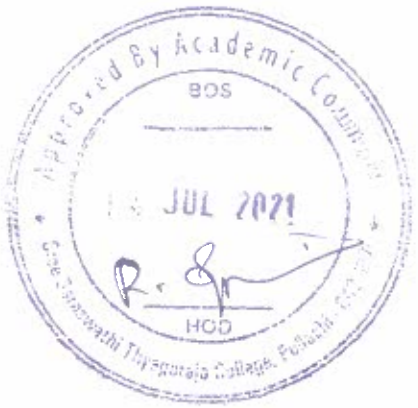
LIST OF EXTENSION ACTIVITIES

S. NO.	COURSE CODE	COURSE NAME
1	18ETN5X10	NSS
2	18ETN5X20	SPORTS

LIST OF EXTRA CREDIT COURSES:

S. NO.	COURSE CODE	COURSE NAME
1	21GEN1Z10	Professional English – I for Physical Sciences
2	21GEN2Z10	Professional English – II for Physical Sciences

The Course, "Yoga" is offered as Capability Enhancement Course. The Certificate with grade will be awarded according to the marks obtained.



SEMESTER – I

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM1L10	Tamil - I	Part I Tamil Paper I	60	-	-	3

Preamble: தமிழ் இலக்கியத்தில் உள்ள நேரடித்தன்மை, நிகழ்கால சமூகஅசைவுகள், மொழிநடை ஆகியவற்றை மாணவர்கள் எளிதில் விளங்கிக் கொள்ளும் வகையில் முதல் பருவத்துக்கான பாடங்கள் தெரிவு செய்யப்பட்டுள்ளன. இன்றைய இலக்கியங்கள் தரும் படைப்பனுபவத்தின் நீட்சியாகப் பொதுக்கட்டுரைகள், கடிதம், கவிதை, சிறுகதை படைப்பதற்கான பயிற்சிகளையும் தமிழ்ப்பாடம் வழங்குகிறது.

Prerequisite:

- மேனிலைப்பள்ளி முடிய கற்றவற்றைப் பகுத்து தொகுத்து ஆராயும் போக்கில்பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- மானிட மதிப்புகளை உணரும் வகையிலும், போட்டித்தேர்வுகளை எதிர்கொள்ளும் நிலையிலும் 'தமிழ்' - பகுதி - I அமைக்கப்பட்டுள்ளது.
- பிழையின்றிப் பேச, எழுத ஆராயும் முயற்சிக்குப் பயிற்சி தரப்படுகிறது.

SYLLABUS: TAMIL - I

Unit	Course contents		Instructional hours
I	அலகு I கவிதைகள்		15
	பாரதியார்	பொய்யோ மெய்யோ - நிற்பதுவே நடப்பதுவே	
	பாரதிதாசன்	மாண்டவன் மீண்டான் - ஆற்றோரம் தழைமரங்கள்	
	நாமக்கல் கவிஞர்	கண்டிலேன் - ஐயம் இல்லை தெய்வம்	
	வாணிதாசன்	மாலை – அங்கு இங்குமாய் சிதறிய	
	கண்ணதாசன்	தத்துவப்பாடல் - பரமசிவன் கழுத்திலிருந்து	
	நா..காமராசன்	சரித்திர கர்ப்பம் - அம்மா இருட்டுக்குள்	
	மேத்தா	வெளிச்சம் வெளியே இல்லை – வீட்டுக்கு வெளியே	
	அப்துல் ரகுமான்	சுயப்பிரசவம் - தெரிந்துகொள்	
	சிற்பி	பெல்ஜியம் கண்ணாடி – மரச்சட்ட தங்கரேக்குகள்	
	இளம்பிறை	அறுவடைக்காலம் - அல்லும்பகலும்	
	விஜயலட்சுமி	அற்புத ரகசியங்கள் - எந்தப்பாடலும்	
	கல்பனா	பறத்தல் அதன் சுதந்திரம் - ஓடி ஓடித் தீர்ந்து	
	ஹைக்கூ கவிதைகள்	கிழிந்தது சேலை – என்.டி.ராஜ்குமார் விடுமுறையேவேண்டாம் - சீனு.தமிழ்நெஞ்சன் புதுச்செருப்பு – தோழன் மஞ்சள் பூசி – புதுவை தமிழ்நெஞ்சன் ஐயனார் கை – மணிசண்முகம்	
II	அலகுII சிறுகதைகள்		15
	புதுமைப்பித்தன்	சங்குத்தேவனின் தர்மம்	
	கு.அழகிரிசாமி	பித்தளை விளையல்	
	வ.ரா.	கோட்டுவீடு	
	ஜெயகாந்தன்	இரண்டு குழந்தைகள்	
	பிரபஞ்சன்	அப்பாவின் வேட்டி	
	தனுஷ்கோடி ராமசாமி	தீம் தரிகிட	
	ஆதவன்	கன்னுக்குமிழி	
	தமயந்தி	பஞ்சாயத்து	
III	அலகுIII புதினம் திலகவதி	கல்மரம்	10
IV	அலகுIV இலக்கிய வரலாறு 1. கவிதை இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 2. சிறுகதையின் தோற்றமும் வளர்ச்சியும் 3. புதினத்தின் தோற்றமும் வளர்ச்சியும்		10
V	அலகுV இலக்கணம் பயிற்சி அளித்தல் - மொழித்திறன் வளர்த்தல் 1. எழுத்து மாற்றத்தால் ஏற்படும் பிழைகள் 2. வல்லினம் மிகும், மிகா இடங்கள்		10

	3. மெல்லெழுத்து மிகும் இடங்கள் 4. வாக்கியங்களில் ஏற்படும் பிழைகள் 5. இலக்கணக் குறிப்பு 6. சரியான சொற்களைக் கண்டறிதல் கவிதை எழுதுதல், கடிதம், விண்ணப்பம் வரைதல்.	
		Total 60

Text Book(s): பாட நூல்கள்

1. கவிதை, சிறுகதைத் திரட்டு	-	தமிழ்த்துறை வெளியீடு, ஸ்ரீ சரஸ்வதி தியாகராஜா கல்லூரி, 2021 ஜூன் பதிப்பு.
2. பன்முக நோக்கில் தமிழ் இலக்கிய வரலாறு	-	முனைவர் கா. வாசுதேவன், தேவன் பதிப்பகம், 16,43,திருநகர்,திருவானைக்கோவில், திருச்சிராப்பள்ளி - 620 005 பன்னிரெண்டாம் பதிப்பு - 2017.
3. தமிழ் இலக்கிய வரலாறு	-	மு. வரதராசன் சாகித்ய அகாடமி வெளியீடு, புதுதில்லி. மறுபதிப்பு-2012.

Reference Book(s): பார்வை நூல்கள்

1. கொங்குதேர் வாழ்க்கை	-	இ. இராஜமார்த்தாண்டன் யுனைடெட் ரைட்டர்ஸ், 67 - பீட்டர்ஸ் சாலை, இராயப்பேட்டை, சென்னை -14. முதல் பதிப்பு – 2003
2.சிறுகதையின் தோற்றமும் வளர்ச்சியும்	-	சிட்டி சிவபாத சுந்தரம், க்ரியா பதிப்பகம், சென்னை, முதல் பதிப்பு - 1989.
3.தமிழில் சிறுகதை பிறக்கிறது	-	சி.சு.செல்லப்பா, காலச்சுவடு பதிப்பகம், நாகர்கோவில், பதிப்பு-2007
4. தமிழில் தவறின்றி எழுத, பேச, கற்க!	-	நல்லாமூர் முனைவர் கோ.பெரியண்ணன் முத்தமிழ் பதிப்பகம் 9 ஏ, மேக்மில்லன் காலனி நங்கை நல்லூர், சென்னை – 61. BOS பதிப்பு -2006
5.தமிழ் நாவல் நூறாண்டு வரலாறும் வளர்ச்சியும்	-	பெ.கோ. சுந்தரராஜன்(சிட்டி),சோ. சிவபாத சுந்தரம் கிறிஸ்தவ இலக்கிய சங்கம், திருச்சபை வெட்டி எண். 501, பார்க் டவுன், சென்னை- 600 003.

Focus of Course: இக்கால இலக்கியங்களின் வகைமைகளை எடுத்துக்காட்டும் விதத்தில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளன. பிழையின்றிப் பேச, எழுதப் பயிற்சி வழங்கப்படுகிறது. கடிதம், கதை, கவிதை எழுதுதலுக்குப் பயன்படும் வகையில் பயிற்சி தரப்பட்டுள்ளது.

Course Designer: **Dr. K.Ramganesh,**
Assistant Professor, Dept. of Tamil, STC

Dr. S. Rajalatha
BoS Chairman

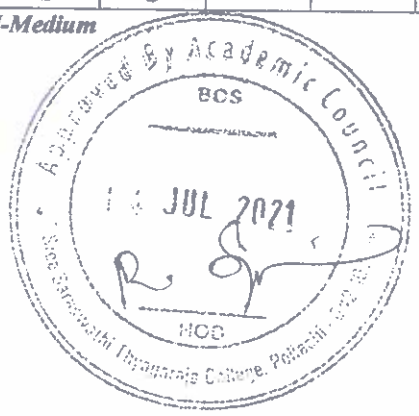
Course Outcomes (COs)
On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	இக்கால இலக்கியங்களின் பயன்களை அறிவித்தலின் வெளிப்பாடாக கவிதைப் பரிமாணங்கள், படைப்புகள் குறித்த அடிப்படைச் செய்திகளை உணர்ந்து கொள்ளுதல்.	K1
CO2	தமிழர்களின் பண்பாட்டுக் கூறுகளையும் பின்னணியையும் வெளிப்படுத்தும் விதமாகச் சிறுகதைகள், புதினம் சார்ந்த கருத்துகளைப் புரியவைத்தல்.	K2
CO3	நடைமுறையில் தமிழைப் பிழையின்றி எழுத உதவுதல், கவிதை, கடிதம், கதை எழுதும் திறமையை வளர்த்தல்.	K3

Mapping the Programme Outcomes

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	-	-	S	S	-	-	-
CO2	S	S	M	-	-	S	S	-	-	-
CO3	S	S	S	-	-	M	S	-	-	-

S- Strong; L- Low; M-Medium



SEMESTER- I

Coursecode	21HIN1L10	HINDIPAPER -I	L	T	P	C
Part-I		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

	PARTIHINDI PAPER I	
UnitNo.	Course Content	Instructional hours
I	**PROSE:NUTHANGADYASANGRAH** Lesson1 – BharathiyaSanskurthi - Dr.Rajendra PrsadLesson3 –Razia -RamavikshaBenipuri Lesson4 –Makreal -Yespal Lesson5 – BahthaPani Nirmala - 'AGEYA'Lesson6–RashtrapithaMahathmaGandhi -Mukthibodh Lesson9–NindaRas -HarishankarParsayi.	15
II	**NONDETAILEDTEXTSHORTSTORIES:KAHANIKUNJ** 1. Pareksha –Premchand 2. Mamtha -JayashankarPrasad 3. Apnaparaya -Jaynendrakumar 4. Admika bachcha -Yespal 5. Bolaramkajeev -HarishankarParsayi 6. Vapasi -MannuBhandari	15
III	**GRAMMAR :SHABDHAVICHARONLY** (NOUN,PRONOUN,ADJECTIVE, VERB,TENSE, CASE ENDINGS)Theoretical &Applied.	10
IV	**TRANSLATION:English–Hindionly.** ANUVADHABHYAS –III(1-15lessonsonly)	10
V	**COMPREHENSION**: 1Passagefrom ANUVADHABHYAS–III(16-30)	10
	TOTAL	60

TextBooks:

1. Nuthangadyasangrah,2009,editor:Jayaprakash,publisher:Sumitraprakashansumitravas,16/4,hastings road, Allahabad – 211001.
2. Kahani kunj, 2011, Editor :V.P. Amithab.Publisher : Govind Prakashan Sadhar Bagaar,Mathura,UttarPradesh,–281 001

ReferenceBooks:

NAVEENHINDIVyakaran, 2002,DakshinBharatHindiPrachar Sabha,Chennai–600017

Teachingmethods:

Lecturing,Assignment,GroupDiscussion,Quiz, GroupActivity,PowerPointProjectionthrough LCD

WebLink:https://hi.wikipedia.org/wiki/https://en.wikipedia.org/wiki/Premchandhttp://hindigrammar.in/

COURSEOBJECTIVE:

- Improvesgrammaticalknowledge
- Willcontinuetoread andlearnaboutarticles andthinkaboutthem
- It is possible to read and understand short stories and understand the thoughts and lifeofthe people ofthis state
- Translation knowledge and the ability to read and analyze a message are alsoavailable

MappingwithProgrammeOutcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO3	M	S	S	M	S	M	S	S	M	S
CO3	S	M	M	M	M	S	S	M	S	M
CO4	L	S	L	S	L	S	L	M	M	M
CO5	S	S	M	M	S	M	L	L	L	L

Coursecode	21MAL1L10	PARTIMALAYALAMPAPERI	L	T	P	C
Part-I		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

COURSEOBJECTIVE:

- Improvesgrammaticalknowledge
- Willcontinue toread andlearn aboutarticles andthink aboutthem
- It is possible to read and understand short stories and understand the thoughts andlifeof thepeople of this state
- Translation knowledge and the ability to read and analyze a message are alsoavailable
- Translationknowledgeandthe abilityto readandanalyze amessagearealso

	PARTI MALAYALAMPAPERI	
Unit	**Course Content**	**Instructional hours**
I	Novel-PathummayudeAadu-VaikamMuhammed Basheerr	15
II	Novel--PathummayudeAadu -VaikamMuhammedBasheerr	15
III	ShortStory-EntePriyappetaKadhakal –Akbar Kakkattil)	10
IV	ShortStory-EntePriyappetaKadhakal –Akbar Kakkattil)	10
V	Composition&Translation(EnglishtoMalayalam)	10
	TOTAL	60

Teachingmethods:
Lecturing, Assignment, Group Discussion, Quiz, Group Activity. PowerPoint ProjectionthroughLCD

TextBooks:
1.Novel-PathummayudeAadu-VaikamMuhammedBasheer(D.C.Books,Kottayam,Kerala)
2. Short Story -EntePriyappetaKadhakal – Akbar Kakkattil)(D.C.Books, Kottayam,Kerala)
3.Expansionofideas,General Eassayand Translation.(Asimplepassage)

ReferenceBooks:
1.MalayalaNovelSahithyaCharitram-K.M.Tharakan(N.B.S.Kottayam)
2.Cherukatha Innale Innu-M.Achuyuthan (D.C Books, Kottayam)
3.SahithyaCharitramPrasthanangalilude-Dr.K.M George,(D.C.BooksKottayam)
4.MalayalaSahithyavimarsam-SukumarAzheekode(D.C.books)

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Understandthetextstylesandgrammaticalelements	K1
CO2	Discussthe content ofareadingpassage	K1
CO3	Developaninterest intheappreciation ofshortstories	K2
CO4	Comprehendthe grammaticalstructuresandsentencemaking	K3
CO5	UnderstandthelanguageanddevelopingEnglishtoMalayalamtranslationskill	K4

MappingwithProgrammeOutcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO3	M	S	S	M	S	M	S	S	M	S
CO3	S	M	M	M	M	S	S	M	S	M
CO4	L	S	L	S	L	S	L	M	M	M
CO5	S	S	M	M	S	M	L	L	L	L

SEMESTER I

Course:French1 **Credits: 3**
CourseCode: 21FRE1L10 **Hours: 60**

CourseObjectives:
To understand,speak,readandwritesimple,standardspeechwhichisveryslowandis carefully articulated and can recognize familiar words and very basic phrasesconcerning themselves, their family and immediate concrete surroundings whenpeoplespeakslowlyandclearly

Part1 -French1		
UnitNo.	**Topics**	**Instructional hours**
1	Etape0 Etape 1(Lecons 1 -3)	15
2	Etape 2(Lecons 1 -3)	15
3	Etape3 -Leçons 1 -2	10
4	Etape3 –Leçon3 Etape4 –Leçon1	10
5	Etape4 –Leçons 2 -3	10
	Total	60
Etapes 0to4,Pages 11to62		

TextBookPrescribed:Adomania1–MethodedefrancaisAuthors:Céline Himber,CorinaBrillant,Sophie ErlichPublisher: HACHETTEFLE
Availableat:GOYALPublishersandDistributorsPvtLtd,NewDelhi(9810322459)

Reference:Latitudes1
Author:YvesLoiseau,RégineMerieuxPublisher:FrenchandEuropeanPublicationsInc
Availableat:GOYALpublishersanddistributorsPvtLtd,NewDelhi(9810322459)

SWAYAM:https://swayam.gov.in/nd2_cec19_lg04/previewbyProf.NirupamaRastogi(Retd)EnglishandForeignLanguagesUniversity.Hyderabad

SEMESTER - I

CourseCode	CourseName	Category	Lecture(L)	Tutorial(T)	Practical(P)	Credit
21GEN1L10	Communicative English-I	Language	50	10	-	3
Preamble: This course aims to provide a better understanding on the various aspects of communicative skills through a keen focus on LSRW.						
Prerequisite: Basic knowledge in Communicative English and Skills						

SYLLABUS: COMMUNICATIVE ENGLISH-I

Unit	Course Contents	Instructional hours
I	1. **Listening and Speaking** a. Introducing self and others b. Listening for specific information c. Pronunciation (without phonetic symbols) i. Essentials of pronunciation ii. American and British pronunciation 2. **Reading and Writing** a. Reading short articles – newspaper reports / fact based articles i. Skimming and scanning ii. Diction and tone iii. Identifying topic sentences	12

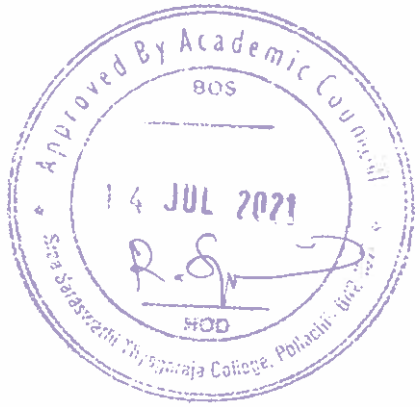
Reference Book(s) a. Books by Penny Ur b. The Oxford English-English-Tamil dictionary (for pronunciation) c. https://www.esolcourses.com/ d. For Readers' Theatre: https://www.youtube.com/watch?v=JaLQJt8orSw&t=469s (the link to the performance; refer scripts by Aaron Shepherd)
Focus of the Course: Skill Development
e-Resources or e-Content:https://www.youtube.com/watch?v=ejGoHFGJQ
CourseDesigner: TRANCHE BoSChairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Gain mastery in LSRW Skills	K1
CO2	Understand the fundamentals of grammar	K2
CO3	Apply LSRW skills and practice it	K2
CO4	Comprehend the nuances of English Language	K3

Mapping with Program OutcomesandProgramSpecific Outcomes

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	M	S	S	S	S	S	M
CO2	M	S	S	M	M	S	M	S	L	M
CO3	M	S	S	S	L	S	M	S	S	S
CO4	M	S	S	M	M	S	M	S	S	M

S – Strong; L – Low; M – Medium



	b. Reading aloud: Reading an article/report c. Journal (Diary) Writing **3. Study Skills** - I a. Using dictionaries, encyclopedias, thesaurus 4. **Grammar in Context**: Naming and Describing • Nouns & Pronouns • Adjectives	
II	**1. Listening and Speaking** a. Listening with a Purpose b. Effective Listening c. Tonal Variation d. Listening for Information e. Asking for Information f. Giving Information **2. Reading and Writing** 1. a. Strategies of Reading: Skimming and Scanning b. Types of Reading : Extensive and Intensive Reading c. Reading a prose passage d. Reading a poem e. Reading a short story 2. Paragraphs: Structure and Types a. What is a Paragraph? b. Paragraph structure c. Topic Sentence d. Unity e. Coherence f. Connections between Ideas: Using Transitional words and expressions g. Types of Paragraphs **3. Study Skills II**: Using the Internet as a Resource a. Online search b. Know the keyword c. Refine your search d. Guidelines for using the Resources e. e-learning resources of Government of India f. Terms to know 4. **Grammar in Context** Involving Action-I a. Verbs b. Concord	12
III	1. **Listening and Speaking** a. Giving and following instructions b. Asking for and giving directions c. Continuing discussions with connecting ideas **2. Reading and writing** a. Reading feature articles (from newspapers and magazines) b. Reading to identify point of view and perspective (opinion pieces, editorials etc.) c. Descriptive writing – writing a short descriptive essay of two to three paragraphs. 3. **Grammar in Context**: Involving Action – II Verbals - Gerund, Participle, Infinitive Modals	12
IV	1. **Listening and Speaking** a. Giving and responding to opinions 2. **Reading and writing** a. Note taking b. Narrative writing – writing narrative essays of two to three paragraphs 3. **Grammar in Context**: Tense • Present • Past • Future	12
V	1. **Listening and Speaking** a. Participating in a Group Discussion 2. **Reading and writing** a. Reading diagrammatic information – interpretations maps, graphs and pie charts b. Writing short essays using the language of comparison and contrast 3. **Grammar in Context**: Voice (showing the relationship between Tense and Voice)	12
	Total	**60**
Text Book(s): Communicative English Text Book		

SEMESTER - I

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA1C10	Theory of Matrices and Trigonometry	Core 1	50	10	-	4

Preamble: To throw light on the importance of the theory of matrices and expansion of $\sin^n\theta$andhyperbolic functions.

Prerequisite: Matrices and Demovires theorem at HSc level

SYLLABUS: THEORY OF MATRICES AND TRIGONOMETRY

Unit	Course contents	Instructional hours
I	Types of Matrices: Symmetric, Skew Symmetric, Hermitian, Skew Hermitian, Idempotent, Nil potent, Reversal Law for the transpose of a product of two Matrices – Unitary and orthogonal Matrix - Properties.Rank of a matrix:The Minors of a Matrix - Rank of a matrix- Elementary transformation- Elementary Matrices – Equivalent Matrices – Invariance of the rankof Matrix- Reduction of Normal form – Linear Equations: Homogeneous Linear Equations- Problems – Non homogeneous Linear Equations- Problems.	12
II	The Characteristics equation of a transformation – Properties of the Eigen Vectors - Cayley – Hamilton Theorem (Statement Only) - Similar matrices–Problem.	12
III	Diagonalisation of a matrix – calculation of powers of a matrix – Further worked Examples	12
IV	Expansions - Expansion of $\cos n\theta$, $\sin n\theta$ in powers of $\sin\theta$, $\cos\theta$ - Expansion of $\tan n\theta$ in powers of $\tan\theta$ – Powers of Sines and Cosines of θ in terms of functions of multiples of θ – Expansion of $\cos^n\theta$, $\sin^n\theta$, $\sin^m\theta\cos^n\theta$ wherem and n are integers.	12
V	Hyperbolic functions: Definition - Relation between hyperbolic functions –Inverse Hyperbolic functionsand related problems.	12
	Total	**60**

Text Book(s):

1. P.Kandasamy, K.Thilagavathy, "Mathematicsfor Branch I Second semester – Volume II, S.Chand and co. (Unit I , II and III)
2. S.Narayanan and T.K.Manicavachagampillay, Trigonometry S.V. Publications, Chennai. (Unit IV , V)

Unit I Pages: 7-8, 16, 23-25, 32-54.
Unit II Pages: 59-75.
Unit III Pages:75-96.
Unit IV Pages : 61-66, 77-83
Unit V Pages : 93-107

Reference Book(s):

1. P.R.Vittal, Trigonometry, Margham Publications, Chennai – 17, Third Edition,2004
2. M.L.Khanna. Trignometry, Jai Prakashnath& Co, 2011.
3. A.R. Vasishtha, Matrices, Krishna Prakashan Media, Pvt, 1999.

Learning Methods (*):
Assignment/Seminar/Quiz/Group Discussion/Case-Study/Self-Study/etc.

Focus of Course: Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
https://www.khanacademy.org/math/precalculus/precalc-matrices/intro-to-matrix-inverses/v/inverse-matrix-part-1

Course Designer: Dr.R.SenthilAmutha
Head and Asst. Prof. Dept. of Mathematics, STC

Dr.R.SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Understand different types of Matrices – their relations. Applications of rank in solving linear equations.	K2
CO2	Concept of Eigen values, Eigen Vectors of a square matrix – their properties.	K3
CO3	Cayley Hamilton theorem – application in finding inverse of a matrix – Diagonalization of a matrix – importance.	K3
CO4	Application of Demoivre's theorem in expansion of $sin^m x, cos^n x, sin^m x cos^m x, \sin mx, \cos nx$	K2
CO5	Hyperbolic functions – Inverse Hyperbolic function- logarithmic of complex quantities.	K3

Mapping with Program OutcomesandProgramSpecific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	S	S	M	M	L	M	S	M
CO2	L	M	S	S	M	M	L	S	S	M
CO3	L	M	M	S	M	L	L	M	S	M
CO4	L	S	M	M	M	S	L	L	M	S
CO5	L	M	M	M	M	S	L	L	M	M

S –Strong; L –Low; M –Medium

SEMESTER-I

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA1C20	Classical Algebra	Core 2	60	15	-	4

Preamble: To get familiarity in applying Binomial theorem, Exponential theorem, and Logarithmic series in summation of series. To label basic properties of theory of equations – solving given equations.

Prerequisite: Solving equation at HSc level, and properties of AP,GP and HP

SYLLABUS: CLASSICAL ALGEBRA

Unit	Course contents	Instructional hours
I	Binomial theorem (statement only)–Standard Expansions – summation of series using Binomial Theorem. Exponential Theorem (Statement only) –summation of series.	15
II	Logarithmic Series-Theorem (Statement only) – Problems. Theory of Equations - Problems.	15
III	To Diminish the roots of an equation by 'h' - problems. Multiple roots – Problems. Sums of Powers of the roots of an equations – Newton's theorem on the sum of the powers of the roots (Statement only) – Problems.	15
IV	Reciprocal equations: Definition-solving four types of reciprocal equation. Descartes rule of signs -Problems.	15
V	Newton – Raphson method to find an approximate value of a root of an equation – Horner's Method- Problems.	15
	Total	**75**

Text Book:

P. Kandasamy and K. Thilagavathy, Mathematics for B.Sc. Branch I -Vol. I (For B.Sc-I semester) S. Chand and Company Ltd, New Delhi, 2015.

Unit I: Page No. 71-79, 81-89.
Unit II: Page No. 91- 99, 1-12.
Unit III: Page No. 21-36.
Unit IV: Page No. 36-43, 46-48.
Unit V: Page No. 56-70.

Reference Book(s):

1. S.K. Goyal, Algebra, ArihantPrakashan, 2005.
2. M.L.Khanna, Algebra, JaiPrakashnath& Co, 1994.
3. T.K. Manicavachagampillay, T. Natarajan, K. S Ganapathy, Algebra (Volume1), Viswanathan Printers & Publishers Private Ltd, 2003.

Learning Methods (*):

- Assignment/Seminar/Self-Study/etc.,

Focus of Course: Employability, Skill Development
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
https://www.youtube.com/watch?v=KGRsQxcNTpI

JUL 2021

Course Designer:Prof. K. Sivaswamy,
Dean Mathematics, STC

Dr.R.SenthilAmutha
BoS Chairman

Course Outcomes (COs)

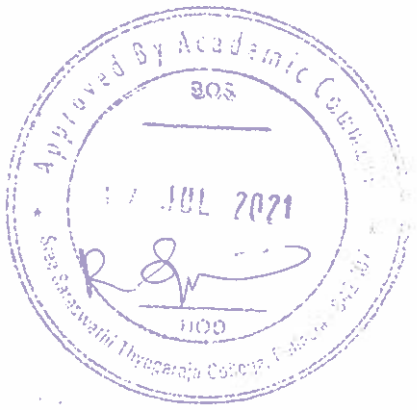
On successful completion of this course the students will be able to

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Apply Binomial and exponential theorem in summation of series	K3
CO2	Illustrate the application of log series in summation of series	K1
CO3	Solve equations having imaginary / irrational roots	K2
CO4	Analyze different types of reciprocal equations and solve them	K3
CO5	Illustrate Horner's method of finding a root approximately	K1

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	M	S	L	S	S	S
CO2	M	S	S	S	M	M	L	S	M	S
CO3	L	M	M	S	M	M	L	S	M	S
CO4	M	M	S	S	M	S	L	S	S	S
CO5	M	S	S	S	M	S	L	S	S	S

S –Strong; L –Low; M –Medium



SEMESTER-I

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA1A10	Theory of Probability	Allied 1	50	10	-	4

Preamble: This course aims at laying foundation on Theory of probability, one dimensional and two dimensional random variable and importance of standard distributions.

Prerequisite: Basics of laws of probability at HSC level.

SYLLABUS: THEORY OF PROBABILITY

Unit	Course contents	Instructional hours
I	**Theory of probability- I:**Axiomatic probability- Some theorems on probability- Conditional probability-Multiplication theorem of probability - Independent events - Multiplication theorem of probability for Independent events- pair wise independent events - Mutually independent events-Examples on addition and multiplication theorem of probability - Baye's theorem(statement with proof) - related problems.	12
II	**Random variable and Distribution function:** Discrete random variable-Probability mass function - discrete distribution function- problems-**Continuous Random Variable**: Probability density function- definition - various measures of central tendency, dispersion, Skewness& Kurtosis for continuous probability distribution - continuous distribution function- definition - properties- Simple problems. **Mathematical expectation:** Definition -Properties of Expectation- Addition theorem of expectation- multiplication theorem of expectation - properties of variance, definition of covariance - simple problems.	12
III	**Two dimensional random variable:** Joint probability mass functions- Marginal probability function, conditional probability function - Marginal distribution function - Joint density function , Marginal density function - conditional distribution function - conditional probability density function -Stochastic independence - Simple problems.	12
IV	**Moment generating function:** Definition- properties of MGF- Cumulants - definition & properties- Chebychevs inequality (statement with proof) - weak law of large numbers - related problems.	12
V	**Special discrete probability distributions:** Binomial Distribution- MGF of binomial distributions- additive property - Poisson distribution: Definition-MGF of Poisson distribution- additive property **Special Continuous probability distribution:** Normal distribution - definition –Chief Characteristic of Normal distribution- Moments of the Normal distribution.	12
	Total	**60**

Text Book:
Gupta, S.C. and Kapoor V.K., Fundamentals of Mathematical Statistics, S. Chand & Sons, 2016
Unit I: Page No. 3.28 to 3.32, 3.42 to 3.45, 3.49 to 3.50, 3.52 to 3.55, 4.4, 4.7 to 4.10
Unit II: Page No. 5.4 to 5.14,5.25 to 5.27,6.2,6.5 to 6.6,6.9 to 6.10
Unit III: Page No. 5.32 to 5.37,5.42 to 5.48
Unit IV: Page No. 7.2 to 7.8, 7.25, 7.27 to 7.28, 7.32 to 7.34
Unit V: Page No. 8.15 to 8.16,8.33 to 8.34,9.3,9.5 to 9.6, 9.8-9.9

Reference Book(s):
1. S. P. Gupta, Statistical Methods, S. Chand, 2002.
2. P.R. Vittal, Mathematical Statistics, Margham Publications, 2015.
3. R.S.Bharadwaj, Business Statistics, Excel Book, 2006.
4. J.SusanMilton, JesseC.Arnold,Introduction to Probability and Statistics,TATAMcGraw-Hill Education PVT,2009

Learning Methods (*):
- Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
http://youtube.com/watch?v=asxiPIVhj3g

Course Designer:Prof. K. Sivaswamy,
Dean Mathematics, STC

Dr.R.SenthilAmutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Recall the basic concepts of probability and random variable, Expectation	K1
CO2	Describe one dimensional random variables and Two dimensional random variables	K1
CO3	Understand the concepts of Moment Generating Functions and Cumulate Generating Function	K2
CO4	Compute Moment Generating Function for some special discrete and Continuous probability distributions.	K2
CO5	Apply the concepts of probability in real life situations.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	S	S	M	S	L	M	S	S
CO2	L	M	S	S	M	S	L	M	S	S
CO3	L	M	S	M	M	S	L	M	S	S
CO4	L	M	S	M	M	S	L	M	S	S
CO5	M	S	S	M	M	S	L	M	S	S

S –Strong; L –Low; M –Medium

SEMESTER 1

Course Code	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
18DHE1V10	EnvironmentalStudies	VBC 1	27	-	-	2

Preamble: Students are expected to have the practical exposure to local area environmental assets and its uses. Also knows about the polluted site and its causes

SYLLABUS: ENVIRONMENTAL STUDIES

Unit	Course contents	Instructional hours
I	Natural Resourcesand Associated Problems: Definition, scope and importance - Need for public awareness - Natural resources - Forest resources: use and over-exploitation,deforestation,casestudies.Timberextraction,mining,damsandtheireffectsonforestsandtribal people. Waterresources: useand over- utilization of surfaceandgroundwater,floods,drought,conflictsoverwater,dams – benefitsandproblemsMineral resources:Useandexploitation, environmental effects of extracting and using mineral resources, case studies. Food resources: world food problems, changes caused byagricultureand overgrazing,effectsof modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.Energyresources:growingenergyneeds,renewable andnon- renewableenergy sources,useofalternatesources.Casestudies. Landresources: land as a resource, land degradation, man induced landslides, soil erosion and desertification. Roleofanindividualinconservationofnaturalresources.Equitable use ofresourcesForsustainablelifestyles.	6
II	Ecosystems:Conceptofanecosystem – Structureandfunctionofanecosystem.-Producers, consumers and ecomposers. –Energyflow intheecosystem. -Ecological succession. - Food chains, foodwebs and ecological pyramids. Introduction, types, characteristic features,structureandfunctionofthefollowingecosystem: -Forestecosystem.-Grassland ecosystem. – Desertecosystem-Aquaticecosystems(ponds,streams,lakes,rivers,oceans,estuaries)	5
III	Biodiversity anditsConservation:Introduction–Definition:genetic,speciesandecosystem diversity. – BiogeographicalclassificationofIndia. – Valueofbiodiversity:consumptive use, productive use, social, ethical. Aesthetic andoption values – Biodiversity atglobal, National andlocallevels. – Indiaasamega–diversitynation.Hot – spotsofbiodiversity. Threatstobiodiversity:habitatloss,poachingofwildlifeman – wildlifeconflicts.Endangered andendemicspeciesofIndia.Conservationofbiodiversity:In –situandEx – situconservationofBiodiversity.	5
IV	EnvironmentalPollution: Definition- Causes,effectsandcontrolmeasuresof- Air pollution, Water pollution, Soil pollution, Noise pollution, Thermal pollution - Solid Waste Management:Causes,effectsandcontrolmeasuresofurbanandindustrialwastes. – Roleofanindividualin Prevention of Pollution. -Pollution Case Studies. – DisasterManagement:Floods,Earthquake,Cyclone andLandslides.	5
V	Social IssuesandtheEnvironment:Sustainabledevelopment – Urbanproblemsrelatedto energy. - Water conservation, rainwater harvesting, and watershed management.-Resettlement andrehabilitation of people; its problems and concerns. Case studies. – Environmentalethics:issuesandpossiblesolutions. – Climatechange,globalwarming, ozone layer,depletion, acid rain, nuclear accidents and holocaust. Case studies.Consumerismandwaste products. -Environmental protection Act. – Air(Prevention andControl of Pollution) Act. Water (Prevention and Control of Pollution) Act. – Wildlife Protection Act. –ForestConservationAct.-Issuesinvolvedinenforcementof environmental legislation. – Publicawareness. – Humanpopulationandtheenvironment – Populationgrowthanddistribution. – Populationexplosion–Family WelfareProgramme.- Environment and humanhealth. – Humanrights. –ValueEducation.-HIV/AIDS – WomenandChildWelfare – RoleofInformationTechnology inEnvironmentandHumanHealth – MedicalTranscriptionand Bioinformatics	6
	Total	**27**

Learning Outcome: Onsuccessfulcompletionthestudentsare expected to havethe practical exposuretolocalareaenvironmentalassets,anditsuses. Alsoknows about thepolluted site and its causes

Text Book:

1. S.V.S. Rana -Environmental StudiesI.RastogiPublications. Meerut. 4th edition. 2012

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	To remember key concepts from environmental studies, political and SocialStudies	K1
CO2	To understand the concepts and methods from renewable and non-renewable sources and their applications in environmental problem solving	K2
CO3	To acquire knowledge on concept of environment issues and links between human and natural system	K3
CO4	To demonstrate the general understanding of the breadth and interdisciplinary nature of environmental issues	K3

Mapping with Program Outcomes and Program Specific Outcomes:

Cos / POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	S	L	S	S	M	S	S
CO2	S	S	M	S	L	S	S	M	S	S
CO3	S	S	M	S	L	S	S	M	S	S
CO4	S	S	M	S	M	S	S	M	S	M

S –Strong; L –Low; M –Medium

SEMESTER I

Course Code	Course Name	Category	Lecture(L)	Tutorial(T)	Practical(P)	Credit
20GEN1Z10	Professional English – I for Physical Sciences	ECC I	45	5	–	4
Preamble: To develop the language skills of students by offering adequate practice in professional contexts.						
Prerequisite: Basic knowledge in English.						

SYLLABUS: PROFESSIONAL ENGLISH – I FOR PHYSICAL SCIENCES

Unit	Course contents	Instructional Hours
I	**COMMUNICATION** **Listening**: Listening to audio text and answering questions- Listening to Instructions **Speaking**: Pair work and small group work. **Reading:** Comprehension passages –Differentiate between facts and opinion **Writing:** Developing a story with pictures. **Vocabulary:** Register specific - Incorporated into the LSRW tasks	10
II	**DESCRIPTION** **Listening:** Listening to process description.-Drawing a flow chart. **Speaking:** Role play (formal context) **Reading:** Skimming/Scanning Reading passages on products, equipment and gadgets. **Writing:** Process Description –Compare and Contrast Paragraph-Sentence Definition and Extended definition- Free Writing. **Vocabulary:** Register specific -Incorporated into the LSRW tasks.	10
III	**NEGOTIATION STRATEGIES** **Listening:** Listening to interviews of specialists / Inventors in fields (Subject specific) **Speaking**: Brainstorming. (Mind mapping). Small group discussions (Subject-Specific) **Reading:** Longer Reading text. **Writing:** Essay Writing (250 words) **Vocabulary:** Register specific - Incorporated into the LSRW tasks	10
IV	**PRESENTATION SKILLS** **Listening**: Listening to lectures. **Speaking:** Short talks. **Reading:** Reading Comprehension passages **Writing:** Writing Recommendations Interpreting Visuals inputs **Vocabulary:** Register specific - Incorporated into the LSRW tasks	10
V	**CRITICAL THINKING SKILLS** **Listening:** Listening comprehension- Listening for information. **Speaking**: Making presentations (with PPT- practice). **Reading**: Comprehension passages –Note making. Comprehension: Motivational article on Professional Competence, Professional Ethics and Life Skills **Writing:** Problem and Solution essay– Creative writing – Summary writing **Vocabulary:** Register specific - Incorporated into the LSRW tasks	10
	Total	**50**

Text Books:
Tamil Nadu State Council for Higher Education(TANSCHE)

Reference Books:
Tamil Nadu State Council for Higher Education(TANSCHE)

Focus of Course: Employability (Employability/Skill Development)
e-Resource/e-Content URL: • **Vidya-MitraPortal:**http://vidyamitra.inflibnet.ac.in/index.php/search • **e-PG Pathshala**:http://epgp.inflibnet.ac.in/ahl.php?csr
Course Designer **TANSCHE** Assistant Professor of English — Dr.R.SenthilAmutha **BoS Chairman**

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace.	K1
CO2	Develop students' competence and competitiveness and thereby improve their employability skills.	K2
CO3	Attend interviews with boldness and confidence	K3
CO4	Adapt easily into the workplace context, having become communicatively competent	K4
CO5	Apply to the Research and Development organizations/ sections in companies and offices with winning proposals	K5

Mapping Course Outcomes with Programme Outcomes& Programme Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	S	M	M	S	S	S
CO2	M	M	M	S	S	S	M	S	S	S
CO3	M	M	M	S	S	S	S	S	S	S
CO4	M	S	S	S	S	S	M	S	S	S
CO5	M	S	S	S	S	S	M	S	S	S

S- Strong; L- Low; M-Medium

SEMESTER – II

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM2L20	Tamil II	Part I Tamil Paper II	60	-	-	3

Preamble:தொன்மையான தமிழ்ச் சமூகத்தின் பண்பாடு வாயிலாக எடுத்துக் கொள்ளப்பட வேண்டிய அம்சங்களை விளக்குதலையும், வாழ்க்கையை நெறிப்படுத்துவதையும் சமூக நோக்கமாகக் கொண்டிருக்கும் இலக்கியங்களின் வழியே மானிட மதிப்புகளை அறிந்து கொள்ளும் வகையில் தமிழ்ப்பாடம் அமைக்கப்பட்டுள்ளது. மாணவர்களுக்குப் பயன்பாட்டு நோக்கில் மொழிபெயர்ப்புப் பயிற்சி வைக்கப்பட்டுள்ளது.

Prerequisite:

1. மேனிலைப்பள்ளி முடிய கற்றவற்றைப் பகுத்து தொகுத்து ஆராயும் போக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
2. மானிட மதிப்புகளை உணரும் வகையிலும், போட்டித்தேர்வுகளை எதிர்கொள்ளும் நிலையிலும் 'தமிழ்' - பகுதி - ஐஅமைக்கப்பட்டுள்ளது.
3. பிழையின்றிப் பேச, எழுத ஆராயும் முயற்சிக்குப் பயிற்சி தரப்படுகிறது.

SYLLABUS: TAMIL II

Unit	Course contents	Instructional Hours
I	அலகு I சங்க இலக்கியம் நற்றிணை - நின்றசொல்லர் (1) – கபிலர் ஐங்குறுநூறு - அன்னாய் வாழி வேண்டன்னை (203) - கபிலர் மறுவல்தூவிச் சிறுகருங்காக்கை (391) - ஓதலாந்தையார் கலித்தொகை - அரிதாய அறன்எய்தி (11) - பாலை பாடிய பெருங்கடுங்கோ அகநானூறு - கிளியும் பந்தும் கழங்கும் (49) - வண்ணப்புறக்கந்தரத்தனார் சிறுகரு பிடவின் வெண்தலை (34) – மருதனிளநாகனார் புறநானூறு - பல்சான்றீரே பல்சான்றீரே (246) - பெருங்கோப்பெண்டு குழவி இறப்பினும் ஊன்தடி பிறப்பினும் (74) – சேரமான் கணைக்கால் இரும்பொறை	12
II	அலகு II பக்தி இலக்கியங்கள் & சிற்றிலக்கியங்கள் தேவாரம் - சுந்தரர் 1. மேலைவிதியே வினையின் பயனே (419) 2. பிறவாய் இறவாய் பேணாய் மூவாய் (420) 3. பொய்யே உன்னைப் புகழ்வார் புகழ்ந்தால் அடியேன் (421) 4. ஊனைப் பெருக்கி உன்னை நினையாது (422) 5. காதல்செய்து களித்துப் பிதற்றி (423) திருக்கோவையார் - மாணிக்கவாசகர் 1.முனிவரும் மன்னரும் பொன்னான் முடியுமென (332) 2.மூவர்நின் றேத்த முதலவன் ஆடமுப் பத்து முற்மைத் (337) 3.பிரியா ரெனவிகழ்ந் தேன் முன்னம் யான்பின்னை வற்பிரிவின் (340) கருவூர்த்தேவர் - தஞ்சை ராசராசேச்சரம் 1.உலகெலாம் தொழவந்து எழுகதிர்ப் பருதி (162) 2.நெற்றியிற் கண்என் கண்ணின்நின் றகலா (163) 3.எவரும்மா மறைகள் எவையும் வானவர்கள் (166) 4.தனிப்பெருந் தாமே முழுதுறப் பிறப்பின் (168) திருமந்திரம் - திருமூலர் 1.என்பே விறகாகி இறைச்சி அறுத்திட்டு (272) 2.தூய்மை அருள் ஊண் சுருக்கம் பொறை (556) 3.உள்ளத்தும் உள்ளன் புறத்துள்ளன் (1532) 4.தானே தனக்குப் பகைவனும் நட்டானும் (2228) 5.அவமும் சிவமும் அறியார் அறியார் (2340)	18

	சித்தர் பாடல்கள் - சிவவாக்கியர் (2 பாடல்கள்) பாம்பாட்டிச்சித்தர் (2 பாடல்கள்) இடைக்காட்டுச்சித்தர் (2 பாடல்கள்) கடுவெளிச்சித்தர் (2 பாடல்கள்) அழுகணிச்சித்தர் (2 பாடல்கள்) சிற்றிலக்கியங்கள் - தமிழ்விடுதூது – தமிழ்மொழியின்சிறப்பு, சிவபெருமானின் சிறப்பு (20 வரிகள்) அற்புதத்திருவந்தாதி நமக்கெளிதே,நேர்ந்தரவங் - அரனென்கோ நான்முகன்,இன்று கொள்ளச்,திறத்தான் மடநெஞ்சே,அடிபேரிற பாதாளம் (5 பாடல்கள்) திருவரங்கக் கலம்பகம் - பெருமாளின் அவதாரச் சிறப்பு,20புயவகுப்பு (இரண்டாம் பாடல்)	
III	அலகு III உரைநடை 1. நேரம் கடிகாரத்தில் இல்லை - வெ. இறையன்பு 2. நான் தோல்வியைத் தழுவிய போது - ஏ.பி. ஜே. அப்துல்கலாம் 3.தமிழகத்தில் இதழியல் வளர்ச்சி - மா. பா. குருசாமி 4. மனிதனும் சுற்றுச்சூழலும் - பேராசிரியர் ஜே. தர்மராஜ் 5. எதையும் தீர்மானிக்கும் சக்தி - சி. எஸ். தேவநாதன்	10
IV	அலகு IV இலக்கிய வரலாறு 1. சங்க இலக்கியத்தின் சிறப்புகள் 2. பக்தி இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 3. சிற்றிலக்கியத்தின் தோற்றமும் வளர்ச்சியும் 4. உரைநடையின் தோற்றமும் வளர்ச்சியும்	10
V	அலகு V இலக்கணம் பயிற்சி அளித்தல் - மொழித்திறன் வளர்த்தல் - மொழி ஆளுமை 1. ஒருமை, பன்மை மயக்கங்கள் 2. வழூஉச்சொற்களை நீக்குதல் 3. பிறமொழிச் சொற்களை நீக்குதல் 4. சொற்பிரிப்பு பிழைகளை நீக்குதல் 5. ஒலி வேறுபாடு அறிந்து சரியான பொருள் அறிதல் 6. மொழிபெயர்ப்பு (ஆங்கிலத்திலிருந்து தமிழுக்கு) 7. சிறுகதை எழுதுதல்.	10
	Total	60

Text Book(s):பாட நூல்கள்

1. சங்க, பக்தி இலக்கிய, உரைநடைத்திரட்டு - தமிழ்த்துறை வெளியீடு,
ஸ்ரீ சரஸ்வதி தியாகராஜா கல்லூரி
2021 ஜூன் பதிப்பு

2. தமிழ் இலக்கிய வரலாறு - முனைவர் சு. வாசுதேவன்
தேவன் பதிப்பகம்,
16 / 49,திருநகர், திருவானைக்கோவில்,
திருச்சிராப்பள்ளி - 620 005
பன்னிரெண்டாம் பதிப்பு - 2017.

3. தமிழ் இலக்கிய வரலாறு - மு. வரதராசன்
சாகித்திய அகாடமி வெளியீடு, புதுதில்லி.
மறுபதிப்பு 2012

Reference Book(s): பார்வை நூல்கள்

1. சங்க இலக்கியத் தொகுப்புகள்	-	நியூ செஞ்சுரி புக் ஹவுஸ் (பி) லிட், 41 - டி, சிட்கோ இண்டஸ்ட்ரியல் எஸ்டேட், அம்பத்தூர், சென்னை - 600 098 இரண்டாம் பதிப்பு - 2004.
2. பத்தாயிரம் மைல் பயணம்	-	வெ. இறையன்பு புதிய தலைமறை பதிப்பகம், 24, ஜி.என். செட்டி சாலை, தியாகராயநகர், சென்னை - 600 017, ஆறாம்பதிப்பு - 2015.
3. இந்தியக் கலைகள்	-	பி. கோதண்டராமன் நியூ செஞ்சுரி புக் ஹவுஸ் (பி) லிட், 41 - டி, சிட்கோ இண்டஸ்ட்ரியல் எஸ்டே, அம்பத்தூர், சென்னை - 600 098 இரண்டாம் பதிப்பு - 2009.
4. அலைகடலுக்கப்பால் அருந்தமிழ்	-	முனைவர் ஆ. கார்த்திகேயன் அகரம், மனை எண்.1, நிர்மலா நகர் தஞ்சாவூர் - 613 007. முதல் பதிப்பு - 2007.
5. பக்தி இலக்கியம்	-	ப. அருணாசலம் சைவ சித்தாந்த நூற்பதிப்புக்கழகம் சென்னை - 06, பதிப்பு - 1900.
6. சைவமும் சமணமும்	-	வேலுப்பிள்ளை எனி இந்தியன் பதிப்பகம் 102 எண் 57 பி.எம்.ஜி.காம்ளெக்ஸ் தெற்கு உஸ்மான் சாலை தி.நகர், சென்னை -17, பதிப்பு -1900
7. தமிழில் தவறின்றி எழுத,பேசகற்க!	-	நல்லாமூர். முனைவர் கோ. பெரியண்ணன் முத்தமிழ் பதிப்பகம் 9எ மேக்மில்லன் காலனி, நங்கை நல்லூர், சென்னை - 61, பதிப்பு - 2006.

Focus of Course: தமிழ் வரலாறு, சமூக வரலாறு குறித்த காலத்தின் செய்திகள் தரப்பட்டுள்ளன. பிழையின்றி எழுத, பேச, கட்டுரை, கதை எழுதுதலுக்குப் பயன்படும் வகையில் பயிற்சி தரப்பட்டுள்ளது.

Course Designer: Dr.T. Radhika Lakshmi
Associate Professor, Dept. of Tamil, STC

Dr. S. Rajalatha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	தமிழ்ப்பண்பாடு, சமூக்அமைப்பு, குறிக்கோள் அமைந்த இனவாழ்க்கையைப் பற்றிய செய்திகளை உணர்ந்து கொள்ளுதல்.	K1
CO2	பக்தி இயக்கம் வளர்ந்த வரலாறு, தமிழ் உரைநடை காலந்தோறும் மாறிவந்த நிலை, அதியமான் சார்ந்த கருத்துகளைப் புரியவைத்தல்.	K2
CO3	நடைமுறையில் தினமும் பிழையின்றி எழுத உதவுதல். மொழிபெயர்ப்புக் கலை, கதை எழுதும் திறமையை வளர்த்தல்.	K3

Mapping Course Outcomes with Programme Outcomes& Programme Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	M	-	-	S	S	-	-	-
CO2	S	S	M	-	-	S	S	-	-	-
CO3	M	M	S	-	-	S	M	-	-	-

S- Strong; L- Low; M-Medium

SEMESTER- II

Coursecode	21HIN2L20	HINDIPAPER-II	L	T	P	C
PartI		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

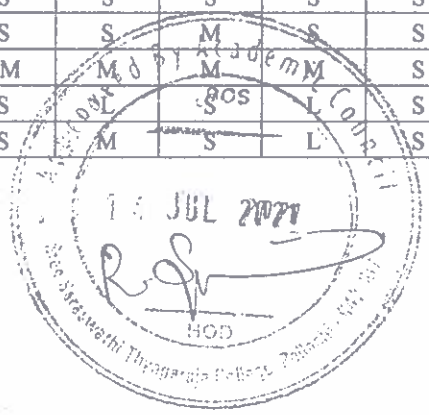
COURSEOBJECTIVE:

- A basic understanding of contemporary poetry can be gained and the nature ofmodernpoetry can berealized.
- Realizing the nature of drama and its nature and improving the knowledge ofreadingand understanding the natureofcontemporary plays.
- Understands the benefits of correspondence and can enhance thecorrespondenceyou need.

Translationisespeciallyusefulfor translatingfromHinditoEnglish

PARTI -HINDI II		
UnitNo.		**Instructional Hours**
I	**MODERNPOETRY:** **PANCHVATIby MYTHLISHARANGUPT**	12
II	**ONEACT PLAY:EKANIKIPIYUSH** 1. Owrangjebki aakirirath -Ramkumarvarma 2. Ek din -LakshminarayanMisra 3. Vapasi -Vishnuprabhakar 4. Badsurathrajkumari -Krishnachandra 5. Aakket -Harijeeth	18
III	**LETTERWRITING** (Leave Letter, Job Application, Ordering Books, Letter to Publisher,Personal Letter)	10
IV	**CONVERSATION**: (Doctor&Patient,Teacher&Student,Storekeeper&Buyer,TwoFriends,Booking Clerk&PassengeratRailwayStation,AutorickshawdriverandPassenger) Ref: Bolchal Ki Hindi Aur Sanchar by Dr. Madhu Dhavan VaniPrakashan, NewDelhi.	10
V	**TRANSLATION:HINDI-ENGLISHONLY**Lessons –1-15onlyANUVADHABYAS-III	10
	TOTAL	60

MappingwithProgrammeOutcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	S	S	S	S	S	S	S	S	S
CO3	M	S	S	M	S	S	S	S	M	S
CO3	S	M	M	M	M	S	S	M	S	M
CO4	L	S	L	S	L	S	L	M	M	M
CO5	S	S	M	S	L	S	S	S	S	S



SEMESTER- II

Coursecode	21MAL2L20	PARTI MALAYALAM PAPERII	L	T	P	C
PartI		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

COURSEOBJECTIVE:

- A basic understandingofcontemporarypoetrycan be gained andthenatureofmodern poetrycan berealized.
- Realizing the nature of drama and its nature and improving the knowledge ofreadingand understandingthe natureofcontemporaryplays.
- Understandsthebenefitsofcorrespondenceandcanenhancethecorrespondenceyou need.
- Translationisespeciallyuseful fortranslatingfrom EnglishtoMalayalam

PARTI– MALAYALAMII		
UnitNo.	**Topics**	**Instructional Hours**
I	Novel-Enmakaje	12
II	Novel-Enmakaje	18
III	Memmories–NeermaathalamPootthakaalam	10
IV	Memmories–NeermaathalamPootthakaalam	10
V	Translation(EnglishtoMalayalam)	10
	TOTAL	60

Teachingmethods:
Lecturing, Assignment, Group Discussion, Quiz, Group Activity. PowerPoint ProjectionthroughLCD

TextBooks:

1. Emakaje–AmbikasuthanMangad –DCBooksKottayam,Kerala
2. NeermaathalamPootthakaalam-Madhavikutty-DCBooksKottayam,Kerala

ReferenceBooks:

1. AthmakathasahithyamMalayalathil-Dr.VijayalamJayakumar(N.B.S.Kottayam)
2. MalayalaNovelSahithyaCharitram-K.M.Tharakan(N.B.S.Kottayam)
3. SahithyaCharitramPrasthanangalilude-Dr.K.MGeorge,(D.C.BooksKottayam)
4. MalayalaSahithyavimarsam-SukumarAzheekode(D.C.books)

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Getabasic understandingofMemories	K1
CO2	ItwillcreatebasicknowledgeaboutEnvironmentalPsychology.	K1
CO3	Itwillcreateawarenessaboutourenvironment	K2
CO4	Knowledgeisgainaboutour country,cultureetc	K3
CO5	Itwillbeaneyeopenertothestudentstowardsour MotherEarth.	K4

MappingwithProgrammeOutcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO3	M	S	S	M	S	S	S	S	M	S
CO3	S	M	M	M	M	S	S	M	S	M
CO4	L	S	L	S	L	S	L	M	M	M
CO5	S	S	M	S	L	S	S	S	S	S

SEMESTER- II

Course:French2 **Credits:3**

CourseCode:21FRE2L20 **Hours:60**

Course Objectives:

To understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type

Part1 -French2		
UnitNo.	**Topics**	**Instructional Hours**
1	Etape 5(Lecons 1 -3)	**12**
2	Etape 6(Lecons 1 -3)	**18**
3	Etape 7-Leçons 1 -2	**10**
4	Etape 7–Leçon3	**10**
	Etape 8–Leçon1	
5	Etape 8–Leçons 2 -3	**10**
	TOTAL	**60**
Etapes5to8,Pages63-114		

Text Book Prescribed: Adomania 1 – Methode de francais Authors: Céline Himber, Corina Brillant, Sophie Erlich Publisher: HACHETTE FLE

Available at: GOYAL Publishers and Distributors Pvt Ltd, New Delhi (9810322459)

Reference: Latitudes 1

Author: Yves Loiseau, Régine Merieux Publisher:

French and European Publications Inc

Available at: GOYAL publishers and distributors Pvt Ltd, New Delhi (9810322459)

SWAYAM:https://swayam.gov.in/nd2_cec19_lg04/previewby Prof. Nirupama Rastogi (Retd) English and Foreign Languages University, Hyderabad

SEMESTER – II

CourseCode	CourseName	Category	Lecture(L)	Tutorial(T)	Practical(P)	Credit
21GEN2L20	Communicative English-II	Language	50	10	-	3

Preamble: This course aims to provide a better understanding on the various aspects of communicative skills through a keen focus on LSRW.

Prerequisite: Basic knowledge in Communicative English and Skills

SYLLABUS: ENGLISH PAPER-II

Unit	Course contents	Instructional hours
I	1. **Listening and Speaking** a. Listening and responding to complaints (formal situation) b. Listening to problems and offering solutions (informal) 2. **Reading and writing** a. Reading aloud (brief motivational anecdotes) b. Writing a paragraph on a proverbial expression/motivational idea. 3. **Word Power/Vocabulary** a. Synonyms & Antonyms 4. **Grammar in Context** • Adverbs Prepositions	12
II	1. **Listening and Speaking:** a. Listening to famous speeches and poems b. Making short speeches- Formal: welcome speech and vote of thanks. Informal occasions- Farewell party, graduation speech 2. **Reading and Writing:** a. Writing opinion pieces (could be on travel, food, film / book reviews or on any contemporary topic) b. Reading poetry b .i. Reading aloud: (Intonation and Voice Modulation) b .ii. Identifying and using figures of speech - simile, metaphor, personification etc. 3. **Word Power** : a. Idioms & Phrases 4. **Grammar in Context:** Conjunctions and Interjections	12
III	1. **Listening and Speaking** a. Listening to Ted talks b. Making short presentations – Formal presentation with PPT, analytical presentation of graphs and 3 reports of multiple kinds c. Interactions during and after the presentations 2. **Reading and writing** a. Writing emails of complaint b. Reading aloud famous speeches 3. **Word Power** a. One Word Substitution 4. **Grammar in Context:** Sentence Patterns	12
IV	1. **Listening and Speaking** a. Participating in a meeting: face to face and online b. Listening with courtesy and adding ideas and giving opinions during the meeting and making concluding remarks. 2. **Reading and Writing** a. Reading visual texts – advertisements b. Preparing first drafts of short assignments 3. **Word Power** a. Denotation and Connotation 4. **Grammar in Context:** Sentence Types	
V	1. **Listening and Speaking** a. Informal interview for feature writing	12

	b. Listening and responding to questions at a formal interview 2. **Reading and Writing** a. Writing letters of application b. Readers' Theatre (Script Reading) c. Dramatizing everyday situations/social issues through skits. (writing scripts and performing) 3. **Word Power** a. Collocation 4. **Grammar in Context**: Working With Clauses	
	TOTAL	60

Text Book(s):
English Paper II, Department of English, Sree Sarawathi Thyagaraja College,2019.

Reference Book(s)
1. English Grammar Made Easy, Padmini Dev Kumar, T.Krishna Press,2008
2. General Grammar &interactive English, H.S.Bhatia,Ramesh Publishing House,2009.

Focus of the Course: Skill Development

e-Resources or e-Content:https://www.youtube.com/watch?v=ejGoHFGJQ

CourseDesigner: Dr. P.RenugaAssistantProfessor, Dept of English, STC

Dr. Vennila NancyChristina
BoSChairman

Course Outcomes (COs)

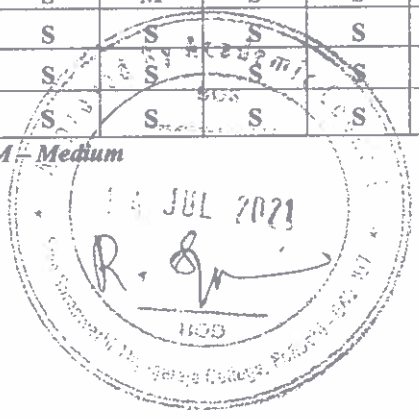
On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Understand grammar as an inherent tool for learning English language	K1
CO2	Analyze the improvement in their communication skills.	K2
CO3	To acquire knowledge to face the challenges of the professional world	K2
CO4	To gain confidence to apply language skills in practical life.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	M	S	S	M	M	S	S	M
CO2	M	S	S	S	S	M	M	M	S	L
CO3	M	S	S	S	S	S	M	S	S	M
CO4	S	S	S	S	S	S	L	S	S	M

S – Strong; L – Low; M – Medium



SEMESTER – II

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA2C10	Differential and Integral Calculus	Core 3	60	15	-	4

Preamble: This course aims at enabling the students to understand the concept of Integrals and some of its applications.

Prerequisite: Differentiation – Integration formula as done in HSC to be revisited.

SYLLABUS: DIFFERENTIAL AND INTEGRAL CALCULUS

Unit	Course contents	Instructional hours
I	Envelopes,Curvature of plane curves: Introduction - Method of finding envelope – Problems - Curvature: Definition - Circle, radius and center of curvature – Cartesianformula for the radius of the curvature - Problems.	15
II	The Co- ordinates of center of curvature: Definition – Evolute of the curve – Problems. Evolute and Involute- radius of curvature when the curve is given in polar co – ordinates - Problems –p-r equations – Problems.	15
III	Evaluation of Integrals of the form - $\int \frac{dx}{(ax^2+bx+c)}$,$\int \frac{lx+m}{(ax^2+bx+c)}dx$, $\int \frac{dx}{\sqrt{(ax^2+bx+c)}}$, $\int \frac{(lx+m)}{\sqrt{(ax^2+bx+c)}}dx$, $\int \frac{dx}{a+b\cos x}$ - Integration by parts,– Reduction Formulae for $I_n=\int sin^n x dx$, $I_n=\int cos^n x dx$ - Bernoulli's Formula.	15
IV	Multiple Integrals: Definition of the Double integral — Evaluation of the double integral- Problems - Double integralin polar coordinates – Problems - Jacobian – Two important results regarding Jacobians (Statement only) – Transformation from Cartesian to Polar Coordinates - Transformation from Cartesian to Sphereical Polar Coordinates - Evaluation of double and Triple integral problem using Jacobian.	15
V	Beta and Gamma Functions: Convergence of $\Gamma_{(n)}$ - Recurrence formulaof Gamma functions – Properties of Beta functions - Relation between Beta and Gamma functions- Evaluation of certain definite integrals by using Gamma functions – Examples.	15
	Total	**75**

Text Books:

1.S.Narayanan and T.K.ManicavachagamPillay, "Calculus (Major),Vol.I," S.Viswanathan Printers & Publishers,2007 (For Unit I , II)

2. S.Narayanan and T.K.ManicavachagamPillay, "Calculus (Major),Vol.II," S.Viswanathan Printers & Publishers,2007 (For Unit III , IV,V)

UNIT I: 281-289, 291- 299.
UNIT II: 303-316.
UNIT III:26-35, 40-47, 61-65, 74-77, 81 -84, 99-100.
UNIT IV:203-210, 213-217, 251-252,259-264, 266.
UNIT V:278- 289.

Reference Book(s):

1. Dr.M.K.Venkataraman, Engineering Mathematics, Volume -2, The National Publishing Company, Madras, 1988.
2. Calculus, Thomas and Finney, Pearson Education, 9thEdition, 2006.

Learning Methods (*):

- Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
https://video.ias.edu/puias/2019/1121-George Pappas

Course Designer: K.Sivaswamy
Dean Sciences , STC

Dr.R.SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Build the concept of curvature and apply it in solving problems	K1
CO2	Familiarize with radius of curvature in Polar form and pedal form	K1
CO3	Applications of Integration	K3
CO4	Applications of improper integrals	K3
CO5	Techniques of Beta, Gamma integrals	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	M	S	L	S	S	S
CO2	M	S	S	S	M	M	L	S	M	S
CO3	L	M	M	S	M	M	L	S	M	S
CO4	M	M	S	S	M	S	L	S	S	S
CO5	M	S	S	S	M	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER – II

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA2C20	Differential Equations and Laplace Transforms	Core 4	50	10	-	4

Preamble: This course aims at enabling the students to understand the concept of Differential Equations and Laplace Transforms with their applications.

Prerequisite: Basic formula under differential equations at HSC level.

SYLLABUS: DIFFERENTIAL EQUATIONS AND LAPLACE TRANSFORMS

Unit	Course contents	Instructional hours
I	Equations of first order and of degree higher than one – Equation solvable for p(Type – I), clairaut's equation (Type – IV) - Solving differential equations $(aD^2 + bD + c)y = X$, where a,b,c,d are constants &X is of the form e^{mx}, cosmx, sinmx, x, x^2.	12
II	Linear equations with variable coefficients: Solving differential equation of the form $(ax^2 D^2+bxD+c)(y)=X$ where a,b,c are constants and X is a function of x- Solving Second order linear differential equations by the method of variation of parameters.Solving second order linear differential equation f(D).y=X, where $X=e^{ax}$, sin ax, x, x^2 by the method of undetermined coefficients	12
III	PDE: Definition- Formation of PDE by eliminating arbitrary Constants & eliminating arbitrary functions - u,v from $\varphi(u,v) = 0$- solutions of PDE by direct integration- solving first order PDE of the form f(p,q) = 0, f(x,p,q) = 0, f(y,p,q)=0, f(z,p,q)=0, f(x,p)=f(y,q) Clairaut's form solving Lagrange's linear equation of the form pP+qQ=R	12
IV	The Laplace transforms: Definition-condition for existence of Laplace transforms – Linearity property Laplace Transform - Laplace Transform of some elementary function- e^{at}, sin at,cos at,sinhat,cosh at, t^n- changeof scale property-first shifting property-second shifting property-Linear Transform of $t^n f(t)$, $\frac{f(t)}{t}$ – Problems.	12
V	Inverse Laplace transforms- Definition-Finding L^{-1}using Partial Fraction using i) $L^{-1}[F(s)] = \frac{-1}{t}L^{-1}[F'(s)]$, ii)$L^{-1}[F(s)] = tL^{-1}[F'(s)]$ $iii)\ L^{-1}\left[\frac{F(s)}{s}\right] = \int_s^\infty L^{-1}[F'(s)]dt.$ Application of Laplace transform in Solving ODE with constant coefficients.	12
	Total	**60**

Text Book:
S. Narayanan & T. K. M. Pillai, Calculus Vol III, Viswanathan Printers, 2007.
Unit I : Chapter 2 Page 49-74.
Unit II : Chapter 2 Page 81- 91
Unit III : Chapter 4 Page 115-120,Page 127-134.
Unit IV : Chapter 5 Page 155-173.
Unit V : Chapter 5 Page 174-189, Page 196.

Reference Books:
1. Narayanan S, ManickavachagomPillai T.K, "Differential Equations and its Applications" Viswanathan Printers, 2007.
2. P. Kandasamy, K.Thilagavathy, Mathematics for B.Sc Br. I Third SEMESTER Vol III, S.Chand Publications, 2004.
3. Arumugam, Isaac, Allied Mathematics, New Gamma Publishing house, 2007.
4. Dr. M.K.Venkataraman, Mrs. Manorama Sridhar, Differential Equations & Laplace Transforms, National Publishing Company, 2004.

Learning Methods (*):
- Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL: https://video.ias.edu/puias/2019/1121-GeorgePappas	
Course Designer: K.Sivasamy Dean Sciences , STC	Dr.R.SenthilAmutha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Discuss the solutions of the problems which involve ODE & PDE.	K1
CO2	Solve the methods for solving Differential equations of first order with constant coefficients as well as variable coefficients.	K1
CO3	Discuss the concepts of Laplace Transforms and inverse Laplace Transforms.	K2
CO4	Identify the concept of Linear differential equations.	K2
CO5	Apply Laplace Transforms in solving ODE with constant coefficients.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	M	S	L	S	S	S
CO2	M	S	S	S	M	M	L	S	M	S
CO3	L	M	M	S	M	M	L	S	M	S
CO4	M	M	S	S	M	S	L	S	S	S
CO5	M	S	S	S	M	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER – II

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA2A10	Mathematical Statistics	Allied 2	50	10	-	4

Preamble: This course aims at through height on the importance of (i) Sampling Theory and application of sampling distributions. (ii) Role of Correlation and Regression in predictive analysis.

Prerequisite: Theory of probability in I semester UG level.

SYLLABUS: MATHEMATICAL STATISTICS

Unit	Course contents	Instructional hours
I	Correlation: Meaning of correlation - scatter diagram - Karl Pearson coefficient of correlation - Properties of correlation coefficient (Proof) – RankCorrelation - Spearman's formula for Correlation Coefficient - related problems. **Linear Curve & Linear Regression**: Definition - Linear regression- Equations of regression lines, regression coefficients (Statement Only) - Angle between two lines of regression (Statement only).	12
II	Statistical Inference I(Theory of Estimation): Definition of an estimator of θCharacteristic of estimator - Unbiasedness - Consistency - Sufficient condition for Consistency(Statement only)- Efficiency ,Most efficient estimator- related problems - Factorization Theorem(Neymann) - Simple problems.	12
III	Cramer Rao Inequality (With proof) -**Methods of estimation**: MVB estimators - Simple Problems -maximum likelihood estimation - Method of moment - Simple Problems.	12
IV	Parameter, Statistic, simple, composite Hypothesis, Null Hypothesis, Alternative Hypothesis, Critical Hypothesis, region of acceptance, Type I, II errors, size of Type I, Type II errors, Power of Test, Best Critical region – Neymann –Pearsons lemma on Best critical region- Proof – Problems. Sampling Distribution- standard error – large sample Test of significance: (a) To test the significance of sample mean $\bar{x}$ and assumed population mean μ. (b) To test the significance of sample mean $\bar{x}$ and difference between two sample mean $\overline{x_1}$ and $\overline{x_2}$. (c) To test the significance of sample mean $\bar{x}$ and difference between population proportion P and sample proportion p. (d) To test the significance of sample mean $\bar{x}$ and two sample proportions p_1, p_2.	12
V	Exact Sampling distribution:'t' test to test the significance of difference between assumed population mean μ and small sample mean $\bar{x}$. χ^2Test: To test the association between attributes 2 x 2 contingency table only. F test: one way and two way classification ANOVA table – problem.	12
	Total	**60**

Text Book:

Guptha, S.C and Kapoor.V.K, Fundamentals of Mathematical Statistics, S. Chand & Sons, 2016.

UNIT I: Page No:10.2 to 10.7, 10.17-10.19, 10.23,10.25 to 10.27,11.2 to 11.3,11.5 to 11.7,11.10 to 11.11

UNIT II: Page No: 17.2 to 17.8,17.15 to 17.17

UNIT III: Page No: 17.18 to 17.19, 17.30 to 17.33,17.43 to 17.45

UNIT IV: Page No: 18.2 to 18.9,18.11 to 18.12

UNIT V: Page No: 14.4 to 14.5,14.10 to 14.21,14.25 to 14.26,14.30 to 14.33,16.12 to 16.20, 15.31 to 15.35

Reference Book(s):

1. P.R. Vittal, Mathematical Statistics, Margham Publications, 2015.
2. R.S.Bharadwaj, Business Statistics, Excel Book, 2006.
3. S. P. Gupta, Statistical Methods, S. Chand, 2002.
4. Robert V.Hogg, Joese P.H. Mckean, AllenT.Craig, Introduction to Mathematical Statistics, Pearson Education 2014.
5. Irwin Miller, Marylees Miller, Mathematical Statistics with Applications, Pearson Education 2014.

Learning Methods (*):

- Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability, Skill Development
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
http://youtube.com/watch?v=MXTsSXIa4i0

Course Designer: A.Palanisamy
Assistant Professor, Dept. of Mathematics, STC

Dr.R.Senthil Amutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Understand the concept of correlation and regression.	K2
CO2	Apply regression techniques in the estimation.	K3
CO3	Define characteristics of ideal estimator and solve related problems	K1
CO4	Define the role of large Sample Theory in the Tests of significance.	K1
CO5	Test for tests of significance using exact sampling distributions.	K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	M	S	L	S	S	S
CO2	M	S	S	S	M	M	L	S	M	S
CO3	L	M	M	S	M	M	L	S	M	S
CO4	M	M	S	S	M	S	L	S	S	S
CO5	M	S	S	S	M	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER – II

CourseCode	Course Name	Category	Lecture(L)	Tutorial(T)	Practical (P)	Credit
18DHE2V20	Value Education & Human Rights	VBC 2	27	-	-	2

Preamble: In order to promote and encourage interest in Value Education and Human rights, we, teach the noble purpose of education, life and living standards- Create patriotism and awareness in thenational interest by teaching the history of the country's freedom struggle – Make a good citizen imbibed with the knowledge of Indian constitution and human rights.

Prerequisite:

- The curriculum has been setup in the course of the classroom with the study of the lessons
- The syllabus is setup, to realize human values, to promote patriotism and to competewithCompetitive exams.

SYLLABUS: VALUE EDUCATION & HUMAN RIGHTS

Unit	Course contents	Instructional hours
I	**Unit-I :**Education – Definition –The purpose of education – Important values of life – The excellence of family and family relations – The significance and the necessity of culture – The roleof individual in a society – The art of complete life.	05
II	**Unit-II:** History of Indian freedom struggle – East India Company and its rule in India 1757 -1858 – Its unlawful practices and atrocities – Direct rule by British Government – Sepoy mutiny – Indians revolt against British Raj – The massacre of Jallionwalah Bagh – Indians'non-cooperation movement.**Short notes:** Pandit Jawaharlal Nehru, Patel, Subash Chandra bose, V.O.Chithambaram pillai, Baghat Sing.	06
III	**Unit-III :** Indian Constitution– The birth and the significanceof Indian Constitution – Indian citizenship – Equality of rights – The right to freedom – Right to arts, culture and education –Right to property – Basic responsibilities of every Indian – Therights andthe Acts concerned.	05
IV	**Unit-IV :**Gandhian thoughts – Gandhi and his principle of Sathyagraha – Sarvodhaya – concept and meaning – SwamiVivekananda and his teachings to the students – Dr. Abdul Kalam and the students.	06
V	**Unit-V** : Human rights – Definition – Classification of human rights – Rights to live – Rights to Equality – Traditional and cultural rights – Social, political and economic rights – Rights of women – Rights of children – Explonation and cruelty to women – Organization protecting women's rights – Human rights organizations – Courts ofjustice – Safety of women rights.	05
	Total	**27**

Text Book(s):

1. Ethics of life and the Great Religions of theworld.
2. Publication of SreeSaraswathiThyagaraja College – 2018.

Reference Book(s):

1. Pen varalarumviduthalaikanaporatamum — Prof.P.S.Sandhirababu, Dr L.Thilagavathi, Bharathi Puthaganilayam 421, Annastreet Thenampettai, Chennai -18. Muthl pathippu - 2011.
2. MahathmaGandhiBooks — Gandhi Nool Vellietukkalagam. 21, Ramakrishna Street, Thiyagaraya Nagar, Chennai – 17, 7th Pathippu -2014
3. Inthiya viduthalaiporattavaralaru — Dr K.Vengatesh, J.J.Publications, 29, Karpaga vinayagar complex, K.Puthur, Madurai. Marupathippu - 2002.
4. Mulumaiyagavazhumkalai — M.Settu, Sree Saraswathi Thyagaraja College Publication – 2008.

Focus of Course: Skill Development (Employability/Entrepreneurship/Skill Development)	
Course Designer: Dr G.Malarvizhi Associate Professor, Dept. ofTamil,STC	Dr. S.Rajalatha, BoSChairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Define the purpose of education, role of a person in a familyrelationship, culture and society.	K1
CO2	Understand the history of Indian independence and the Indianconstitution.	K2
CO3	Develop Gandhian ideas, Vivekananda's norms, Abdulkalam'slanguages, need for human rights and feminism.	K3

Mapping with Program OutcomesandProgramSpecific Outcomes:

COs/POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	S	S	M	-	-	S	S	-	-	-
CO2	S	M	M	-	-	S	S	-	-	-
CO3	S	S	M	-	-	S	S	-	-	-

S- Strong; L- Low; M-Medium

SEMESTER II

Course Code	Course Name	Category	Lecture(L)	Tutorial(T)	Practical(P)	Credit
21GEN2Z10	Professional English – II for Physical Sciences	ECC2	45	5	–	4
Preamble: The course aims to Develop students' competence in the use of English with particular reference to the workplace situation						
Prerequisite: Basic knowledge in English						

SYLLABUS:PROFESSIONAL ENGLISH – II FOR PHYSICAL SCIENCES

Units	Course Contents	Instructional Hours
I	**Communicative Competence** **Listening** – Listening to two talks/lectures by specialists on selected subject specific topics and answering comprehension exercises (inferential questions) eg://youtu.be/moJjKqkn_Xs. **Speaking:** Small group discussions and narrating stories. **Reading:** Two subject-based reading texts followed by comprehension activities/exercises **Writing:** Summary writing based on the reading passages. Grammar and vocabulary exercises/tasks to be designed based on the discourse patterns of the listening and reading texts in the book. This is applicable for all the units.	10
II	**Persuasive Communication** **Listening**: listening to a product launch- sensitizing learners to the nuances of persuasive communication **Speaking:** Debates and Just a Minute Activities **Reading:** investigate a topic by answering inferential questions **Writing:** dialogue writing- writing an argumentative /persuasive essay.eg: Watch a you tube video on Natural Language Processing and draft a report based on the following link: https://youtu.be/5ctbvkAMQO4.	10
III	**Digital Competence** **Listening** to you tube video and doing exercises in comprehension e.g. https://youtu.be/nt2OIMAJj6o. **Speaking:** Interviews with subject specialists (using video conferencing skills) group discussion regarding drastic industrial disasters. eg: Vishakhapatnam gas leak disaster on 7 May, 2020 **Reading:** Selected sample of Web Page (subject area) and discuss the benefits of multilingualism and prepare a presentation based on discussion. **Writing:** Creating Web Pages. Essay Writing - Digital Competence for Academic and Professional Life. This essay must address all aspects of digital competence in relation to MS Office and how they can be utilized in relation to work in the subject area.	10
IV	**Creativity and Imagination** **Listening** to short (2 to 5 minutes) academic videos (prepared by EMRC/ other MOOC videos on Indian academic sites – E.g. https://www.youtube.com/watch?v=4WZTzKu3CsY) **Speaking:** Talk about a script on Analytical Engine – subject based. **Reading:** Essay on Creativity and Imagination **Writing:** Basic Script writing imagining your floating (individual). Role play of considering one's own self as a water molecule (group discussion).	10
V	**Workplace Communication and Basics of Academic Writing** **Listening:** Pronunciation Practice (Collins Dictionary) and Listening Comprehension. **Speaking:** Short academic presentations using PowerPoint, e.g. How man interferes with nature to console his greed. **Reading**: comprehension and reading activity Product Profiles, Circulars, Minutes of Meeting, Imagine a meeting to decide if you can invest a research product related to artificial photosynthesis.	

	Writing: Introduction, Paraphrase and Summary, Creating webpages, Blogs, Flyers and brochures - Poster making writing slogans/captions Punctuation(period, question mark, exclamation point, comma, semicolon, colon, dash, hyphen, parentheses, brackets, braces, apostrophe, Capitalization (use of upper case quotation marks, and ellipsis)	
	Total	**50**

Text Books:
Tamil Nadu State Council for Higher Education(TANSCHE)

Reference Books:
Tamil Nadu State Council for Higher Education(TANSCHE)

Focus of Course: Employability (Employability/Skill Development)

e-Resource/e-Content URL:
- **Vidya-MitraPortal:**http://vidyamitra.inflibnet.ac.in/index.php/search
- **e-PG Pathshala**:http://epgp.inflibnet.ac.in/ahl.php?csr

Course Designer
TANSCHE Assistant Professor of English

BoS Chairman

COURSE OUTCOMES
On successful completion of the course the students will be able to:

CO Number	Course Outcome (CO) Statement	Bloom's Taxonomy Knowledge Level
CO1	Enhance the creativity of the students, which will enable them to think of innovative ways to solve issues in the workplace.	K1
CO2	Develop students' competence and competitiveness and thereby improve their employability skills.	K2
CO3	Attend interviews with boldness and confidence	K3
CO4	Adapt easily into the workplace context, having become communicatively competent	K4
CO5	Apply to the Research and Development organisations / sections in companies and offices with winning proposals	K5

Mapping Course Outcomes with Programme Outcomes & Programme Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	S	M	M	S	S	S
CO2	M	M	M	S	S	S	M	S	S	S
CO3	M	M	M	S	S	S	S	S	S	S
CO4	M	S	S	S	S	S	M	S	S	S
CO5	M	S	S	S	S	S	M	S	S	S

S- Strong; L- Low; M-Medium

SEMESTER – III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM3L30	Tamil III	Part I Tamil Paper III	60	-	-	3

Preamble: காப்பிய இலக்கியங்களின் வழியே சமூகவியல், அரசியல், மானுடவியல் ஆகியவற்றின் சிறப்புகளைக் கற்பித்தல் தமிழ்ப்பாடத்தின் நோக்கமாகும். காப்பியத் தோற்றத்திற்கான காரணங்களையும் அது உண்டாக்கிக் காட்டும் பண்பாட்டு அசைவுகளையும் அறிவதை முக்கியமாகக் கொள்கிறது.

Prerequisite:

- மேனிலைப்பள்ளி முடிய கற்றவற்றைப் பகுத்து தொகுத்து ஆராயும் போக்கில்பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- மானிட மதிப்புகளை உணரும் வகையிலும், போட்டித்தேர்வுகளைஎதிர்கொள்ளும் நிலையிலும் 'தமிழ்' - பகுதி - ஐ அமைக்கப்பட்டுள்ளது.
- பிழையின்றிப் பேச, எழுத ஆராயும் முயற்சிக்குப் பயிற்சி தரப்படுகிறது

SYLLABUS: TAMILIII

Unit	Course contents	Instructional hours
I	அலகு I இதிகாசங்கள் கம்பராமாயணம் - நட்புக் கோட் படலம் - முழுவதும் வில்லிபாரதம் - விராட பருவம் - முழுவதும் நளவெண்பா - சுயம்வரக்காட்சி - முழுவதும்	18
II	அலகு II காப்பியங்கள் சிலப்பதிகாரம் - காடுகாண் காதை மணிமேகலை - ஆதிரை பிச்சையிட்ட காதை	14
III	அலகு III பக்திக் காப்பியங்கள் பெரியபுராணம் - அரிவாட்ட நாயனார் புராணம் சீறாப்புராணம் - புலி வசனித்த படலம் இயேசு காவியம் - எருசலேமிற்குள்	13
IV	அலகு IV இலக்கிய வரலாறு 1 இதிகாசம் , புராணங்கள் - புராணங்களின் வளர்நிலை 2. காப்பியத்தின் தோற்றமும் வளர்ச்சியும் தன்முயற்சிப் படிப்பு - இதழியல்	08
V	அலகு V இலக்கணம் யாப்பிலக்கணம் - செய்யுள் உறுப்புகள் - பா வகைகள் தண்டியலங்காரம் - காப்பிய இலக்கணம்	07
	Total	**60**

Text Book(s):பாட நூல்கள்

1.இதிகாசங்கள் காப்பியங்கள் திரட்டு - தமிழ்த்துறை வெளியீடு, ஸ்ரீ சரஸ்வதி தியாகராஜா கல்லூரி 2021 ஜூன் வெளியீடு

2. தமிழ் இலக்கிய வரலாறு - கா.விக்ரமதேவன் தேவன் பதிப்பகம் 16.43.திருநகர், திருவானைக்கோவில், திருச்சி-620 005.

3. இதழியல் கலை - மா. பா. குருசாமி தாயன்பகம் 6 ஆவது தெரு,எ.கே.எம்,ஜி நகர், திண்டுக்கல் - 624001. பதிமூன்றாம் பதிப்பு -2009.

4. தமிழ் இலக்கிய வரலாறு - மு. வரதராசன் சாகித்ய அகாடமி வெளியீடு, புதுதில்லி. மறுபதிப்பு -2012

Reference Book(s):பார்வை நூல்கள்		
1. தமிழ்க்காப்பியங்கள்	-	கி.வா. ஜகந்நாதன் முல்லை நிலையம் 9, பாரதி நகர் முதல் தெரு, தியாகராய நகர், சென்னை – 600 017 முதற்பதிப்பு 2012
2. கூத்தும் சிலம்பும்	-	முனைவர்.அ.அறிவுநம்பி சித்திரம் வெளியீடு 15,கலைவாணி நகர் இலாசுப் பேட்டை புதுச்சேரி – 605 008 இரண்டாம் பதிப்பு - 2009.
3. காப்பிய நோக்கில் கம்பராமாயணம்	-	முனைவர்.அ.பாண்டுரங்கன் நியூ செஞ்சுரி புக் ஹவுஸ் 41,பி சிட்கோ இன்டஸ்ட்ரியல் எஸ்டேட் அம்பத்தூர், சென்னை – 98 திருத்திய பதிப்பு - 2007.
4. கம்பனின் காட்சிக் கோலங்கள்	-	டாக்டர்.அ.ஞானசுந்தரத்தரசு தமிழ்ச்சோலைப் பதிப்பகம் 14,முத்துக்கருப்பணர் நகர் இராச கோபாலபுரம், புதுக்கோட்டை – 622 003 முதல்பதிப்பு -2006.
5.யாப்பருங்கலக்காரிகை	-	முனைவர் ச.திருஞானசம்மந்தர் கதிர்பதிப்பகம் தெற்கு வீதி, திருவையாறு 613204, பதிப்பு - 2006.

Focus of Course: தமிழ் இலக்கியத்தில் காப்பியம், அதன் சிறப்புகளை அறிந்து கொள்ளும் வகையில் பாடங்கள் அமைக்கப்பட்டுள்ளன. செய்யுள் உறுப்புகளை அறிந்து இலக்கண அறிவை மேம்படுத்தும் வகையில் பயிற்சி தரப்பட்டுள்ளது.

Course Designer: Dr. R.BABY
Associate Professor, Dept. of Tamil, STC

Dr. S. Rajalatha
BoS Chairman

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	காப்பிய இலக்கியங்களின் வழி சமூகம், பண்பாடு, வரலாறு, அரசியல் கூறுகளை அறிந்து கொள்ளல்	K1
CO2	தமிழ் இலக்கிய வடிவத்தில் ஏற்பட்ட மாற்றம், சமயக் காப்பியங்களால் இலக்கியம் அடைந்த செல்வாக்கு, வரலாறு போன்றவற்றை புரியவைத்தல்.	K2
CO3	மரபுக்கவிதை எழுதுவதற்குத் தேவையான யாப்பிலக்கணம் அறிந்து மரபுக்கவிதை எழுதும் திறனை வளர்த்தல்	K3

Mapping Course Outcomes with Programme Outcomes & Programme Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	-	-	S	S	-	-	-
CO2	M	S	M	-	-	M	S	-	-	-
CO3	M	M	S	-	-	M	M	-	-	-

S- Strong; L- Low; M-Medium

14 JUL 2021

HOD

Sree Saraswathi Thyagaraja College, Pollachi - 642 107

SEMESTER- III

Coursecode	21HIN3L30	HINDI– PAPER-III	L	T	P	C
Part-I		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

COURSEOBJECTIVE:

- Mayhaveknowledgeofthecontentsof primitivepoetry
- Learnaboutcontemporarypoetryanditstechniques.
- Interestinreadingpoetryandtheabilitytoexpresssocialthoughtswillimprove
- This will help you to understand the basics of Hindi literature and to understand Hindiliteratureproperly
- Knowledgeoftheelementsofpoetryandtheknowledgeofsubtletranslationwillimprove.

UnitNo	PARTI –HINDIIII	Instructional hours
I	POETRY:**KAVYALEHAR–byDr.V.BaskharPRACHEENKAVITHA** 1. MAHATMAKABER –SAKI 2. GOSWAMYTULASIDAS –RAM-VAN-AMAN 3. MAHATMASOORDAS -BAAL-LEELA 4. KAVIVARRAHIM -DOHE	18
II	**POETRY:KAVYALEHAR–byDr. V.BaskharAADHUNIKKAVITHA** 1. MYTHILISHARNGUPTH –VIKARALBIJALI 2. SUMITHRANANDANPANTH –PARIVARTHAN 3. SURYAKANTHTHRIPATINIRALA –SANDHAYASUNDARAI 4. RAMDHARISINGDINKAR KEDAKKIYA –BHAGAVAN 5. HARIVANSRAYBACHCHAN –KOTASIKKA 6. AGYEYA –ANUBHAVPARIPAKVA 7. NARESHMEHTHA –ULLANGAN 8. DHARMAVEERBHARATHI – TUMMERE KOUN HO	14
III	**HISTORYOFHINDILITERATURE**:(SAHITHYIKTIPPANIAN) 1. AMMERKUSRO 2. VIDHYAPATHI 3. CHANDBARDHAYI 4. PRUTHIVIRAJRASO 5. RAMACHARITHAMANAS 6. VINAYAPATRIKA	13
IV	**ALANKAR:** 1.ANUPRAS, 2. YAMAK, 3. SLESH 4.VAKROKTHI, 5.UPAMA, 6. ROOPAK, 7. VIRODHABAS	8
V	**TRANSLATION:ENGLISH-HINDIonly**ANUVADHABHYAS – III(16/30Lessonsonly)	7
	TOTAL	60

Teaching methods:

Lecturing, Assignment, Group Discussion, Quiz, Group Activity. PowerPoint Projection through LCD

Text Book:

1. Kavya Lehar – Dr.V.Baskhar, Jawahar Pusthakalay, Sadar Bazaar,Mathura-U.P.281001.
2. Anuvadh abyas-III,Dakshin Bharath Hindi Prachar Sabha Chennai – 17.

Reference Books:

1. Hindi sahithya ka saral ithihaas,by rajnath sharma, vinod pustak mandir, agra-282
2. Kavya Pradeep Rambadri Shukla, Hindi Bhavan, 36, Tagore Town, Allahabad – 211 002.

Web Link:

https://hi.wikipedia.org/wiki/
https://en.wikipedia.org/wiki/Premchand

MappingwithProgrammeOutcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO2	M	S	S	M	S	S	S	S	M	S
CO3	S	S	M	S	L	S	S	S	S	S
CO4	M	S	S	M	S	S	S	S	M	S
CO5	S	M	M	M	M	S	S	L	S	L

SEMESTER- III

Coursecode	21MAL3L30	PART I - MALAYALAM-PAPERIII	L	T	P	C
Part-I		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

COURSEOBJECTIVE:

- Mayhaveknowledgeofthecontentsofprimitivepoetry
- Learnabout contemporarypoetryand itstechniques.
- Interestinreadingpoetryandtheabilityto expresssocialthoughtswillimprove
- This will help you to understand the basics of Malayalam Poetry and to understand Malayalamliteraturepropерly
- Itwillprovideknowledgeoftheelementsofpoetry.

UnitNo	PARTI –MALAYALAMIII	Instructional hours
I	Poetry--Chinthavishtayaya Seetha	18
II	Poetry--Chinthavishtayaya Seetha	14
III	Poetry-Mrugasikshakan	13
IV	Poetry -Mrugasikshakan	8
V	Poetry-Aayisha	7
	TOTAL	60

Teaching methods:
Lecturing, Assignment, Group Discussion, Quiz, Group Activity. PowerPoint Projection through LCD

TEXT BOOKS:
Chinthavishtayaya Seetha --Kumaranasan,Kerala Book Store Publishers.
Mrugasikshakan – Vijayalakshmi,DC Books, Kottayam
Aayisha – VayalarRamavarma - Kerala Book Store Publishers.

Reference Books:
1.Kavitha SahithyaCharitram-Dr.M.Leelavathi (Kerala SahithyaAcademy,Trichur)
2.Kavitha Dwani-Dr.M.Leelavathi (D.C.Books, Kottayam)
3.Aadhunika SahithyacharithramPrasthanangalilude-Dr.K.M.George (D.C.Books, Kottayam)
4.Padya SahithyaCharithram – T.M.Chummar (Kerala SahithyaAcademy,Trichur)

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Getabasicknowledgeof thehistoryofMalayalamliterature.	K1
CO2	Enhancesthe artandtasteofMalayalamliteraryworks	K1
CO3	Literarygenrescanbelearned	K2
CO4	CreatemoretoreadandenjoyMalayalampoetry	K3
CO5	Getthebasic Knowledgeofpoetrytechniques	K4

MappingwithProgrammeOutcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**
CO1	S	S	S	S	S	S	S	S	S	S
CO2	M	S	S	M	S	S	S	S	M	S
CO3	S	S	M	S	L	S	S	S	S	S
CO4	M	S	S	M	S	S	S	S	M	S
CO5	S	M	M	M	M	S	S	L	S	L

SEMESTER- III

Course:French3
CourseCode:21FRE3L30

Credits:3
Hours:60

CourseObjectives:

Tointeractinasimpleway,askandanswersimplequestionsaboutthemselves,wherethey live, people they know, and things they have, initiate and respond to simplestatements in areas of immediate need or on very familiar topics, rather than relyingpurely on a very finite rehearsed, lexically-organised repertoire of situation-specificphrases

Part1 -French3		
UnitNo.	**Topics**	**Instructional hours**
1	Etape1(Lecons 1-3)	**18**
2	Etape 2(Lecons 1 -3)	**14**
3	Etape3 -Leçons 1 -2	**13**
4	Etape3 –Leçon3 Etape4 –Leçon1	**8**
5	Etape4 –Leçons 2 -3	**7**
		60
Etapes1to4,Pages9to62		
TextBookPrescribed:Adomania2–Methodedefrancais Authors:Céline Himber,CorinaBrillant,Sophie ErlichPublisher: HACHETTEFLE Availableat:GOYALPublishersandDistributorsPvtLtd,NewDelhi(9810322459)		
Reference:Latitudes1 Author:YvesLoiseau,RégineMerieuxPublisher:FrenchandEuropeanPublicationsInc Availableat:GOYALpublishersanddistributorsPvtLtd,NewDelhi(9810322459)		
SWAYAM:https://swayam.gov.in/nd2_cec19_lg04/preview byProf.NirupamaRastogi(Retd)Englishand ForeignLanguagesUniversity,Hyderabad		

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Comprehendarepertoireofvocabulary	K1
CO2	Understandtensesandintermediatelevelofgrammar	K2
CO3	Trytoconverseinunknownsituation	K3
CO4	Translateunknowntextsonfamiliartopics	K4

SEMESTER III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21GEN3L30	English Paper-III	Language 2	50	10	-	3

Preamble: This course aims at facilitating the student to understand the functional usage of English language and apply it in real time situation

Prerequisite: Basic knowledge in English

SYLLABUS: ENGLISH PAPER-III

Unit	Course contents	Instructional hours
I	Prose : The Gift of Language Poetry: Buying and Selling-Khalil Gibran Short Story:Home Coming-Rabindranath Tagore SpeakingSkill: Narration of shortstories, events, incidents	12
II	Prose : Three Days to See-Helen Keller Poetry :La Belle DameSans Merci-Keats Short Story: The Silver Butterfly-Pearl S.Buck Writing Skill: Review of shortstory, films Writing Advertisement	12
III	Scenes From Shakespeare Othello – Act V; scene - II The Tempest - Act III ; scene - I King Lear – Act – I ; scene - I	12
IV	Wuthering Heights Chapter 1-16	12
V	Wuthering Heights Chapter 17-32	12
	Total	**60**

Text Book(s):
English Paper III, Department of English, Sree Saraswathi Thyagaraja College,2019.
Brontte, Emily.Wordsworth Editions Limited,1992.

Reference Book(s):
1. Moruzzi,Massimo.15 Questions about Online Advertising.Free.Ebooks.net
2. Moruzzi,Massimo.15 Questions about Native Advertising.Free.Ebooks.net
3. Monaco,James. How to Read a Film. Oxford: OUP 2009.
4. Lewis,Jon. Essential Cinema. Michael Rosenberg. Boston 2014.
5. Sparkles English for Communication,Board of Editors, Emerald Publishers,2015

Focus of Course: Skill Development

e-Resource/ e-Content URL:https://www.youtube.com/watch?v=ejXrGoHFGJQ

Course Designer: Dr. R Vennila Nancy Christina
Assistant Professor, Department of English, STC

Dr. R Vennila Nancy Christina
BoS Chairman

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Acquire good communicative skills both in content and language	K1
CO2	Acquire an ability to analyze social and cultural aspects of English speaking community	K2
CO3	To enhance the narrative skill	K2
CO4	To gain proficiency in writing for advertisement	K3

Mapping with Program OutcomesandProgramSpecific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	M	S	S	M	M	S	S	M
CO2	M	S	S	S	S	M	M	M	S	L
CO3	M	S	S	S	S	S	M	S	S	M
CO4	S	S	S	S	S	S	L	S	S	M

S –Strong; L –Low; M –Medium

SEMESTER-III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA3C10	Statics	Core 5	50	10	-	4

Preamble: This course aims at throw light on the importance of the nature of forces, resultant forces, resolving forces, equilibrium condition of forces, friction and center of gravity.

Prerequisite: The students should have basic knowledge of concepts of forces.

SYLLABUS: STATICS

Unit	Course contents	Instructional hours
I	Forces acting at a point – Resultant and components: Definition -Parallelogram of forces: Theorem and proof - Triangle of forces -Converse of the triangle of the forces – The Polygon of forces - Lami's theorem– λ, μ theorem.	12
II	Forces acting at a point: Resolution of a force - Component of a force along two given directions- Theorem on resolved parts - Resultant of any number of coplanar forces acting at a point – Conditions of equilibrium of any number of forces acting upon a particle.Parallel forces and moments: To find the resultant of two like and unlike parallel force acting on a rigid body - Conditions of equilibrium of three coplanar parallel forces.	12
III	Moment of a force: Geometrical representation of a moment - Sign of the moment - Varigon's theorem of moments – Generalized theorem of moments.Couples:Definition – Equilibrium of two couples – Equivalence of two couples- Couples in parallel planes - Resultant of coplanar couple - Resultant of couple and a force – Theorems.	12
IV	Equilibrium of three forces acting on a rigid body: Rigid body subjected to any three forces - Three coplanar forces: theorem – Conditions of equilibrium - Two trigonometrically theorems -Related problems. Coplanar forces:Introduction – Reduction of any number of coplanar forces – Theorem – Equation to line of action of the resultant.	12
V	Equilibrium of strings – Uniform strings under the action of gravity- Equation of the common catenary – Definitions - Tension at any point - Important formulae - Geometrical properties of the common catenary -Approximations to the shape of the catenary - The parabolic catenary - Suspension bridges.	12
	Total	**60**

Text Book:

Dr. M.K. Venkatraman, Statics, Agasthiyar Publications, 16th edition , 2013

Unit I: Chapter II: Section: 1, 3, 5, 7, 8, 9, 10. Problems Page No: 6 – 19, 29 – 31.

Unit II: Chapter II: Section: 11, 12, 13, 15, 16.Problems Page No: 36-40, 43 – 45, and 47-50.
Chapter III: Section: 1, 2, 3, 4, 5.Problems Page No: 52, 60.

Unit III: Chapter III: Section: 7, 9, 10, 12, 13. Problems Page No: 61-70.
Chapter IV: 1, 2, 3, 4, 6, 7, 8, 9, 10. Problems Page No: 84-88, 94, 97.

Unit IV: Chapter V: Section: 1, 2, 3, 4, 5. Problems Page No: 98-108.
Chapter VI: Section: 1, 2, 3, 8. Problems Page No: 143-147, 149-155.

Unit V: Chapter XI: Section: 1, 2, 3, 4, 5, 6, 7, 8, 9. Problems Page No: 375 – 387, 392-399.

Reference Books:

1. A. V. Dharmapadam, Statics, S. Viswanathan Printers and Publishing Pvt. Ltd, 2006.
2. P. Duraipandian and LaxmiDuraipandian, Mechanics, S. Chand and Company Ltd, Ram Nagar, New Delhi -55, 1985.
3. Dr. P. P. Gupta, Statics, KedalNath Ram Nath, Meerut, 1983-84.

Learning Methods (*):

Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability

(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:

https://www.youtube.com/watch?v=t-NweXjlCyg

Course Designer: Prof.K.Sivaswamy, Assistant Professor, Dept of Maths, STC	Dr. R. Senthil Amutha BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	List the properties of forces acting at a point	K1
CO2	Find the characteristics of coplanar forces, friction	K1
CO3	Determine the laws of statistical frictions	K2
CO4	Solve problems on forces, parallel & coplanar forces	K2
CO5	Identify & Solve problems on center of gravity	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	L	M	S	S	L	S	S	M
CO2	M	M	M	S	S	S	S	S	M	S
CO3	L	M	M	S	S	S	L	S	S	M
CO4	M	L	M	S	M	M	L	S	S	M
CO5	M	L	S	S	S	M	L	S	S	M

S –Strong; L –Low; M –Medium

SEMESTER -III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA3C20	Solid Geometry	Core 6	60	15	-	4

Preamble: This course aims at enabling the students to understand the concepts of analytical geometry with their applications.

Prerequisite: Basic Knowledge in Cartesian coordinates, curves as sets of points, equations of straight lines, simultaneous linear equations as in H.Sc level

SYLLABUS: Solid Geometry

Unit	Course contents	Instructional hours
I	Direction Cosines of a line : Direction cosines – Direction ratios – The projection of the line joining $P(x_1, y_1, z_1)$ and $Q(x_2, y_2, z_2)$ on any other line with direction cosines l, m, n – Direction Cosines of the line joining the points $P(x_1, y_1, z_1)$ and $Q(x_2, y_2, z_2)$ - Conditions for perpendicularity and parallelism. The straight line – Symmetrical form of the equations of a line – related problems on reducing to symmetrical form – The condition that two given straight lines should be coplanar – The equations of two skew lines in a simplified form.	15
II	The Sphere: The equation of sphere when the Centre and radius are given – The equation of sphere and to find its entre and radius. The length of the tangent from the point to the sphere – related Problem – The plane section of the sphere is a circle – Equation of a circle on sphere – related problems. The equation of the tangent plane to the sphere – related problems.	15
III	The Cone: The equation of a surface – cone – Right circular cone - Definition – related problems.	15
IV	The Cylinder: The equation of the cylinder whose generators are parallel to the line $\frac{x}{l} = \frac{y}{m} = \frac{z}{n}$. The equation of the right circular cylinder with axis $\frac{x-\alpha}{l} = \frac{y-\beta}{m} = \frac{z-\gamma}{n}$ – related problems.	15
V	Central quadrics – The intersection of a line and a quadric – Tangents and tangent planes – The condition for the planes – The Condition for the plane to touch the coincide – related problems. Normal at the point (x_1, y_1, z_1) to the coincide $ax^2 + by^2 + cz^2 = 1$	15
	Total	**75**

Text Book:
T.K.Manicavachagom Pillay, T.Natarajan, A Text Book of Analytical Geometry – Part II Three Dimensions , S.Viswanathan PVT., Ltd, 2011
Unit I: Page No 10-17, 46-48, 62-66, 73
Unit II : Page No 92-95, 101-106, 108, 111
Unit III: Page No 115-122
Unit IV : Page No 134-140
Unit V: Page No 141-150, 155-157.

Reference Book(s):
1.Chatterjee(Dipak), Analytical Solid Geometry, Prentice hall of India Publications
2.T. Manicavachagompillay, T.Natarajan, A text book of Analytical Geometry Part – IID,S.Viswanathan PVT., Ltd, 2007
3. N.P.Bali,Dr. Harikrishnan,Solid Geometry, Laxmi Publications(P)Ltd, Edition 2004.
4. Arumugam, Issac, 'Ancillary Mathematics', New Gamma Publishing House, 2007.

Learning Methods (*):
- Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
https://www.youtube.com/watch?v=58Bx5dkTDTI

Course Designer: Prof. K.Sivaswamy Dean Mathematics , STC	Dr. R. Senthil Amutha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	List the properties of geometry on 2 dimensional and 3 dimensional structures	K1
CO2	Find the equations of cones, cylinders and conicoid	K1
CO3	Determine the Equations and solve geometrical structures	K2
CO4	Solve problems on skew lines and shortest distance between skew lines	K3
CO5	Identify & Solve problems on tangents and its normal	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	M	M	-	-	M	L	M
CO2	L	S	M	-	M	L	L	M	M	L
CO3	M	M	S	L	M	L	S	M	M	M
CO4	M	L	L	M	M	M	L	S	M	M
CO5	L	M	S	M	L	M	L	M	M	M

S –Strong; L –Low; M –Medium

SEMESTER –III

Course Code	Course Name	Category	Lecture(L)	Tutorial (T)	Practical (P)	Credit
21BPHGAA0	Allied Physics-I	Allied 3	35	-	--	3
Preamble: To expose the students to the fundamentals of basic concepts of physics						
Prerequisites: To provide the student with knowledge of the applications of light & materials.						

SYLLABUS: ALLIED PHYSICS-I

Unit	Course Contents	Instructional hours
I	**OPTICS:** Interference – Condition for interference-Theory of thin films- Reflected and transmitted systems – Newton's rings – Air wedges – Testing of planeness of a surface- Polarisation – Reflection and Refraction – Brewster's law – Double refraction – Nicol and its uses – Rotation of plane of polarization.	7
II	**BENDING OF BEAMS** :Expression for bending moment – Cantilever – Expression for depression – Experiment to find Young's modulus– Uniform bending –Expression for elevation – Experiment to find Young's modulus using microscope – Non Uniform bending – Expression for depression – Experiment to determine Young's modulus using mirror and telescope.	7
III	**LASER PHYSICS:** Introduction- characteristics of laser-stimulated emission-absorption –spontaneous emission -population inversion-components of laser - optical pumping-working principles of laser – Nd -YAG laser-Co_2laser – Semiconductor laser- applications.	7
IV	**ELECTRICITY:**Electric circuit–open circuit–closed circuit–switches–types of switches–fuses–types of fuses–circuit breaker–merits of circuit breaker -Relays–potentiometer–principle and theory - determination of internal resistance of a cell–Comparisionof E.M.F of cells - calibration of low range voltmeter – Conversion of galvanometer into ammeter and voltmeter.	7
V	**MAGNETISM** :Magnetic Properties of materials –Langevin's theory of magnetism; dia, para, ferromagnetism and their properties - magnetization– Domain theory of ferromagnetism - magnetic hysteresis – Hard and soft magnetic materials.	7
	Total	**35**

Text Books:

1.R. Murugeshan, Properties of matter, S. Chand & Co. Pvt. Ltd., Revised edition, 2012.
2.Dr.N. Subramaniyam, Brijlal and Dr.M .N. Avathanulu,Optics, S. Chand &Co. Pvt.Ltd.—25 threvised edition, New Delhi, 2012.
3. D.S.Mathur, properties of matter – S. Chand and Co., NewDelhi (Reprint 2007).
4. Kittel C., Introduction to Solid State Physics, 8th Edition, Wiley Eastern Ltd,2005.
5. An introduction to LASERS – N. Avadhanulu, S. Chand

Reference Book(s):

1.Brijlal and Subramaniyan, Properties of Matter,S. Chand & Co.Pvt.Ltd.2005.
2.Brijlal and Subramaniyan. Thermal Physics, S. Chand & Co 2001.
3.Murugeshan and KiruthigaSivaprasath., A Text Book of Optics., S. Chand & Co. Pvt. Ltd.- 9th revised edition Ramnagar 2014, Newdelhi-110055.
4.Mehta V.K., Principles of Electronics, S.Chand and company Ltd, 2014
5. Malvino and Leach, Digital Principles & their applications, Tata McGraw Hill,

Focus of Course: Employability

e-Resource/e-Content URL: NPTEL Videos and You tube

Course Designer:Mrs.N.M.Shanthi
Assistant Professor, Dept. of Physics, STC

Approved by Academic Council
BOS
BOS Chairman
HOD

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Basic understanding and remembrance of knowledge in light	K1
CO2	Overall understanding of the principles of elasticity & bending of beams.	K2
CO3	Students enrich their knowledge in laser technology and its	K2

	applications.	
CO4	Basic understanding about the electric circuits and instruments.	K2
CO5	Basic understanding about the magnetism and magnetic materials.	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S
CO3	L	M	M	S	S	L	L	S	S	S
CO4	L	M	M	S	S	L	L	S	S	S
CO5	L	M	M	S	S	L	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER – III & IV

Course Code	Course Name	Category	Lecture(L)	Tutorial (T)	Practical (P)	Credit
21BPHGAC0	Allied Lab: Physics Practical	Allied 5	-	-	27	2

S.No	Name of the experiment
1.	Compound Pendulum.
2	Moment of inertia – Torsional pendulum method
3.	Young's Modulus – Non- Uniform bending – Pin and Microscope
4.	Refractive index of a solid prism – Spectrometer
5.	Thermal conductivity - Lee's disc method.
6.	Air Wedge – Thickness of Wire
7.	Viscosity by Capillary flow method
8.	Spectrometer – Grating
9.	Moment of magnet – Tan C Position
10.	Young's Modulus -Uniform bending – Pin and Microscope
11.	Sonometer – Frequency of A.C.
12.	Potentiometer – Low range Ammeter Calibration
13.	Characteristics of a Junction Diode
14.	Viscosity of highly viscous liquid - Stoke's method.
15.	Surface tension - Drop weight method

Text Book:
Practical Physics-Dr.Sathyamoorthi.

Reference:
1. University Practical PhysicsPaperback– 2000 by **Dr.D.C.Tayal** (Author)
2. Practical Physics –C.L.Arora

Focus of Course: Employability

e-Resource/e-Content URL: Youtube Videos

Course Designer : Ms.L.Manjuladevi
Assistant Professor, Dept. of Physics

BOS Chairman

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Understand the importance of Lab safety and handling of instruments	K1
CO2	Carry out Practical and Analytical Skills in Physics	K3 / K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S

S- Strong; L- Low; M-Medium

SEMESTER – III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA3S10	General Intelligence & Reasoning	SBC1	20	7	-	2

Preamble: To develop the Aptitude and reasoning skill among the learners

Prerequisite: Arithmetic Knowledge taught in High school level

SYLLABUS:GENERAL INTELLIGENCE & REASONING

Unit	Course contents	Instructional hours
I	Series Type 1: Five figure series Type 2: Three or four figure series Type 3: Choosing the missing figure in series	5
II	Analogs : (Non - Verbal Reasoning) Type 1: Choosing one element of a similarly related figures Type 2: Choosing the set of similarly related figures Type 3: Choosing the set of unrelated figures from a group of sets of similarly related figures	5
III	Analytic al Reasoning	5
IV	Classification: Choosing the odd figure Choosing the similar figure Finding figure with the same characteristics	6
V	Statements – Arguments Staments – Assumption	6
	Total	**27**

Text Book(s)

Dr. R.S. Aggarwal, A Modern Approach to Verbal & Non-Verbal Reasoning, S.Chand& Company Pvt ltd, 7361, Ram Nagar, New Delhi – 110055,2013

Unit I :Pages: 1-3,111-113,143-145
Unit II : Pages 225-227,294-295,308-310
Unit III : Pages : 382-388
Unit IV : Pages : 345-347,370-371,372-375
Unit V : Pages : 43-47,77-83

Reference Book(s):

1. B.S. Sijwali, Reasoning (Non-Verbal), Arihant Publications Pvt.Ltd, 2007
2. Dr. R. S. Aggarwal , A Modern Approach to non-verbal reasoning, S.Chand& Company Pvt ltd, 7361, Ram Nagar, New Delhi – 110055,2011

Learning Methods (*):
Assignment/Seminar/Quiz/Group Discussion/Self-Study/etc.,

Focus of Course: Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
https://www.youtube.com/watch?v=A5TYOOqV36w

Course Designer: Prof. K.Sivaswamy,
Asst. Prof. Dept. of Maths, STC

Dr. R. Senthil Amutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Prepare themselves for various competitive examinations.	K2
CO2	Acquaintance to various elementary concepts and shortcut methods.	K2

CO3	Learn solving techniques for aptitude problems.	K3
CO4	Solve verbal and non-verbal problems	K3
CO5	Improve analytical skill	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	S	S	S	S	S	S	M	M
CO2	S	M	S	S	S	S	S	S	M	M
CO3	S	M	S	S	S	S	S	S	M	M
CO4	S	M	S	S	S	S	S	S	M	M
CO5	S	M	S	S	S	S	S	S	M	M

S –Strong; L –Low; M –Medium

SEMESTER – III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM3N10	Basic Tamil I	NME I	27	-	-	2

Preamble: தமிழ்மொழியை அறிமுகம் செய்து தமிழ் எழுத்துக்களின் சிறப்பு, தமிழர் பண்பாடு, தமிழ் இலக்கியங்களை அறிமுகம் செய்து, மொழியைப் புரிந்து கொள்வதற்கும், மடல் எழுதுவதற்கும் அடிப்படைத்தமிழ் வழி பயிற்சி அளிக்கப்படுகின்றது.

Prerequisite:

- தமிழ்மொழி கற்காத பிறமொழி கற்ற மாணவர்களுக்குத் தமிழ் எழுத்துக்களின் அறிமுகத்தை ஏற்படுத்தும் நோக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- தமிழ் மக்களின் பண்பாடுகளை அறியும் நோக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- பிழையின்றிப்பேச, எழுத பயிற்சி அளிக்கப்படுகிறது.

SYLLABUS:BASIC TAMIL I

Unit	Course contents	Instructional hours
I	அலகு I தமிழ் எழுத்துக்கள் அறிமுகமஸ - உயிர், மெய், உயிர்மெய், ஆய்தம்,குறில், நெடில் வேறுபாடு, எழுத்துப்பயிற்சி மற்றும் உச்சரிப்பு	06
II	அலகுII திணை, பால், எண், இடம், காலம்	06
III	அலகுIII சேர்த்தெழுதுக, பிரித்தெழுதுக, பொருத்துக	04
IV	அலகு IV பெயர்ச்சொல், வினைச்சொல் வகைகள	05
V	அலகுV குறிப்புகளைக் கொண்டு கதை எழுதுதல், வாசிப்புப் பயிற்சியளித்தல்	06
	Total	**27**

Reference Book(s): நூல்கள்

1. பஞ்சதந்திரம் - முனைவர். துரை சுந்தரேசன்
ஜோதி லட்சுமி பப்ளிகேசன்,
24-135 கற்பகம் அவென்யூ,
நான்காம் தெரு,
சென்னை – 28. பதிப்பு - 2006.

2. நல்ல தமிழ் - முனைவர் க. வெள்ளி மலை
விஜயா பதிப்பகம்
20. இராஜ வீதி
கோவை . பதிப்பு - 2006.

3. தமிழில் தவறின்றி எழுத பேச - நல்லாமூர் முனைவர் கோ.பெரியண்ணன்
முத்தமிழ் பதிப்பகம்,
9, எ மேக்மிலின் காலனி,
நங்கை நல்லூர், சென்னை – 61.
பதிப்பு - 2006

4. இனிய தமிழ் பயிற்சி நூல் புத்தகம் -3 - கோ.சந்திரலேகா
அலைடு பப்ளிர்ஸ் பிரைவேட் லிமிடெட்,
சென்னை - 02.
பதிப்பு– 2008.

5. தமிழ் இலக்கிய வரலாறு - மு. வரதராசன்
சாகித்ய அகாடமி வெளியீடு, புதுதில்லி.
மறுபதிப்பு - 2012

Focus of Course: தமிழ் எழுத்துக்களின் வரி வடிவத்தையும் வாக்கிய அமைப்பையும் மாணவர்கள் அறிந்து கொள்ளப் பயன்படுகிறது.
Course Designer: Dr. G.Malarvizhi Associate Professor, Dept. of Tamil, STC Dr. S. Rajalatha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	தமிழ் எழுத்துக்களை அடையாளப்படுத்துதல்	K1
CO2	தமிழ்ச்சொற்கள், வாக்கிய அமைப்பு, அடிப்படை இலக்கணப் பிழைகள் ஆகியவற்றை உணரவைத்தல்.	K2
CO3	கதை, பாடல்களின் கருத்துணர்தல்	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	M	-	-	S	M	-	-	-
CO2	S	S	M	-	-	S	M	-	-	
CO3	S	S	M	-	-	M	S	-	-	--

S- Strong; L- Low; M-Medium

SEMESTER – III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM3N20	AdvancedTamil I	NME I	27	-	-	2

Preamble: சிறப்புத்தமிழின் வழியாக இலக்கிய வடிவங்கள், வாழ்வியல் விழுமியங்கள் கற்பிக்கப்படுகின்றன.

Prerequisite:

- பத்தாம் வகுப்பு வரை தமிழைக் கற்ற மாணவர்களுக்குத் தமிழ் மொழியின் சிறப்பினை இலக்கியங்கள் எடுத்துக்காட்டும் நோக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- இலக்கிய ஆளுமைகளின் சமூக வெளிப்பாடுகளை அறியும் நோக்கில் சிறப்புத்தமிழ் பாடப்பகுதி அமைக்கப்பட்டுள்ளது.
- பிழையின்றிப் பேச, எழுத பயிற்சி அளிக்கப்படுகிறது.

Unit	Course contents	Instructional hours
I	அலகு I இக்கால இலக்கியங்கள் - புதுக்கவிதைகள் அப்துல்ரகுமான் - குருடர்களின் யானை வைரமுத்து - சிறுமியும் தேவதையும் த.பழமலய் - அடிமாடுகள் சல்மா - தவிப்பு ஜென்கவிதைகள் - பெயரற்ற யாத்ரீகன்	06
II	அலகுII சிற்றிலக்கியம் அற்புதத்திருவந்தாதி - முதல் பத்துப்பாடல்கள்	03
III	அலகுIII பக்தி இலக்கியம் பெரியபுராணம் - திருக்குறிப்புத் தொண்டர் நாயனார்புராணம் நாலாயிரத்திவ்யப்பிரபந்தம் - திருப்பாணாழ்வார் - அமலனாதிபிரான் (முதல் ஐந்து பாடல்கள்)	07
IV	அலகு IV சிறுகதைகள் விசாலாட்சி - வருடப்பிறப்பு ஜெயமோகன் - அப்பாவும் மகனும் தமிழ்ச்செல்வன் - வெயிலோடுபோய்	06
V	அலகு V மொழிபெயர்ப்பு (ஆங்கிலத்திலிருந்து தமிழுக்கு), அலுவலகக் கடிதங்கள்	05
	Total	**27**

Reference Book(s):பார்வை நூல்கள்

1. பக்தி இலக்கியம் - ப. அருணாசலம்
சைவ சித்தாந்த நூற்பதிப்புக்கழகம்
சென்னை - 06, பதிப்பு - 1900.
2. கொங்குதேர் வாழ்க்கை - இ. இராஜமார்த்தாண்டன்
யுனைட்டெட் ரைட்டர்ஸ்
67 - பீட்டர்ஸ் சாலை
இராயப்பேட்டை, சென்னை -14.
3. அற்புதத்திருவந்தாதி
முதல் பதிப்பு -2003
காரதாபதிப்பகம்
ஜீவசாந்தி அடுக்ககம்
3,ஸ்ரீகிருஷ்ணாபுரம் தெரு, சென்னை – 600 014
4. நாலாயிரத் திவ்யப் பிரபந்தம் - முதல் பதிப்பு – மே.2000
சாரதா பதிப்பகம்
சென்னை – 600 014
5. தமிழில் சிறுகதை பிறக்கிறது - சி.சு.செல்லப்பா,
காலச்சுவடு பதிப்பகம்,
நாகர்கோவில்,
2007 பதிப்பு.

Focus of Course:இலக்கிய வரலாறு குறித்த செய்திகள் தரப்பட்டுள்ளன. ஆங்கிலத்திலிருந்து தமிழுக்கு மொழிபெயர்ப்பு செய்வதற்கும், தமிழைப் பிழையின்றி எழுதுவதற்கும் பேசுவதற்கும் பயிற்சி வழங்கப்படுகிறது. மேலும் கடிதம் எழுதுவதற்குப் பயன்படும் வகையில் பயிற்சி தரப்பட்டுள்ளது.
Course Designer: Dr.T. Radhika lakshmi Associate Professor, Dept. of Tamil, STC Dr. S. Rajalatha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	GJf;ftpijfspd; rpwg;Gfisf; ftpQh;fspd; ftpijfs; top czh;j;jy;.	K1
CO2	rpw;wpyf;fpaq;fspd; rpwg;GfisAk;; GidfijfisAk; tphpj;Jiuj;jy;.	K2
CO3	nkhopngah;g;gpd; rpwg;Gf;fis vLj;Jiuj;jy;. fbjk; vOjg; gapw;Wtpj;jy;	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	-	-	S	M	-	-	-
CO2	S	S	M	-	-	M	S	-	-	-
CO3	S	M	S	-	-	S	M	-	-	-

S- Strong; L- Low; M-Medium

SEMESTER -III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BEN3N11	Basic English for Competitive Examinations I	NME 1	22	5	-	2
Preamble: To prepare students for competitive examination and interviews						
Prerequisite: Basic knowledge in Grammar						

SYLLABUS:BASIC ENGLISH FOR COMPETITIVE EXAMINATIONS I

Unit	Course contents	Instructional hours
I	Phrasal verbs, Tenses, Vocabulary	5
II	Error Analysis, Clauses	5
III	Voices, Narration , Degrees of Comparison	5
IV	Precis Writing. Expansion of an Idea Report Writing, Letter Writing	6
V	Public Speaking Group Discussion, Interview Etiquettes	6
	Total	**27**

Text Book(s):
Basic English for Competitive Examinations, Department of English, Sree Saraswathi Thyagaraja College, Pollachi, 2017.

Reference Book(s) :
Facets of English Grammar, R.N.Shukla& N.M.Nigam, Macmillan, 2009
English for Competitive Examinations, R.P.Bhatnagar& Rajul Bhargava, Macmillan, 2007.

Focus: Employability

Course Designer: Dr.R.Vennila Nancy Christina,
Dept of English

Dr.R.Vennila Nancy Christina
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	To recollect the grammatical elements	K1
CO2	Understand the rules of grammar.	K2
CO3	Develop the skill to write formal writings.	K3
CO4	Apply the grammatical rules	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	S	M	M	S	S	S
CO2	M	M	M	S	S	S	M	S	S	S
CO3	M	M	M	S	S	S	S	S	S	S
CO4	M	S	S	S	S	S	M	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER -III

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BMA3N11	Numerical Ability I	NME1	22	5	-	2

Preamble: Students will be able to solve life related problems and will create confidence in him to appear various competitive exam conducted by the central and State Government

Prerequisite: Basic Knowledge in time-distance and ratio and Proportion

SYLLABUS:Numerical Ability I

Unit	Course contents	Instructional hours
I	Partnership	5
II	Pipes and Cisterns	5
III	Allegation / Mixture	5
IV	Problems on Trains	6
V	Boats and Streams	6
	Total	**27**

Text Book:
Dr.R.S.Aggarwal of Quantitative AptitiudeS.Chand& Sons,2013
Unit I : Page No 311-317
Unit II : Page No 371-374
Unit III : Page No 435-439
Unit IV : Page No 405-409
Unit V : Page No 425-427

Reference Book(s):
1.Abhijit Guha Educational Consultant ofQuantitative Aptitiude for Competitive Examinations Published by Tata McGraw-Hill Education Pvt Ltd sixth Reprint 2011
2.Kiran's Textbook of Quicker Mathematics (Quantitative Aptitude and Numerical Ability)Satellite Baba Publishing House Pvt Ltd

Learning Methods (*):
- Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability

e-Resource/e-Content URL:
https://www.youtube.com/watch?v=58Bx5dkTDTI

Course Designer: Prof. K.Sivaswamy
Dean Mathematics , STC

Approved by Academic Council BOS 14 JUL 2021

Dr. R. Senthil Amutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Apply ratio and Proportion in business problem	K1
CO2	Study and solve storage and leakage problems	K1
CO3	Mix the components in farming a mixture as required by the customer	K3
CO4	Analyze all types of train problems	K3
CO5	Study speed of boat upstream and downstream	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	M	M	-	-	M	L	M
CO2	L	S	M	-	M	L	L	M	M	L
CO3	M	M	S	L	M	L	S	M	M	M
CO4	M	L	L	M	M	M	L	S	M	M
CO5	L	M	S	M	L	M	L	M	M	M

S –Strong; L –Low; M –Medium

SEMESTER -III

Course Code	Course Name	Type	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BPH3N10	Physics of Sports	NME 1	27	-	-	2

Preamble: To expose the students to the fundamentals of basic concepts of physics of sports.

Prerequisites: Basic knowledge about Kinematics.

SYLLABUS: PHYSICS OF SPORTS

Unit	Course contents	Instructional hours
I	**INTRODUCTION:** Distribution of mass in Human body – forces in muscles and bones – elastic properties – work, energy and power of the body – sizes – strength and food requirements – calculation of calorific content needed for each sportsperson.	5
II	**RUNNING AND JUMPING:** Basic ideas about distance – velocity and speed – acceleration, acceleration due to gravity – angular distance, speed and angular acceleration. Analysis of Track Techniques: Starting, running, hurdling, stride length, frequency, sprint length, frequency and sprint start.	5
III	**BATS AND BALLS LINEAR KINETIC:** Inertia – mass – force – momentum – Newton's laws of motion – friction – impulse – impact – oblique impact – elasticity – impact on fixed surface, moving bodies. Analysis of Cricket/Base Ball: Impact – moment of inertia – spin – size of the ball – size of the bat – batting – stride – swing – bunting.	5
IV	**DIFFERENT PROJECTILES IN SPORTS:** Projectiles – horizontal and vertical motion – range of projectile – trajectory – Analysis of throwing events: techniques involved in speed of release, angle of release and reverse in shot-put, discus, javelin and hammer throw – analysis of broad jump – basketball shooting and football kicking (video demonstration of projectiles in sports)	6
V	**THE GYMNASTICS AND ADVENTURE SPORTS:** Eccentric force – moment – equilibrium – center of gravity – weight – rotator and circular motion – Analysis of Gymnastics activities: Techniques of lift – rotation – take off – landing for long horse vault. parallel bare etc., - Analysis of rope climb. tight rope walking, skipping, carrace, boat race, cycle race.	6
	Total	**27**

Text Books:

1. The Bio mechanics of Sports Techniques, Third edition, Hay.G.James – Relevant portion of chapters 3 to 10 & 12, 13 to 17.
2. Scientific Principles of Coaching, Second Edition – Relevant portion of chapters 5, 7 to 14, 16 to 18
3. General Physics with Bioscience Essays, Marion and Nornyak, Second Edition – Chapters

Focus of Course: Employability

e-Resource/e-Content URL: NPTEL Videos, and You tube

for

Course Designer: Mrs.N.M.Shanthi
Assistant Professor, Dept. of Physics, STC

for

BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Basic understanding of knowledge of biomechanics of sports.	K1
CO2	Basic understanding of concept of physical activities related to physics.	K2
CO3	Students enrich their knowledge in linear kinetics.	K2
CO4	Basic understanding about the concept in projectile in sports.	K2
CO5	Basic understanding about the concept of gymnastic in sports.	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S
CO3	L	M	M	S	S	L	L	S	S	S
CO4	L	M	M	S	S	L	L	S	S	S
CO5	L	M	M	S	S	L	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER -III

Course Code	Course Name	Type	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BCH3N10	Chemistry for everyday life -1	NME 1	27	-	-	2

Preamble: To acquire basic knowledge about chemistry in day to day life

Prerequisites: Basic understanding about the Chemistry

SYLLABUS: CHEMISTRY FOR EVERYDAY LIFE -1

Unit	Course contents	Instructional hours
I	Chemistry of water Impurities in water – Hardness and its disadvantages – Prevention of scaleformation (softening of water) – Potable water (water for domestic supply).	5
II	Industrial ChemistryCement – Manufacture of Portland cement – Special cements – Mortars and Concretes.Rubber – Vulcanization – Uses of rubber.Explosives – Classification of Propellants and Rocket fuels – Properties of a good propellant.	5
III	Fuels Coal – Classification of coal.Petroleum – Origin – Classification – Refining – Cracking – Knocking –Leaded Petrol.Diesel oil – Non petroleum fuels – Natural gas – Liquid Petroleum Gas (LPG).	5
IV	Pharmaceutical Chemistry Drugs – Nature, Source and study of drugs – Classification of drugs.Anesthetics – Antiseptics – Disinfections – Antibiotics – Preservatives – Antioxidants.	6
V	Biological Chemistry Vitamins – Fat and Water soluble – Physiological functions.Chemistry of Oils.Clinical chemistry – presence of glucose in blood and urine – Cholesterol in urine diabetes – anemia – blood pressure.	6
	TOTAL	27

Reference Book(s):

1. Krishnamurthy. N., Jayasubramanian. K and Vallinayagam Applied Chemistry, Prentice Hall of Inida, New Delhi (1990).
2. Jeyashre Ghosh, A Text book of Pharmaceutical Chemistry, Tata McGraw Hill Publishing, New Delhi (1993).

Learning Methods (*): Lecture/ Assignment/ Seminar/Quiz/ Self-study

Focus of Course: Employability/ Entrepreneurship/ Skill Development

e-Resource/e-Content URL: NPTEL videos

Course Designer: Mrs. S.Sudha,
Assistant Professor, Dept. of Chemistry

BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Understanding the chemistry of water	K2
CO2	Knowing the applications of industrially important compounds	K2
CO3	Understanding the different types of fuels	K2
CO4	Knowing the importance of drugs	K2
CO5	Understanding the need of biological chemistry	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S
CO3	L	M	M	S	S	L	L	S	S	S
CO4	L	M	M	S	S	L	L	S	S	S
CO5	L	M	M	S	S	L	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER -III

Course Code	Course Name	Course Type	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BPY3N10	Psychology Life Skills-I	NME I	27	0	-	2

Preamble:

- To enlighten the students on the vital skills that they need to inculcate within themselvesinordertoprepare themselvesforabrightandoptimisticfuture;
- To help the students know how psychology acts as a basic driving force for all the basic skills required to lead an equanimouslife;

Prerequisite: Basics of Biology Subject at High SchoolLevel

SYLLABUS:PSYCHOLOGY LIFE SKILLS-I

Unit	Course contents	Instructional hours
I	**Basics of Human Motivation:** Meaning – Nature – Basic Theories of Motivation – Maslow's Need Hierarchy Theory – Drive Theory – Instinct Theory – Arousal Theory – Expectancy Theory – Goal Setting Theory of Motivation.	6
II	**ClassifyingHumanMotives:**PhysiologicalMotives–Hunger–Thirst–Sleep–Air–Shelter–AvoidanceofPain;PsychologicalMotives–Achievement– Affiliation – Power – Self Esteem - Aggression – Frustration Aggression Hypothesis.	6
III	**BasicsofHumanEmotions:**Emotions:Meaning–Definition–Aspectsof Emotion - Robert Plutchik's Primary Emotions; Physiological Changes in Human Body; Basic Theories of Emotion: James Lange Theory –Cannon Bard Theory – Two factor Theory – Opponent Process Theory – Facial FeedbackHypothesis.	6
IV	**Basics of Stress:**Meaning – Variations of Stress – Eustress – Distress – Hypo stress – Hyper stress; Causes of Stress – Stressful life events – hasslesofeverydaylife–Workrelatedandenvironmentalsourcesofstress; EffectsofStress–Healthrelated–jobrelated–behaviouralproblems.	5
V	**BasicsofConflictsandFrustration:**Conflict–meaning–4types;Frustration– Meaning – 6 frustration reactions – sources of frustration.	4
	Total	27

Text Book: Baron, Robert A (1997). Psychology (4th Edition). London: Allyn and Bacon Ltd.

Reference Book(s)

1. Devito, J. A (2013). The Interpersonal Communication Book (13thEdition). Boston: Pearson Education Inc. pp. 106 -180
2. Schermerhorn,J.Ret. al[2010].OrganizationalBehavior[11thEdition].JohnWileyand Sons, Inc. USA. pp. 321 –334.
3. Compton, William C., & Hoffman Edward (2015). Positive Psychology (2nd Edition). Boston: WadsworthCengageLearningpp.42–47;51-54;69–74

Focus of Course: Skill Development

Course Designer:
Mr.AshwanthKanna.V,
AssistantProfessor&Head, Dept.of Psychology,STC

Mr.AshwanthKanna.V
BOS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Present the basic theories on the concept of motivation	K1
CO2	Explainthevarioustypesofphysiologicalandpsychologicalmotives	K2
CO3	Predict the basic human emotions and related theories	K3
CO4	Illustrate the basics of stress and the stress causing events	K3
CO5	Analyze the fundamental concepts behind conflict and frustration	K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	L	L	M	M	M	L	L	M	M
CO2	M	L	M	L	L	L	M	L	L	L
CO3	L	M	L	M	L	L	L	L	M	L
CO4	M	L	L	L	L	L	L	L	M	L
CO5	L	M	L	M	L	L	L	L	M	L

S –Strong; L –Low; M –Medium

SEMESTER – IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM4L40	Tamil IV	Part I Tamil Paper IV	60	-	-	3

Preamble:சங்க இலக்கியங்கள், பதினெண் கீழ்க்கணக்கு நூல்கள் மரபு நிலைக்கும் வாழ்க்கைச் சூழலுக்கும் ஏற்ற செழுமைகளைத் தரும் பொருண்மைகளாக விளங்குவதை எடுத்துரைத்தல் தமிழ்ப் பாடத்தின் நோக்கமாகும்.

Prerequisite:

1. மேனிலைப்பள்ளி முடிய கற்றவற்றைப் பகுத்து தொகுத்து ஆராயும் போக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
2. மானிட மதிப்புகளை உணரும் வகையிலும், போட்டித்தேர்வுகளை எதிர்கொள்ளும் நிலையிலும் 'தமிழ்' - பகுதி - Iஅமைக்கப்பட்டுள்ளது.
3. பிழையின்றிப் பேச, எழுத பயிற்சி தரப்படுகிறது.

SYLLABUS: TAMIL IV

Unit	Course contents	Instructional hours
I	அலகு I சங்க இலக்கியம் பத்துப்பாட்டு - நெடுநல்வாடை ((முழுவதும்) பதிற்றுப்பத்து - இரண்டாம் பத்து – மறம் வீங்கு பல்புகழ் (12) நான்காம் பத்து –தகும்புதுளங்கிருக்கை (42)	15
II	அலகு IIஅற நூல்கள் திருக்குறள் - 20 குறட்பாக்கள் (186, 187,156,158,316,317 477,479,753,754,785,786,1032, 1038,1261, 1069,553,554, 1296, 1297) நாலடியார் - 05 பாடல்கள் (2,19,33,51,115) விவேக சிந்தாமணி - 03 பாடல்கள் (1,4,9) இனியவை நாற்பது - 05 பாடல்கள் (11,24,28,36,40) திரிகடுகம் - 05 பாடல்கள் (4,9,12,14,18) நான்மணிக்கடிகை - 05 பாடல்கள் (3,12,19,23,37) இன்னிலை - 05 பாடல்கள் (05,10,20,22,38) முதுரை - 05 பாடல்கள் (11.13.15,25.29) நன்னெறி - 05 பாடல்கள் (2,9,8,15,18) ஆத்திசூடி - 25 வரிகள் (51 முதல் 75 வரை)	15
III	அலகு III நாடகம் புராண நாடகங்கள் - ஜெயந்தி நாகராஜன்	10
IV	அலகு IVஇலக்கிய வரலாறு 1.அறநூல்கள் வரலாறு 2.நாடகத்தின் தோற்றமும் வளர்ச்சியும் தன் முயற்சிப் படிப்பு - ஐ.ஏ.எஸ் தேர்வும் அணுகுமுறைகளும்	10
V	அலகு Vஇலக்கணம் அணி இலக்கணம் - உவமையணி, உருவகஅணி; தற்குறிப்பேற்ற அணி, இல்பொருள் உவமையணி, பிறிதுமொழிதல் அணி, சொல்பின்வருநிலை அணி, சொற்பொருள் பின்வருநிலை அணி; வேற்றுமை அணி; இரட்டுறமொழிதல் அணி, வஞ்சப்புகழ்ச்சி அணி.	10
	Total	**60**

Text Book(s):பாட நூல்கள்

1. சங்க இலக்கியம், அற இலக்கியத்திரட்டு - தமிழ்த்துறை வெளியீடு, ஸ்ரீ சரஸ்வதி தியாகராஜா கல்லூரி 2021 ஜூன் பதிப்பு.
2. தமிழ் இலக்கிய வரலாறு - முனைவர் கா. வாசுதேவன், தேவி பதிப்பகம், 16.43., திருநகர், திருவானைக்கோவில், திருச்சி-620 005.
3. தமிழ் இலக்கிய வரலாறு - மு. வரதராசன் சாகித்ய அகாடமி வெளியீடு, புதுதில்லி. மறுபதிப்பு - 2012
4. ஐ.ஏ.எஸ்.தேர்வும் அணுகுமுறையும் - வெ.இறையன்பு நியூ செஞ்சுரி புக் ஹவுஸ்

		41,பி சிட்கோ இன்டஸ்ட்ரியல் எஸ்டேட் அம்பத்தூர், சென்னை - 98 இரண்டாம் பதிப்பு - 2007
Reference Book(s):பார்வை நூல்கள்		
1. சங்க இலக்கியத் தொகுப்புகள்	-	நியூ செஞ்சுரி புக் ஹவுஸ் 41,பி சிட்கோ இன்டஸ்ட்ரியல் எஸ்டேட் அம்பத்தூர், சென்னை - 98 இரண்டாம் பதிப்பு - 2004.
2. பதினெண்கீழ்க்கணக்கு நூல்கள்	-	தொகுப்பு நூல் - வர்த்தமானன் பதிப்பகம் ஏ.ஆர்.ஆர். காம்ப்ளெக்ஸ் 141, உஸ்மான் சாலை, தியாகராய நகர், சென்னை - 17 இரண்டாம் பதிப்பு - 1999.
3. தமிழ் அரங்கியல் ஆவணம்	-	வெளி. இரங்கராஜன் எனி இந்தியன் பதிப்பகம் 102எண் 57 பி.எம்.ஜி. காம்ளெக்ஸ் தெற்கு உஸ்மான் சாலை தி.நகர், சென்னை -17, பதிப்பு - 2007.
4.தண்டியலங்காரம்	-	ராமலிங்கத் தம்பிரான் (உரை) கழக வெளியீடு 79,பிரகாசம் சாலை சென்னை - 108. 21-ஆம் பதிப்பு 1998.
Focus of Course:சங்க இலக்கியத்தின் வழி தமிழ்ச் சமூகத்தின் அகப்புற வாழ்வு குறித்த செய்திகள் தரப்பட்டுள்ளன. அற நூல்களின் வழி மக்களின் வாழ்வியலுக்கான நீதிகள் கூறப்பட்டுள்ளன. தமிழ் இலக்கிய இனிமைக்கு அணி இலக்கணங்கள் உதவுகின்ற தன்மை கூறப்பட்டுள்ளன.		
Course Designer: Dr. G.Malarvizhi Associate Professor, Dept. of Tamil, STC		Dr. S. Rajalatha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	சங்க இலக்கியங்களில் அகம் , புற வாழ்விற்குக் கொடுத்த முக்கியத்துவம் பதிவு செய்யப்பட்டுள்ளது.	K1
CO2	அறநூல்கள் , நாடகத்தின் வழி மனித சமூகத்திற்கு ஒழுக்கநெறிகளைப் புரியவைத்தல்.	K2
CO3	அணி இலக்கணத்தை கவிதைகளில் பயன்படுத்தும் முறைகளை எடுத்துக்காட்டுதல்.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	-	-	M	S	-	-	-
CO2	S	S	M	-	-	S	S	-	-	-
CO3	M	S	M	-	-	M	M	-	-	-

S- Strong; L- Low; M-Medium

SEMESTER- IV

Coursecode	21HIN4L40	HINDIPAPER-IV	L	T	P	C
Part-I		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

COURSEOBJECTIVE:

- Knowledgeof contemporarydramacontentsofHindiliterature
- Learn novels and its techniques. The ability to read novels and express criticism aboutitand the ability to express socialthoughts willimprove
- Therewillalso belitigationmessages inHindiand newson speechtechniques
- Abletowritearticlesontheir ownand improvetheirsophisticated translationskills.

UnitNo.	PARTI -HINDIIV	Instructional hours
I	**DRAMA:DHUVASAMINYByJAYASHANKARPARSAD**	15
II	**NOVEL : NIRMALA–Premchand**	15
III	**LOKKOTHI & MUHAVARE** - NAVEEN HINDIYAKARAN (SelectedLokkokthi -10&Muhavare-10)	10
IV	**GENERALESSAY** : AADARSHNIBANDH	10
V	**TRANSLATION** : HINDI-ENGLISH onlyANUVADHABHYAS–III (16-30Lessonsonly)	10
	TOTAL	60

Teachingmethods:

Lecturing,Assignment,GroupDiscussion,Quiz, GroupActivity.PowerPointProjectionthrough LCD

TextBook:

1. Dhuvasaminy –Drama- Jayashankar parsad, 2015, Publisher : dakshin bharath hindi pracharsabha,chennai – 17.
2. Nirmala–Novel-Premchand,2015,RajkamalPrakashan,1BNethajiSubash Marg,NewDelhi

ReferenceBooks:

1. Hindisahithyakasaralithihaas,byrajnathsharma,vinodpustakmandir,Agra-282
2. KavyaPradeepRambadriShukla,HindiBhavan,36,Tagore Town,Allahabad–211002.

WebLink:

https://hi.wikipedia.org/wiki/
https://en.wikipedia.org/wiki/Premchand
http://www.hindisamay.com/content/259/
https://www.hindisamay.com/content/1050/1

MappingwithProgrammeOutcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO2	M	S	S	M	S	S	S	S	M	S
CO3	S	S	M	S	L	S	S	S	S	S
CO4	M	S	S	M	S	S	S	S	M	S
CO5	S	M	M	M	M	S	S	L	S	L

SEMESTER- IV

Coursecode	21MAL4L40	PARTIMALAYALAM PAPERIV	L	T	P	C
Part-I		PARTI	60	-	-	3
Pre-requisite			SyllabusVersion			2020-21

COURSEOBJECTIVE:

- Knowledgeof contemporarydramacontents ofMalayalamliterature
- Learn Screenplayand its techniques. The ability to read drama and expresscriticismabout itand theabilityto express socialthoughts will improve
- Therewillalsobelitigationmessages inMalayalamandnews onspeechtechniques
- Abletowritearticles ontheirown andimprovetheircreativeskills.

UnitNo.	PARTI –MALAYALAMIV	Instructional hours
I	ScreenPlay-Perumthachan	15
II	Screenplay-Perumthachan	15
III	Drama-Saketham	10
IV	Drama - Saketham	10
V	Drama - Saaketham	10
	TOTAL	60

Teachingmethods:
Lecturing,Assignment, GroupDiscussion,Quiz,GroupActivity.PowerPointProjectionthroughLCD

TextBooks:

1. Perumthachan –M.T.VasudevanNair,DCBooks
2. Saketham– C.N.SreekandanNair,DCBooks

ReferenceBooks:

1. Malayala Nataka Sahithya Charithram.GSankaraPillai(KeralaSahithyaAkademi,Trissur)
2. MalayalaNatakaSahithyaCharithram,VayalaVasudevanPillai(KeralaSahithyaAkademiThrissur).
3. Natakam-OruPatanam(C.J.SmarakaPrasangaSamithi,Koothattukulam)
4. Natakaroopacharcha,Kattumadam Narayanan(NBS,Kottayam)
5. Chalachithrasameeksha–Vijayakrishanan.
6. CinemayudePaadangal-VisakalanavumVeekshanavum–Jose-K.Manual.

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Getabasicknowledgeof drama	K1
CO2	CanreadandcritiqueScreenplay	K1
CO3	Createinterestinartliteraturecourses	K2
CO4	ThehopeofwritingaDramaoraScreen Play.	K3
CO5	The idea of creating new works and critique knowledgewillimprove	K4

MappingwithProgrammeOutcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	S	S
CO2	M	S	S	M	S	S	S	S	M	S
CO3	S	S	M	S	L	S	S	S	S	S
CO4	M	S	S	M	S	S	S	S	M	S
CO5	S	M	M	M	M	S	S	L	S	L

SEMESTER- IV

Course:French4 **Credits:3**

CourseCode: 21FRE4L40 **Hours:60**

CourseObjectives:

Tocommunicateduringeasyor habitualtasksrequiringabasicanddirectinformationexchange on familiar subjects to use simple words to describe his or her surroundingsand communicateimmediateneeds

Part1 -French4		
UnitNo.	**Topics**	**Instructional hours**
1	Etape5(Lecons 1-3)	15
2	Etape6(Lecons 1-3)	15
3	Etape7 -Leçons 1 -2	10
4	Etape7 –Leçon3	10
	Etape8 –Leçon1	10
5	Etape8 –Leçons 2 -3	10
	TOTAL	60
Etapes 5to8,Pages 63to114		

TextBookPrescribed:Adomania2–Methodedefrancais Authors:Céline Himber,CorinaBrillant,Sophie ErlichPublisher: HACHETTEFLE

Availableat:GOYALPublishersandDistributorsPvtLtd,NewDelhi(9810322459)

Reference:Latitudes1

Author:YvesLoiseau,RégineMerieuxPublisher:FrenchandEuropeanPublicationsInc

Availableat:GOYALpublishers anddistributors PvtLtd,NewDelhi(9810322459)

SWAYAM:https://swayam.gov.in/nd2_cec19_lg04/previewbyProf.NirupamaRastogi(Retd)Englishand ForeignLanguagesUniversity,Hyderabad

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Comprehendthegrammaticalstructuresinvariousgenres	K1
CO2	Understandthetextstylesandpoeticalelements	K2
CO3	Developaninterestintheappreciationofliterature	K3
CO4	Discussandrespondtocontentofareading passage	K4

SEMESTER-IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21GEN4L40	English Paper-IV	Language 2	50	10	-	3

Preamble: This course aims at facilitating the student to understand the functional usage of English language and apply it in real time situation

Prerequisite: Basic knowledge in English

SYLLABUS: ENGLISH PAPER-IV

Unit	Course contents	Instructional hours
I	Prose : Pele's Thousandth Goal – R.L.Fish Poetry: The Professor-Nissim Ezekiel Grammar: Common Errors in English	12
II	Prose : Narayana Murthy-Gopal Raj Poetry :Telephone Conversation Wole soyinka Idioms and phrases Interview techniques	12
III	Fiction Tale of Two Cities Book I, Book II chapter 1-12	12
IV	Tale of Two Cities Book II 13-24, Book III	12
V	You Can Win – Shiv kera Build a positive Attitude Motivation Self-Esteem Inter personal skills Goal setting	12
	Total	**60**

Text Book(s): English Paper IV, Department of English, Sree Sarawathi Thyagaraja College,2019

Reference Book(s):

1.Shiv Kera You Can Win New Delhi:Bloomsberry Publishing India Pvt.Ltd.2014

2. Corfield,Rebecca.Successful Interview Skills. London: Kogan Page Ltd. 2009

Focus of Course: Skill Development

e-Resource/ e-Content URL:https://www.youtube.com/watch?v=ejXrGoHFGJQ

Course Designer: Dr. R Vennila Nancy Christina,
Assistant Professor, Department of English, STC,

Dr. R Vennila Nancy Christina
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Enhance language competency required for specific career	K1
CO2	Acquire the ability to work in a team	K2
CO3	Acquire interview skills	K2
CO4	Gain confidence to write grammatically correct sentences	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	M	S	S	M	M	S	S	M
CO2	M	S	S	S	S	M	M	M	S	L
CO3	M	S	S	S	S	S	M	S	S	M
CO4	S	S	S	S	S	S	L	S	S	M

S –Strong; L –Low; M –Medium

SEMESTER IV

Course Code	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
21BMA4C10	Operations Research	Core 7	60	15	-	4
Preamble: This course aims at facilitating the student to learn the concepts in optimization techniques.						
Prerequisites: Basic concepts in Mathematics at HSc level						

SYLLABUS: OPERATIONS RESEARCH

Unit	Course Contents	Instructional hours
I	Operations research – An overview:Introduction - Origin and developmentof OR-Nature and feature of operations research – Scientific methods in OR-Applications of operations research – Opportunities and shortcomings of operations research. Linear Programming Problem – Introduction – Linear Programming Problem - Mathematical Formulation of the problem – illustrations on mathematical formulation of L.P.P – Linear Programming Problem-Graphical solution and Extension–Graphical solution method - Problems.	15
II	Linear Programming Problem-Simplex method - Introduction – the computational procedure – problems-Use ofartificial variables-Two-phase Method- Big M Method	15
III	The Transportation problem: Introduction – LP formulation of the Transportation Problem, Existence of solution ofTP – The transportation table- Solution of the Transportation table - Finding an initial basic feasible solution.	15
IV	The Assignment problem – Introduction – Mathematical formulation of the problem-solution methods of Assignment Problem.	15
V	Queueing Theory: Introduction – Queueing system – Elementof Queueing system – opening characteristics of a queueing system-deterministic queueing system – Probability queueing system (Derivations not included)– Classification of queueing models-Definition of transient and steady states- Poisson queueing system:{(M/M/1) : (∞/FIFO)} model I (Derivations not included).	15
	Total	75

Text Book(s):

Kantiswarup,P.K.Gupta, Man Mohan, Operations Research, S.chand&Sons Education Publications, New Delhi, 2015

UNIT I Page No. 25 to 27, 33 to 35, 39 to 42, 65-73.
UNIT II Page No. 87 to 89, 99 to 113.
UNIT III Page No. 247-250,252- 266.
UNIT IV Page No. 295, 297 to 312.
UNIT V Page No. 589-605

Reference Book(s):

1. Premkumargupta, D.S.Hira,Operations Research, S.chand& Sons Education, 2008.
2. Hamdy A. Taha, An Introduction to Operations Research-Pearson's Education, 2007.
3. J.K. Sharma, Operations Research-Theory ofApplication, Macmillan India Ltd, 2004.
4. Frederick &Hillies, Gerald J.Lieberman, Operations Research, Tata Magraw – Hill Publications company, 2009.

Learning Methods (*):

- Assignment/Seminar/Quiz etc.,

Focus of Course: Research and Employability

e-Resource/e-Content URL: https://www.youtube.com/watch?v=MZ843Vvia0A

Course Designer: Dr. R. SenthilAmutha
Head & Assistant Professor, Dept. of UG Mathematics , STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Know the concepts of mathematical formulation of Linear programming problems, Transportation problems and Assignment problems.	K1
CO2	Find optimum solutions in Simplex method in L.P.P	K1
CO3	Compute optimum solutions for LPP, Transportation problems and assignment problems	K2
CO4	Compute the waiting time and ideal time in queuing system	K2

Mapping with Program Outcomes and Program Specific Outcomes:

Cos/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	L	S	L	M	S	L	M	M	M
CO2	M	S	S	L	M	S	M	L	S	M
CO3	S	M	M	L	L	S	M	M	M	L
CO4	S	S	S	M	M	M	S	S	L	S

S – Strong; L – Low; M – Medium

SEMESTER-IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA4C20	Dynamics	Core 8	50	10	-	4

Preamble: This course aims at throw height on the importance of the applications of laws of Dynamics in rectilinear motion, projectile motion, simple harmonic motion, central arbitral motion and on motion after collision of elastic bodies.

Prerequisite: The students should have basic knowledge of equations of motions.

SYLLABUS: DYNAMICS

Unit	Course contents	Instructional hours
I	Law of motion: Introduction - momentum - Newton's law of motion – explanation & illustration of first law – explanation of second law of motion – Motion in a resisting medium, Introduction – Terminal velocity – resistance proportional to the speed – resistance proportional to the square of the speed – and related problems.	12
II	Projectiles : Definition-Path of a projectile in a vacuum in a parabola – characteristic of motion of the projectile – To find velocity at any point t of the projectile – range on a inclined plane – time of flight – and simple problems – examples.	12
III	Collision of elastic of bodies : Introduction – Definition – Fundamental Laws of impact – impact of a smooth sphere on a fixed plane – Direct impact of two smooth sphere – Loss of kinetic energy due to direct impact of two smooth spheres – oblique impact – Loss of kinetic energy due to oblique impact of smooth spheres.	12
IV	Simple Harmonic Motion : Introduction – Simple harmonic motion in a straight line – General solution of Simple harmonic motion equation– Geometrical representation of a Simple harmonic motion –Change of origin– Composition of two Simple harmonic motions of the same period in the same straight line – Composition of two simple harmonic motions of the same period in two perpendicular directions.	12
V	Motion under the action of central forces : Introduction - Velocity and acceleration in polar co-ordinates– Equation of motion in polar co-ordinates – Note on the equiangular spiral - Motion under a central force – Differential equation of the central orbits –Pedal equation of the central orbit - Pedal equation of some well-known curves – Velocities in a central orbit.	12
	Total	60

Textbook:
M.K.Venkataraman, Dynamics, 11th Ed. Agasthiar Publications, Trichy, 2017.
Unit I : Page no 77-80, 123-136
Unit II : Page no 139-182
Unit III : Page no 215-248
Unit IV : Page no. 309-330
Unit V: Page no 356-377

Reference Books:
1. A.V.Dharamapadam, Dynamics, S.Viswanathan Printers and Publishers Pvt., Ltd, Chennai, 1998.
2. K.ViswanathaNaik and M.S.Kasi, Dynamics, Emerald Publishers, 1992.
3. Naryanamurthi, Dynamics, National Publishers, New Delhi, 1991.

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc..

Focus of Course: Employability
(Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:
http://www.watchknowlearn.org/Category.aspx?CategoryID=281

Course Designer: Prof. K.Sivaswamy
Asst Prof, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Recall the basic concepts of velocity, acceleration, work, energy	K1
CO2	Find properties of projectiles, impulsive forces, simple harmonic motions	K1
CO3	Understand the concepts of laws of motions	K2
CO4	Determine the characteristics of moving particles	K2
CO5	Solve problems on laws of dynamics.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	L	M	S	S	L	S	S	M
CO2	M	M	M	S	S	S	S	S	M	S
CO3	L	M	M	S	S	S	L	S	S	M
CO4	M	L	M	S	M	M	L	S	S	M
CO5	M	L	S	S	S	M	L	S	S	M

S –Strong; L –Low; M –Medium

SEMESTER-IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BPHGAB0	Allied Physics-II	Allied 4	35	-	-	3
Preamble: This course gives knowledge about the different concepts in different areas of physics.						
Prerequisites: This courseaims to give some fundamental ideas in physics						

SYLLABUS: ALLIED PHYSICS-II

Unit	Course contents	Instructional hours
I	**Thermodynamics**: Laws of thermodynamics – Reversible and irreversible process – Heatengine – Carnot's theorem. **Radiation**: Black body – Stefan's law – Newton's law of cooling – Newton's law of cooling from Stefan's law – Experimental determination of Stefan's constant – Wien's displacement law – Rayleigh – Jean's law – Planck's law. **Heat Conduction**: Coefficient of Thermal Conductivity – Determination of Thermal Conductivity of a bad Conductor by Lee's disc method.	7
II	**Mechanical waves:** a) **Waves in strings and pipes:** Velocity of a transverse wave along a stretched string- velocity of sound in gases- effect of temperature, pressure, humidity and density of medium on sound b) **Ultrasonic's & Sound:** Ultrasonic's – piezo-electric effect – detection of ultrasonic's –applications – reverberation time – absorption coefficient – conditions for good acoustical design of rooms – noise – measurement of noise – reduction and sound insulation.	7
III	a) **Atomic physics**: Bohr's atom model – hydrogen spectrum – fine structure splitting : sodiumdoublet — quantum numbers- Pauli's exclusion principle b) **Quantum mechanics:** Failure of classical mechanics: Black body radiation spectra – Planck's theory – matter waves –Debroglie wavelength- Davission and Germer experiment- Heisenberg's uncertainity principle –Schroedinger equation(Time dependent & Time independent)– wave function and its interpretation.	7
IV	**Nuclear Physics** a) **General properties of nuclei:** Nuclear mass and binding energy- binding energy curve– nuclear spin and magnetic moment- mass, half life and spin of neutron - semi empirical mass formula b) **Nuclear models and elementary particles:** nuclear reactions: cross section – nuclear fission –liquid drop model –nuclear forces.	7
V	**Electronics** Intrinsic and extrinsic semiconductor – PN Junction diode – Biasing of PN junction – V-I characteristics of junction diode – Rectifiers – Half wave – Full wave and bridge rectifiers –Zener diode – Characteristics of Zener diode – Voltage regulator – Transistor – Characteristics of transistor – CB, CE mode.	7
	Total	**35**

Text Book(s):

1. Brijlal and Subramanyam, Electricity and magnetism , Ratan Prakashan Mandir publisher – 1995
2. A.B.Gupta and Dipak Ghosh, Atomic and nuclear physics – Books and allied (sp) Ltd, Calcutta
3. H.S.Mani and Mehta. G.K., Introduction to modern physics

Reference Books:

1. Richard p. Feynman, robert b. Leighton & mathew sands, feynman lectures on physics series, vol. 1, 2 & 3, narosa publishing, new delhi, 8th reprint, 1995
2. Nelkon and Parker Advanced level physics — Arnold Publishers – 7th edition.
3. R.Kharina and R.S. Bedi , A text book of sound (Atma Ram and sons)
4. Powell and Crasemen, Quantum mechanics

Focus of Course: Employability

e-Resource/e-Content URL: NPTEL Videos and You tube

Course Designer : Ms.N.M.Shanthi
Assistant Professor, Dept. of Physics, STC

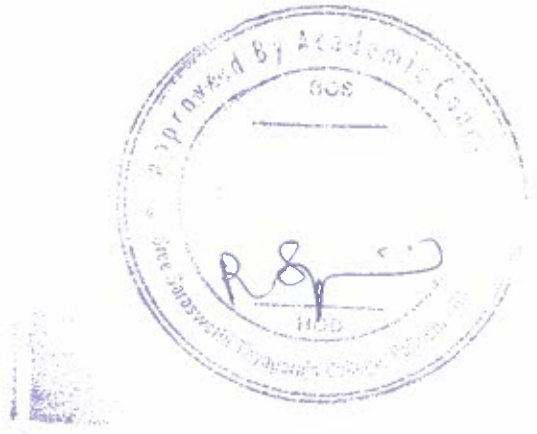
BOS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	The students can enrich their knowledge in basic concepts of atoms and X-rays.	K1
CO2	Enriching their knowledge about Nucleus and elementary particles.	K2
CO3	Basic knowledge about the concept Sound and Waves.	K2
CO4	Help the students to know the basics in atomic andquantum physics.	K2
CO5	Explore the students to know about the knowledge in basic electronics.	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S
CO3	L	M	M	S	S	L	L	S	S	S
CO4	L	M	M	S	S	L	L	S	S	S
CO5	L	M	M	S	S	L	L	S	S	S

S –Strong; L –Low; M –Medium



SEMESTER-IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMAGSA0	Lab : Statistics practical using SPSS	SBC2	-	2	25	2

Preamble: This acquires aims at training the students on several statistical tool which are helpful in research.

Prerequisite: Concept of probability sampling theory

SYLLABUS: STATISTICS PRACTICAL USING SPSS

Ex. No	List of Exercises	Instructional hours
1	Measures of Central Tendency with SPSS (Arithmetic Mean, Median, Mode)	3
2	Karl Pearson's Correlation coefficient with SPSS	3
3	Spearman's Rank Correlation with SPSS	3
4	Simple Regression with SPSS	3
5	One sample t- test with SPSS	4
6	Independent sample test with SPSS	4
7	Paired Sample t- test with SPSS	4
8	Chi - Square test for independence of Attributes with SPSS	3
	Total	**27**

Text Book:

1. A. Rajathi, P. Chandran, SPSS for you, MJP publishers, 2010.

Reference Book(s):

1. Darren Geoge, Paul Mallery "SPSS for Windows STEP BY STEP" Published by Dorling Kindersley (India) PVT Ltd.
2. Arthur Griffith"SPSS Statistics for Dummies" John Wiley & Sons India PVT Ltd, 2007.

Recommended Language: R –tool

Focus of Course: Skill Development

Course Designer: **Dr. A. Palanisamy,**
Assistant Professor, Dept. of Mathematics, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Understand the basic of SPSS tools	K2
CO2	Apply the tools in theory of correlation	K3
CO3	Show the linear relationship of transit time and distance using SPSS	K1
CO4	Experiment with association between gender and blood group using SPSS	K3
CO5	Apply SPSS tool in test of significance of increments	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	S	S	L	L	S	L	S	S	S
CO2	L	S	S	L	L	S	L	S	S	S
CO3	L	S	S	L	L	S	L	S	S	S
CO4	L	S	S	L	L	S	L	S	S	S
CO5	L	S	S	L	L	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER – IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM4N30	Basic Tamil II	NME 2	27	-	-	2

Preamble: அடிப்படைத் தமிழ்ச் சொற்களை அறிந்து கொள்வதற்கும் தமிழர்களின் பண்பாடு, இலக்கியங்களை உணர்ந்து கொள்வதற்கும் பயன்படுகின்றது.

Prerequisite:

- தமிழ்மொழி கற்காத பிறமொழி கற்ற மாணவர்களுக்குத் தமிழ் எழுத்துக்களின் அறிமுகத்தை ஏற்படுத்தும் நோக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- தமிழ் மக்களின் பண்பாடுகளை அறியும் நோக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- பிழையின்றிப் பேச, எழுத பயிற்சி அளிக்கப்படுகிறது.

SYLLABUS:BASIC TAMIL II

Unit	Course contents	Instructional hours
I	அலகு I சொற்பொருள் விளக்கம் - மலர்கள், காய்கள்,சுவைகள், பழங்கள் உடல் உறுப்புகள்.	05
II	அலகுII வாக்கியத்தில் அமைத்து எழுதுதல்	04
III	அலகுIII தமிழர் விழாக்கள் - பொங்கல், ஆடிப்பெருக்கு, கார்த்திகை தீபம், தைப்பூசம், பங்குனி உத்திரம்.	06
IV	அலகு IV பத்தியைப்படித்து பொருள் அறிதல்	06
V	அலகு V தலைப்புகளைக் கொடுத்து மாணவர்களை எழுத வைத்தல். – சுதந்திரதினம்,குடியரசுதினம், இயற்கை, மனிதம், கல்வி, வேளாண்மை.	06
	Total	**27**

Reference Book(s):பார்வை நூல்கள்

1. இலக்கிய வரலாறு - சோம.இளவரசு
   மணிவாசகர் பதிப்பகம்
   8-7 சிங்கர் தெரு
   பாரி முனை
   சென்னை - 8
   ஆறாம்பதிப்பு - 2007
2. பாரதியார் கவிதைகள் - பாரதியார்
   ஸ்ரீ இந்து பப்ளிகேசன்ஸ்
   100.'. கெனால் பங்க் ரோடு
   கிழக்கு சி.ஐ.டி.நகர்
   சென்னை - 35
   13-ஆம் பதிப்பு -2011
3. பொதுக்கட்டுரைகள் - கவிஞர் செந்தமிழ்ச்செழியன்
   சக்திப ப்ளிகேசன் ஹவுஸ்,
   1ஊஇஜீர் தெரு
   வண்ணாரப்பேட்டை, சென்னை -21
   முதற்பதிப்பு - 2014.
4. நாட்டுப்புற இயல் ஆய்வு - டாக்டர் சு.சக்திவேல்
   மணிவாசகர் பதிப்பகம்
   31.'. சிங்கர் தெரு.'.
   பாரி முனை
   சென்னை -108
   முதற்பதிப்பு - 1983.
5. இனிய தமிழ் பயிற்சிநூல் - கோ.சந்திரலேகா
   புத்தகம் -3

அலைடு பப்ளிர்ஸ் பிரைவேட் லிமிடெட் சென்னை - 02. பதிப்பு- 2008.
Focus of Course: தமிழ்ச்சொற்களின் இயல்புகளையும், தமிழ் இலக்கிய மரபு மற்றும் பண்பாட்டுக்கூறுகள் பற்றிய செய்திகள் தரப்பட்டுள்ளன. கட்டுரை எழுதுவதற்கான பயிற்சிகள் தரப்பட்டுள்ளன.
Course Designer: Dr. R.BABY Associate Professor, Dept. of Tamil, STC Dr. S. Rajalatha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	சொற்பொருளுக்கான விளக்கங்கள் குறித்து எடுத்துரைத்தல்.	K1
CO2	தமிழர்களின் பண்பாட்டினை வெளிப்படுத்தும் விழாக்கள் குறித்து எடுத்துரைத்தல்.	K2
CO3	பத்தியைப்படித்து எழுதுதல், தலைப்புகளைக் கொடுத்து அதைப் பற்றிவிளக்கி, எழுதும் திறமையை வளர்த்தல்	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	M	S	-	-	S	M	-	-	-
CO2	S	S	M	-	-	S	S	-	-	-
CO3	M	M	S	-	-	M	M	-	-	-

S- Strong; L- Low; M-Medium

SEMESTER – IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21TAM4N40	Advanced Tamil II	NME 2	27	-	-	2

Preamble: சிறப்புத்தமிழின் வழியே சங்ககாலம் முதல் இக்காலம் வரையிலான இலக்கியங்கள், மொழியின் இனிமை மற்றும் வாழ்வியல் தன்மை அறிமுகம் செய்யப்படுகின்றன.

Prerequisite:

- பத்தாம் வகுப்பு வரை தமிழைக் கற்ற மாணவர்களுக்குத் தமிழ் மொழியின் சிறப்பினை இலக்கியங்கள் எடுத்துக்காட்டும் நோக்கில் பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
- இலக்கிய ஆளுமைகளின் சமூக வெளிப்பாடுகளை அறியும் நோக்கில் சிறப்புத்தமிழ் பாடப்பகுதி அமைக்கப்பட்டுள்ளது.
- பிழையின்றிப் பேச, எழுத பயிற்சி அளிக்கப்படுகிறது.

SYLLABUS: ADVANCED TAMIL II

Unit	Course contents	Instructional hours
I	அலகு I சங்க இலக்கியம் நற்றிணை - அம்ம வாழி தோழி (158) – வெள்ளைக்குடி நாகனார் குறுந்தொகை - மாஎன மடலும் ஊர்ப (17) - கபிலர் புறநானூறு - சிற்றில் நற்றூண் (86) – காவற்பெண்டு	05
II	அலகுII அற இலக்கியம் விவேக சிந்தாமணி - ஒப்புடன் முகமலர்ந்தே (04) நன்னெறி - நல்லார்செயும் கேண்மை(38) உலகநீதி - ஓதாமல் ஒருநாளும் (1)	04
III	அலகு III காப்பிய இலக்கியம் சிலப்பதிகாரம் - ஊர் சூழ் வரி	06
IV	அலகு IV உரைநடை இலக்கியம் 1. அறிவொளி இறக்கி வைத்த - சா.மாடசாமி 2. தோல்வியை எதிர்கொள்ளுங்கள் - ஜி.சந்தானம் 3. மூளையின் முக்கியப் பணிகள் - ஆர்.வி.பதி 4. துணிந்து முடிவெடுத்தல் - சி.எஸ்.தேவநாதன்	06
V	அலகுV கவிதை, சிறுகதை எழுதுதல்.	06
	Total	**27**

Reference Book(s):பார்வை நூல்கள்

1. தமிழ் உரைநடையின் தோற்றம் வளர்ச்சி - க.கைலாசபதி
நியு செஞ்சுரி புத்தக நிலையம்.
சென்னை.

2 நற்றிணை - நியூ செஞ்சுரி புக் ஹவுஸ்
41,பி சிட்கோ இன்டஸ்ட்ரியல் எஸ்டேட்
அம்பத்தூர், சென்னை - 98
இரண்டாம் பதிப்பு - 2004.

3 .சிலப்பதிகாரம் - டாக்டர் ப.சரவணன்(உ.ஆ)
சந்தியா பதிப்பகம்
நியூடெக் வைபவ்,
57 - 53 ஆவது தெரு,அசோக் நகர்,
சென்னை - 600 083

4.இலக்கிய வழியிலான மனித விழுமியங்கள் - நா.ஜானகிராமன்
இயல் பதிப்பகம்,
23பி.2739 டி,பி.கோவில் தெரு
தெற்கலங்கம், தஞ்சாவூர். பதிப்பு - 2015.

5. கூத்தும் சிலம்பும் - முனைவர்.அ.அறிவுநம்பி

	சித்திரம் வெளியீடு 15,கலைவாணி நகர் இலாசுப் பேட்டை புதுச்சேரி - 605 008 இரண்டாம் பதிப்பு - 2009.
Focus of Course:சங்க இலக்கியத்தின் வழி தமிழ்ச்சமூகத்தின் அகப்புற வாழ்வு குறித்த செய்திகள் தரப்பட்டுள்ளன. அற நூல்கள், காப்பியங்கள். உரைநடையின் வழி விழுமியங்கள் எடுத்துரைக்கப்பட்டுள்ளன. கவிதை, சிறுகதை எழுதுவதற்குப் பயிற்சி அளிக்கப்படுகிறது.	
Course Designer: Dr. K.Ramganesh, Assistant Professor, Dept. of Tamil, STC	Dr. S. Rajalatha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	சங்க இலக்கியத்தில் அகம், புறம் - பாடல்கள் குறித்தும் சங்ககால மக்களின் வாழ்வியல் குறித்தும் விளக்குதல்.	K1
CO2	அற இலக்கியங்கள், காப்பியத்தின் சிறப்புகள், உரைநடை சார்ந்த கருத்துக்களை அறிவுறுத்தல்	K2
CO3	மாணவர்களின் படைப்பாளுமையை வெளிக்கொணர்தல்.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	M	M	-	-	S	S	-	-	-
CO2	S	S	M	-	-	M	S	-	-	-
CO3	M	S	M	-	-	S	M	-	-	-

S- Strong; L- Low; M-Medium

SEMESTER IV

Course Code	Course Name	Category	Lecture(L)	Tutorial (T)	Practical (P)	Credit
19BEN4N20	Basic English for Competitive Examinations II	NME 2	22	5	-	2
Preamble: To prepare students for competitive examination with basic grammar knowledge						
Prerequisite: Basic knowledge in Grammar						

SYLLABUS: BASIC ENGLISH FOR COMPETITIVE EXAMINATIONS II

Unit	Course Contents	Instructional hours
I	Concord (Subject Verb Agreement) Articles Synonyms -Antonyms	5
II	Tenses Common Errors Idioms and phrases	5
III	Kinds of Sentence (transformation) Classification of Sentences **(simple, complex, compound)** Rearrange the Sentences Improvement of Sentences	5
IV	One word substitution Selection of mis spelt /Correctly spelt words Odd word out	6
V	Comprehension Cloze test	6
	Total	**27**
Text Book(s): Basic English for Competitive Examinations, Department of English, Sree Saraswathi Thyagaraja College, Pollachi, 2017.		

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	To remember the application grammatical rules	K1
CO2	Understand the concept of competitive examinations.	K2
CO3	Identify the commonly wrongly spelt and wrong usage in English language.	K3
CO4	Develop a flair for English grammar	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	S	S	S	M	M	S	S	S
CO2	M	M	M	S	S	S	M	S	S	S
CO3	M	M	M	S	S	S	S	S	S	S
CO4	M	S	S	S	S	S	M	S	S	S

S- Strong; L- Low; M-Medium

SEMESTER - IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BMA4N21	Numerical Ability II	NME 2	22	5	-	2

Preamble: Students will be able to solve life related problems and will create confidence in him to appear various competitive exam conducted by the central and State Government

Prerequisite: Basic Knowledge in Area and Permutation and combination

SYLLABUS: NUMERICAL ABILITY II

Unit	Course contents	Instructional hours
I	Area	5
II	Volume of surface area	5
III	Permutation and combination	5
IV	Probability	6
V	Simple and Compound Interest	6
	Total	**27**

Text Book:

1. Dr.R.S.Aggarwal, Quantitative Aptitude, S.Chand& Sons,2013
   - Unit I : Page No 499-505
   - Unit II : Page No 549-555
   - Unit III : Page No 613-615
   - Unit IV : Page No 621-625
   - Unit V : Page No 445-447,466-470

Reference Book(s):

1..Abhijit Guha Educational Consultant ofQuantitative Aptitiude for Competitive Examinations Published by Tata McGraw-Hill Education Pvt Ltd sixth Reprint 2011

2.Kiran's Textbook of Quicker Mathematics (Quantitative Aptitude and Numerical Ability)Satellite Baba Publishing House Pvt Ltd

Learning Methods (*):

- Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability

e-Resource/e-Content URL: https://www.youtube.com/watch?v=k0cnDTo5XfA

Course Designer: Prof. K.Sivasamy
Dean Mathematics , STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Expressed to practical Knowledge on Area related problems	K1
CO2	Calculate volume of surface area of important solids like cone, cylinder and Sphere	K1
CO3	Solve all types of Permutation and combination which have Practical application	K2
CO4	Form strong basis for studying Mathematical Statistics	K2
CO5	He Knows to Calculate Interest	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	S	S	-	L	M	S	M	M
CO2	M	M	L	M	L	M	M	L	S	S
CO3	L	M	S	S	M	L	M	S	S	L
CO4	L	S	M	M	-	M	M	L	M	L
CO5	M	L	M	S	M	L	M	S	M	L

S –Strong; L –Low; M –Medium

SEMESTER -IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BPH4N20	Physics of Music	NME-2	27	-	--	2

Preamble: To expose the students to the fundamentals of basic concepts of physics of music

Prerequisites: Basic knowledge sound and musical instruments.

SYLLABUS:PHYSICS OF MUSIC

Unit	Course contents	Instructional hours
I	**BASICIDEASOFSOUND:**Wavemotion–typesofwaves – simpleHarmonicmotion–Propertiesofsoundwaves–reflection,refraction,diffractionandinterferenceofsoundvelocityofsound – standingwaves – Beats – Resonance.	5
II	**BASICIDEAOFMUSIC:**Theear – pitchloudnessandqualityofmusicalnotes-just noticeabledifferenceinpitch – barrelhearing – auralorcombinationtones – subjectivetones-subjective music – vibratoandtremolo – pitchrangeofmusicalinstruments – quality.	6
III	**MUSICALINSTRUMENTS:**Stringinstruments – frequencyofstretchedstrings-longitudinal vibrationinstrings-plucked,bowedandstruckstringedinstruments – oneexampleforeachfromcarnatic Hindustani andwestern.	5
IV	**ELECTRONICSOFMUSIC:**Microphones(carbon&crystal)–pickup–Loudspeaker, Amplifiers.Additionofsound – santoors.	5
V	**ELECTRONICSYSTEMS:**Taperecordingandplaybackequalizers,Recordingand reproductionofsoundincinefilms. Acoustic of Buildings:Aoustics-Reverberation and Reverberation time–Acoustic measurements:Acousticintensitylevel–Acousticpressurelevel – Factorsaffectingthe acousticsofbuildings–sounddistributioninanAuditorium–Requisitesforgoodacoustics.	6
	Total	27

Text Books:

1.PhysicsofMusicalsounds–Askill.J
2.Physicsforyou-Johnson.K
3.Waves-Berkely
4.SoundandUltrasound-Freeman.M
5.HomeSciencePhysics-Renganayakiamma
6.MusicalInstrumentsofIndia-Krishnasami.S
7.TextbookofSound-BrijlalandSubramanyam
8.InstrumentationandAnalysis–NakraandChoudry

Focus of Course: Employability

e-Resource/e-Content URL: NPTEL Videos and You tube

Course Designer : Mrs.N.M.Shanthi
Assistant Professor, Dept. of Physics, STC

for BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Basic understanding of knowledge of sounds.	K1
CO2	Basic understanding of concept of Music	K2
CO3	Students enrich their knowledge in Musical instruments.	K2
CO4	Basic understanding about the concept in electronics of music.	K2
CO5	Basic understanding about the concept of electronic systems	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S
CO3	L	M	M	S	S	L	L	S	S	S
CO4	L	M	M	S	S	L	L	S	S	S
CO5	L	M	M	S	S	L	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER - IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BCH4N20	Chemistry for everyday life -II	NME-2	27	-	-	2
Preamble: To acquire basic knowledge about chemistry in day to day life						
Prerequisites: Basic understanding about the chemistry for everyday						

SYLLABUS-CHEMISTRY FOR EVERYDAY LIFE -II

Unit	Course contents	Instructional hours
I	**Plastics** – polythene, PVC, bakelite, polyesters, melamine formaldehyde resins - preparation, structures and uses only.	5
II	**Soil Nutrients and Food Additives** Fertilizers – Pesticides - Insecticides – Definition, Classification, Characteristics and Uses. Additives –Definition, Characteristics, Uses and Abuse of additives in foods and beverages.	5
III	**Dyes, Paints and Pigments** Dyes – Definition, Classification based on mode of application and structure, Applications. Paints – Definition, Ingredients, Characteristics, uses and drying process. Pigments -Varnishes - Definition, Characteristics, Types and Uses.	5
IV	**Soaps, Detergents and Disinfectants** Soaps and Detergents - Definition, Ingredients, Classification, Characteristics and Uses. Disinfectants – Definition, Characteristics and Uses. Perfumes - Definition, Characteristics, Raw materials and perfumes used in soaps - Cosmetics.	6
V	**Air**-Components and their importance; photosynthetic reaction, air pollution, green house effect and their impact on our life style.	6
	Total	27

Reference Book(s):

1. K.Bagavathi Sundari (2006), Applied Chemistry, MJP Publishers.

2. Des W.Connell (2016). Basic Concepts of Environmental Chemistry, Second edition, Taylor & Francis Group.

3. Ley E.Manahan (2009), Fundamentals of Environmental Chemistry, Third Edition, CRC Press, Taylor & Francis Group.

Learning Methods (*): Lecture/ Assignment/ Seminar/Quiz/ Self-study

Focus of Course: **Employability**/ Entrepreneurship/ Skill Development

e-Resource/e-Content URL: NPTEL videos

Course Designer: Mrs.S.Sudha,
Assistant Professor, STC

BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	To gain the Knowledge of Polymer, Source and Uses	K2
CO2	To understand the occurrence, source, types, uses and demerits of the industrial products	K2
CO3	To gain the knowledge of the implementation of fundamental chemistry concepts in the manufacture of commercial products for the society	K2
CO4	To analyze the structural relationship of the commercial materials with the effect of applications and the biological implications of micronutrients	K2
CO5	To understanding the knowledge about Air pollution	K2

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	L	L	S	S	S
CO2	L	M	M	S	S	L	L	S	S	S
CO3	L	M	M	S	S	L	L	S	S	S
CO4	L	M	M	S	S	L	L	S	S	S
CO5	L	M	M	S	S	L	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER - IV

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
19BPY4N20	Psychology Life Skills II	NME 2	27	-	-	2

Preamble:

- To enlighten the students on the vital skills that they need to inculcate within themselvesinordertopreparet
- To help the students know how psychology acts as a basic driving force for all the basic skills required tolead an equanimouslife;

Prerequisite: Basics of Biology Subject at High School Level

SYLLABUS: PSYCHOLOGY LIFE SKILLS II

Unit	Course contents	Instructional hours
I	**Management of Stress:** Stress – GAS Model; Coping with stress – active coping styles: meditation – exercise – biofeedback – relaxation – chemotherapy – time management – role management – assertiveness training– stressinoculation–supportgroups–humourtherapy.	5
II	**Basics of Leadership Styles:** Leadership – meaning – various forms of leaderships – Charismatic leadership – transactional leadership– transformational leadership – Authentic leadership– Spiritual leadership– Servant leadership – Ethicalleadership	5
III	**Basics of Memory Techniques:** Memory – meaning – basic process; memory techniques –mnemonics – loci – keyword and peg word system – chunking – link method. Study Habits -Recitation – rehearsal – selection – serial position – whole vs part learning – spaced practice – over learning.	6
IV	**Inculcating Positive Thoughts:** Defining Happiness and Well being via one dimensional and multidimensional theories– Measuring Subjective well being by self report measures – Stability and Importance of Happiness	5
V	**Maintaining Happiness:** Increasing Happiness and Life Satisfaction: Intensity and Frequency of Positive emotion – Creating good mood – Sustainable and maintaining happiness.	6
	Total	**27**

Text Book(s): Baron, Robert A.(1997). Psychology (4th Edition). London: Allyn and Bacon Ltd.

Reference Book(s)

- Devito, J. A (2013). The Interpersonal Communication Book (13thEdition). Boston: Pearson Education Inc. pp. 106 -180
- Schermerhorn,J.Ret.al[2010].Organizational Behaviour[11thEdition].JohnWileyand Sons, Inc. USA. pp. 321 – 334.
- Compton,WilliamC.,&HoffmanEdward(2015).PositivePsychology(2ndEdition).Boston: WadsworthCengage Learningpp.42–47;51-54;69–74.

JUL 2021

HOD

Focus of Course: Skill Development

Course Designer:
Mr.AshwanthKanna.V,
AssistantProfessor&Head,Dept.ofPsychology,STC

Mr.AshwanthKannaV
BOS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Present various ways of managing stress in our day to day life	K1
CO2	Explain various levels and styles of leadership	K2

CO3	Predict the various techniques used to improve memory	K3
CO4	Illustrate the importance of happiness and well being	K3
CO5	Analyze the components contributing to life satisfaction	K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	L	L	M	M	M	L	L	M	M
CO2	M	L	M	L	L	L	M	L	L	L
CO3	L	M	L	M	L	L	L	L	M	L
CO4	M	L	L	L	L	L	L	L	M	L
CO5	L	M	L	M	L	L	L	L	M	L

S –Strong; L –Low; M –Medium

SEMESTER-V

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA5C10	Real Analysis- I	Core 9	60	15	-	5
Preamble: This course aims at throw height on the importance of (i) Real and Complex number systems,Basis of set theory and elements of set topology, limits andcontinuity.						
Prerequisite: A deep understanding of Real numbers, their properties, roots and set theory properties isnecessary.						

SYLLABUS: REAL ANALYSIS I

Unit	Course contents	Instructional hours
I	**The Real and Complex number systems:** The field axioms - The order axioms - Integers -The unique - Factorization theorem for integers - Rational numbers - Irrational numbers - Upper bounds,- Maximum Elements, Least upper bound - The completeness axiom - Some properties of the supremum - Properties of the integers deduced from the completeness axiom-The Archimedian property of the Real number system - Rational numbers with finite decimal representation of real numbers - Absolute-values and the triangle inequality - The Cauchy-Schwarz inequality - Plus and minus infinity and the – Extended real number systemR^*.	15
II	**Some Basic notions of set theory:** Notations - Ordered pairs - Cartesian product of two sets - Relations and functions - further terminology concerning functions - One-to-one functions and inverse - Composite functions - Sequences - Similar sets - Finite and infinite sets - Countableand uncountable sets– Uncountability of the real number system – Setalgebra - Countable collection of countable sets.	15
III	**Elements of point set topology:** Euclidean space R^n - Open balls and open sets in R^n. The structure of open Sets in R^1 - Closed sets and adherent points - The Bolzano - Weierstrass theorem - The Cantor intersection Theorem.	15
IV	**Covering** - Lindelof covering theorem - The Heine Borel covering theorem- Compactness in R^n - Metric Spaces - Point set topology in metric spaces - Compact subsets of a metric space -Boundary of aset.	15
V	**Limits and continuity:** Convergent sequences in a metric space - Cauchy sequences - Complete metric Spaces. Limit of a function-Continuous functions - Continuity of composite functions. Continuous complex valued and vector valued functions.	15
	Total	75

Text Book:

T.M. Apostol, Mathematical Analysis, 2nd ed., Narosa Publishing Company, Chennai, 1990.

Unit I : Page No 1, 2, 4 to14
Unit II : Page No 32 to 43
Unit III : Page No 47 to 56
Unit IV : Page No 56 to 64
Unit V : Page No 70 to 76, 78 to 80.

Reference Books:

1. R.R.Goldberg, Methods of Real Analysis, NY, John Wiley, New York 1976.
2. D.Somasundaram and B Choudhary, A first Course in Mathematical Analysis, Naraosa Publishing House, 5th Edition, 2010.
3. Russell A.Gordon Real Analysis, A First Course Pearson Publications second Edition2009.
4. S. G. Venkatachalapathy, Real Analysis for B. Sc , Mathematics, Margham Publications, edition2009.

Learning Methods (*):

- Assignment/Seminar/Self-Study/etc.,

Focus of Course: Skill Development

e-Resource/e-Content URL: https://www.youtube.com/watch?v=14YRFBPbmv0

Course Designer: Prof. K. Sivaswamy, DeanMathematics,STC	Dr. R. SenthilAmutha BoSChairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Recall the concepts of Sets , Relation and Functions	K1
CO2	Define and recognized the basic properties of the field of real numbers	K1
CO3	Define the basic topological properties of the real number system	K2
CO4	Understand the concepts of Sequences	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	L	S	L	S	S	S
CO2	L	M	M	S	L	S	L	S	S	S
CO3	L	M	M	S	L	S	L	S	S	S
CO4	L	M	M	S	M	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER-V

Course Code	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
21BMA5C20	Complex Analysis- I	Core 10	60	15	-	5

Preamble: This course aims at throw height on the importance of (i) Analytic functions, Conformal mapping, bilinear transformations and basis of complex Integration.

Prerequisite: A deep understanding of complex numbers, their properties, roots of a complex number isnecessary.

SYLLABUS: COMPLEX ANALYSIS- I

Unit	Course contents	Instructional hours
I	Complex number system: Complex number system – Field of Complex numbers – Conjugation – Absolute value of a Complex number. Complex Plane: Representation of a Complex number by points- n^{th}roots of a Complex number- Elementary transformation- Infinity and Extended Complex Plane –Stereographic projection- Fixed points- Bilinear transformation.	15
II	Analytical functions: Complex functions - Limit of a function – continuity of a function –Uniform continuity – Differentiability and Analyticity of function- Necessary conditions for differentiability – Sufficient conditions for differentiability – Cauchy-Riemann equation in polar coordinates – Complex function as a function of z and $\bar{z}$ - Properties of an analytic function.	15
III	Power Series and Elementary Functions: Power Series - Absolute convergence of a Power Series – Uniform Convergence of a Power Series -Analyticity of thesum of power series – Uniqueness of representation of a function by a Power Series - Elementary functions: Exponential, Logarithmic, Branch Point, Trigonometric and Hyperbolic functions.	15
IV	Harmonic and Conjugate Harmonic functions: Definition – Elementary and Conformal Mappings – Transformations $z\rightarrow$ f(z), where f is analytic,particularly the transformations$w = z + \frac{1}{z}, w = e^z, w = logz$, $w = sinz$, w =cos z – Conformal Mapping.	15
V	Complex Integration: Simple rectifiable oriented curves – Integration of Complex functions – Simple integrals using definition – Definite integral – Interior and Exterior of a closed curve - Simply connected region - Cauchy's fundamental theorem–Integral along an arc joining two points - Cauchy's integral formula and formulas for derivatives.	15
	Total	**75**

Text Book:

1. P.Duraipandian and KayalalPachaiyappa, Complex Analysis, S.Chand and Company Pvt. Ltd., New Delhi, First edition, 2014.

Unit I Chapter 1 Sections 1.1 to 1.2, 1.6 to 1.7,Chapter 2 Sections 2.1 to 2.2, 2.6 to 2.9, Chapter 7 Section 7.1. Pg No: 1-3,8-10,14-26,102-106.
Unit II Chapter 4 Sections 4.1 to 4.9 PgNo: 33-51.
Unit III Chapter 6 Sections 6.1 to 6.11 Pg No: 71-81.
Unit IV Chapter 6 Sections 6.12, Chapter 7 Sections 7.6 to 7.9 Pg No : 82,114-137
Unit V Chapter 8 Sections 8.1 to 8.9 PgNo : 138-156.

Reference Books:

1. A.R.Vasistha, Complex analysis, Krishna Prakashan Media (P) Ltd, Meetut, 2005 Edition.
2. T.K.ManicavachagomPilly, Dr.S.P.Rajagopalan, Dr.R.Sattanathan, Complex Analysis, S.Viswanathan (Printers &Publishers), PVT.Ltd,Chennai,2011
3. S.Ponnusamy, Complex Analysis, Narosa Publishing House, Edition.
4. S.Arumugam, A.Thangapandi Isaac, A.Somasundaram, Complex Analysis, SCITECH publications, Chennai, 2007
5. Lars V. Ahlfors (Third Edition), McGraw-Hill International Editions,Complex analysis, 1979 Edition.

Learning Methods (*): • Assignment/Seminar/Self-Study/etc.,
Focus of Course: Skill Development
e-Resource/e-Content URL:https://www.youtube.com/watch?v=Zmpyu1EptiQ
Course Designer:R.SenthilAmutha, Head and Asst.Prof.,STC Dr. R. SenthilAmutha BoSChairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Recall the basic concepts of Complex numbers	K1
CO2	Describe the Limits and Continuity	K1
CO3	Identify analytic function and Cauchy's-Riemann Equations	K2
CO4	Understand the concepts of Conformal mapping and Elementary Transformations	K2
CO5	Apply the concepts of definite integrals	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PSO1**	**PSO2**	**PSO3**	**PSO4**	**PSO5**
CO1	M	S	L	M	S	S	L	S	S	M
CO2	M	M	M	S	S	S	S	S	M	S
CO3	L	M	M	S	S	S	L	S	S	M
CO4	M	L	M	S	M	M	L	S	S	M
CO5	M	L	S	S	S	M	L	S	S	M

S –Strong; L –Low; M –Medium

HOD

SEMESTER-V

Course Code	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
21BMA5C30	Modern Algebra- I	Core 11	60	15	-	5

Preamble: This course aims at enabling the students to understand the abstract concepts of groups, subgroups and rings

Prerequisite: To recall the concept of mappings, types of mappings and set theory

SYLLABUS: MODERN ALGEBRA - I

Unit	Course contents	Instructional hours
I	Group: Introduction-Various types of Compositions-Groups-Addition and multiplication modulo M-Residue classes modulo M- General properties of group	15
II	Group: Permutations – Cyclic Permutations –Transposition-Integral powers of an element – Order of an element of a group – Certain theorems on the Order of an element of a group –General law of commutatively of the elements of a group	15
III	Group: One to one onto mapping preserving group composition – Isomorphism of groups –Properties of Isomorphic mappings- Transference of group structures-Cyclic groups	15
IV	Sub-group: Introduction- The identity, inverse and order of an element of a sub-group H- Criteria for a Sub-group- intersection of two Sub-groups – The union of sub-groups– Algebra of complexes of a group - Sub-group of a cyclic group – Cosets- theorem on cosets- coset decomposition- Lagrange's theorem	15
V	Normal Sub-group : Introduction- Normal Sub-group- Different characterizations of normal Sub-group- Simple group- Relation of conjugacy in a group G-Normalizer of an element of a group-Self conjugate elements-Centre of a group-Certain definitions- Quotient groups	15
	Total	**75**

Text Book:
M.L.Khanna, Modern Algebra,Jaiprakash Nath & CO, Meerut -250 002 (U.P), Twenty first revision, 2012
Unit I : Section 1.1-1.6 Page No: 27- 64
Unit II : Section 1.7-1.9, 1.11-1.14 Page No: 64 – 76, 85-96
Unit III : Section 1.15 -1.19 Page No 97 -123
Unit IV : Section 2.1-2.11 Page No: 125 -154
Unit V : Section 5.1-5.10 Page No:347 - 370

Reference Book(s):
1. Surjeetsingh, QaziZameeruddin, Modern Algebra, Vikas Publishing house,8thedition 2006.
2. S.G. Venkatachalapathy, Modern Algebra, Margham Publications,2008.
3. A. R. Vasistha, A.K. Vasistha, Modern Algebra, Krishna Prakasam Media (P)Ltd,2008.
4. I.N. Herstein, Topics in Algebra, John Wiley & Sons, New York, 2015.

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability

e-Resource / e-Content URL:https://www.youtube.com/watch?v=Tbciwxe5rj4

Course Designer:Dr.R.SenthilAmutha
Associate Professor & Head, Dept. of Mathematics, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level

CO1	To recall the concepts of group theory	K1
CO2	To illustrate on the concept of Cyclic Permutations, order of a group	K2
CO3	To understand Isomorphism of groups	K2
CO4	Illustrate the concepts of Sub-groups	K2
CO5	To analysis the properties Normal Sub-group	K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	S	S	S	M	M	L	S	S	S
CO2	L	M	S	S	M	M	L	S	S	S
CO3	L	S	S	S	M	M	L	S	S	S
CO4	L	S	S	S	M	M	L	M	S	S
CO5	L	S	S	S	M	M	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER-V

CourseCode	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
21BMA5C40	Vector Calculus and Fourier Series	Core 12	60	15	-	5

Preamble: To throw light on (i) grad φ and its geometrical application (ii)Various vector operators (iii) Three famous theorem on vector calculus (iv) Fourier expansion of function

Prerequisite: Properties of definite integrals–odd,evenfunctions–evaluation of single definite integrals–region of integration evaluation of double and triple integrals

SYLLABUS: VECTOR CALCULUS AND FOURIER SERIES

Unit	Course contents	Instructional hours
I	**Vector Differentiation**: Derivative of a vector function-Gradient of a scalar point function-Directional derivative of a scalar point function-Equation of Tangent and Normal line to a level surface-Divergence of a vector-Solenoidal vector-irrotational vector.	15
II	**Vector identities:**Statements with proofs-simple problems.Vector integration: line integral-definition-Evaluation of line integral-workdone force-conservative force field.	15
III	**Surface and Volume Integrals:**Surface Integral-Volume Integral-Gauss Divergence theorem (Statement only)-Stoke's theorem (Statement only)-Green's theorem in a plane (Statement only)–Problems.	15
IV	**Fourier Series**: Definition of periodic function – Fourier series-Dirichlet's conditions – Obtaining Fourier series of periodicity.	15
V	**Half range Fourier Series:**Introduction-Development in half range cosine series-Development in half range sine series-Change intervals-Problems.	15
	Total	**75**

Text Book:

1. Dr.P.R.Vittal, V.Malini, Vector Analysis, Margham Publications, Chennai, 2000 for Unit I, II andIII.
2. S.Narayanan& T. K. ManickavachagomPillai, Calculus Vol III, Viswanathan Printers, 2007 for Unit IV and V

Unit I - Page no.1 to 34
Unit II - Page no. 54 to 72
Unit III - Page no. 75 to 82,89 to 106,108 to 126,129 to 140
Unit IV - Page no. 202 to 220
Unit V - Page no. 221 to 234

Reference Book(s):

1. J.N. Sharma, A.R. Vasishtha, Vector Calculus, Krishna Prakashan Media (P) Ltd, 2004.
2. Duraipandian, LaxmiDuraipandian, Vector Analysis, Emerald Publishers, Chennai–2, 1986.
3. Robert C. Wrede Murray Spiegel, Advanced Calculus, Robert C. Wrede Murray Spiegel, Tata Mc. Graw Hill,2002.

Learning Methods (*):

- Assignment/Seminar/ Self-Study/etc.

Focus of Course: Employability

e-Resource/e-Content URL: https://www.youtube.com/watch?v=qtc3K7JARJs

BOS
14 JUL 2021
HOD

Course Designer: K.Sivaswamy
Dean Mathematics,STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	To learn about vector identities, geometrical application of $\nabla\varphi$, Div f and $curl f$ –relatedproblems	K2
CO2	To learn about line integral– conservative force field – workdone – Problem based on GD theorem	K2
CO3	To solve problems based on Stoke's and green's theorem.	K3
CO4	To learn about basis of Fourier expansion of a function in $(0,2\pi)$ or$(-\pi,\pi)$.	K2
CO5	To develop concept of Half Range Fourier sine and cosine series; todevelop $f(x)$ as HRFS/ HRFC series in $(-\pi,\pi)$ / $(0,\pi)$	K6

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S	S	S	M	M	M	S	L	M	M
CO2	M	M	S	S	S	L	L	M	S	S
CO3	M	M	S	S	S	S	S	L	L	S
CO4	S	S	S	L	L	M	S	M	M	M
CO5	S	S	S	M	M	M	L	L	M	M

S –Strong; L –Low; M –Medium

SEMESTER – V

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA5S10	Verbal Reasoning -I	SBC 3	22	5	-	2
Preamble: After completion of the course the learner will develop numerical and analytic ability						
Prerequisite: Positive attitude to learn the course is necessary						

SYLLABUS: VERBAL REASONING -I

Unit	Course contents	Instructional hours
I	Series Completion, Inserting The Missing Characters	5
II	Type I: Analogy , Type II: Direct / Simple Analogy	5
III	Classification, Coding & Decoding: Type 1 – Letter Coding, Type 7- Deciphering Number and Symbol Codes for Messages	5
IV	Blood relations : Type I – Deciphering Jumbled Up Descriptions	6
V	Number , Ranking and Time Sequence Test	6
	Total	**27**

Text Book: Dr.R.S.Agarwal, A modern approach to Verbal and Non-verbal Reasoning, S.Chand& Company Pvt.Ltd, 2011 Edition, New Delhi
Unit I : (Page no 1-6,628-629,633)
Unit II : (Pageno 41-43,63)
Unit III : (Page no 143-144,194-196,245-246)
Unit IV : (Page no 261-265)
Unit V : (Page no 542-557)

Reference Book(s):
1. Sijwali BS, Reasoning Verbal and Nonverbal, Arihant publications
2. Sijwali BS, A modern approach to Verbal and Non-verbal Reasoning, Arihant publications
3. Subburaj V.V.K, Test of Reasoning Verbal & Non Verbal and General Intelligance for Competitive Exam, Sura College of Competition
4. Kiran, Competitive Reasoning Verbal and Nonverbal, Kiran Institute of Career Excellence Private Ltd.

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability

e-Resource/e-Content URL: https://youtu.be/pbybSZeE38w

Course Designer: K.Sivaswamy / Dr. R. SenthilAmutha
Assistant Professor, Dept. of Mathematics , STC

Approved by Academic Council BOS 14 JUL 2021 HOD

BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Studying the trend of the series enhances arithmetic skills	K2
CO2	Skill on comparative study measured	K3
CO3	Coding and Decoding skill improved	K3
CO4	Skill on Blood relation highly improved	K3
CO5	Analytical skill enhanced	K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	S	M	M	S	L	M	M	S	S
CO2	L	S	M	M	S	L	M	M	S	S
CO3	L	S	M	M	S	L	M	M	S	S
CO4	L	S	M	M	S	L	M	M	S	S
CO5	L	S	M	M	S	L	M	M	S	S

S –Strong; L –Low; M –Medium

SEMESTER V

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA5S20	Programming in C++Lab	SBC 3	-	5	22	2
Preamble: Implement Object Oriented Concepts to develop various applications using C++ language						
Pre requisite: Programming skills with basic application development ideas						

SYLLABUS:PROGRAMMING IN C++ LAB

Ex. No	Course contents	Instructional Hours
1	Program to find area and circumference of Rectangle.	3
2	Program to find average of five numbers.	3
3	Program for function overloading.	3
4	Program to show single, Multilevel inheritance between classes	3
5	Program to compare and concatenate two strings.	3
6	Develop a C program to experiment the operation of stack	4
7	Develop a C program to experiment the queue operation	4
8	Develop a C program to sort and store the elements using Arrays.	4
	Total	27

Reference Book:

1. Ashok N Kamthane – **"Object oriented Programming with ANSI and Turbo C++"**, Pearson Education Publication, 7th Impression, 2009.
2. Ellizs Horowitz, SartajSahni -"Fundamentals of Data Structures", Galgothia Book Source (P) Ltd, 2012.

RecommendedTool to be used: Turbo C++

Focus of Course: Employability

Course Designer: Ms. P.SUDHA,
Asst. Prof. Dept. of Computer Science, STC

BoS Chairman

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Illustrate basic features of C++ in various programs	K2
CO2	Illustrate Code reusability using functions and Inheritance	K2
CO3	Apply the knowledge of object and class to design programming paradigm	K3
CO4	Apply Object Oriented Concepts in developing simple and advanced applications	K3

Mapping Course Outcomes with Programme Outcomes & Programme Specific Outcomes

COs/POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	M	M	M	M	M	M
CO2	L	M	M	M	M	M	M	M	M	M
CO3	M	M	S	S	S	S	M	S	M	M
CO4	M	M	S	S	M	S	M	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER -VI

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6C10	Real Analysis - II	Core 13	50	10	-	5

Preamble: This course aims at throwing height on the importance of (i) Limits and continuity and derivative and functions of bounded Variation.

Prerequisite: Knowledge about limits, derivatives and series.

SYLLABUS: REAL ANALYSIS II

Unit	Course contents	Instructional hours
I	**Limits and continuity:** Continuity and inverse images of open or closed sets - Functions continuous on compact sets - Topological mappings - Bolzano's theorem.	12
II	**Limits and continuity:** Connectedness - Components of a metric space - Uniform continuity –Uniform continuity and compact sets - Fixed point theorem for contractions - Discontinuities of real valued functions - Monotonic functions.	12
III	**Derivative:** Definition of derivative –Derivative and continuity –Algebra of derivatives – the chain rule –one sided derivatives and infinite derivatives–functions with non-zero derivatives –zero derivatives and local extrema –Rolle's theorem –The mean value theorem for derivatives –Taylor's formula with remainder.	12
IV	**Functions of Bounded variation and rectifiable curves :** Properties of monotonic functions –functions of bounded variation –total Variation – additive properties of total variation on [a, x] as a function of x – functions of bounded variation expressed as the difference of increasing functions–continuous functions of bounded variation.	12
V	**Infinite series:** Infinite series - Absolute and conditional convergence- Tests for convergence of series with positive terms-The geometric series-The Ratio test and Root test with simple problems.	12
	Total	**60**

Text Book:

1. Tom. M. Apostol, Mathematical Analysis, 2nd ed., Addison-Wisely. Narosa Publishing Company, Chennai, 1990.

Unit I Chapter 4 Sections 4.12 to 4.15 Page No. 81 to 85
Unit II Chapter 4 Sections 4.16, 4.17, 4.19 to 4.23 Page No. 86 to 87, 90 to 95
Unit III Chapter 5 Sections 5.2 to 5.10 and 5.12 Page No. 104 to 111, 113
Unit IV Chapter 6 Sections 6.2 to 6.8 Page No. 127 to 133
Unit V Chapter 8 -Sections: 8.5, 8.8, 8.10, 8.11, 8.14 Page No. 185, 186 189, 190, 193.

Reference Books:

1. R.R.Goldberg, Methods of Real Analysis, NY, John Wiley, New York 1976.
2. D.Somasundaram and B Choudhary, A first Course in Mathematical Analysis, Naraosa Publishing House, 5thEdition, 2010
3. RussellA.Gordon Real Analysis, A First Course Pearson Publications second Edition2009.
4. S. G. Venkatachalapathy, Real Analysis for B. Sc., Mathematics, Margham Publications, edition2009.

Learning Methods (*):

- Assignment/Seminar/Self-Study/etc.,

Focus of Course: Skill Development

e-Resource/e-Content URL:https://www.youtube.com/watch?v=3qzwlo0YM0Q

Course Designer: **Prof. K. Sivaswamy,** DeanMathematics, STC

Dr. R. SenthilAmutha BoSChairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Analyze the concept of Limit and continuity	K1
CO2	Recognized the concept of limit and continuity of functions	K1
CO3	Understand important concept of the derivative and mean value theorems	K2
CO4	Analyze the concept of Infinite series.	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	L	S	L	S	S	S
CO2	L	M	M	S	L	S	L	S	S	S
CO3	L	M	M	S	L	S	L	S	S	S
CO4	L	M	M	S	M	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER-VI

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6C20	Complex Analysis- II	Core 14	50	10	-	5

Preamble: This course aims at throwing height on the importance of (i) Singularities, Poles and contour Integration

Prerequisite: A Sound Knowledge of C-R equations, conformal mapping and basics of complex integration isessential.

SYLLABUS: COMPLEX ANALYSIS II

Unit	Course contents	Instructional hours
I	**Complex Integration :**Zeros of a function – Related integral theorems - Cauchy's Inequality – Lioville's theorem –Fundamental theorem of algebra – Maximum modulus theorem –Gauss mean value theorem – Gauss mean value theorem for a harmonic function on a circle - Solved Examples.	12
II	Taylor's and Laurent's series: Taylor's series –Zeros of an analytic functions - Laurent's series - Solved Examples.	12
III	**Taylor's and Laurent's series:** Singular Points or Singularity- Isolated singularities - Removable Singularity- Pole - Essential singularity – Behaviour of a Function at an Isolated Singularity- Determination of the Nature of Singularities – Nature of Singularity at infinity – SolvedExamples.Residues: Residue - Calculation of Residues – SolvedExamples.	12
IV	**Real Definite integrals:** Evaluation using the calculus of residues – Integration on the unit circle –Integral with - ∞and +∞ as lower and upper limits with the following integrals: i) P(x) /Q(x) where the degree of Q(x) exceeds that of P(x) at least by two and Q(x) does not vanish for anyx. ii) (Sinax).f(x), (cos ax).f(x), where a>0 and f(z) →0 as z→∞and f(z) does not have a pole on the realaxis. (iii) f(x) where f(z) has a finite number of poles on the real axis. - Solved Examples.	12
V	**Meromorphic functions:** Theorem on number of zeros minus number of poles – Principle of argument: Rouche's theorem – Fundamental Theorem of Algebra – Hurwitz's theorem – Function Meromorphic in the Extended plane - Theorem that a function which is Meromorphic in the Extended plane is a Rational function - Solved Examples.	12
	Total	**60**

Text Book:

1. P.Duraipandian and KayalaiPachaiyappa, Complex Analysis, S.Chand and Company Pvt. Ltd., New Delhi, First edition, 2014.

Unit I Chapter 8 Sections 8.10, 8.11,8.13. PageNo: 157-162, 189-188.
Unit II Chapter 9 Sections 9.1 to 9.3, 9.13. PageNo: 189-196,206-226.
Unit III Chapter 9 Sections 9.5 to 9.12, 9.13.Chapter 10 Sections 10.1, 10.2 and 10.4. Page No : 197-211,227-237,246-256.
Unit IV Chapter 10 Sections 10.3 and 10.4. PageNo: 238-246,257-278.
Unit V Chapter 11 Sections 11.1 to 11.3.(Omit Theorem 11.6) Page No : 279-288.

Reference Books:

1. A.R.Vasistha, Complex analysis,KrishnaPrakashan Media(P) Ltd,Meerut,2005Edition.
2. T.K.ManicavachagomPilly, Dr.S.P.Rajagopalan, Dr.R.Sattanathan, Complex Analysis, S.Viswanathan (Printers &Publishers). PVT.Ltd,Chennai,2011
3. S.Ponnusamy, Complex Analysis, Narosa Publishing House, Edition.
4. S.Arumugam, A.ThangapandiIsaac, A.Somasundaram,ComplexAnalysis, SCITECH publications, Chennai, 2007
5. Lars V. Ahlfors(Third Edition),McGRAW-HILL INTERNATIONAL EDITIONS, Complex analysis, 1979 Edition.

Learning Methods (*):

- Assignment/Seminar/Self-Study/etc.,

Focus of Course: Skill Development (Employability/Entrepreneurship/Skill Development)
e-Resource/ e-Content URL:https://www.youtube.com/watch?v=XyD8l0-E2n8
Course Designer: Prof. K. Sivaswamy, DeanMathematics,STC Dr. R. SenthilAmutha BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Recall the concept of Cauchy's Theorem	K1
CO2	Classify the real definite integrals	K1
CO3	Identify the Taylors and Laurent's series	K2
CO4	Identify the singularities and Residues and Poles	K2
CO5	Apply the concepts of Meromorphic functions	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/Pos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	L	M	M	S	L	S	S	M
CO2	M	M	L	S	S	S	S	S	M	S
CO3	M	M	M	S	M	S	L	S	M	M
CO4	M	S	M	S	M	M	L	S	M	M
CO5	M	S	M	S	S	M	L	S	S	M

S –Strong; L –Low; M –Medium

SEMESTER-VI

CourseCode	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6C30	Modern Algebra - II	Core-15	50	10	-	5

Preamble: This course aims at enabling the students to understand the concept of matrix theory, vector spaces and inner product spaces.

Prerequisite: Basic formula under Integral Calculus at HSc level.

SYLLABUS: MODERN ALGEBRA - II

Unit	Course contents	Instructional hours
I	Rings: Introduction- General properties of Rings- Types of Rings-Cancellation Law in a ring-Integral domain-Field-Certain theorems on fields-Division ring or a skew field- Isomorphism of two rings-Certain theorems on Isomorphism of rings	12
II	Rings: Ideals- Certain theorems-Smallest left ideal containing a given subset S– Principal ideals-Principal ideal Ring- Maximal ideal	12
III	Rings: Ordered integral domain- Divisibility in an integral domain- Units and associates in an integral domain-Characteristic of a ring- Polynomial rings-Isomorphism of a set of constant polynomials of R[x] on R- Divisibility of polynomial over a field	12
IV	Group Homomorphism: Introduction-Certain properties of homomorphism- Kernel of homomorphism – Automorphism of groups- Inner Automorphism	12
V	Vector Spaces: Vector Space over a field F- Properties of Vector Space- Linear combination of Vectors- Linear span of a set- - Linear dependence- Bases-Finite dimensional vector space or Finitely generated- Dimension of a Vector Space (Upto theorem 13)	12
	Total	**60**

Text Book:

M.L.Khanna, Modern Algebra, Jaiprakash Nath & CO, Meerut -250 002 (U.P), Twenty first revision, 2012

Unit I:Section 3.1- 3.10 Page No 155 - 190

Unit II:Section 3.15 – 3.20 Page No 196 – 201, 204 - 209

Unit III: Section 3.22 - 3.25, 3.27 - 3.30 Page No 212 – 221, 228 - 234

Unit IV: Section 6.1 – 6.5 Page No 357 - 397

Unit V: Section 4.2 – 4.3, 4.8 -4.12 Page No 244-245, 252-253, 267-269, 273-291

Reference Book(s):

1. Surjeetsingh, QaziZameeruddin, Modern Algebra, Vikas Publishing house, 8th edition 2006.
2. Seymorelipschutz, Beginning linear Algebra, Tata Mc graw hill, 2005.
3. S.G. Venkatachalapathy, Modern Algebra, Margham Publications, 2008.
4. V.Krishnamurthy, V.P.Mainra, J.L. Arora, An Introduction to Linear Algebra, Affiliated East – West Press Pvt.Ltd. New Delhi, 2015.
5. I.N. Herstein, Topics in Algebra, John Wiley & Sons, New York, 2015

Learning Methods (*):

- Assignment/Seminar/Self-Study/etc.,

Focus of Course: Employability

e-Resource/e-Content URL:https://www.youtube.com/watch?v=K1iuXqHFWRw

Course Designer:Dr.R.SenthilAmutha
Associate Professor & Head, Dept. of Mathematics, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Understand the concepts of properties of Rings	K1
CO2	Interpret the concepts of Principal ideals-Principal ideal Ring	K2
CO3	Apply the concepts of integral domain	K3
CO4	Analyze the concepts of Group Homomorphism,, Automorphism of groups	K4
CO5	Understand the Properties of Vector Space	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/Pos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	S	S	S	M	S	L	S	S	S
CO2	L	S	S	S	M	S	L	S	S	S
CO3	L	S	S	S	M	S	L	S	S	S
CO4	L	S	S	S	M	S	L	S	S	S
CO5	L	S	S	S	S	S	L	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER-VI

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMAGC10	Discrete Mathematics	Core - 16	50	10	-	5
Preamble: This course aims at facilitating the student to learn the concepts in Discrete Mathematics						
Prerequisites: Basic concepts in Mathematics at HSc level						

SYLLABUS: DISCRETE MATHEMATICS

Unit	Course contents	Instructional hours
I	Mathematical Logic – Statements and Notations – Connectives – Negation, Conjunction, Disjunction, Conditional and Biconditional – Well-formed Formulas – Tautology – Equivalence of Formulas - Duality law – Tautological Implications – Normal Forms – Theory of Inference for Statement Calculus.	12
II	Set Theory: Basic Concepts of Set Theory – Notations – Inclusions and Equality of Sets – Some Operations on Sets – Venn Diagrams – Some Basic Sets Identities. Relations: Properties of Binary Relations in a Set – Relation matrix and a Graph of a Relation – Equivalence Relations – Composition of Binary Relations.	12
III	Partial Ordering – Poset – Hasse Diagrams – Lattices – Some Properties of Lattices – Lattices as Algebraic Systems -Sub Lattices – Direct Product and Homomorphism – Some Special Lattices.	12
IV	Boolean algebra: Definition and Examples – Sub Algebra – Direct Product and Homomorphism. Boolean Functions: Boolean Forms and Free Boolean algebras – Values of Boolean Expressions and Boolean Functions. Representation and Minimization of Boolean Functions: Representation of Boolean Functions - Minimization of Boolean Functions.	12
V	Mathematical Induction: Principle and problems - Recurrence relation and generating functions: Introduction- Examples, Recursion, iteration and induction- Recurrence relations- Problems- Solution of finite order homogeneous relations.	12
	Total	**60**

Text Book(s):

1. J. P.Tremblay R Manohar, Discrete Mathematical Structures with Applications to Computer Science, McGraw Hill International Edition, 2007.

Unit I : Sections 1.1,1.2(1-2.1,1-2.2,1-2.3,1-2.6,1-2.7, 1-2.8, 1-2.9, 1-2.10, 1-2.11),1.3,1.4
Unit II: Sections 2.1(2-1.1, 2-1.2, 2-1.4 - 2-1.6), 2-3.1 - 2-3.3, 2-3.5, 2-3.6)
Unit III Sections 2-3.8, 2-3.9, 4.1(4-1.1 - 4-1.5)
Unit IV Sections 4-2,4-3,4-4

3. K.Venkataraman, N.Sridharan, N.Chandrasekaran, Discrete Mathematics, The National Publishing Company, 2006.

Unit V Chapter 4.1,4.2, chapter 5.1,5.3,5.4

Reference Book(s):

1. C.L.Liu, Elements of Discrete Mathematics, McGraw Hill Book Company second edition, 1977
2. Dr. A. Singaravelu, Dr.V.Ravichandaran, Dr. T.N. Shanmugam, Discrete Mathematics,Meenakshi agency 2008, 5th edition.

Learning Methods (*):

- Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability, Skill Development

e-Resource/e-Content URL:https://www.youtube.com/watch?v=O0KbymjE7xU

Course Designer: Dr.P.Sugapriya
Assistant Professor, Dept. of Mathematics, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Know the concepts of mathematical logic	K1
CO2	Understand the concepts of sets and relations	K2
CO3	Compute the properties of lattices	K2
CO4	Understand the concepts of Boolean Algebra	K2
CO5	Solve problems using mathematical inducton	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/Pos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M	S	L	M	S	S	L	S	S	M
CO2	M	M	M	S	S	S	S	S	M	S
CO3	L	M	M	S	S	S	L	S	S	M
CO4	M	L	M	S	M	M	L	S	S	M
CO5	M	L	S	S	S	M	L	S	S	M

S –Strong; L –Low; M –Medium

SEMESTER-VI

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6S10	Verbal Reasoning -II	SBC 4	22	5	-	2

Preamble: The learner will be able to develop his logical and analytical thinking

Prerequisite: Basic knowledge in all fields Arithmetic, Trigonometry

SYLLABUS: VERBAL REASONING -II

Unit	Course contents	Instructional hours
I	Data Sufficiency	5
II	Arithmetical Reasoning	5
III	Direction Sense Test	5
IV	Situation Reaction Test	6
V	Logical Deduction: Logical reasoning – logical deduction – two premise arguments	6
	Total	**27**

Text Book: Dr.R.S.Agarwal, A modern approach to Verbal and Non-verbal Reasoning, S.Chand& Company Pvt.Ltd, 2011 Edition, New Delhi
Unit I: (Page no 654-658)
Unit II: (Page no 601-606)
Unit III: (Page no 416-420)
Unit IV: (Page no 731-748)
Unit V: (Page no 1 -11)

Reference Book(s):
1. Sijwali BS, Reasoning Verbal and Non verbal, Arihant publications
2. Sijwali BS, A modern approach to Verbal and Non-verbal Reasoning, Arihant publications
3. Subburaj V.V.K, Test of Reasoning Verbal & Non Verbal and General Intelligance for Competitive Exam, Sura
College of Competition
4. Kiran, Competitive Reasoning Verbal and Non verbal, Kiran Institute of Career Excellence Private Ltd.

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability

e-Resource/e-Content URL: https://youtu.be/K_gYNH0gUqE

Course Designer: K.Sivaswamy
Assistant Professor, Dept. of Mathematics, STC

Dr. R. Senthil Amutha
BoS Chairman

Course Outcomes (COs)

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

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Critical thinking developed	K2
CO2	Reasoning ability enhanced	K3
CO3	Skill for understanding the data and arriving at conclusion fully developed	K2
CO4	Presence of mind ability developed	K3
CO5	Logical reasoning skill increased	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/Pos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	S	M	M	S	L	M	M	S	S
CO2	L	S	M	M	S	L	M	M	S	S
CO3	L	S	M	M	S	L	M	M	S	S
CO4	L	S	M	M	S	L	M	M	S	S
CO5	L	S	M	M	S	L	M	M	S	S

S –Strong; L –Low; M –Medium

SEMESTER VI

Course code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6S20	Python Programming Lab	SBC 4	-	5	22	2
Preamble: The course has been designed to impart practical knowledge on Python Programming						
Prerequisite: Basic Programming concepts						

SYLLABUS: Python Programming Lab

Ex. No	Course contents	Instructional Hours
1	Compute the GCD of two numbers.	3
2	Program using While Loop	3
3	Find the square root of a number (Newton's method)	3
4	String Type Functions	3
5	Dictionary Type Methods	3
6	First n prime numbers	4
7	Stacks with python lists	4
8	Queue with python lists	4
	Total	**27**

Reference Book:

1. Wesley J.Chun – **"Core Python Programming",** 2nd Edition, Pearson
2. Mark Summerfield –**"Programming in Python 3",** Pearson

Tools to be used: Python 3.7.1

Focus of Course: Skill Development
(Employability/Entrepreneurship/Skill Development)

Course Designer: Ms. P.SUDHA,
Asst. Prof. Dept. of Computer Science, STC

Dr. R. Senthil Amutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to:		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Understand the concepts of object-oriented programming as used in Python	K2
CO2	Develop applications using build in functions ,GUI , CGI and Network functions	K3
CO3	Illustrate the concept of exception handling in Python applications for error handling.	K2
CO4	Design and program Python applications.	K3

Mapping Course Outcomes with Programme Outcomes and Programme Specific Outcomes:

COs/Pos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	S	M	M	M	M	M	M	M
CO2	L	M	S	M	S	S	M	S	M	S
CO3	L	M	S	M	M	M	S	S	M	M
CO4	L	M	S	M	S	S	M	S	M	S

S –Strong; L –Low; M –Medium

ELECTIVES
SEMESTER V

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA5EA0	Programming in C++	CE I	45	5	-	4

Preamble: The student acquires sufficient knowledge in the principles of object-oriented concepts and features of C++ supporting Object Oriented Programming.

Prerequisite: Theoretical background & programming knowledge in C language with Logical skills.

SYLLABUS: PROGRAMMING IN C++

Unit	Course contents	Instructional Hours
I	**Introduction to C++:** Key concepts of OOP – Advantages of OOP. C++ declarations: Parts of C++ program	10
II	**Classes and Objects:** Declaring objects – The Public Keyword – The Private Keyword – The Protected Keyword – Defining member functions –Friend functions. Constructors and Destructors: Characteristics	10
III	**Functions in C++:** Parts of function – Inline Functions – Function overloading. Arrays: Characteristics of Arrays	10
IV	**Inheritance:** Types of Inheritances – Single Inheritance – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Multipath Inheritance	10
V	**Working with Strings:** Introduction – String Manipulating Functions. **Files**: File opening modes – Sequential Read/Write operations – Random access operation.	10
	Total	**50**

Text Book(s):
Ashok N Kamthane – **"Object oriented Programming with ANSI and Turbo C++"**, Pearson Education Publication, 7th Impression, 2009.

Reference Book(s):
1. E.Balagurusamy, **"Object oriented programming with C++"**, TMH Publication, 6th Edition, 2015.
2. Herbert Schildt, **"C++ - A Beginner's Guide"**, TMH Publication, 1st Edition, 2002
3. YashavantKanetkar, **"Let Us C++"**, BPB Publications,2nd Edition, 2010
4. Deitel HM & DJ Deitel, **"C++ How to Program"**, PH/Learning Pvt.Ltd, 7th Edition, 2010.

Focus of Course: Employability

e-Resource/e-Content URL:
- http://www.cplusplus.com/
- https://www.learncpp.com/

Course Designer:Ms.P.SUDHA,
Asst. Prof. Dept. of Computer Science, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Define the features of C++ supporting object oriented programming	K1
CO2	Sketch out the major object-oriented concepts like encapsulation, inheritance to implement in C++ programming	K2
CO3	Identify programming goals into object-oriented components for solving problems using techniques in C++	K3
CO4	Develop, test, and debug programs using object oriented principles	K3

Mapping Course Outcomes with Programme Outcomes & Programme Specific Outcomes:

COs/POs/ PSOs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	L	M	M	M	L	M	M	M
CO2	L	M	S	M	M	M	M	M	M	M
CO3	M	M	S	S	S	S	M	S	M	S
CO4	M	M	S	S	S	S	M	S	M	S

S –Strong; L –Low; M –Medium

SEMESTER V

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA5EB0	Numerical Methods I	CE1	45	5	-	4

Preamble: To teach the students to use the methods to solve linear algebraic and transcendental equations and system of linear equations. Also Interpolation by using finite difference formulae.

Prerequisite: Basic level knowledge about solving the linear equations numerically.

SYLLABUS: NUMERICAL METHODS – I

Unit	Course contents	Instructional hours
I	The solution of numerical algebraic and transcendental Equations: Bisection method – Iteration Method – Regular Falsi Method – Newton – Raphson method	10
II	Solution of simultaneous linear algebraic equations: Gauss elimination method – Gauss Jordan method –Gauss Jacobi method – Gauss Seidel method	10
III	Finite Differences: Differences – operators – forward and backward difference tables – Differences of a polynomial – Factorial polynomial – Error propagation in difference table.	10
IV	Interpolation (for equal intervals): Newton's forward and backward formulae – equidistant terms with one or more missing values – Central differences and central difference table – Gauss forward and backward formulae – Stirlings formula.	10
V	Interpolation (with unequal intervals): Divided differences – Properties – Relations between divided differences and forward differences – Newton's divided differences formula – Lagrange's interpolation formula.	10
	Total	**50**

Text Book:
Kandasamy. P, Thilagavathi. K and Gunavathi.K, "Numerical methods" – S.Chand and Company Ltd, New Delhi – Revised Edition 2007. (Chapters: 3,4,5,6, 7 and 8).
Unit I : chapter 3 (3.1 – 3.4) Pg No: 69-97
Unit II: chapter 4 (4.1 – 4.9) Pg No: 112-126, 145-158.
Unit III: chapter 5 (5.1 – 5.5) Pg No: 170-196.
Unit IV: chapter 6, 7 (6.1 to 6.3, 6.7, 7.1 to 7.5) Pg No : 209-225, 231-239, 241, 246-249.
Unit V : chapter 8 (8.1 to 8.7) Pg No: 257-276.

Reference Book(s):
1. VenkataramanM.K."Numerical Methods in Science and Engineering" National Publishing company V Edition 1999.
2. SankaraRao K., "Numerical Methods for Scientists and Engineers" 2nd Edition Prentice Hall India 2004.

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability

e-Resource/e-Content URL: https://youtu.be/Ti4vEG9BL0U

Course Designer: K. Sivaswamy
Assistant Professor, Dept. of Mathematics , STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)
On successful completion of this course the students will be able to

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Find the roots of equation by numerical methods	K3
CO2	Get familiar with different methods for obtaining solution to a system and a system of linear equations	K3
CO3	Understand the different operators and interpret it in problems	K2
CO4	Apply the interpolation techniques in problems	K3
CO5	Analyze the roots of equation by numerical methods	K4

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	S	S	S	L	M	S	S	S
CO2	L	M	S	S	S	L	M	S	S	S
CO3	L	M	S	S	S	L	M	S	S	S
CO4	L	M	S	S	S	L	M	S	S	S
CO5	L	M	S	S	S	L	M	S	S	S

S –Strong; L–Low; M –Medium

SEMESTER VI

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6EA0	Python Programming	CE2	45	5	-	4
Preamble: This course aims at with facilitating the student to learn and develop applications using Python						
Prerequisite: Basic Programming concepts						

SYLLABUS: PYTHON PROGRAMMING

Unit	Course contents	Instructional Hours
I	The way of the program: The python programming language – What is a program? – What is debugging? – Formal and natural languages – The first Program – Variables, expressions and statements– values and types – variables- variables names and keywords – statements – Evaluating expressions – Operators and operands – order of operations – operations on strings	10
II	Functions: Function calls – Type conversion – Math functions– Adding new functions- Definition and use – Flow of execution – parameters and arguments – variables and parameters are local – stack diagrams	10
III	Conditionals and recursions: The modulus operator – Boolean expression – Logical operator – Conditional execution – Alternative execution – Chained conditionals – Nested conditionals. Iterations: Multiple assignments- The while statements – Encapsulation and generalization - Strings: A compound data type –Length – Traversal and the for loop – String slices – string comparison	10
IV	Lists: List values – Accessing elements – List length – List membership List and for loop- List operations – List slices – mutable –deletion -Tuples : Mutability and tuples – Tuple assignment – Tuples as return values – Random numbers- counting - buckets– Dictionaries: Operations – Methods –Aliasing and copying – Sparse matrices	10
V	Stacks: Abstract data types – The Stack ADT- Implementing stacks with python lists – pushing and popping – Queues: Linked queue – Improved linked queue – Trees: Building trees – Traversing trees – Expression trees.	10
	Total	50

Text Book(s):

1. Allen Downey, Jeffrey Elkner, Chris Meyers – **"Learning with python",** Reprint Edition' DreamTech 2016 (UNIT I, II, III, IV, V).

Reference Book(s):

1. Mark Lutz, David Ascher – "Learning Python", O'Reilly Media, Inc.5th edition,2013
2. Solem Jan Erick "Programming Computer Vision with Python", creative commons, 2012
3. David Beazley, "Python ESSENTIALREFERENCE", 3rd Edition, Sams Publishing,2010
4. Martin C. Brown, "Python: The Complete Reference", 4th Edition, McGraw-Hill,2012

Focus of Course:
Skill Development

e-Resource/e-Content URL:

- http://www.pitt.edu/~peterb/0012-161/syllabus.html

BOS
JUL 2021
HOD

Course Designer: Ms. P.SUDHA,
Asst. Prof. Dept. of Computer Science, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)

On successful completion of this course the students will be able to:

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Understand the fundamentals of Python programming language	K2

CO2	Acquire knowledge on Functions, type conversions, variables and parameters	K2
CO3	Explore the knowledge on conditionals and recursions and strings	K2
CO4	Understand the concept of lists, tuples, dictionaries and linked lists	K2
CO5	Apply the knowledge of stacks, queues and trees	K3

Mapping Course Outcomes with Programme Outcomes and Programme Specific outcomes:

COs/Pos	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	M	M	M	M	M	M	M
CO2	L	M	M	M	M	M	M	M	M	M
CO3	L	M	M	M	M	S	M	S	M	S
CO4	L	M	M	M	M	M	M	S	M	S
CO5	L	S	S	S	S	S	M	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER - VI

Course Code	Course Name	Category	Lecture (L)	Tutorial (T)	Practical (P)	Credit
21BMA6EB0	Numerical Methods II	CE2	45	5	-	4

Preamble: To teach the students to expose numerical techniques as powerful tool in scientific computing.

Prerequisite: Basic level knowledge about solving the linear equations numerically and finding interpolation by using difference formulae.

SYLLABUS: NUMERICAL METHODS – II

Unit	Course contents	Instructional hours
I	Numerical differentiations: Newton's forward and backward formulae to compute the derivatives – Derivative using Stirlings formulae – to find maxima and minima of the function given the tabular values	10
II	Numerical Integration: Trapezoidal rule – Simpson's 1/3rd and 3/8th rules – Weddle's rule- simple problems.	10
III	Difference Equation: Order and degree of a difference equation – solving homogeneous and non – homogeneous linear difference equations (to find complementary and particular integral of $f(E).yx = \phi(x)$	10
IV	Numerical solution of O.D.E (for first order only): Taylor series method – Euler's method – improved and modified Euler method – Runge Kutta method (fourth order RungeKutta method only)	10
V	Numerical solution of O.D.E (for first order only): Milne's predictorcorrector formulae – Adam-Bash forth predictor corrector formulae	10
	Total	**50**

Text Book:

Kandasamy. P, Thilagavathi. K and Gunavathi.K "Numerical methods" – S. Chand and Company Ltd, New Delhi – Revised Edition 2012.

(Chapters: 9, 10, 11, Appendix and Appendix E).

Unit I: chapter 9 (9.1-9.4,9.6) Pg No : 281 - 297

Unit II: chapter 9(9.7, 9.9-9.11, 9.13-9.15)PgNo : 299 - 301, 303 - 305, 308 - 312.

Unit III: chapter 10(10.1 to 10.4)Pg No : 322 -334.

Unit IV: chapter 11(11.1,11.5 to 11.7, 11.9,11.12)Pg No : 348, 352-361, 369-377, 383-389.

Unit V: chapter 11(11.16 to 11.18)Pg No : 395-408.

Reference Book(s):

1. Venkataraman M. K.,"NumericalMethods in Science and Engineering", National Publishing company V Edition 1999.
2. SankaraRao K., "Numerical Methods for Scientists and Engineers" 2nd Edition Prentice Hall India 2004

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc.,

Focus of Course:Employability

e-Resource/e-Content URL:https://youtu.be/rCZIb9ue98Q

Course Designer: Prof.K.Sivaswamy
Dean/Mathematics, STC

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**

CO1	Classify the differentiations and integrations formula to get the solution of the linear function	K2
CO2	Identify the solution of homogeneous and non-homogeneous linear differential equations	K3
CO3	Analyze the roots of equation by numerical methods	K4
CO4	Extend the ODE concept in various numerical method	K2
CO5	Solve the ODE equation using numerical methods	K4

Mapping with Program Outcomes and Program Specific Outcomes

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	S	S	S	L	M	S	S	S
CO2	L	M	S	S	S	L	M	S	S	S
CO3	L	M	S	S	S	L	M	S	S	S
CO4	L	M	S	S	S	L	M	S	S	S
CO5	L	M	S	S	S	L	M	S	S	S

S –Strong; L –Low; M –Medium

SEMESTER-VI

Course Code	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
21BMA6EC0	Graph Theory	CE3	45	5	-	4

Preamble: This course aims at facilitating the student to understand and apply the fundamental concepts in graph theory

Prerequisite: To know elementary number theory, matrices and basic set operations in Mathematics

SYLLABUS: GRAPH THEORY

UNIT	Course Contents	Instructional hours
I	Graph and sub-graphs – Operations on Graphs – Isomorphism of Graphs – Self Complementary graphs – Intersection graphs –Ulam'sConjective – Walks, paths and Cycles.	10
II	Connected Graphs: Connected components of a graph – k-disconnected graph – Trees –Spanning Trees of a graph – Algorithm for finding a spanning tree of a connected graph – Co-tree – Rank and Nullity – Eccentricity, Radius, centre.	10
III	Connectivity: Cut vertex – Vertex cut – Cut edge – Cut set – Fundamental cut set – Edge connectivity – Separable graph – k-connected graph	10
IV	Digraphs: In degrees and out degrees – Types of digraphs – Isomorphism of digraphs – Di subgraph – Directed walk, trail, path and cycles – underlying graphs – Reachability – Connectedness of a digraph - Components of a digraph – Tournament	10
V	Matrix Representation: Adjacency matrix – Incidence matrix – Matrices of digraphs – Connectedness and adjacency matrix – Reduced incidence matrix – Unimodular – Reachability matrix	10
	Total	50

Text Book:

S.Kumaravelu, SusheelaKumaravelu, "Graph Theory", Janaki Calendar Corporation, Sivakasi, 1st Edition, 1999.

Unit I: Page No.: 1 – 30, 35 – 40, 43 – 54.
Unit II: Page No.: 56 – 64, 66 – 77.
Unit III: Page No.: 111 – 125.
Unit IV: Page No.: 316 – 325, 336 – 341.
Unit V: Page No.: 347 – 349, 352, 355 – 363.

Reference Book(s):

1. NarsinghDeo, Graph Theory with applications to engineering and computer science, Prentice hall of India,
2. S. Kumaravelu&SusheelaKumaravelu, Graph Theory, JankiCalender Corporation, Sivakasi,1999.
3. T. Veerarajan, Discrete Maths with Graph Theory and Combinatorics, Tata McGraw Hill Publishing Company,2007.

Learning Methods (*):
Assignment/Seminar/ Self-Study/etc.

Focus of Course: Entrepreneurship

e-Resource/e-Content URL:https://www.youtube.com/watch?v=aUjq6o0PmjY

Course Designer:Dr.P.Sugapriya,
Assistant Professor, Mathematics

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)
On successful completion of this course the students will be able to

CO Number	Course Outcome (CO) Statement	Blooms Taxonomy Knowledge Level
CO1	Know the basic concept of graph theory and the types of graphs	K1
CO2	Relate connectedness, connectivity and various matrices	K1
CO3	Understand the concept of the digraph and connectivity of a digraph	K2
CO4	Apply the techniques and rules in a different way	K3
CO5	Identify the real life application of graph theory	K3

Mapping with Program Outcomes and Program Specific Outcomes:

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	S	L	M	S	S
CO2	L	M	S	S	S	S	L	M	S	S
CO3	L	M	S	S	S	S	L	M	S	S
CO4	L	M	S	S	M	S	L	M	S	S
CO5	M	S	S	S	S	S	M	M	S	S

S –Strong; L –Low; M –Medium

SEMESTER-VI

CourseCode	Course Name	Category	Lecture (L)	Tutorial(T)	Practical (P)	Credit
21BMA6ED0	Number Theory	CE3	45	5	-	4

Preamble: This course aims at facilitating the student to understand and apply the fundamental concepts in Numbertheory

Prerequisite: To know elementary number theory, Basic concept of divisibility, congruences

SYLLABUS: NUMBER THEORY

Unit	Course contents	Instructional hours
I	**Divisibility**: Divisibility of integer – Division algorithm – Common divisor – Greatest common divisor– The Euclidean algorithm – To find the HCF of more than two integers – Least common multiple – Worked examples.	10
II	**Primes and Composite Number**: Definition of Prime, Composite, Twin prime – Euclid's theorem – Uniquefactorization theorem – To find GCD & LCM of two integers – Positional representation of on integers – Worked examples	10
III	**Congruences:** Definition – Theorems and worked examples. Linear congruences: Definition – Theorems and worked examples	10
IV	**Theorem of Fermat and Wilson:** Introduction – Fermat's theorem – another form of Fermat's theorem – Euler's extension of Fermat's theorem – worked examples – Wilson'stheorem.	10
V	**Primitive Roots:** Order of a (mod m)– Theorems – Worked examples – Primitive roots – Theorems – Legendre's theorem – Worked examples	10
	Total	**50**

Text Book:

Kumaravelu and SuseelaKumaravelu, Elements of Number Theory, Raja sankar offset Printers, 2002.

Unit I : Chapter 3 Page no 45-57
Unit II : Chapter 4 Page no 60-75
Unit III : Chapter 6 Page no 163-174,189-197
Unit IV : Chapter 7 Page no 208-221,228
Unit V : Chapter 9 Page no 274-281,283-303

Reference Book(s):

1. Ivan Nivan and Herbert S. Zuckerman, An introduction to the Theory of Numbers, Third Edition Wiley Easter Ltd.1972.
2. David M. Burton, Elementary Number Theory, Second Edition, Universal Book stall, New Delhi,1991.
3. T.M Apostol, Introduction to Analytic Number theory, Springer Verlag, 8th reprint1998.

Learning Methods (*):

Assignment/Seminar/ Self-Study/etc.,

Focus of Course: Employability (Employability/Entrepreneurship/Skill Development)

e-Resource/e-Content URL:https://www.youtube.com/watch?v=0C0wKICC9Ac

Course Designer:Prof. K. Sivasamy
Dean MathematicsST C

Dr. R. SenthilAmutha
BoS Chairman

Course Outcomes (COs)		
On successful completion of this course the students will be able to		
CO Number	**Course Outcome (CO) Statement**	**Blooms Taxonomy Knowledge Level**
CO1	Find results involving divisibility and greatest common divisors	K1
CO2	Find integral solution to specified linear Diophantine equations	K1
CO3	Demonstrate system of linear congruence	K2
CO4	Apply Euler, Fermat's Theorem and prove relations involving primenumbers, Wilson's theorem	K3
CO5	Apply Legendre's theorem	K3

Mapping with Program Outcomes and Program Specific Outcomes

COs/POs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	L	M	M	S	S	S	L	M	S	S
CO2	M	M	S	S	S	S	L	M	S	S
CO3	L	M	S	S	S	S	L	M	S	S
CO4	L	M	S	S	M	S	L	M	S	S
CO5	M	S	S	S	S	S	M	M	S	S

S –Strong; L –Low; M –Medium

CURRICULUM STRUCTURE OF UG PROGRAMMES

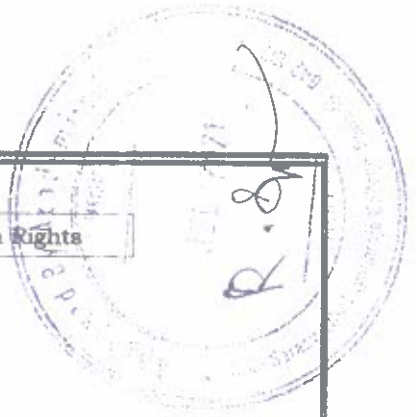
(2021-22 Batch Onwards)

PART - I → a. Tamil Or b. Hindi Or c. Malayalam Or d. French

PART - II → English : English Paper I, II, III & IV

PART - III →
1. Core
2. Allied
3. Electives

PART - IV →
1. Environmental Studies, Value Education and Human Rights
2. Non -Major Electives
3. Skill Based Courses
4. **Extra Credit Courses**
   Professional English for Physical Sciences, Summer Project, Job Oriented Course, MOOC courses



PART - V → **Extension Activities**
1. NSS / Sports

EXAMINATIONS SYSTEM UNDER AUTONOMY

1. OBE ASSESSMENT COMPONENT MATRIX

Theory

Course Category	UG	UG/PG			UG	UG	PG
Assessment Components	Language	Concept	Application	Analysis	Skill Based Course	Value Based Course	IDC
Component -1 CIA – Test	30	30	30	30	15	45	50
Component -2 UG – Attendance / PG – Seminar	5	5	5	5	5	5	-
Component -3 Assignments	5	5	5	5	5	-	-
Component -4 Skill Based Task	10*	10*	10*	10*	5#	-	-
Total Marks	**50**	**50**	**50**	**50**	**30**	**50**	**50**

Note:
 # - Skill based task – 1 task
*** - Skill based tasks – 2 tasks for UG, – 3 tasks for PG**

Practical

Course Category	UG/PG		Skill Based
Assessment Components			
Component -1 CIA – Test	30	15	15
Component -2 Lab Performance	5	2.5	5
Component -3 Observation	5	2.5	5
Component -4 Skill Based Task	10*	5#	5#
Total Marks	**50**	**25**	**30**

Note:
 # - Skill based task – 1 task
*** - Skill based tasks – 2 tasks for UG, – 3 tasks for PG**

Project & Internship

Course Category	Project	Summer Internship	Project
Assessment Components			
Component -1 Review I	15	25	30
Component -2 Review II	15	25	30
Component -3 Report Submission	10	-	20
Component -4 Model Viva voce	10	-	20
Total Marks	**50**	**50**	**100**

Internship & Field Work for Psychology/Social Work

Course Category	Internship
Assessment Components	
Component -1 Attendance	10
Component -2 Work Diary/IC	10

Component -3 Report/Record	10
Component -4 Prof. Knowledge& Initiatives/ Viva voce	20
Total Marks	**50**

SKILL BASED TASKS FOR THEORY / PRACTICAL COURSES:

- FLOWCHARTS
- MINIATURES
- DEMONSTRATION
- SNAP TALK
- VIVA VOCE
- CLASS PRESENTATION [ORAL/POSTER]
- BUSINESS PLAN
- GROUP DISCUSSION
- SIMULATION EXERCISE
- CASE STUDY
- GAMES
- PUZZLES
- MODELS
- PAPER PRESENTATION
- ARTICLE REVIEW
- DEBATE
- SEMINAR
- REPORTS
- PORTFOLIOS
- QUESTIONNAIRE
- PUBLICATION
- SURVEY
- MINI PROJECT [INDIVIDUAL / GROUP]
- USP COMPONENT [UNIQUE TO THE COURSE]

2. Mark Preparation Format

Sl.No.	Name	Reg.No.	Rubrics Evaluation				
			Component 1	Component 2	Component 3	Component 4	Total

3. Pattern of Examinations: The college follows semester pattern. Each academic year consists of two semesters and each semester ends with the End Semester Examinations. A student should have a minimum of 75% attendance out of 90 working days to become eligible to sit for the examinations.

4. Internal Examinations: The questions for every examination shall have equal representation from the units of syllabus covered. The question paper pattern and coverage of syllabus for each of the internal (CIA) tests for UG programs are as follows.

Internal Assessment Test

i. First Internal Assessment Test

Syllabus : First Two Units
Working Days : On completion of 30 working days, approximately
Duration : Two Hours
Max. Marks : 50

ii. Second Internal Assessment Test

Syllabus : Third and Fourth Units
Working Days : On completion of 65 working days, approximately
Duration : Two Hours
Max. Marks : 50

iii. Model Examinations

Syllabus : All Five Units
Working Days : On completion of 85 working days, approximately
Duration : Three Hours
Max. Marks : 100 (or) 75

CIA Assessment (for CIA-I and CIA-II) - UG

Bloom's Category Level	Sections	Marks			Description
K1= Remember	Section A 5 Questions * 1 Marks	5			Multi choice Questions
K1= Remember K2= Understand K3= Apply	Section B 3 Questions (out of 5 questions) * 5 Marks (Open choice type)	15			Open choice type Questions (250 words)
		K1	K2	K3	
		2	2	1	
K1= Remember K2= Understand K3= Apply	Sections C 3 Questions * 10 Marks (either or type)	30			Either or types Questions (500 words)
		K1	K2	K3	
		2	2	2	
	Total	**50**			

For the internal assessment test, the question paper pattern shall be as given below.

UG: CIA TEST – I & II

[FOR 2 UNITS - 2 HOURS – 50 MARKS]

[FOR CORE/ELECTIVE/ALLIED/SKILL BASED COURSES]

SECTION A

[05 MULTIPLE CHOICE QUESTIONS]
[ALL 5 FROM K1 LEVEL]: **05 x 01= 05 MARKS**
(MINIMUM TWO QUESTION SHALL BE ASKED FROM EACH UNIT)

SECTION B

[250 WORDS – OPEN CHOICE TYPE – 3 OUT OF 5 QUESTIONS]
[2 QUESTIONS FROM K1 LEVEL]
[2 QUESTIONS FROM K2 LEVEL]
[1 QUESTION FROM K3 LEVEL]: **03 x 05 = 15 MARKS**
(MINIMUM TWO QUESTION SHALL BE ASKED FROM EACH UNIT)

SECTION C

[500 WORDS – EITHER OR TYPE – 3 QUESTIONS]
[ALL 3 ARE FROM K1,K2& K3 LEVEL RESPECTIVELY]: **03 x 10 = 30 MARKS**
(MINIMUM TWO QUESTION SHALL BE ASKED FROM EACH UNIT)

[FOR 2 UNITS - 2 HOURS – 50 MARKS]

SBC - General Intelligence and Reasoning, Verbal Reasoning – I and Verbal Reasoning II

SECTION A

[50 MULTIPLE CHOICE QUESTIONS]
[ALL 50 FROM K1 LEVEL]: **50 x 01= 50 MARKS**
(MINIMUM TWENTY TWO QUESTIONS SHALL BE ASKED FROM EACH UNIT)

CIA Assessment (for CIA-I and CIA-II) - PG

Bloom's Category Level	Sections	Marks	Description
K1= Remember	Section A 5 Questions * 1 Marks	5	Multi choice Questions
K1= Remember K2= Understand K3= Apply K4 = Analyze	Section B 3 Questions (out of 5 questions) * 5 Marks (Open choice type)	15 K1 K2 K3 K4 1 2 1 1	Open choice type Questions (250 words)
K2= Understand K3= Apply K4 = Analyze	Sections C 3 Questions * 10 Marks (either or type)	30 K1 K2 K3 K4 - 2 2 2	Either or types Questions (500 words)
	Total	**50**	

For the First internal assessment test, the question paper pattern shall be as given below.

PG: CIA TEST – I & II

[FOR 2 UNITS - 2 HOURS – 50 MARKS]
[FOR CORE/ELECTIVE/ALLIED/SKILL BASED COURSES]

SECTION A

[05 MULTIPLE CHOICE QUESTIONS]
[ALL 5 FROM K1 LEVEL]: **05 x 01= 05 MARKS**
(MINIMUM TWO QUESTION SHALL BE ASKED FROM EACH UNIT)

SECTION B

[250 WORDS – OPEN CHOICE TYPE – 3 OUT OF 5 QUESTIONS]
[1 QUESTION FROM K1 LEVEL]
[2 QUESTIONS FROM K2 LEVEL]
[1 QUESTION FROM K3 LEVEL]
[1 QUESTION FROM K4 LEVEL]: **03 x 05 = 15 MARKS**
(MINIMUM TWO QUESTION SHALL BE ASKED FROM EACH UNIT)

SECTION C

[500 WORDS – EITHER OR TYPE – 3 QUESTIONS]
[ALL 3 ARE FROM K2,K3&K4 LEVEL RESPECTIVELY] : **03 x10 = 30 MARKS**
(MINIMUM TWO QUESTION SHALL BE ASKED FROM EACH UNIT)

PG: CIA TEST – I & II

[FOR 2 UNITS - 2 HOURS – 50 MARKS]
[FOR IDC – Basics of Matlab, Quantitative Appltitude and Verbal reasoning]

SECTION A

[50 MULTIPLE CHOICE QUESTIONS]
[ALL 50 FROM K1 LEVEL]: **50 x 01= 50 MARKS**
(MINIMUM TWENTY TWO QUESTIONS SHALL BE ASKED FROM EACH UNIT)

Model & Semester ExaminationsAssessment - UG for 100 marks

Bloom's Category Level	Sections	Marks	Description
K1= Remember	Section A 10 Questions * 1 Marks	10	Multi choice Questions

K1= Remember K2= Understand K3= Apply	Section B 5 Questions (out of 7 questions)* 6 Marks (Open choice type)	30				Open choice type Questions (250 words)
		K1	K2	K3		
		2	3	2		
K1= Remember K2= Understand K3= Apply	Sections C 5 Questions * 12 Marks (either or type)	60				Either or types Questions (500 words)
		K1	K2	K3		
		4	4	2		
	Total	**100**				

Model & Semester ExaminationsAssessment - UG for 75 marks

Bloom's Category Level	**Sections**	**Marks**			**Description**
K1= Remember	Section A 10 Questions * 1 Marks	10			Multi choice Questions
K1= Remember K2= Understand K3= Apply	Section B 5 Questions (out of 7 questions)* 5 Marks (Open choice type)	25			Open choice types Questions (250 words)
		K1	K2	K3	
		2	3	2	
K1= Remember K2= Understand K3= Apply	Sections C 5 Questions * 8 Marks (either or type)	40			Either or types Questions (500 words)
		K1	K2	K3	
		4	4	2	
	Total	**75**			

UG: MODEL & SEMESTER EXAMINATIONS
[FOR CORE/ELECTIVE/ ALLIED COURSES]
[FOR 5 UNITS – 3 HOURS – 100 MARKS]

SECTION A

[10 MULTIPLE CHOICE QUESTIONS]
[ALL 10 FROM K1 LEVEL]:
(Two each from all units)

10x01= 10 MARKS

SECTION B

[250 WORDS – OPEN CHOICE TYPE – 5 OUT OF 7 QUESTIONS]
[2 QUESTIONS FROM K1 LEVEL]
[3 QUESTIONS FROM K2 LEVEL]
[2 QUESTIONS FROM K3 LEVEL]:
(Minimum One question shall be asked from each unit)

05 x 06 = 30 MARKS

SECTION C

[500 WORDS – EITHER OR TYPE – 5 QUESTIONS]
[2 QUESTIONS FROM K1 LEVEL]
[2 QUESTIONS FROM K2 LEVEL]
[1 QUESTION FROM K3 LEVEL]:
(Two each from all units)

05 x 12 = 60 MARKS

UG: MODEL & END SEMESTER EXAMINATIONS
[FOR SKILL BASED COURSES / ALLIED & NME]
[FOR 5 UNITS – 3 HOURS – 75 MARKS]

SECTION A

[10 MULTIPLE CHOICE QUESTIONS]
[ALL 10 FROM K1 LEVEL]: **10x01= 10 MARKS**
(Two each from all units)

SECTION B

[250 WORDS – OPEN CHOICE TYPE – 5 OUT OF 7 QUESTIONS]
[2 QUESTIONS FROM K1 LEVEL]
[3 QUESTIONS FROM K2 LEVEL]
[2 QUESTIONS FROM K3 LEVEL]: **05 x 05 = 25 MARKS**
(Minimum One question shall be asked from each unit)

SECTION C

[500 WORDS – EITHER OR TYPE – 5 QUESTIONS]
[2 QUESTIONS FROM K1 LEVEL]
[2 QUESTIONS FROM K2 LEVEL]
[1 QUESTION FROM K3 LEVEL]: **05 x 08 = 40 MARKS**
(Two each from all units)

SBC - General Intelligence and Reasoning, Verbal Reasoning – I and Verbal Reasoning II

Section A

[75 MULTIPLE CHOICE QUESTIONS]
[ALL 75 FROM K1 LEVEL]: **75 x 01= 75 MARKS**
(MINIMUM TWELEVE QUESTIONS SHALL BE ASKED FROM EACH UNIT)

Model & Semester Examinations Assessment - PG for 100 marks

Bloom's Category Level	Sections	Marks	Description
K1	Section A 10 Questions * 1 Marks	10	Multiple choice Questions
K1, K2, K3,K4	Section B 5 Questions (out of 7 questions) * 6 Marks (Open choice type)	30 K1: 2 | K2: 2 | K3: 2 | K4: 1	Open choice types Questions (250 words)
K2, K3, K4	Sections C 5 Questions * 12 Marks (either or type)	60 K2: 4 | K3: 4 | K4: 1	Either or types Questions (500 words)
	Total	**100**	

PG: MODEL & END SEMESTER EXAMINATIONS
[FOR 5 UNITS – 3 HOURS – 100 MARKS]

[FOR CORE/ELECTIVE/ALLIED COURSES]
SECTION A
[10 MULTIPLE CHOICE QUESTIONS]
[ALL 10 FROM K1 LEVEL]: **10x01= 10 MARKS**
(Two each from all units)

SECTION B
[250 WORDS – OPEN CHOICE TYPE – 5 OUT OF 7 QUESTIONS]
[2 QUESTIONS FROM K1 LEVEL]
[2 QUESTIONS FROM K2 LEVEL]
[2 QUESTIONS FROM K3 LEVEL]
[1 QUESTION FROM K4 LEVEL]: **05 x 06 = 30 MARKS**
(Minimum One question shall be asked from each unit)

SECTION C
[500 WORDS – EITHER OR TYPE – 5 QUESTIONS]
[2 QUESTIONS FROM K2 LEVEL]
[2 QUESTIONS FROM K3 LEVEL]
[1 QUESTION **COMPULSORY** FROM K4 LEVEL]: **05 x 12 = 60 MARKS**
(Two each from all units)

The following is the Question Paper Pattern for the courses Environmental Studies and Value Education and Human Rights,.
Syllabus: All Five Units
Duration: Three Hours
Max. Marks: 50
Question Paper Pattern
Section A (5 x 10 = 50 marks)
Five Questions of "*either / or*" type. Each question carries 10 marks.
Answer all questions

Q.1 (a) _____ or (b) _____
Q.2 (a) _____ or (b) _____
Q.3 (a) _____ or (b) _____
Q.4 (a) _____ or (b) _____
Q.5 (a) _____ or (b) _____

Assignments
Each student is expected to submit at least two assignments per course. The assignment topics will be allocated by the course teacher. The students are expected to submit the first assignment before the commencement of first CIA and the second assignment before the commencement of second CIA.

Scoring pattern for Assignments
Punctual Submission: 2 Marks
Contents : 4 Marks
Originality/Presentation skill: 4 Marks
Maximum : 10 Marks x 2 Assignments = 20 marks
(Reduce these marks to a maximum of 5 i.e., (Marks obtained / 20) X 5)

Attendance Mark
Attendance Range Marks
96 % and above - 5 Marks
91 % & up to 95 % - 4 Marks
86% & up to 90 % - 3 Marks
81% & up to 85 % - 2 Marks
From 75 % to 80% - 1 Mark
Maximum - 5 Marks

Outcome Based Education Assessment Pattern (Internals)
2021–22 batch onwards

InternalsSetup : Theory – 50 marks (UG/PG)

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	7.5
CIA Test – II	50	7.5

Model Examination	100	15
Assignment	5	5
Attendance	5	5
Skill Based Task	5	10
Total Marks		**50**

InternalsSetup : Theory – 30 marks (UG)

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	3
CIA Test – II	50	3
Model Examination	100	9
Assignment	5	5
Attendance	5	5
Skill Based Task	5	5
Total Marks		**30**

InternalsSetup : Value Based Course – 50 marks (UG)

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	10
CIA Test – II	50	10
Model Examination	100	25
Assignment	-	-
Attendance	5	5
Skill Based Task	-	-
Total Marks		**50**

InternalsSetup : IDC – 50 marks (PG)

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	15
CIA Test – II	50	15
Model Examination	100	20
Assignment	-	-
Attendance	-	-
Skill Based Task	-	-
Total Marks		**50**

InternalsSetup : *Practical – 50 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	7.5
CIA Test – II	50	7.5

Model Examination	100	15
Lab Performance	5	5
Observation	5	5
Skill Based Task	10	10
Total Marks		**50**

InternalsSetup : *Practical – 25 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	3.5
CIA Test – II	50	3.5
Model Examination	100	8
Lab Performance	2.5	2.5
Observation	2.5	2.5
Skill Based Task	5	5
Total Marks		**25**

InternalsSetup : *Practical – 30 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
CIA Test – I	50	3
CIA Test – II	50	3
Model Examination	100	9
Lab Performance	5	5
Observation	5	5
Skill Based Task	5	5
Total Marks		**30**

InternalsSetup : *Project – 50 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
Review – I	15	15
Review – II	15	15
Report Submission	10	10
Model Viva-voce	10	10
Total Marks		**50**

InternalsSetup : Summer *Internship – 50 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
Review – I	25	25
Review – II	25	25
Total Marks		**50**

InternalsSetup : *Project– 100 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
Review – I	30	30
Review – II	30	30
Report Submission	20	20
Model Viva-voce	20	20
Total Marks		**100**

InternalsSetup : *Internship and Field Work – 50 marks*

Name of the Examinations	Examination Conduction Marks	Marks to convert as Final Mark
Work diary/IC	10	10
Report/Record	10	10
Professional Knowledge & Initiatives / Viva-voce	20	20
Attendance	10	10
Total Marks		**50**

External Examinations:

The external examinations for theory courses will be conducted for 50% marks for all UG and PG degree programs, (In case of Total mark is 75, External will be 45 marks). The external theory examinations will be conducted only after the completion of 90 working days in each semester.

Normally, the external practical examinations will be conducted before the commencement of theory examinations. Under exceptional conditions these examinations may be conducted after theory examinations are over. The external evaluation will be for 50%(In case of Total mark is 75, External will be 45 marks) of each practical course.

The **External Assessment marks forPractical Examinations** are based on the following criteria. The assessment is for 50 % marks of each practical course.

Programmes (2*20) 40
(Algorithm 10 marks, Key and execution10 marks)
Record 10

Total 50

The **External Assessment marks forSkill BasedPractical Examinations** are based on the following criteria. The assessment is for 45 marks of each practical course.

Programmes (2*20)
(Algorithm 08 marks, Key and execution12 marks)
Record 05

Total 45

The **External Assessment marks forNon Major ElectivePractical Examinations** are based on the following criteria. The assessment is for 50 marks.

Programmes (2*21) 42
(Algorithm 7 marks, Key and execution 14 marks)
Record 8

Total 50

The **External Assessment marks for Project and Summer Internship [Inclusive of Psychology & Social Work]**are based on the following criteria. The assessment is for 50 marks.

a)Evaluation	30
b)Viva	20
Total	**50**

The **External Assessment marks for Project** are based on the following criteria. The assessment is for 100 marks.

a)Evaluation	60
b)Viva	40
Total	**100**

The external viva voce examinations for project works also will be conducted after completion of theory examinations. The external assessment is for 100 % marks of the project work.

The **External Assessment mark for project evaluation / summer internship [50 marks]** is based on the following criteria.

a)Assessment	30
b)Viva	20
Total	**50**

The **External Assessment mark for project evaluation / summer internship [100 marks]** is based on the following criteria.

a)Assessment	60
b)Viva	40
Total	**100**

End Semester Examinations Question Paper Pattern - I

Syllabus	: All Five Units
Working Days	: On completion of a minimum of 90 working days.
Duration	: Three Hours
Max. Marks	: 100

Question Paper Pattern

For the **End SemesterExternalTheoryExaminations for 100 marks** the question paper pattern shall be the same **for all UG & PG programmes.**

Section – A (10 X 1 = 10 Marks)

Answer the following questions

Multiple Choice questions

1 Unit I

2 Unit I

3 Unit II

4 Unit II

5 Unit III

6 Unit III

7 Unit IV

8 Unit IV

9 Unit V

10 Unit V

Section – B (5 X 6 = 30 Marks)
Answer any 5 out of 7 of the following questions
Answers should not exceed 250 words

11. Unit – I/II/III/IV/V

12. Unit –I/II/III/IV/V

13. Unit – I/II/III/IV/V

14. Unit – I/II/III/IV/V

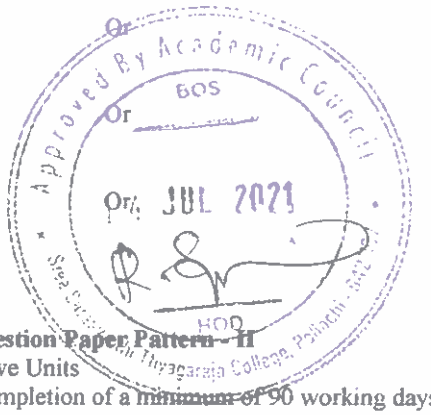
15. Unit – I/II/III/IV/V

16. Unit – I/II/III/IV/V

17. Unit – I/II/III/IV/V

Section – C (5 X 12 = 60 Marks)
Answer either (a) or (b) from all questions
Answers should not exceed 500 words

18.	a)	Unit – I	Or
	b)	Unit – I	
19.	a)	Unit II	Or
	b)	Unit II	
20.	a)	Unit III	Or
	b)	Unit III	
21.	a)	Unit IV	Or
	b)	Unit IV	
22.	a)	Unit V	Or
	b)	Unit V	



End Semester Examinations Question Paper Pattern – II

Syllabus : All Five Units
Working Days : On completion of a minimum of 90 working days.
Duration : Three Hours
Max. Marks : 75

Question Paper Pattern

For the **End SemesterExternalTheoryExaminations (for 75 marks)**, the question paper pattern shall be the same **for all UG programmes [Skill Based Courses & NME].**

Section – A (10 X 1 = 10 Marks)

Answer the following questions
Multiple Choice questions

1 Unit I

2 Unit I

3 Unit II

4 Unit II

5 Unit III

6 Unit III

7 Unit IV

8 Unit IV

9 Unit V

10 Unit V

Section – B (5 X 5 = 25 Marks)

Answer any 5 out of 7 of the following questions

Answers should not exceed 250 words

11. Unit – I/II/III/IV/V

12. Unit –I/II/III/IV/V

13. Unit – I/II/III/IV/V

14. Unit – I/II/III/IV/V

15. Unit – I/II/III/IV/V

16. Unit – I/II/III/IV/V

17. Unit – I/II/III/IV/V

Section – C (5 X 8 = 40 Marks)

Answer either (a) or (b) from all questions

Answers should not exceed 500 words

18.	a)	Unit I	Or
	b)	Unit I	
19.	a)	Unit II	Or
	b)	Unit II	
20.	a)	Unit III	Or
	b)	Unit III	
21.	a)	Unit IV	Or
	b)	Unit IV	
22.	a)	Unit V	Or
	b)	Unit V	

Essential conditions for the Award of Degree / Diploma / Certificates:

1. Pass in all components of the degree, i.e., Part–I, Part–II, Part–III, Part – IV and Part–V individually is essential for the award of degree.
2. First class with Distinction and above will be awarded for part III only. Ranking will be based on marks obtained in Part – III only.
3. GPA (Grade Point Average) will be calculated every semester separately. If a candidate has arrears in a course, then GPA for that particular course will not be calculated. The CGPA will be calculated for those candidates who have no arrears at all. The ranking also will be done for those candidates without arrears only.

4. The improvement marks will not be taken for calculating the rank. In the case of courses which lead to extra credits also, they will neither be considered essential for passing the degree nor will be included for computing ranking, GPA, CGPA etc.
5. The grading will be awarded for the total marks of each course.
6. Fees shall be paid for all arrears courses compulsorily.
7. There is provision for re-totaling, Xerox copy and revaluation for UG and PG Programmes on payment of prescribed fees.

Classification of Successful Candidates (Course-wise)

RANGE OF MARKS (In percent)	GRADE POINTS	GRADE	DESCRIPTION
90 - 100	9.0 - 10.0	O	OUTSTANDING
80 - 89	8.0 - 8.9	D+	EXCELLENT
75 - 79	7.5 - 7.9	D	DISTINCTION
70 – 74	7.0 - 7.4	A+	VERY GOOD
60 – 69	6.0 - 6.9	A	GOOD
50 – 59	5.0 - 5.9	B	AVERAGE
40 – 49 #	4.0 - 4.9	C	SATISFACTORY
00 – 39	0.0	U	RE-APPEAR
ABSENT	0.0	U	ABSENT

Reappearance is necessary for those who score below 50% Marks in PG **; those who score below 40% Marks in UG*;

only applicable for UG programs

Individual Courses

C_i= Credits earned for course "i" in any semester
G_i= Grade Point obtained for course "I" in any semester
'n' refers to the semester in which such courses were credited.

GRADE POINT AVERAGE [GPA] = $\frac{\Sigma Ci\,Gi}{\Sigma Ci}$

GPA = Sum of the multiplication of grade points by the credits of the courses / Sum of the credits of the courses in a semester.

Classification of Successful Candidates (Overall):

CGPA	GRADE	CLASSIFICATION OF FINAL RESULT
9.5 to 10.0	O+	First Class - Exemplary *
9.0 and above but below 9.5	O	

8.5 and above but below 9.0	D++	First Class with Distinction *
8.0 and above but below 8.5	D+	
7.5 and above but below 8.0	D	
7.0 and above but below 7.5	A++	First Class
6.5 and above but below 7.0	A+	
6.0 and above but below 6.5	A	
5.5 and above but below 6.0	B+	Second Class
5.0 and above but below 5.5	B	
4.5 and above but below 5.0	C+ #	Third Class
4.0 and above but below 4.5	C #	
0.0 and above but below 4.0	U	Re-appear

"*" The candidates who have passed in the first appearance and within the prescribed semester of the Programme (Major, Allied, Inter Departmental and Elective Course alone) are eligible.

"#" Only applicable to U.G. Programme

$$\text{CUMULATIVE GRADE POINT AVERAGE [CGPA]} = \frac{\Sigma n \Sigma_i Cn_i Gn_i}{\Sigma n \Sigma_i Cn_i}$$

$$\text{CGPA} = \frac{\text{Sum of the multiplication of grade points by the credits of entire program}}{\text{Sum of the credits of the Courses of the entire Program}}$$

In order to get through the examination, each student has to earn the minimum marks prescribed in the internal (wherever applicable) and external examinations in each of the theory course, practical course and project viva. Normally, the ratio between internal and external marks is 50:50. There is no passing minimum for internal component. The following are the minimum percentage and marks for passing of each course, at UG and PG levels for external and aggregate is as follows:

S.No	Program	Passing Minimum in Percent	
		External (50)	Aggregate (100)
1	UG Degree	40% (20)	40% (40)
2	PG Degree	50% (25)	50% (50)

However, the passing minimum marks may vary depending up on the maximum marks of each course. The passing minimum at different levels of marks is given in the following table:

S.No	UG & PG Maximum Marks			Passing minimum for UG			Passing minimum for PG		
	Int.	Ext.	Total	Int.	Ext.	Agg. 40%	Int.	Ext.	Agg. 50%

1	50	50	100	-	20	40	-	25	50
2	30	45	75	-	18	30	-	-	-
3	50	-	50	20	-	20	25	-	25
4	25	25	50	-	10	20	-	13	13
5	-	50	50	-	20	20	-	25	25
6	100	100	200	-	40	80	-	50	100
7	-	100	100	-	40	40	-	50	50

Reappearance

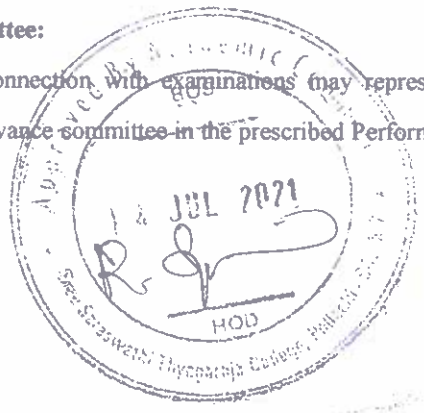
The students having arrears shall appear in the subsequent semester (external) examinations compulsorily. The candidates may be allowed to write the examination in the same syllabus for 3 years only. Thereafter, the candidates shall be permitted to write the examination in the revised / current syllabus depending on various administrative factors. There is no re-examination for internals.

Criteria for Ranking of Students:

1. Marks secured in core, elective and Inter Disciplinary Course (Part III) courses will be considered for PG Programs and marks secured in Core, Elective, Inter Departmental and Allied Courses (Part-III) will be considered for UG programs, for ranking of students.
2. Candidate must have passed all courses prescribed chosen / opted in the first attempt itself.
3. Improvement marks will not be considered for ranking but will be considered for classification.

External Examination Grievances Committee:

Those students who have grievances in connection with examinations may represent their grievances, in writing, to the chairman of examination grievance committee in the prescribed Performa. The Principal will be chairman of this committee.



SREE SARASWATHI THYAGARAJA COLLEGE (AUTONOMOUS)
THIPPAMPATTI, POLLACHI - 642 107

Student Grievance Form

(Forms Available at Utility Stores)

Date:
Place:

From
Register No : .....,
Name : .....,
Class : .....,
SreeSaraswathiThyagarajaCollege,
Pollachi – 642 107

To
The Principal / Examination-in-charge,
SreeSaraswathiThyagarajaCollege,
Pollachi – 642 107

Through:

1. Head of the Department,
   Department of .....,
   SreeSaraswathiThyagaraja College,
   Pollachi – 642 107
2. Dean of the Department
   Faculty of .....,
   SreeSaraswathiThyagaraja College,
   Pollachi – 642 107

Respected Sir / Madam,

Sub: ..... - reg.

NATURE OF GRIEVANCE

.....
.....
.....

Thanking you,

Yours Truly,

Signature
Forwarded by:
HOD with comments / recommendation
.....
2. Dean with comments / recommendation
.....
3. Signature and Directions of the Principal 4 JUL 2024
.....
4. Controller of Examinations:
.....