

E.G.S. PILLAY ENGINEERING COLLEGE,(Autonomous)

Approved by AICTE, New Delhi

Affiliated to Anna University, Chennai | Accredited by NAAC with 'A++' Grade

Accredited by NBA (B. Tech-IT, B.E-CSE and ECE) (Tier-1)



NAGAPATTINAM – 611002

B. Tech – Computer Science & Business Systems

R-2023

CURRICULUM FOR FIRST YEAR

COURSE CODE	COURSE NAME	CATEGORY	L	T	P	C	MAX. MARKS		
							CA	ES	TOTAL
Theory Courses									
2301IP101	Induction Program	-	0	0	0	0	0	0	0
2301MA106	Discrete Mathematics	BSC	3	1	0	4	40	60	100
2301MA107	Introductory Topics in Statistics, Probability and Calculus	BSC	3	0	0	3	40	60	100
2302BS101	Fundamentals of Computer Science	PCC	3	0	4	5	50	50	100
2301GE101	Principles of Electrical Engineering	ESC	2	0	2	3	50	50	100
2301PH104	Fundamentals of Physics	BSC	2	0	2	3	50	50	100
2301HS101	Business Communication and Value Science - I	HSMC	2	0	0	2	100	0	100
2301TA101	Tamil And Technology	HSMC	1	0	0	1	100	0	100
Laboratory Courses									
2301LS101	Life Skills – I	-	0	0	0	0	100	0	100
TOTAL			16	1	8	21	530	270	800

2301MA106	DISCRETE MATHEMATICS	L	T	P	C
		3	1	0	4

PREREQUISITE:

1. Basic concepts of algebra
2. Basic concepts of graph theory

COURSE OBJECTIVES:

1. To understand the fundamental notation in discrete mathematics
2. To explain the combinatorics techniques in solving the system by various methodology.
3. Understand the basic concepts of propositions and graph theory by various discrete structure techniques

COURSE OUTCOMES:

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

CO1:	Construct mathematical arguments using logical connectives
CO2:	Solve the linear recurrence relation using generating function
CO3:	Apply the algebraic properties with regard to working within various number systems
CO4:	Demonstrate different traversal methods for graphs.
CO5:	Make use of the concept of lattice and Boolean algebra in computer science.

COs Vs POs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1									
CO2	3	2	1									
CO3	3	2	1									
CO4	3	2	1									
CO5	3	2	1									

COs Vs PSOs MAPPING

COs	PSO1	PSO2
CO1	1	
CO2	1	
CO3	1	
CO4	1	
CO5	1	

COURSE CONTENTS:

MODULE I	LOGICAL AND IMPLICATION	9 Hours
Propositions- Logical connectives-Compound propositions-Conditional and bi conditional propositions- Truth tables - Tautologies and Contradictions - Logical equivalences and implications - De Morgan"s Laws-Normal forms-Principal conjunctive and disjunctive normal forms - Rules of inference-Arguments-Validity of arguments - Karnaugh map		
MODULE II	COMBINATORICS AND INDUCTION	9 Hours
Basics of Counting - Counting arguments- Pigeonhole Principle- Permutations and Combinations- Solving linear recurrence relation -Generating Functions- Mathematical Induction- Inclusion -Exclusion		
MODULE III	ABSTRACT ALGEBRA	9 Hours
Set Operations - Properties - Power set -Relations - Graph and matrix of a relation - Partial Ordering - Equivalence relations - groups – Cosets – Permutation groups - Normal subgroups, Lagrange’s theorem– Definitions and examples of ring and fields		

MODULE IV	GRAPH	9 Hours
Graph – digraphs -Sub graphs – Operation on graph – adjacency matrix, path and connectedness – Graph isomorphism – Euler and Hamilton’s paths and graph.		
MODULE V	LATTICES AND BOOLEAN ALGEBRA	9 Hours
Partial ordering –Posets-Lattices as Posets-Properties of lattices-Lattices as algebraic system-Sub lattices –Some special lattices-Boolean algebra		
TOTAL:45 + 15 = 60 HOURS		
REFERENCES:		
1. Ralph.p, Grimaldi – Discrete and combinatorial mathematics, An applied introduction – Fourth edition person education Asia, Delhi 2002.		
2. David C. Lay, “Linear Algebra and its Applications”, Pearson Education Asia, New Delhi, 5 th Edition,2016		
3. Narsingh Deo,”Graph Theory with applications to Engineering and Computer Science”,PHI learning Private limited,Delhi.		
4. Trembly J.P and Manohar R – Discrete mathematical structure with application to computer science, Tata MC grow hill, Delhi.		
5. http://www.nptelvideos.in/2012/12/probability-random-variables.html (Link for NPTEL/SWAYAM/MOOC Courses)		
6. https://matlabacademy.mathworks.com/details/introduction-to-symbolic-math-with-matlab/symbolic (Link for modern tool usage)		

2301MA107	INTRODUCTORY TOPICS IN STATISTICS, PROBABILITY AND CALCULUS	L	T	P	C
		3	0	0	3

PREREQUISITE:

1. Basic concepts of Probability
2. Basic concepts of Statistics and Calculus

COURSE OBJECTIVES:

1. To introduce the fundamental concepts in the theory of probability and statistics for studying Engineering subjects.
2. To provide the foundations of statistical and probabilistic analysis mostly used in various applications in engineering and science.
3. To introduce cognitive learning in statistics and develops skills on analyzing the different types of data.
4. To apply the differential techniques in solving the real time engineering problems

COURSE OUTCOMES:

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

- CO1:** Exemplify the basics concepts of statistics through various representation of data.
CO2: Perform Hypothesis test for samples from finite and infinite populations by distributary based tests.
CO3: Demonstrate the basic probability axioms and concepts in their core areas of random phenomena.
CO4: Execute the concepts of probability distributions in an appropriate place of science and engineering.
CO5: Use mean value theorem to exits a point on a curve between two points

COs Vs POs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1									
CO2	3	2	1									
CO3	3	2	1									
CO4	3	2	1									
CO5	3	2	1									

COs Vs PSOs MAPPING

COs	PSO1	PSO2	PSO3
CO1	1		
CO2	1		
CO3	1		
CO4	1		
CO5	1		

COURSE CONTENTS:

MODULE I	INTRODUCTION TO STATISTICS	9 Hours
Definition of Statistics - Basic Objectives - Collection of Data - Population - Sample -representative Sample -Classification and Tabulation of Univariate data – Graphical representation - Frequency curves - Central tendency and Dispersion - Applications.		
MODULE II	TESTING OF HYPOTHESIS	9 Hours
Sampling - Large sample test: Tests for Single mean- Test for difference between two means- Small sample test: Tests for mean (t test), F- test - Chi-square test for Goodness of fit and Independence of attributes		
MODULE III	PROBABILITY AND RANDOM VARIABLE	9 Hours
Probability:Concepts of experiments, Sample space, event - Combinatorial probability - Conditional probability -Baye's theorem. Random variable: Probability mass function - Probability density function Properties -Mathematical expectation and its properties-Moments and its properties - Moment generating functions.		

MODULE IV	PROBABILITY DISTRIBUTIONS	9 Hours
Discrete Probability distributions: Binomial distribution -Poisson distribution - Geometric distribution.Continuous Probability distributions: Uniform distribution - Exponential distribution - Normal distribution..		
MODULE V	CALCULUS	9 Hours
Limits of functions -Continuity -Derivatives: Derivatives -Differentiability - Rules - Properties - Differentiation of transcendental functions - Higher order derivatives - Implicit differentiation - Integration: Anti-derivatives - Riemann sum -Indefinite and Definite integration - Mean value theorem for definite integral - Fundamental theorem of calculus.		
TOTAL: 45 HOURS		
REFERENCES:		
1. I.R. Miller, J.E. Freund and R. Johnson, Probability and Statistics for Engineers, Pearson Education, 9th edition, 2017.		
2. S. M. Ross, “A first course in Probability”, Prentice Hall, Eleventh Edition,2014.		
3. A. Goon, M. Gupta and B. Dasgupta, “Fundamentals of Statistics”, Vol. I,2013 & Vol. II, 2016, Paper Back Edition, World Press		
4. S. M. Ross, “Introduction of Probability Models”, Academic Press.		
5. A.M. Mood, F.A. Graybill and D.C. Boes, —Introduction to the Theory of Statistics, 3rd edition, McGraw Hill Education.		
6. Peter V. O'Neil, Advanced Engineering Mathematics, Seventh Edition, Thomson Learning, 2011		
7. http://www.nptelvideos.in/2012/12/probability-random-variables.html (Link for NPTEL/SWAYAM/MOOC Courses)		
8. https://matlabacademy.mathworks.com/details/introduction-to-symbolic-math-with-matlab/symbolic (Link for modern tool usage)		

		3	0	2	5	
PREREQUISITE: –						
To introduce the fundamental concept of basic computer organisation and to emphasize the importance of choice of correct c-programming in developing and implementing efficient algorithms and to introduce problem solving concepts and algorithms which are the building blocks for more complex function and pointer used in problem solving using programming. Further the students should be able to decompose bigger problems using abstractions such as programming and develop effective techniques of software engineering such as decomposition, procedural abstraction, and software reuse						
COURSE OBJECTIVES:						
<ul style="list-style-type: none"> • Understand the problem-solving concepts • Understand syntax and constructs of C Language • Develop structured programs using basic programming constructs • Understands pointers and arrays in C • Understand UNIX system interface • Understand and apply programming methods 						
Module I	GENERAL PROBLEM SOLVING CONCEPTS AND INTRODUCTION				9Hours	
Classification of Computer ,Basic organisation of computer Algorithm, and Flowchart for problem solving with Design Structures selection control,Sequence control structure and Loops, Hungarian Notation: Variable Names, Data Type and Sizes, Types Operator and Expressions, Precedence and Order of Evaluation						
Module II	Branching and looping statement				9Hours	
Branching statement-if statement- if else statement-nested if statement-switch-if ladder- looping statement-while, do, for, break and continue, go to labels						
Module III	FUNCTION AND PROGRAM STRUCTURES				9Hours	
Basics of functions- parameter passing and returning type- , C main return as integer, External, Auto, Local, Static, Register Variables, Scope Rules, Block structure, Initialization, Recursion, Pre-processor Library Functions and return types, Standard Library						
Module IV	ARRAYS AND POINTER				9Hours	
Array and its types-one dimensional-multi dimensional array- : Pointers and address, Pointers and Function Arguments, Pointers and Arrays, Initialization of Pointer Arrays, Address Arithmetic, character Pointers , Pointer Arrays, Pointer to Pointer, Command line arguments, Pointer to functions.						
Module V	STRUCTURES				9Hours	
Definition-File Organization-Sequential file Organization- Direct file Organization- Indexed Sequential-Hashed and accessing schemes-Algorithm specification- Recursion-Performance analysis-Asymptotic Notation						
Total Hours: 45						
Mode of Assessment: CAT/Assignment/Quiz/Seminar/Presentation/ESE						
Course Outcomes:						
<ul style="list-style-type: none"> • CO1: Apply problem solving techniques to simple computational problems • CO2: Understand the syntax and constructs of C language • CO3: Develop structured programs using basic constructs in C • CO4: Understand pointers and arrays in C • CO5: Understand Unix system interface 						
FURTHER READING:						
<ol style="list-style-type: none"> 1. Brian W Kernighan and Dennis M Ritchie, The C Programming Language, Pearson Education India, 2nd Edition, 2015. 2. Anita Goel and Ajay Mittal, “Computer Fundamentals and Programming in C”, Dorling Kindersley (India) Pvt. Ltd., Pearson Education in South Asia, 2011. 						

REFERENCES:	
1. B. Gottfried, Programming with C, Schaum Outline Series, Fourth Edition, 2018 2. Herbert Schildt, C: The Complete Reference, McGraw Hill, Fourth Edition, 2017 3. Yashavant Kanetkar, Let Us C, BPB Publications, 16th Edition, 2018	
LIST OF EXPERIMENTS [SUGGESSTED]	
60 Hrs	
<ul style="list-style-type: none"> • Algorithm and flowcharts of small problems • Structured code writing with C • Small but tricky codes • Proper parameter passing • Command line Arguments • Variables and parameter, Pointer to functions • User defined headers, Make file utility • Multi file program and user defined libraries • Interesting substring matching / searching programs 	
Mode of Assessment: PAT/Project Presentation	
<ul style="list-style-type: none"> • CO6: Apply various programming methods 	

2301GE101	PRINCIPLES OF ELECTRICAL ENGINEERING (Theory cum Lab Course)	L	T	P	C
		2	0	2	3

PREREQUISITE:

1. Physics

COURSE OBJECTIVES:

1. To understand the basic concepts in ac circuit and dc circuits.
2. To analyse the electrical circuit parameters of dc circuits by applying network theorems.
3. To understand and apply the principle of electrostatics and electro mechanics in single phase transformer.
4. To understand the signal measuring devices and electrical wiring systems.

COURSE OUTCOMES:

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

CO1:	Know the basic concepts of work, power, energy for electrical, mechanical and thermal systems
CO2:	Understand and apply knowledge of Kirchhoff's laws and network theorems to solve electrical networks
CO3:	Realize the construction, principle of operation, specifications and applications of capacitors and batteries
CO4:	Understand and apply fundamental concepts of magnetic and electromagnetic circuits for operation of single-phase transformer
CO5:	Understand the basic terms of single phase and three phase ac circuits with wiring systems and the use of measuring instruments

COs Vs POs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3		3			1	1	3			2
CO2	3											1
CO3	3			1					3			1
CO4	3			1	3				3			1
CO5	3	1		2	3				3			1

COs Vs PSOs MAPPING

COs	PSO1	PSO2	PSO3
CO1	3		3
CO2	3		
CO3	3		
CO4		3	3
CO5		3	3

COURSE CONTENTS:

MODULE I	INTRODUCTION	7Hours
Concept of Potential difference, voltage, current, Fundamental linear passive and active elements to their functional current-voltage relation, Terminology and symbols in order to describe electric networks, Concept of work, power, energy and conversion of energy.		
MODULE II	DC CIRCUITS	5 Hours
Current-voltage relations of electric network by mathematical equations to analyse the network (Thevenin's theorem, Norton-s Theorem, Maximum Power Transfer theorem) voltage source and current sources, ideal and practical, Kirchhoff-s laws and applications to network solutions using mesh analysis, Simplifications of networks using series- parallel, Star/Delta transformation. Superposition theorem.		
MODULE III	AC CIRCUITS	6 Hours
AC waveform definitions, form factor, peak factor, study of R-L, R-C,RLC series circuit, R-L-C parallel circuit, phasor representation in polar and rectangular form, concept of impedance, admittance, active, reactive, apparent and complex power, power factor, 3 phase Balanced AC Circuits.		
MODULE IV	ELECTROSTATIC AND ELECTRO-MECHANICS	6 Hours
Electrostatic field, electric field intensity, electric field strength, absolute permittivity, relative permittivity, permittivity, capacitor composite, dielectric capacitors, capacitors in series& parallel, energy stored in capacitors, charging and discharging of capacitors, Electricity and Magnetism, magnetic field and faraday's law, self and mutual inductance, Ampere's law, Magnetic circuit, Single phase transformer, principle of operation, EMF equation, voltage ratio, current ratio, KVA rating, efficiency and regulation, Electromechanical energy conversion		

MODULE V	MEASUREMENTS AND SENSORS	6 Hours
Introduction to measuring devices/sensors and transducers related to electrical signals, Elementary methods for the measurement of electrical quantities in DC and AC systems and their practical application. Electrical Wiring and Illumination system: Basic layout of distribution system, Types of Wiring System & Wiring Accessories, Necessity of earthing, Types of earthing, Different types of lamps (Incandescent, Fluorescent, Sodium Vapour, Mercury Vapour, Metal Halide, CFL, LED)		
TOTAL: 30 HOURS		
LIST OF EXPERIMENTS:		
1. Familiarization of electrical Elements, sources, measuring devices and transducers related to electrical circuits		2 Hours
2. Determination of resistance temperature coefficient		2 Hours
3. Verification of Network Theorem (Superposition, Thevenin, Norton, Maximum Power Transfer theorem)		3 Hours
4. Simulation of R-L-C series circuits for $X_L > X_C$, $X_L < X_C$		2 Hours
5. Simulation of Time response of RC circuit		2 Hours
6. Verification of relation in between voltage and current in three phase balanced star and delta connected loads.		2 Hours
7. Demonstration of measurement of electrical quantities in DC and AC systems.		2 Hours
TOTAL: 15 HOURS		
OVERALL TOTAL: 45 HOURS		
REFERENCES:		
1. T. K. Nagsarkar and M. S. Sukhija, Basic of Electrical Engineering, Oxford University Press, 2011.		
2. Smarjith Ghosh, Fundamentals of Electrical and Electronics Engineering, Prentice Hall (India) Pvt. Ltd., 2010		
3. A. Sudhakar, Shyammoan S Palli, Circuits and Networks Analysis and Synthesis, Tata McGraw Hill, 2010		
4. Muthu subramanian & Salivahanan, Basic Electrical and Electronics Engineering and Communication Engineering, Seventh Edition, Tata MCGraw Hill Education Private Limited, 2011		
5. William H. Hayt, Jr. John A. Buck, Engineering Electromagnetics, McGraw Hill Higher Education, 8th revised Edition, 2011.		
6. K. A. Gangadhar, P.M. Ramanathan, Electromagnetic Field Theory, Khanna Publishers, Sixteenth Edition, 2011		
7. https://de-iitr.vlabs.ac.in/		

2301PH104	FUNDAMENTALS OF PHYSICS				L	T	P	C					
					3	0	2	4					
PREREQUISITE:													
1. Basic knowledge in physics													
COURSE OBJECTIVES:													
1.To instill knowledge on oscillations 2.To make the students to understand the basics of classical optics 3.To establish a sound grasp of knowledge on quantum physics 4.To make the students to understand the basics of crystal physics 5.To inculcate an idea of significance of modern optics													
COURSE OUTCOMES:													
On the successful completion of the course, students will be able to													
CO1: Explain the different types of harmonic oscillations and compare electrical oscillator with mechanical oscillator.													
CO2: Illustrate the interference, diffraction and polarization of light in Newtons rings, diffraction grating and double refraction respectively.													
CO3: Apply the concepts of quantum mechanics to solve the Schrodinger time dependent and time independent wave equations.													
CO4: Assess the crystallographic parameters of seven crystal systems and compare the unit cell characteristics of SC, BCC, FCC and HCP crystal structures.													
CO5: Outline the different types of lasers and compare the different types of optical fibers based on mode and refractive index profile for data communication system.													
COs Vs POs MAPPING:													
	COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
	CO1	3	1										
	CO2	3	1	2									
	CO3	3			1	2	1	1					
	CO4	3		2	1	3		1					
	CO5	3	2	2	2	2	1	2					
COs Vs PSOs MAPPING													
		CO	PSO1	PSO2	PSO3								
		s											
		CO1											
		CO2											
		CO3											
		CO4											
		CO5											
COURSE CONTENTS:													
MODULE I	OSCILLATIONS							9 Hours					
Periodic motion-simple harmonic motion-characteristics of simple harmonic motion-vibration of simple spring-mass system, damped harmonic oscillator – heavy, critical and light damping, energy decay in a damped harmonic oscillator, forced oscillations and resonance in mechanical and electrical systems, quality factor.													
MODULE II	CLASSICAL OPTICS							9 Hours					
Wave Optics: Theory of interference fringes-types of Interference-Newton’s rings, Diffraction-two kinds of diffraction-difference between interference and diffraction- Fraunhofer diffraction at single slit, plane diffraction grating; temporal and spatial coherence;													
Polarization - concept of production of polarized beam of light from two SHM acting at right angle; plane, elliptical and circularly polarized light, Brewster’s law, double refraction.													

MODULE III	QUANTUM PHYSICS	9 Hours
Introduction - Planck's quantum theory- Matter waves, de-Broglie wavelength, Heisenberg's Uncertainty principle, time-independent and time-dependent Schrödinger wave equation, physical significance of wave function, particle in a one dimensional potential well, Heisenberg picture.		
MODULE IV	CRYSTAL PHYSICS	9 Hours
Crystallography: Basic terms-types of crystal systems, Bravais lattices, Miller indices, d-spacing, Atomic packing factor for SC, BCC, FCC and HCP structures.		
Solid State Physics: Conductor, Semiconductor and Insulator; Basic concept of Band theory.		
MODULE V	MODERN OPTICS	9 Hours
Lasers and Fiber Optics: Einstein's theory of matter-radiation interaction and A and B coefficients; amplification of light by population inversion, different types of lasers: Ruby, CO ₂ and Neodymium lasers; properties of laser beams: mono-chromaticity, coherence, directionality and brightness, laser speckles, applications of lasers in engineering. Fibre optics and applications, types of optical fibers		
TOTAL: 45 HOURS		
REFERENCES:		
1. A Beiser, Concepts of Modern Physics, 5/e, McGraw Hill International, 1995.		
2. David Halliday, Robert Resnick and Jearl Walker, Fundamentals of Physics, 10/e, Wileyplus, 2013.		
3. Ajoy Ghatak, Optics, 5/e, Tata McGraw Hill, 2012.		
4. Sears & Zemansky University Physics, Addison-Wesley		
5. Jenkins and White, Fundamentals of Optics, 3/e, McGraw-Hill, 1957.		
6. https://archive.nptel.ac.in/courses/108/108/108108122/		
7. https://onlinecourses.nptel.ac.in/noc20_ph24/preview		
LIST OF EXPERIMENTS		
1. Torsional pendulum - Determination of rigidity modulus of wire and moment of inertia of regular and irregular objects.		
2. Simple harmonic oscillations of cantilever.		
3. Non-uniform bending - Determination of Young's modulus		
4. Uniform bending – Determination of Young's modulus		
5. Laser- Determination of the wavelength of the laser using grating		
6. Air wedge - Determination of thickness of a thin sheet/wire		
7. a) Optical fibre -Determination of Numerical Aperture and acceptance angle b) Compact disc- Determination of width of the groove using laser.		
8. Acoustic grating- Determination of velocity of ultrasonic waves in liquids.		
9. Ultrasonic interferometer – determination of the velocity of sound and compressibility of liquids		
10. Determination of Band gap of a semiconductor.		
11. Poiseuille's method for finding viscosity of a liquid		
12. Lee's Disc-Thermal conductivity of bad conductor		
13. Spectrometer-determination of wavelength using grating		
References		
1. Practical Physics', R.K. Shukla, Anchal Srivastava, New age international (2011)		
2. B.Sc. Practical Physics', C.L Arora, S. Chand &Co. (2012)		

2301HS101	BUSINESS COMMUNICATION AND VALUE SCIENCE - I Computer Science & Business System	L	T	P	C
		2	0	0	2

PREREQUISITE:

1. Basic English Knowledge

COURSE OBJECTIVES:

CO1	To understand and apply essential grammar in everyday life communication.
CO2	To Participate effectively in informal conversations; introduce themselves and their friends and express opinions in English.
CO3	To acquire lexical competence and use them appropriately in a sentence and understand their meaning in a text.
CO4	To help learners use language effectively in professional contexts.
CO5	To develop learners' ability to read and write complex texts, summaries, articles, blogs, definitions, essays and user manuals.
CO6	To use language efficiently in expressing their opinions
CO7	To develop various listening strategies to comprehend various types of audio materials like lectures, discussions, videos etc.
CO8	To write short essays of a general kind and personal letters and emails in English.

COURSE OUTCOMES:

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

CO1:	Use appropriate words in a professional context
CO2:	Gain understanding of basic grammatical structures and use them in right context.
CO3:	Read and infer the denotative and connotative meanings of technical texts
CO4:	Read and interpret information presented in tables, charts and other graphic forms
CO5:	Comprehend conversations and short talks delivered in English
CO6:	Listen to and comprehend general as well as complex academic and non academic information
CO7:	Speak fluently and accurately in formal and informal communicative contexts
CO8:	Visualize and to project isometric and perspective sections of simple solids.

COs Vs POs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		
CO2										3		
CO3										3		
CO4										3		
CO5										3		

COs Vs PSOs MAPPING

COs	PSO1	PSO2	PSO3
CO1	-	-	-
CO2	-	-	-
CO3	-	-	-
CO4	-	-	-
CO5	-	-	-

COURSE CONTENTS:

MODULE I	ESSENTIAL GRAMMAR – I	6 Hours
<p>Refresher on Parts of Speech – Listen to an audio clip and note down the different parts of speech followed by discussion. Tenses-Applications of tenses in Functional Grammar (Take a quiz and then discuss) Sentence formation (general & Technical), Common errors, Voices. Show sequence from film where a character uses wrong sentence structure (e.g. Zindagi Na Milegi Dobara where the characters use 'the' before every.</p>		
MODULE II	LISTENING SKILLS	6 Hours
<p>Law of nature- Importance of listening skills, Difference between listening and hearing, Types of listening, listen to recording and answer questions based on them.</p>		

MODULE III	SPEAKING SKILLS	7Hours
Presentation on favorite cricket captain in IPL and the skills and values they demonstrate - Overview of LOL (include activity on introducing self).- presentation on favorite cricket captain in IPL and the skills and values they demonstrate - Record a conversation between a celebrity and an interviewer.		
MODULE IV	COMMUNICATION SKILLS	7Hours
Over view of Communication Skills , Barriers of communication Skills, Effective Communication Skills - verbal and non – verbal, Pronunciation, clarity of speech skills, – Role, Importance of Questioning , Skit based on communication skills , Write a newspaper report on an IPL match.		
MODULE V	RECOGNIZE OWN STRENGTHS AND OPPORTUNITIES	6 Hours
Self-awareness – identity, body awareness, stress management Expressing self, connecting with emotions, visualizing and experiencing purpose		
		TOTAL: 32 HOURS
REFERENCES:		
1. There are no prescribed texts for Semester 1 – there will be handouts and reference links shared.		
2. English vocabulary in use – Alan Mc’Carthy and O’dell.		
3. APAART: Speak Well 1 (English language and communication)		
4. APAART: Speak Well 2 (Soft Skills)		
5. Business Communication – Dr. Saroj Hiremath		
6. Train your mind to perform under pressure- Simon sinek		
https://curiosity.com/videos/simon-sinek-on-training-your-mind-to-perform-under-pressure-capture-your-flag/		
7. Brilliant way one CEO rallied his team in the middle of layoffs		
https://www.inc.com/video/simon-sinek-explains-why-you-should-put-people-before-numbers.html		
8. Will Smith's Top Ten rules for success		
https://www.youtube.com/watch?v=bBsTomTeh0		
9. https://www.coursera.org/learn/learning-how-to-learn		
10. https://www.coursera.org/specializations/effective-business-communication		

2301TA101	தமிழரும் தொழில்நுட்பமும் TAMIL AND TECHNOLOGY	L	T	P	C
		1	0	0	1

PREREQUISITE:

The Tamils living in different parts of the World need to keep in touch with the motherland and the mother tongue and be knowledgeable about their heritage in order to preserve their cultural identity and observe their traditional and cultural activities. Recognizing this fact and for meeting the felt and emerging needs of the Tamil Communities and others interested in Tamil studies.

COURSE OBJECTIVES:

- To familiarize the historical significance of ethics, moral culture in the Tamil context.
- To learn Tamil modern development of the behavioral, moral and ethical
- To develop the important key for a language and a new sector for the students to voice out for a social cause

COURSE OUTCOMES:

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

- CO1:** To develop a spirit of patriotism.
- CO2:** To gain the plight of the people living in the society and Biological Struggles.
- CO3:** To understand the life style of the Sangam people and To recognize the heroic spirit of the ancient Tamil kings
- CO4:** To read and evaluate the quality and morals of local life through Tamil literature
- CO5:** To gain the various Literary Genres and dramas and enable them to produce innovative ideas in modern literary theories

COs Vs POs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1										3		
CO2										3		
CO3										3		
CO4										3		
CO5										3		

COs Vs PSOs MAPPING

COs	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSE CONTENTS:

MODULE I WEAVING AND CERAMIC TECHNOLOGY 3 Hours

Weaving Industry during Sangam Age – Ceramic technology – Black and Red Ware Potteries (BRW) Graffiti Potteries.

MODULE II DESIGN AND CONSTRUCTION TECHNOLOGY 3 Hours

Designing and Structural construction House & Designs in household materials during Sangam Age Building materials and Herostones of Sangam age – Details of Stage Constructions in Silappathikaram - Sculptures and Temples of Mamallapuram - Great Temples of Cholas and other worship places - Temples of Nayaka Period - Type study (Madurai Meenakshi Temple)- Thirumalai Nayakar Mahal – Chetti Nadu Houses, Indo-Saracenic architecture at Madras during British Period

MODULE III MANUFACTURING TECHNOLOGY 3 Hours

Art of Ship Building - Metallurgical studies - Iron industry - Iron smelting, steel - Copper and gold - Coins as source of history - Minting of Coins - Beads making - industries Stone beads - Glass beads - Terracotta beads - Shell beads / bone beads - Archeological evidences - Gemstone types described in Silappathikaram.

MODULEIV	AGRICULTUREANDIRRIGATIONTECHNOLOGY	3 Hours
Dam, Tank, ponds, Sluice, Significance of Kumizhi Thoombu of Chola Period, Animal Husbandry -Wells designed for cattle use - Agriculture and Agro Processing - Knowledge of Sea - Fisheries — Pearl-Conch diving-AncientKnowledgeofOcean-KnowledgeSpecificSociety		
MODULEV	SCIENTIFICTAMIL&TAMILCOMPUTING	3 Hours
Development of Scientific Tamil– Tamil computing–Digitalization of Tamil Books– Development of Tamil Software – Tamil Virtual Academy – Tamil Digital Library – Online Tamil Dictionaries – Sorkuvai Project.		
TOTAL:15HOURS		
REFERENCES:		
1.	Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)	
2.	Social Life of the Tamils - The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies.	
3.	Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).	
4.	The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)	
5.	Keeladi - ‘Sangam City Civilization on the banks of river Vaigai’ (Jointly Published by: Department of Archaeology& Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)	
6.	Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Published by: The Author)	
7.	Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)	
8.	Journey of Civilization Indus to Vaigai (R.Balakrishnan) (Published by: RMRL) – Reference Book.	