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.E. – COMPUTER SCIENCE AND ENGINERING

R - 2023

CURRICULUM FOR FIRST YEAR

COURSE CODE	COURSE NAME	CATEGORY	L	T	P	C	MAX. MARKS		
							CA	ES	TOTAL
2301IP101	Induction Program	-	-	-	-	-	0	0	0
2301MA104	Engineering Mathematics – I	BSC	3	2	0	4	40	60	100
2301GEX01	Foundation of Electrical and Electronics Engineering	ESC	2	0	2	3	50	50	100
2301GEX02	Engineering Graphics and Design	ESC	2	0	2	3	50	50	100
2301GEX05	Applied Digital Logic and Design	ESC	2	0	2	3	50	50	100
2301TA101	Tamil and Technology	HSMC	1	0	0	1	100	0	100
2304FLX01	Foreign Language	EEC	2	0	2	3	50	50	100
2301GEX51	Computer Practices Laboratory	ESC	0	0	2	1	60	40	100
2301LS101	Life Skill Activity – I	-	-	-	-		100	0	100
TOTAL			**12**	**2**	**10**	**18**	**500**	**300**	**800**

2304FLX01	GERMAN LANGUAGE	L	T	P	C
		2	0	2	3

PREREQUISITE

Basic knowledge in German Language

COURSEOBJECTIVES:

To understand the basics of German language.

1. To speak generally in German.
2. To read and write legibly in German.

COURSEOUTCOMES:

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

CO1: Use fundamental elements of a foreign language.
CO2: Identify distinctive features of the culture(s) associated with the language
CO3: Appraise basic German language skills and German grammar.
CO4: Communicate short messages on highly predictable, everyday
Topics that affect them directly
CO5: Read a limited amount of information from highly predictable texts, basic practical writing needs using lists, short messages, post cards, and simple notes

Cos Vs Pos MAPPING:

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

COsVs PSOs MAPPING

Cos	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSECONTENTS:

MODULEI	Guten Tag – Good Day	12 Hours

Language skills-Welcome and Parting Greetings – Total kab outself and others -Counting till 20-to call out Telephone Numbers, email and Address-Spell and to talk about countries and languages Vocabulary : Numbers 1to20, Countries and Languages Grammar: W Questions, Expressions, Personal Pronouns Expressions: Alphabet Culture: Countries and Languages Film: Good day! Telephone Number, I speak.

MODULEII	Friends, Colleagues	12 Hours

Language Skills - To talk about one hobbies - To take leave from oneself - To call out Days of the week - To talk about professions, work and work timings - To count from 20 - To speak about seasons - To post a profile

MODULEIII	In the City	12 Hours

Language Skills - To call out squares and buildings - Questions about places - To put in order a picture story-To pose questions on things- To call out transport Vocabulary :Square and Buildings /Transport/Directions Grammar: Definite Articles/Indefinite articles/Negation article/ Imperative sentences Expressions: Long and short Vowels Culture: Eye witness / counting in Hamburg Film: Do you have time?/In the Restaurant/Surprise.

MODULEIV	Have a nice Meal	12 Hours

Language Skills- To speak while eating- To plan shopping- Shopping conversation
Vocabulary: Meals time/ Provisions/ Drinks/ Shops Grammar: Position in Sentence/Akkusative Case/Verbs with Akkusative Expressions : A/o/uumlauts Culture: Eating in D–A–CH, Professions and Eating Film: Breakfast by the mountains /Shopping

MODULEV	**Day by Day**	**12 Hours**
LanguageSkills-UnderstandingandtellingTime-Makingappointments-Speakingaboutfamily - To take leave from someone - To excuse oneself after being late - A telephone appointment fixing Vocabulary: Daily routine/ time/Family Grammar: Informing with prepositions about time - Modal verbs Expressions: “r” hearing and speaking Culture: Punctuality at D–A–CH Film: You never have time!, Appointments!		
		TOTAL:60HOURS

REFERENCES:

1. Edwardswick, AllyouneedtolearnGermany,AdamsMedia,2010
2 PaulCoggleandHeinerSchenke,CompleteGerman,Teachyourself,2012.
3.MargretRodi, NetzwerkA, KlettPublications, 2015.

2304FLX01	JAPANESE LANGUAGE	L	T	P	C
		2	0	2	3

PREREQUISITE

Basic knowledge in Japanese Language

COURSEOBJECTIVES:

To understand the basics of Japanese language.

1. To speak generally in Japanese.
2. To read and write legibly in Japanese.

COURSEOUTCOMES:

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

CO1: Use fundamental elements of a foreign language
CO2: Identify distinctive features of the culture(s) associated with the language
CO3: Appraise basic Japanese language skills and Japanese grammar
CO4: Communicate short messages on highly predictable, everyday
Topics that affect them directly
CO5: Read a limited amount of information from highly predictable texts,
Basic practical writing needs using lists, short messages, post cards, and simple notes

COsVs POsMAPPING:

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

COsVs PSOs MAPPING

Cos	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSECONTENTS:

MODULE I **12 Hours**

Talking about Family – Friends – Home – Rooms – Health – School – Hobbies - Student life – Shopping - Clothes -Pets and animals Reading - Hiragana, Katakana, 800 Words (JLPT N5 Kanji and Vocabulary), Identify the general intent of very short texts enhanced by visual clues.

MODULEII **12 Hours**

Talking about your plans, weather, etc: grammar-usage of ni, o, nani, verbs like okimasu, shimasu, ikimasu, kaerimasu etc., Drills and applied conversation and audio. Common daily expressions, professions, religious beliefs, Japanese house and living style.

MODULEIII **12 Hours**

Talking about the past things happened: grammar– Past tense of verb sikimasu, mimasu, shimasu and their negative forms. Particles e, de and mo. Drills and applied conversation and audio. Food and transport, Japanese tea ceremony, Kanji related to directions and seasons.

MODULEIV **12 Hours**

Fixing an appointment for sports activity: grammar masenka, mashooka, particles ga(but) and goro.Drillsandappliedconversationandaudio.Partsofthebody,Japanesepoliticalsystemandeconomy.

MODULE V		**12 Hours**
Talking about vacations: grammar-past tense of i-ending adjectives is ogashikatta, tanoshikatta, combination of two adjectives, adverb staihen, amari , to temo. Drills and applied conversation and audio. Stationery, fruits and vegetables, places of interest in Japan.		
		TOTAL:60HOURS

TEXT BOOKS:

1.Timothy G.S tout,Japanese Hiragana &Katakana for Beginners: First Steps to Mastering the Japanese Writing System, Tuttle Publications, 2011.
2. First lessons in Japanese, ALC, Japan

REFERENCES:

1.Helen Gilhooly, Complete Japanese, Tuttle Publications,2017.
2. Eriko Sato, Learning Japanese Kanji Practice BookVolume1,Tuttle Publications,2015.

2301LS101	ADVANCED ENGLISH COMMUNICATION	L	T	P	C
		2	0	2	3

COURSE OBJECTIVES:

1. To understand the basics of communication skills.
2. To speak well generally in English in public places.
3. To read and write legibly in English.
4. To understand the verbal and non-verbal communication.

COURSE OUTCOMES:

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

CO1: Understand the importance of oral and written communication in day-to-day working of the organisation
CO2: Develop their inter personal skills and problem-solving skills.
CO3: Understand the role of body language in effective communicate
CO4: Implement the soft skills in theoretical and practical ways.
CO5: Adapt the techniques of personality development.

COs Vs POs MAPPING:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO 11	PO 12
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	COMMUNICATION AND WRITING SKILLS	12 Hours

Communication skills- Process of communication, verbal and non verbal communication; listening and note taking, writing skills, oral presentation skills; field diary and lab record; indexing, footnote and bibliographic procedures.

MODULE II	READING AND SPEAKING SKILLS	12 Hours

Reading and comprehension of general and technical articles, precise writing, summarizing, abstracting; individual and group presentations, impromptu presentation, public speaking; Group discussion.

MODULE III	ICT IN COMMUNICATION	12 Hours

Role of ICT in communication. Recent advances in communication- Print and electronic, internet, e-mail, fax, mobile, interactive video and teleconferencing, computer, e-governance.

MODULE IV	PERSONALITY DEVELOPMENT	12 Hours

Meaning and definition of personality; Theoretical perspectives on personality- Behavioural trait and humanistic personality pattern; moulding the personality patterns.

MODULE V	COMPONENTS OF PERSONALITY DEVELOPMENT	12 Hours

Personality development - Self perception, self concept, self esteem and gender stereotyping, persistence and changes in personality determinants (physical, intellectual, emotional, social, educational and family). Aspirations, achievements and fulfillment. Dressing for formal and informal occasions.

PRACTICAL

Listening and note taking, writing skills, oral presentation skills; field diary and lab record; indexing, footnote and bibliographic procedures. Reading and comprehension of general and technical articles, precise writing, summarizing, abstracting; individual and group presentations. Developing questionnaire to study impact of physique, educational institutions, aspirations on personality; developing questionnaire to study social prescriptions, gender and family on personality, aspirations and achievements. Collecting data through the questionnaires on small samples. Report writing and presentation. Case study of an individual suffering with personality disorders.

TOTAL: 60 HOURS

TEXT BOOKS:

1. 1. Raman, Meenakshi and Sangeetha Sharma. 2011. Technical Communication: Principles and Practice, Oxford University Press, New Delhi.
2. Rizvi and Ashraf M. 2005. Effective Technical Communication, Tata McGraw-Hill, New Delhi.

REFERENCES:

1. Regional Institute of English. 2006. English for Engineers, Cambridge University Press, New Delhi.
2. Rutherford and Andrea. 2001. Basic Communication Skills for Technology, Pearson, New Delhi.
3. Viswamohan A. 2008. English for Technical Communication, Tata McGraw-Hill, New Delhi.

2301MA104	ENGINEERING MATHEMATICS – I (For CSE & IT) (CALCULUS AND LINEAR ALGEBRA)	L	T	P	C
		3	1	0	4

PREREQUISITE:

1. Differentiation
2. Integration.
3. Linear Algebra

COURSE OBJECTIVES:

1. To familiarize the students with differential calculus.
2. To develop the use of integration techniques that is needed by engineers forpractical applications.
3. To familiarize the student with concepts of matrices. This is needed in many branches ofengineering.

COURSE OUTCOMES:

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

CO1: Develop the evolutes and Invoutes of given curves by means of radius and centre ofcurvature(K3)
CO2: Determine the area and volume of a curve using double and triple integration
CO3: Calculate Maxima and Minima and Apply Lagrange's Multiplier method.
CO4: Calculate the inverse and rank of a square matrix and Make use of Matrix Operationsto solve the systems of linear equations
CO5: Determine the nature of the matrix using Orthogonal Transformation.

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	DIFFERENTIAL CALCULUS	9 Hours

Curvature in Cartesian co-ordinates – Centre and radius of curvature – Circle of curvature- Evolutes and involutes.

MODULE II	INTEGRAL CALCULUS	9 Hours

Double integration – Cartesian and polar coordinates – Change the order of Integration – Applications: Area of a curved surface using double integral – Triple integration in Cartesian co- ordinates – Volume as triple integral.

MODULE III	MULTIVARIATE CALCULUS	9 Hours

Functions of two variables- Partial derivatives-Total differential- Taylor's series for functions of two variables-Maxima and minima-Constrained Maxima and minima- Lagrange's Multiplier method-Application of Maxima and Minima.

MODULE IV	**LINEAR ALGEBRA**	**9 Hours**
Matrices,Vectors: addition and Scalar multiplication, matrix multiplication; Linear systems of equations, linear independence, rank of a matrix, determinants, Cramer's rule, inverse of a matrix,Gauss elimination and Gauss-Jordan methods.		
MODULE V	**MATRICES**	**9 Hours**
Matrices - Eigen values and Eigen Vectors ; Diagonalization of Matrices - Reduction of a quadratic form to a canonical form by orthogonal transformation, Application of Eigen values and Eigen vectors.		
		TOTAL: 45 + 15 = 60 HOURS

REFERENCES:

1. Veerarajan T., Engineering Mathematics for first year, Tata McGraw-Hill, New Delhi,2018.

2. G.B. Thomas and R.L. Finney, Calculus and Analytic geometry, 9th Edition, Pearson,Reprint, 2002.

3. Erwin kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley &Sons,2006.
4. G. Balaji, Engineering Mathematics I, G. Balaji Publishers First Edition, July 2018.

5. Ramana B.V., Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11thReprint, 2010.
6. D. Poole, Linear Algebra: A Modern Introduction, 2nd Edition, Brooks/Cole, 2005.
7. N.P. Bali and Manish Goyal, A text book of Engineering Mathematics, LaxmiPublications, Reprint, 2008.

2301GEX05	APPLIED DIGITAL LOGIC AND DESIGN Common to B.E-CSE, B.Tech -IT, CSBS and AIDS	L	T	P	C
		3	0	2	4

PREREQUISITE: Basic mathematic skills

COURSE OBJECTIVES:

1. To present the fundamentals of digital circuits and simplification methods.
2. To practice the design of various combinational and sequential digital circuits using logic gates.
3. To introduce semiconductor memories and programmable logic devices.
4. To practice the HDL programming for combinational and sequential circuits.

COURSE OUTCOMES:

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

CO1: Use Boolean algebra, K-map and tabulation method to simplify Boolean functions.
CO2: Construct different combinational circuits using logic gates.
CO3: Develop different sequential circuits using logic gates and flip flops.
CO4: Compare different semiconductor memory devices.
CO5: Build programmable devices using logic gates.
CO6: Develop Verilog program for combinational and sequential circuits.

COs Vs POs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1						2	1		1
CO2	3	2	1						2	1		1
CO3	3	2	1						2	1		1
CO4	3	2	1						2	1		1
CO5	3	2	1						2	1		1
CO6	3	2	1		3				2	1		1

COs Vs PSOs MAPPING

COs	PSO1	PSO2
CO1	3	
CO2	3	
CO3	3	
CO4	3	
CO5	3	
CO6	3	

COURSE CONTENTS:

MODULEI	BOOLEANALGEBRAANDLOGICGATES	12Hours

Review of Number system – Boolean expression and minimization – Logic Gates and it simplementation-Simplification of Boolean Functions using Boolean algebra, Karnaugh Map and Tabulation Method.

UNITII	COMBINATIONALLOGIC	15Hours

Combinational Circuits–Analysis and Design Procedures–Circuits for Arithmetic Operations, Code Conversion – Decoders / Encoders – Multiplexers / Demultiplexers -Parity generators / checkers-Magnitude Comparator.

UNIT III	SEQUENTIAL CIRCUITS	12Hours

Sequential logic-Basic latch-Flip-flops (SR, D, JK, T and Master-Slave)-Counters-Ripple counters-BCD and Binary-Synchronous counters, Registers-Shift registers-Registers, Hazards

UNIT IV	MEMORYANDPROGRAMMABLELOGIC	9Hours

Classification of memories (RAM,ROM,PROM,EPROM, EEPROM)-Programmable Logic Devices(PLA,PAL,FPGA)-Implementation of circuits using ROM,PLA, PAL.

UNIT V	Verilog HDL modeling	12Hours

3 types of Verilog modeling (gate-level, dataflow, and behavioral)-Verilog programming for combinational and sequential circuits.

List of Lab experiments

1. Verification of Boolean Theorems using basic gates
2. Design and implementation of half adder, half subtractor, full adder and full subtractor
3. Design and implementation of code converters
4. Design and implementation of multiplexer and de-multiplexer
5. Design and implementation parity generator/checker
6. Design and implementation counters
7. Design and implementation shift register
8. Develop and simulation of Verilog program for combinational circuits
9. Develop and simulation of Verilog program for sequential circuits

Hardware/software requirement

1. Digital trainer kit 10 Nos
2. Adequate numbers of IC's
3. XilinxISE (or)Alter a Quartus II software

TOTAL: 60 HOURS

REFERENCES:

1. Morris Mano and Michael D. Ciletti, "Digital Design", 5th edition, Prentice Hall of India,2012
2. Samir Palnitkar, "Verilog HDL", 2nd Edition, Pearson Education, 2003
3. https://archive.nptel.ac.in/courses/108/105/108105132/(Link for NPTEL/SWAYAM/MOOC Courses)
4. https://www.vlab.co.in/broad-area-electronics-and-communications(Link for modern tool usage)

2301GEX01	FOUNDATION OF ELECTRICAL AND ELECTRONICS ENGINEERING	L	T	P	C
		2	0	2	3

PREREQUISITE:

1. Physics

COURSE OBJECTIVES:

1. To introduce basic electrical circuits and wiring terminologies
2. To impart knowledge in the basics of working principles and application of Electrical Machines and measuring instruments
3. To educate on the fundamental concepts of analog and digital electronics.

COURSE OUTCOMES:

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

CO1:	Acquire basic knowledge on DC, AC circuits and wiring.
CO2:	Understand the construction, working principle and applications of Electrical Machines.
CO3:	Understand the various measuring instruments and concepts of transducers.
CO4:	Obtain the knowledge of semiconductor devices and their applications.
CO5:	Acquire basic knowledge on logic gates and Boolean algebra.

COs Vs POs MAPPING:

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

COs Vs PSOs MAPPING

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

COURSE CONTENTS:		
MODULE I	**ELEMENTARY OF CIRCUIT CONCEPTS**	**5 Hours**
Active and passive components; Introduction to DC and AC circuits - Ohm's Law , Kirchhoff's Laws , Simple problems; Generation of AC waveform - average value, RMS value, form factor, peak factor ; Electrical safety; Wiring and its types.		
MODULE II	**ELECTRICAL MACHINES**	**5 Hours**
Construction, Working Principle and applications of DC Generators, DC Motors, single phase Transformers and single phase induction motors.		
MODULE III	**MEASURING INSTRUMENTS**	**5 Hours**
Functional elements of an instrument; Measuring instruments - Classification of instruments -PMMC, MI instruments, dynamometer type wattmeter, Energy meter, Transducers and its types.		
MODULE IV	**ANALOG ELECTRONICS**	**5 Hours**
Semiconductor devices: V-I characteristics of PN junction diode and Zener diode; Rectifiers - Half wave and full wave rectifiers; BJT, SCR, MOSFET, IGBT- construction and operation (simple approach)		
MODULE V	**DIGITAL ELECTRONICS**	**5 Hours**
Binary Number System; Logic Gates; Boolean algebra; De-Morgan's theorem; Half and Full Adder.		
		TOTAL: 25 HOURS

LIST OF EXPERIMENTS:	
1. Verification of Kirchoff's Voltage and Current Laws.	**2 Hours**
2. Determination of average value, RMS value, form factor, peak factor of sinusoidal waveform	**2 Hours**
3. Residential house wiring using fuse, switch, indicator, lamp and energy meter	**2 Hours**
4. Speed control of DC shunt motor	**2 Hours**
5. Determine the Efficiency and Voltage Regulation of a Single Phase Transformer by Load test	**2 Hours**
6. Measurement of energy using single phase energy meter	**2 Hours**
7. Measurement of temperature using transducers.	**2 Hours**
8. Full wave rectifier with and without filter.	**2 Hours**
9. I-V characteristics of Zener diode	**2 Hours**
10. Verification of Logic gates.	**2 Hours**
	TOTAL: 20 HOURS

REFERENCES:

1. Mittle N., "Basic Electrical Engineering", Tata McGraw Hill Edition, New Delhi, 1990.
2. Sedha R.S., "Applied Electronics", S. Chand & Co., 2006.
3. Smarajit Ghosh, "Fundamentals of Electrical and Electronics Engineering", 2nd Edition, PHI Learning, 2010.
4. R. Muthusubramaniam, S. Salaivahanan and K.A. Mureleedharan, "Basic Electrical Electronics and Computer Engineering",Tata McGraw Hill, 2004
5. D.P. Kothari and I.J. Nagrath, "Theory and Problems of Basic Electrical Engineering", PHI learning, New Delhi, 2004.
6. J.B. Gupta, "Fundamentals of Electrical Engineering and Electronics", S.K. Kataria and Sons,

Reprint 2012 Edition
7. R.L. Boylestad and L. Nashelsky, “Electronic Devices and Circuit Theory”, Pearson, 11th Edition,2013.
8. Donald P. Leach, Albert Paul Malvino and Goutam Saha, “Digital Principles and Applications”, McGraw-Hill Education, 8th Edition, 2014.
9. https://em-coep.vlabs.ac.in/exp/speed-control-dc-motor/simulation.html
10. https://de-iitr.vlabs.ac.in/exp/truth-table-gates/simulation.html

2301GEX02	ENGINEERING GRAPHICS AND DESIGN	L	T	P	C
		2	2	0	3

Prerequisite:

1. Basic knowledge about geometry
2. Lettering and Dimensioning

COURSE OBJECTIVES:

1. To develop in students, graphic skills for communication of concepts, ideas and design of Engineering products
2. To expose them to existing national standards related to technical drawings

COURSE OUTCOMES:

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

CO1:	Construct conic curves, involutes and cycloids
CO2:	Solve problems involving projection of points, lines and plane surfaces
CO3:	Draw the projection and development of a sectioned simple solids
CO4:	Draw the orthographic, isometric and projection of simple solids
CO5:	Use BIS convention and training of engineering graphics by CAD software

COs Vs POs / PSOs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1	2		2					3		2	2	2	
CO2	3	1	2		2					3		2	2	2	
CO3	3	1	2		2					3		2	2	2	
CO4	3	1	2		2					3		2	2	2	
CO5	3	1	2		2					3		2	2	2	

COURSE CONTENTS:

MODULE I **BASIC CONCEPTS OF TECHNICAL DRAWING AND PLANE CURVES** **9 Hours**

Importance of graphics in engineering applications – Use of drafting instruments – BIS conventions and specifications – Size, Scale, layout and folding of drawing sheets – Lettering and dimensioning.Basic Geometrical constructions, Curves used in engineering practices: Conics – Construction of ellipse, parabola and hyperbola by eccentricity method – Construction of cycloid – construction of involutes of square and circle – Drawing of tangents and normal to the above curves. Practicing plane curves by CAD software.

MODULE II **PROJECTION OF POINTS, LINES AND PLANE SURFACES** **9 Hours**

Principal Planes-First angle projection-projection of points. Projection of straight lines (only First angle projections) inclined to both the principal planes - Determination of true lengths and true inclinations by rotating line method and traces. Projection of planes (polygonal and circular surfaces) inclined to both the principal planes by rotating object method. Practicing projection of lines and surfaces by CAD software.

MODULE III **PROJECTION OF SOLIDS** **9 Hours**

Projection of simple solids like prisms, pyramids, cylinder and cone when the axis is inclined to one of the principal planes by rotating object method. Practicing the projections of simple objects by CAD software.

MODULE IV **PROJECTION OF SECTIONED SOLIDS AND DEVELOPMENT OF SURFACES** **9 Hours**

Sectioning of above solids in simple vertical position when the cutting plane is inclined to the one of the principal planes and perpendicular to the other – obtaining true shape of section. Development of lateral surfaces of simple and sectioned solids – Prisms, pyramids cylinders and cones. Practicing projection of sectioned solids and development of solid surfaces by CAD software.

MODULE V	ORTHOGRAPHIC AND ISOMETRIC PROJECTION	9 Hours
Isometric view - Prisms, pyramids, cylinders, cones. Principles of isometric projection – isometric scale – Isometric projections of simple solids and truncated solids - Prisms, pyramids, cylinders, cones- combination of two solid objects in simple vertical positions and miscellaneous problems. Practicing isometric projections of simple objects by CAD software.		
		TOTAL: 45 HOURS

REFERENCES:

1. Bhatt N.D. and Panchal V.M., Charotar Publishing House, 53rd Edition, 2019.
2. Natrajan K.V., A Text Book of Engineering Graphics, Dhanalakshmi Publishers, Chennai, 2018.
3. Parthasarathy, N. S. and Vela Murali, “Engineering Drawing”, Oxford University Press, 2015.
4. Basant Agarwal and Agarwal C.M., “Engineering Drawing”, McGraw Hill, 2n d Edition, 2019.
5. Gopalakrishna K.R., “Engineering Drawing” (Vol. I&II combined), Subhas Publications, Bangalore,27th Edition, 2017
6. Shah M.B., and Rana B.C., “Engineering Drawing”, Pearson Education India, 2nd Edition, 2009.
7. Venugopal K. and Prabhu Raja V., “Engineering Graphics”, New Age International (P) Limited, 2008.

2301TA101	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

COURSEOBJECTIVES:

Tamil Literature is way of a life. It focuses on the historical significance of ethics, moral culture in the Tamil context.

Tamil Modern literature emphasizes on the modern development of the behavioral, moral and ethical

Technology is the important key for a language and a new sector for the students to voice out for a social cause

COURSEOUTCOMES:

Onthe successfulcompletionofthecourse,studentswillbe ableto

CO1:	Develop a spirit of patriotism.
CO2:	Understand the plight of the people living in the society and Biological Struggles.
CO3:	Remember the life style of the Sangam people and To recognize the heroic spirit of the ancient Tamil kings
CO4:	Evaluate the quality and morals of local life through Tamil literature
CO5:	Introducing the various Literary Genres and dramas and enable them to produce innovative ideas in modern literary theories

COsVs POsMAPPING:

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

COsVs PSOs MAPPING

COs	PSO1	PSO2	PSO3
CO1			
CO2			
CO3			
CO4			
CO5			

COURSECONTENTS:

MODULEI	WEAVING ANDCERAMICTECHNOLOGY	3 Hours

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

MODULEII	DESIGNANDCONSTRUCTIONTECHNOLOGY	3 Hours

Designing and Structural construction House & Designs in household materials during Sangam Age Building materials and Hero stones 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 – ChettiNaduHouses,Indo-SaracenicarchitectureatMadrasduringBritishPeriod

MODULEIII	**MANUFACTURINGTECHNOLOGY**	**3 Hours**
ArtofShipBuilding-Metallurgicalstudies-Ironindustry-Ironsmelting,steel-Copperandgold-Coinsassourceofhistory-MintingofCoins–Beadsmaking-industriesStonebeads-Glassbeads-Terracottabeads-Shellbeads/bonebeats-Archeologicalevidences-GemstonetypesdescribedinSilappathikaram.		
MODULEIV	AGRICULTUREANDIRRIGATIONTECHNOLOGY	**3 Hours**
Dam, Tank, ponds, Sluice, Significance of Kumizhi Thoompu of Chola Period, Animal Husbandry -Wells designed for cattle use - Agriculture and Agro Processing - Knowledge of Sea - Fisheries —Pearl-Conchediving-AncientKnowledgeofOcean-KnowledgeSpecificSociety		
MODULEV	SCIENTIFICTAMIL&TAMILCOMPUTING	**3 Hours**
DevelopmentofScientificTamil-Tamilcomputing–DigitalizationofTamilBooks–Developmentof Tamil Software – Tamil Virtual Academy – Tamil Digital Library – Online Tamil Dictionaries – Sorkuvai Project.		
TOTAL:15HOURS		

REFERENCES:

1. தமிழகவரலொறு– மகக்ருமபணபொடும– மக.மக. பிளமள (தவளியீடு: தமிழநொடுபொடநூலமறறும கலவியியலபணிகளகழகம).
2. கணினிததமிழ– முமனவாஇல. சுநதரம. (விகடனபிரசுரம).
3. கீழடி– மவமகநதிககமரயிலெஙகொலநகரநொகரிகம (ததொலலியலதுமற தவளியீடு)
4. தபொருமந– ஆறறஙகமரநொகரிகம. (ததொலலியலதுமறதவளியீடு)
5. Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)
6. Social Life of the Tamils - The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies.
7. Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).
8. The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)
9. Keeladi - 'Sangam City C ivilization on the banks of river Vaigai' (Jointly Published by: Department ofArchaeology& Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
10. Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Published by: The Author)
11. Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
12. Journey of Civilization Indus to Vaigai (R.Balakrishnan) (Published by: RMRL) – Reference Book.

2301GEX51	COMPUTER PRACTICES LABORATORY	L	T	P	C
		0	0	2	1

PREREQUISITE:

There is no prerequisite for the course

COURSE OBJECTIVES:

1.To be familiar with Computer Hardware Components and installation of software.
2.Make use of office package and to be familiar with the use of Office software.
3.To learn about searching, downloading, and storing contents in the Cloud Network.

COURSE OUTCOMES:

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

CO1: Perform assembling and disassembling of desktop machine with different peripheral and software installation and servicing.
CO2: Simulate data using MS office for Presentation and Visualization.
CO3: Use browsers for searching & accessing/storing the contents to/from cloud.

LIST OF EXPERIMENTS:

1. Familiarization of Computers & Computer Hardware Components
2. Familiarization of major types of storage/memory technology
3. Installing various operating systems including software download/installation, Familiarization of basic software/tools
4. Working with MS-Office: MS Word, MS Excel, MS Powerpoint
5. Familiarization of Computer Shortcut keys
6. **Mini Project-1**: Assemble your computer and install an Operating System
7. Basics of Internet, Web browsers and Content Searching & accessing/storing the contents to/from cloud including DropBox
8. Familiarization of various types of security threats including virus
9. Computer Ethics; Open Source way
10. **Mini Project-2**: Document preparation using MS Word, Data Processing using MS Excel and Presentation using MS Powerpoint

TOTAL: 30 HOURS

COs Vs POs & PSOs MAPPING:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	-	-	-	2	2	-	-	1	1	1	1
CO2	3	3	2	2	2	-	-	-	-	1	-	1	1	1	1
CO3	3	3	2	1	-	-	-	2	-	-	-	1	1	1	1

HARDWARE/SOFTWARE REQUIREMENT

1. Standalone Desktop Computers with Internet Connectivity
2. Office Pack
3. Operating System Packages

REFERENCES:

1. Kevin Wilson, “Computer Hardware: The Illustrated Guide to Understanding Computer Hardware”, 2021
2. Kumar Bittu, “Mastering MS Office”, 2020
3. Ajay Mittal &Anitha Goel, “Computer Fundamentals and Programming in C”, 2017
4. https://nptel.ac.in/courses/106103068

5. https://docs.oracle.com/cd/E19121-01/sf.x2100m2/819-6592-13/Chap1.html
6. https://www.linkedin.com/learning/topics/microsoft-office