

SONA COLLEGE OF TECHNOLOGY, SALEM-5

(An Autonomous Institution)

B.E- Electrical and Electronics Engineering

CURRICULUM and SYLLABI

[For students admitted in 2025-2026]

B.E / B.Tech Regulations 2023

Approved by BOS and Academic Council meetings

Sona College of Technology, Salem
(An Autonomous Institution)
Courses of Study for B.E/B.Tech. Semester I under Regulations 2023 (CBCS)
Branch: Electrical and Electronics Engineering

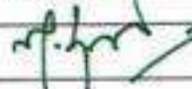

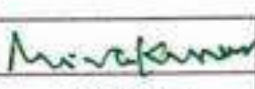


S.No	Course Code	Course Title	L	T	P	J	C	Category	Total Contact Hours	Course Type*	
Theory Courses											
1.	U23ENG101A	Communication Skills in English	2	0	2	0	3	HS	60	TL	
2.	U23MAT102A	Linear Algebra and Calculus with MATLAB	3	0	2	0	4	BS	75	TL	
3.	U23CHE104C	Chemistry For Electrical Engineering	3	0	0	0	3	BS	45	T	
4.	U23PPR105	Problem Solving using Python Programming	3	0	0	0	3	ES	45	T	
5.	U23EGR107	Engineering Graphics	3	0	0	0	3	ES	45	T	
6.	U23TAM101	தமிழர் மரபு / Heritage of Tamils	1	0	0	0	1	HS	15	T	
7.	U23GE101	Basic Aptitude-I	2	0	0	0	0	AC	30	T	
Practical Courses											
8.	U23CHL111B	Chemistry Laboratory	0	0	2	0	1	BS	30	L	
9.	U23PPL112	Python Programming Laboratory	0	0	2	0	1	ES	30	L	
Total Credits							19				
Optional Language Courses**											
10.	U23OL1101	French						OL	15	T	
11.	U23OL1102	German							15	T	
12.	U23OL1103	Japanese	1	0	0	0	1		15	T	
13.	U23OL1104	Korean							15	T	
14.	U23OL1105	Hindi							15	T	

*T- Theory, TT- Theory with Tutorial, TL- Theory with Laboratory, TP- Theory with Project, TLP- Theory with Laboratory and Project, L-Laboratory, LT- Laboratory with Theory, LP- Laboratory with Project

**Students may opt for foreign languages viz., German/French/Japanese/Korean/Hindi with additional one credit

(Not accounted for CGPA calculation)

Approved By

				
Chairperson, Science and Humanities BoS	Chairperson, EEE BoS	Member Secretary, Academic Council	Dean-Academics	Chairperson, Academic Council & Principal
Dr. M. Renuga	Dr.S.Padma	Dr.R.Shivakumar	Dr.J.Akilandeswari	Dr.S.R.R.Senthil Kumar

Copy to:- HOD/ Electrical and Electronics Engineering, First Semester B.E. EEE Students and Staff, COE

Sona College of Technology, Salem
(An Autonomous Institution)

Courses of Study for B.E/B.Tech. Semester II under Regulations 2023 (CBCS)

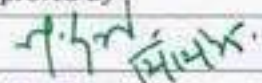

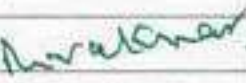

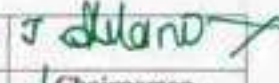
Branch: Electrical and Electronics Engineering

S.No	Course Code	Course Title	L	T	P	J	C	Category	Total Contact Hours	Course Type*	
Theory courses											
1.	U23ENG201A	Technical English	2	0	0	0	2	HS	30	T	
2.	U23MAT202B	Transforms and Differential Equations	3	1	0	0	4	BS	60	TT	
3.	U23PHY203D	Engineering Physics	3	0	0	0	3	BS	45	T	
4.	U23EE201	Electrical Circuit Analysis	3	1	0	0	4	PC	60	TT	
5.	U23ME204	Thermodynamics and Fluid Machines	3	0	0	0	3	ES	45	T	
6.	U23TAM201	தமிழ்நாடு தொழில்நுட்பமும் / Tamils and Technology	1	0	0	0	1	HS	15	T	
7.	U23GE201	Basic Aptitude -II	2	0	0	0	0	AC	30	T	
8.	U23GE202	Disaster Management and Preparedness	2	0	0	0	0	AC	30	T	
Practical courses											
9.	U23PHL210B	Engineering Physics Laboratory	0	0	2	0	1	BS	30	L	
10.	U23EE202	Electrical Circuits Laboratory	0	0	3	0	1.5	PC	45	L	
Total Credits							19.5				
Optional Language Courses**											
11.	U23OL1201	French - II							15	T	
12.	U23OL1202	German - II							15	T	
13.	U23OL1203	Japanese - II	1	0	0	0	1	OL	15	T	
14.	U23OL1204	Korean - II							15	T	
15.	U23OL1205	Hindi - II							15	T	

*T- Theory, TT- Theory with Tutorial, TL- Theory with Laboratory, TP- Theory with Project, TLP- Theory with Laboratory and Project, L-Laboratory, LT- Laboratory with Theory, LP- Laboratory with Project

**Students may opt for foreign languages viz., German/French/Japanese/Korean/Hindi with additional one credit (Not accounted for CGPA calculation)

Approved By

				
Chairperson, Science and Humanities BoS	Chairperson, EEE BoS	Member Secretary, Academic Council	Dean-Academics	Chairperson, Academic Council & Principal
Dr.M.Renuga	Dr.S.Padma	Dr.R.Shivakumar	Dr.J.Akilandeswari	Dr.S.R.R.Senthil Kumar

Copy to:-

HOD/ Electrical and Electronics Engineering, Second Semester B.E. EEE, Students and Staff, COE

U23ENG101A	Communication Skills in English (Common to ADS, AIML, BME, CSD, CSE, CIVIL, ECE, EXE, EEE, EFE, EVE, FT, IT, MCT and SCE Branches)	L	T	P	J	C
		2	0	2	0	3

Course Outcomes

At the end of the course, the student will be able to

CO1:	Use grammatical components effectively in both written and spoken communication
CO2:	Develop speaking skills for self-introduction, delivering speeches and technical presentation
CO3:	Demonstrate effective listening skills for academic and professional purposes
CO4:	Write emails, formal letters, build resumes and construct paragraphs
CO5:	Develop speaking skills both in terms of fluency and comprehensibility

Pre-requisite:

- Knowledge and Understanding of Grammar
- Fundamental Language Skills (LSRW)

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	1	1	1	3	3	2	3	3	2	3	2	3
CO2	1	1	1	1	1	3	3	3	3	3	3	3	3	3
CO3	1	2	3	2	2	3	3	2	3	3	3	3	3	3
CO4	1	2	1	2	2	3	3	3	3	3	3	3	3	3
CO5	1	2	2	3	2	3	3	3	3	3	3	3	3	3

Course Assessment methods

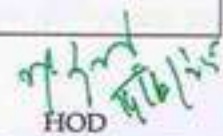
Direct	Indirect
CIE test I (10) (Theory) CIE test II (10) (Theory) CIE test III (10) (Theory) CIE test IV (15) (Practical)	Assignment/seminar/Quiz (5) Total CIE: 50 marks Semester End Examination (50) (SEE – Theory (25 marks + Lab (25 marks)) Course end survey

Unit 01:

6 Hours

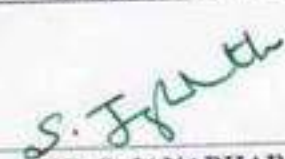
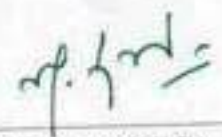
- General vocabulary, Parts of Speech, Articles
- Email, fixing an appointment, cancelling appointments, conference details, hotel accommodation, order for equipment, training programme details, paper submission for seminars and conferences
- Paragraph writing – Describing – defining – providing examples or evidences

Unit 02:				6 Hours
<ul style="list-style-type: none"> • Tenses, Sentence Patterns • Instructions • Letter Writing - calling for quotations, placing orders 				
Unit 03:				6 Hours
<ul style="list-style-type: none"> • Prefixes and Suffixes • Cover letter and resume writing 				
Unit 04:				6 Hours
<ul style="list-style-type: none"> • Modal verbs, concord • Checklist • Letter Writing - Business communication, complaints, replies to queries from business customers 				
Unit 05:				6 Hours
<ul style="list-style-type: none"> • If conditionals • Letter Writing - inviting dignitaries, accepting and declining invitations 				
Lab component:				
<ol style="list-style-type: none"> 1. Self-introduction, personal information, name, home background, study details, area of interest, hobbies, strengths and weaknesses, projects and paper presentations, likes and dislikes in food, travel, clothes, special features of home town. 2. Mini presentation - Office Arrangements, Facilities, Office Functions, Sales, Purchases, Training Recruitment, Advertising, Applying for financial assistance, applying for a job. 3. Listening - understanding short conversations or monologues, taking down phone messages, orders, notes, etc. 4. Listening – entering information in tabular form 5. Loud Reading 				
Theory: 30 Hrs	Tutorial: --	Practical: 30 hours-	Project:--	Total Hours: 60 Hrs
TEXT BOOKS				
1.	Technical English I & II, Dr. M. Renuga et al. Sonaversity, 2016			
2.	Extensive Reading			
	<ol style="list-style-type: none"> 1. She is Dancing Back to Life – A Short Story 2. The Story of Google – Sara Gilbert, published by Jaico 3. The Story of Amazon.com- Sara Gilbert, published by Jaico 			
REFERENCES				
1.	Norman Whitby, Business Benchmark – Pre-Intermediate to Intermediate, Students Book, Cambridge University Press, 2006.			
2.	A Course in Communication Skills, P. Kiranmai Dutt, Geetha Rajeevan, C. L. N. Prakash, published by Cambridge University Press India Pvt. Ltd.			


HOD

Dr. M. RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 637 002

SEMESTER - I	LINEAR ALGEBRA AND CALCULUS WITH MATLAB (CIVIL, CSE, EEE, IT, MECH, MCT, ADS, CSE(AIML), CSD, EFE, SCE, CBE ,SFE)										L	T	P	J	C
U23MAT102A											3	0	2	0	4
Course Outcomes															
At the end of the course, the student will be able to															
CO1:	find the rank of the matrix and solve linear system of equations by direct and indirect methods														
CO2:	apply the concepts of vector spaces and linear transformations in real world applications														
CO3:	apply the concepts of eigenvalues and eigenvectors of a real matrix and their properties to diagonalize the matrix.														
CO4:	find the Taylor's series expansion, Jacobians and the maxima and minima of functions of two variables														
CO5:	apply the appropriate techniques of multiple integrals to find the area and volume.														
Pre-requisites:															
<ul style="list-style-type: none"> Fundamentals of elementary algebra Fundamentals of calculus 							<ul style="list-style-type: none"> Fundamentals of geometry Fundamentals of trigonometry 								
CO/PO, PSO Mapping															
(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak															
Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)															
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	
CO1	3		2	3							2	2		3	
CO2	3		2	3							2	2		3	
CO3	3		2	3							2	2		3	
CO4	3		2	3							2	2		3	
CO5	3		2	3							2	2		3	
Course assessment methods [Theory with laboratory course]															
Direct										Indirect					
CIE test I (10) (Theory)					Total CIE: 50 marks Semester End Examination (50) [SEE- Theory (35) + Lab(15) marks]					Course end survey					
CIE test II (10) (Theory)															
CIE test III (10) (Theory)															
CIE test IV (15) (Practical)															
Assignment/Quiz/Seminar (5)															
Unit 01	LINEAR SYSTEM OF EQUATIONS												9 Hours		
Rank of a matrix – solution of linear system of equations by matrix method, Gauss elimination, Gauss-Jordan, Gauss-Jacobi and Gauss-Seidel methods.															
Unit 02	VECTOR SPACES												9 Hours		
Vector space – linear independence and dependence of vectors – basis – dimension – linear transformations (maps) – matrix associated with a linear map – range and kernel of a linear map.															
Unit 03	EIGENVALUES AND EIGENVECTORS												9 Hours		
Eigenvalues and eigenvectors of real matrices – properties of eigenvalues and eigenvectors – Cayley-Hamilton theorem – diagonalization of real symmetric matrices.															
Unit 04	MULTIVARIABLE CALCULUS												9 Hours		
Functions of several variables – partial differentiation – total derivative – Jacobians – Taylor's theorem for functions of two variables – maxima and minima of functions of two variables without constraints – constrained maxima and minima by Lagrange's method of undetermined multipliers.															

Unit 05	MULTIPLE INTEGRALS				9 Hours
Double integrals – change of order of integration – change of variables from Cartesian to polar coordinates – area as double integrals in Cartesian coordinates – triple integrals – volume as triple integrals in Cartesian coordinates.					
List of MATLAB Programs					
1.	Programs based on elementary operations on matrices				
2.	Computing the rank of a matrix				
3.	Finding eigenvalues and eigenvectors of a matrix				
4.	Finding partial derivatives of functions of several variables				
5.	Computing stationary points of functions of two variables				
6.	Taylors series expansion of functions of two variables				
7.	Evaluating double integrals				
8.	Finding area as double integrals				
9.	Evaluating triple integrals				
10.	Finding volume as triple integrals				
Theory: 45 Hrs		Tutorial: -	Practical: 30 Hrs	Project:--	Total Hours: 75 Hrs
TEXT BOOKS:					
1.	T. Veerarajan, "Linear Algebra and Partial Differential Equations", McGraw Hill Publishers, 1 st Edition, 2018.				
2.	T. Veerarajan, "Engineering Mathematics for Semesters I & II", McGraw Hill Publishers, 1 st Edition, 2019.				
3.	W. Yang, Y. K. Choi, K. Jaekwon, M. C. Kim, H. J. Kim and T. Im, "Engineering Mathematics with MATLAB", CRC Press Publishers, 1 st Edition, 2017.				
REFERENCE BOOKS:					
1.	S. Lipschutz and M. L. Lipson, "Linear Algebra", McGraw Hill Publishers, 6 th Edition, 2018.				
2.	E. Kreyszig, "Advanced Engineering Mathematics", Wiley Publishers, 10 th Edition, Reprint, 2017.				
3.	C. Prasad and R. Garg, "Advanced Engineering Mathematics", Khanna Publishers, 1 st Edition, 2018.				
4.	B. V. Ramana, "Higher Engineering Mathematics", McGraw Hill Publishers, 29 th Reprint, 2017.				
5.	B. S. Grewal, "Higher Engineering Mathematics", Khanna Publishers, 44 th Edition, 2018.				
6.	D. Xu, "Calculus problem solutions with MATLAB", Walter de Gruyter Publishers, 1 st Edition, 2020.				
 DR. S. JAYABHARATHI Head / Department of Mathematics			 DR. M. RENUGA BoS Chairperson/S&H		
Dr. S. JAYABHARATHI ASSOCIATE PROFESSOR & HEAD DEPARTMENT OF MATHEMATICS, SONA COLLEGE OF TECHNOLOGY, SALEM-636 005, Tamilnadu. Ph: 0427 - 4099999.			Dr. M. RENUGA, Professor & Head, Department of Humanities & Languages, Sona College of Technology, SALEM - 636 005.		
B.E/B. Tech Regulations 2023					S&H BoS Date: 08-07-2023

U23CHE104C	CHEMISTRY FOR ELECTRICAL ENGINEERING (Common to Electrical and Electronics Engineering & Electrical and Computer Engineering)	L	T	P	J	C
		3	0	0	0	3

Course Outcomes

At the end of the course, the student will be able to

CO1:	Outline the principle of electrochemistry and its engineering applications.
CO2:	Describe the construction, working principle and applications of energy storage devices for electronic appliances.
CO3:	Analyse the types of polymers, polymerization reactions, polymerization techniques and fabrication methods of polymers for engineering applications.
CO4:	Explain the electrochemical processes carried out in electronic industries.
CO5:	Discuss the principle, advantages and applications of organic electronic materials in electronic device fabrication.

Pre-requisite: Basic knowledge on the concepts of organic, inorganic and physical chemistry.

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2					2							2
CO2	3	2					2							2
CO3	3	2					2							2
CO4	3	2					2							2
CO5	3	2					2							2

Course Assessment methods

Direct		Indirect
CIE test I (9) CIE test II (9) CIE test III (10) Objectives Test (7)	Assignment/seminar/Quiz (5) Total CIE: 40 marks Semester End Examination: 60 marks	Course end survey

Unit 01: ELECTROCHEMISTRY

9 Hours

Introduction – basic terminologies - electrode potential – Nernst Equation – derivation and problems based on single electrode potential calculation – reference electrodes – standard hydrogen electrode – saturated calomel electrode – Ion selective electrode – glass electrode – measurement of pH – electrochemical series – significance – electrolytic and electrochemical cells – EMF – Measurement of emf by Pogendorff's method – potentiometric titrations (redox – Fe^{2+} vs dichromate) – conductometric titrations (acid-base – HCl vs

NaOH).

Unit 02: CHEMISTRY OF ENERGY STORAGE DEVICES

9 Hours

Reversible and irreversible Cells – Batteries - types of batteries – battery characteristics-voltage-current-capacity-electricity storage density-power-discharge rate-cycle life-energy efficiency and shelf Life – Fabrication and working of alkaline battery-Lead-acid battery-Ni-Cd-Lithium ion batteries and Solar cells – Recycling methods of used batteries and conventional solar cells - Fuel Cells – Hydrogen-Oxygen fuel cell – Nano batteries- construction-working-advantages and applications.

Unit 03: ELECTROCHEMICAL PROCESSES IN ELECTRONIC INDUSTRIES

9 Hours

Electroplating – Principle and process - plating parameters- current and energy efficiency - Electroplating of nickel - Fundamentals of electroless deposition – electroless plating of nickel, fabrication of PCB's - electrochemical etching of copper from PCBs - Anodizing - definition, principle and working methodology of aluminium anodizing process – Cyclic voltammetry- basic principles and applications - Sensors – definitions and examples.

Unit 04: POLYMER CHEMISTRY

9 Hours

Nomenclature of Polymers – classification of polymers - functionality – tacticity, degree of polymersation, glass transition temperature in polymers - types of polymerization-addition-condensation and copolymerization – free radical mechanism of addition polymerization – techniques of polymerization-bulk and solution only – Thermoplastic and Thermosetting Resins - Plastics – moulding constituents of plastics – moulding of plastics into articles-Injection, Compression and Blow moulding – Rubbers-types-applications-vulcanization of rubber.

Unit 05: CHEMISTRY OF ORGANIC ELECTRONIC MATERIALS

9 Hours

Organic semiconducting materials – working principle and advantages over inorganic semiconducting materials - p-type and n-type organic semiconducting materials - Pentacene Fullerenes-C-60 – Organic dielectric material-definition-working principle and examples - Polystyrene – PMMA – Organic light emitting polymer – structure-properties and applications of Polythiopene – Conducting polymers, types and applications – Organic Light Emitting Diodes (OLEDs) - construction-working principle and applications – Organic transistors- construction-working principle and applications in electronic Industries.

Theory: 45 Hrs

Tutorial: --

Practical: --

Project:--

Total Hours: 45 Hrs

TEXT BOOKS

1. P.C.Jain and Monica Jain, "Engineering Chemistry" Dhanpat Rai Pub, Co., New Delhi , 17th Edition, 2018.
2. Wiley Editorial Board, "Wiley Engineering Chemistry", 2nd Edition, Wiley India Pvt.Ltd, New Delhi, Reprint 2019.

REFERENCES

1.	Gowariker V.R. , Viswanathan N.V. and Jayadev Sreedhar, "Polymer Science", New Age International P (Ltd.), Chennai, 2006.
2.	Electroplating, Anodizing and Metal treatment", Hand book, NIIR board, 2004.
3.	Hagen Klauk, "Organic Electronics: Materials, Manufacturing and Applications", Wiley-VCH, 2006.
4.	A. Ravikrishnan, "Engineering Chemistry", Sri Krishna Publications, Chennai, 2017.

C. Shanthi
14.6.2025

Dr. C. Shanthi
HOD / Science

Dr. C. SHANTHI, M.Sc., M.E., Ph.D.,
Professor of Physics
Head, Department of Sciences
Sona College of Technology (Autonomous)
SALEM-636 005.

M. Renuga
14/6/25

Dr. M. Renuga
BoS - Chairperson
Science and Humanities

Dr. M. RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 636 005.

U23PPR105	PROBLEM SOLVING USING PYTHON PROGRAMMING (Common to ADS, IT, CSE, CSE(AI/ML), CSD, SCE, CBE, CIVIL, BME, ECE, EXE, EVE, EEE, EFX, MECH, MCT and SFE Branches)											L	T	P	J	C
												3	0	0	0	3
Course Outcomes																
At the end of the course, the student will be able to																
CO1	Develop algorithmic solutions to simple computational problems.															
CO2	Write simple Python programs															
CO3	Write programs with the various control statements and handling strings in Python															
CO4	Develop Python programs using functions and files															
CO5	Analyze a problem and use appropriate data structures to solve it.															
Pre-requisite: NIL																
CO/PO, PSO Mapping (3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak																
COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)															
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
CO1	2	2	3	1	1									1		
CO2	2	2	3	1	1									1		
CO3	2	2	3	1	1									1		
CO4	2	2	3	1	1									1		
CO5	2	2	3	1	1									1		
Course Assessment methods																
Direct										Indirect						
CIE test I (9) CIE test II (9) CIE test III (10) Assignment/seminar/Quiz (5)						Objectives Test (7) Total CIE: 40 marks Semester End Examination (60)				Course end survey						
UNIT I	ALGORITHMIC PROBLEM SOLVING												9 Hours			
Need for computer languages, Algorithms, building blocks of algorithms (statements, state, control flow, functions), notation (pseudo code, flow chart, programming language), algorithmic problem solving, simple strategies for developing algorithms (iteration, recursion).																
UNIT II	BASICS OF PYTHON PROGRAMMING												9 Hours			
Introduction-Python Interpreter-Interactive and script mode -Values and types, variables, operators, expressions, statements, precedence of operators, Multiple assignments, comments, input function, print function, Formatting numbers and strings, implicit/explicit type conversion.																
UNIT III	CONTROL STATEMENTS AND STRINGS												9 Hours			
Conditional (if), alternative (if-else), chained conditional (if-elif-else). Iteration-while, for, infinite loop, break, continue, pass, else. Strings-String slices, immutability, string methods and operations.																

UNIT IV	FUNCTIONS, FILES AND MODULES				9 Hours
Functions - Introduction, inbuilt functions, user defined functions, passing parameters – positional arguments, default arguments, keyword arguments, return values, local scope, global scope and recursion. Files -Text files, reading and writing files. Modules – create – import.					
UNIT V	DATA STRUCTURES: LISTS, SETS, TUPLES, DICTIONARIES				9 Hours
Lists-creating lists, list operations, list methods, mutability list functions, searching and sorting, Sets-creating sets, set operations. Tuples-Tuple assignment, Operations on Tuples, lists and tuples, Tuple as return value- Dictionaries-operations and methods, Nested Dictionaries, Union Operation.					
Theory: 45 Hrs		Tutorial: –	Practical: –	Project:--	Total Hours: 45 Hrs
TEXT BOOKS					
1.	Reema Thareja, "Problem Solving and Programming with Python" Oxford University Press, 2 nd Edition 2023.				
REFERENCES					
1.	Ashok Namdev Kamthane, Amit Ashok Kamthane, "Programming and Problem Solving with Python" Mc-Graw Hill Education, 2018.				
2.	Charles Dierbach, "Introduction to Computer Science using Python: A Computational Problem Solving Focus" Wiley India Edition, 2013.				
3.	Allen Downey, "Think Python: How to Think Like a Computer Scientist" O'Reilly Media, 2nd Edition 2016.				
4.	Timothy A. Budd," Exploring Python" Mc-Graw Hill Education (India) Private Ltd., 2015.				


DR. J. ARULANDESWAR.
 PROFESSOR & HEAD
 Department of Information Technology
 SONA COLLEGE OF TECHNOLOGY
 SALEM - 636 005



U23EGR107	ENGINEERING GRAPHICS (Common to CIVIL, AML, CSD, EFE, EEE, MECH MCT and SFE branches)	L	T	P	J	C
		3	0	0	0	3

Course Outcomes

At the end of the course, the student will be able to

CO1: Construct -Ellipse, Parabola, Hyperbola, Cycloids and Involutes.

CO2: Draw the projection of Point, Line and Plane surfaces.

CO3: Draw the projection of simple solids by rotating object method.

CO4: Develop the section of simple solids and lateral surface of truncated solids.

CO5: Draw the isometric view to orthographic projection.

Pre-requisite: Nil

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1							3		2			1	
CO2					3			2		2		2		2
CO3					3			2		2		2	1	2
CO4					3			2		2		2	1	2
CO5			2					2		2		2	1	

Course Assessment methods

Direct		Indirect
CIE test I (9)	Objectives Test (7) Total CIE: 40 marks Semester End Examination (60)	Course end survey
CIE test II (9)		
CIE test III (10)		
Assignment/seminar/Quiz (5)		

CONCEPTS AND CONVENTIONS - (Not for Examination).

Importance of graphics in engineering applications - Use of drafting instruments - BIS conventions and specifications – Size, layout and folding of drawing sheets – Lettering and dimensioning.

Unit 01: PLANE CURVES - (Manual drafting).

Basic Geometrical constructions, Curves used in engineering practices: Conics – Construction of ellipse, parabola and hyperbola by eccentricity method – Construction of cycloid – construction of Involute of circle – Drawing of tangents and normal to the above curves.

9 Hours

Unit 02: PROJECTION OF POINTS, LINES AND PLANE SURFACES (CAD software). Orthographic projection- principles-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. Projection of planes (polygonal and circular surfaces) inclined to one of the principal plane by rotating object method.		9 Hours		
Unit 03: PROJECTION OF SOLIDS (CAD software). Projection of simple solids - prisms, pyramids, cylinder, cone and truncated solids when the axis is inclined to one of the principal planes and parallel to the other by rotating object method.		9 Hours		
Unit 04: PROJECTION OF SECTIONED SOLIDS AND DEVELOPMENT OF SURFACES (CAD software). Section of solids in simple vertical position when the cutting plane is inclined to one of the principal planes and perpendicular to the other – (obtaining true shape of section is not required). Development of lateral surfaces of truncated solids – Prisms, pyramids cylinders and cones.		9 Hours		
Unit 05: ISOMETRIC TO ORTHOGRAPHICS PROJECTION- (Manual drafting). Representation of three dimensional objects – General Principles - Need for importance of multiple views – First angle projection – layout of views – Conversion of isometric view to orthographic views. Practicing three dimensional modelling of simple objects using CAD Software (Not for examination)		9 Hours		
Theory: 45 Hrs	Tutorial: --	Practical: --	Project:--	Total Hours: 45 Hrs
TEXT BOOKS				
1.	Bhatt N.D. and Panchal V.M., "Engineering Drawing", 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.	P.Suresh., "Engineering Graphics and Drawing", Sonaversity, Sona College of Technology, Salem, Revised edition, 2012.			


DR. D. SENTHIL KUMAR, M.E., Ph.D
PROFESSOR & HEAD
DEPT. OF MECHANICAL ENGG.
SONA COLLEGE OF TECHNOLOGY
JUNCTION MAIN ROAD, SALEM-5

REFERENCES	
1.	Basant Agarwal and Agarwal C.M., "Engineering Drawing", McGraw Hill, 2nd Edition, 2019.
2.	Gopalakrishna K.R., "Engineering Drawing" (Vol. I&II combined), Subhas Publications, Bangalore, 27th Edition, 2017.
3.	Luzzader, Warren.J. and Duff, John M., "Fundamentals of Engineering Drawing with an introduction to Interactive Computer Graphics for Design and Production, Eastern Economy Edition, Prentice Hall of India Pvt. Ltd, New Delhi, 2005.
4.	Parthasarathy N. S. and Vela Murali, "Engineering Graphics", Oxford University, Press, New Delhi, 2015.
5.	Shah M.B., and Rana B.C., "Engineering Drawing", Pearson Education India, 2nd Edition, 2009.
6.	Venugopal K. and Prabhu Raja V., "Engineering Graphics", New Age International (P) Limited, 2008.

- Verified -



D. SURESH BABU

9/8/2025


DR. D. SENTHIL KUMAR, M.E., Ph.D
 PROFESSOR & HEAD
 DEPT. OF MECHANICAL ENGG.
 SONA COLLEGE OF TECHNOLOGY
 JUNCTION MAIN ROAD, SALEM-5

U23TAM101	தமிழர் மரபு / Heritage of Tamils		L	T	P	J	C		
			1	0	0	0	1		
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Describe Tamil Language and Literature								
CO2:	Analyse Heritage - Rock Art Paintings To Modern Art – Sculpture								
CO3:	Explain Folk and Martial Arts								
CO4:	Describe Thinaï Concept of Tamils								
CO5:	Analyse Contribution of Tamils to Indian National Movement and Indian Culture								
Course Assessment methods									
Direct				Indirect					
CIE test I (30)	Total CIE: 100 marks			Course end survey					
CIE test II (30)	Semester End Examination: NIL								
CIE test III (40)									
Unit 01: LANGUAGE AND LITERATURE						3 Hours			
Language Families in India - Dravidian Languages – Tamil as a Classical Language - Classical Literature in Tamil – Secular Nature of Sangam Literature – Distributive Justice in Sangam Literature - Management Principles in Thirukural - Tamil Epics and Impact of Buddhism & Jainism in Tamil Land - Bakthi Literature Azhwars and Nayanmars - Forms of minor Poetry - Development of Modern literature in Tamil - Contribution of Bharathiyar and Bharathidhasan..									
Unit 02: HERITAGE - ROCK ART PAINTINGS TO MODERN ART – SCULPTURE						3 Hours			
Hero stone to modern sculpture - Bronze icons - Tribes and their handicrafts - Art of temple car making - - Massive Terracotta sculptures, Village deities, Thiruvalluvar Statue at Kanyakumari, Making of musical instruments - Mridhangam, Parai, Veenai, Yazh and Nadhaswaram - Role of Temples in Social and Economic Life of Tamils									
Unit 03: FOLK AND MARTIAL ARTS						3 Hours			
Therukoothu, Karagattam, Villu Pattu, Kaniyan Koothu, Oyillattam, Leather puppetry, Silambattam, Valari, Tiger dance - Sports and Games of Tamils									
Unit 04: THINAI CONCEPT OF TAMILS						3 Hours			
Flora and Fauna of Tamils & Aham and Puram Concept from Tholkappiyam and Sangam Literature - Aram Concept of Tamils - Education and Literacy during Sangam Age - Ancient Cities and Ports of Sangam Age - Export and Import during Sangam Age - Overseas Conquest of Cholas.									
Unit 05: CONTRIBUTION OF TAMILS TO INDIAN NATIONAL MOVEMENT AND INDIAN CULTURE						3 Hours			
Contribution of Tamils to Indian Freedom Struggle - The Cultural Influence of Tamils over the other parts of India – Self-Respect Movement - Role of Siddha Medicine in Indigenous Systems of Medicine – Inscriptions & Manuscripts – Print History of Tamil Books									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
REFERENCES									
1	தமிழக வரலாறு – மக்களும் பண் பொடும் – மக.மக. பிள்மள (தவளியீடு: தமிழ்நொடு பொடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).								
2	கணினித் தமிழ் – முமனவர ில. சுந்தரம் . (விகடன் பிரசுரம்)								

3	கீழடி - மவமக நதிக்கமரயில் ஂங்ககொல நகர நொகரிகம் (ததொல்லியல் துமறதவளியீடு)
4	பொருமந - ஆற்றங்கமர நொகரிகம். (ததொல்லியல் துமற தவளியீடு)
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 Civilization on the banks of river Vaigai' (Jointly Published by: Department of Archaeology & 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.


HOD

 **Dr. M.RENUGA,**
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 636 001

U23TAM101	தமிழர் மரபு / Heritage of Tamils	L	T	P	J	C
		1	0	0	0	1
Course Outcomes						
At the end of the course, the student will be able to						
CO1:	Describe Tamil Language and Literature					
CO2:	Analyse Heritage - Rock Art Paintings To Modern Art – Sculpture					
CO3:	Explain Folk and Martial Arts					
CO4:	Describe Thinaï Concept of Tamils					
CO5:	Analyse Contribution of Tamils to Indian National Movement and Indian Culture					
Course Assessment methods						
Direct				Indirect		
CIE test I (30)		Total CIE: 100 marks		Course end survey		
CIE test II (30)		Semester End Examination: NIL				
CIE test III (40)						
அலகு 1 : மொழி மற்றும் இலக்கியம்					3 Hours	
இந்திய மொழிக் குடும்பங்கள் - திராவிட மொழிகள் - தமிழ் ஒரு செம்மொழி -தமிழ் செவ்விலக்கியங்கள் - சங்க இலக்கியத்தின் சமயச் சார்பற்ற தன்மை - சங்க இலக்கியத்தில் பகிர்தல் அறம் - திருக்குறளில் மேலாண்மைக் கருத்துக்கள் - தமிழ்க் காப்பியங்கள், தமிழகத்தில் சமண பௌத்த சமயங்களின் தாக்கம் - பக்தி இலக்கியம், ஆழ்வார்கள் மற்றும் நாயன்மார்கள் - சிற்றிலக்கியங்கள் - தமிழில் நவீன இலக்கியத்தின் வளர்ச்சி - தமிழ் இலக்கிய வளர்ச்சியில் பாரதியார் மற்றும் பாரதிதாசன் ஆகியோரின் பங்களிப்பு.						
அலகு 2 : மரபு – பாறை ஓவியங்கள் முதல் ஓவியங்கள் வரை – சிற்பக் கலை					3 Hours	
நடுகல் முதல் சிற்பங்கள் வரை – ஐம்பொன் சிலைகள் - பழங்குடியினர் மற்றும் அவர்கள் தயாரிக்கும் கைவினைப் பொருட்கள், பொம்மைகள் - தேர் செய்யும் கலை- சுடுமண் சிற்பங்கள் - நாட்டுப்புறத் தெய்வங்கள் - குமரிமுனையில் திருவள்ளூர் சிலை - இசைக் கருவிகள் - மிருதங்கம், பறை, வீணை, யாழ், நாதஸ்வரம் - தமிழர்களின் சமூக பொருளாதார வாழ்வில் கோவில்களின் பங்கு						
அலகு 3: நாட்டுப்புறக் கலைகள் மற்றும் வீர விளையாட்டுகள்					3 Hours	
தெருக்கூத்து, கரகாட்டம், வில்லுப்பாட்டு, கணியான் கூத்து, ஓயிலாட்டம், தோலபாவைக் கூத்து, சிலம்பாட்டம், வளரி, புலியாட்டம், தமிழர்களின் விளையாட்டுகள்.						
அலகு 4: தமிழர்களின் திணைக் கோட்பாடுகள்					3 Hours	
தமிழகத்தின் தாவரங்களும், விலங்குகளும் - தொல்காப்பியம் மற்றும் சங்க இலக்கியத்தில் அகம் மற்றும் புறக் கோட்பாடுகள் – தமிழர்கள் போற்றிய அறக்கோட்பாடு – சங்ககாலத்தில் தமிழகத்தில் எழுத்தறிவும், கல்வியும் -						

சங்ககால நகரங்களும் துறை முகங்களும் - சங்ககாலத்தில் ஏற்றுமதி மற்றும் இறக்குமதி - கடல்கடந்த நாடுகளில் சோழர்களின் வெற்றி.

அலகு 5: இந்திய தேசிய இயக்கம் மற்றும் இந்திய பண்பாட்டிற்குத் தமிழர்களின் பங்களிப்பு

3 Hours

இந்திய விடுதலைப்போரில் தமிழர்களின் பங்கு - இந்தியாவின் பிறப்பகுதிகளில் தமிழ்ப் பண்பாட்டின் தாக்கம் - சுயமரியாதை இயக்கம் - இந்திய மருத்துவத்தில், சித்த மருத்துவத்தின் பங்கு - கல்வெட்டுகள் கையெழுத்துப்படிக்கள் - தமிழ்ப் புத்தகங்களின் அச்சு வரலாறு.

Theory: 15 Hrs

Tutorial: --

Practical: --

Project:--

Total Hours: 15 Hrs

REFERENCES

1	தமிழக வரலாறு - மக்களும் பண்பாடு - கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).
2	கணினித் தமிழ் - முனைவர் இல.சுந்தரம்.(விகடன் பிரசுரம்).
3	கீழடி - வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு)
4	பொருளை - ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)
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 Civilization on the banks of river Vaigai' (Jointly Published by: Department of Archaeology & 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.


HOD

Dr. M. RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 636 003.

U23GE101	BASIC APTITUDE-1	L	T	P	J	C
		2	0	0	0	0

Course Outcomes

At the end of the course, the student will be able to

CO1:	Solve the problems in Divisibility , Division algorithm ,Successive Division and HCF & LCM. Identify Synonyms and Antonyms.
CO2:	Elucidate the problems in BODMAS rule, Approximation, Surds and Indices, Algebraic Simplification and Square root and Cube root. Choose appropriate Verbal Analogies and edit the given passages.
CO3:	Crack the problems involving Ratio and Proportion, and discuss Proportionality Theorems. Comprehend the given passages for Reading Comprehension activity and answer the questions correctly.
CO4:	Deduce the problems involving Linear equation and Quadratic equation. Demonstrate good vocabulary skill by doing the one word substitution and sentence filler exercise with high degree of accuracy.
CO5:	Interpret the logical reasoning problems from Number series ,Coding and Decoding and Exhibit good expertise in detecting errors in the given sentences.

Pre-requisite:

- Basic English language and Grammar knowledge
- Knowledge in Basic Mathematics

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	1	1	1	3	3	3	2	3
CO2	3	3	3	2	1	1	1	3	3	3	2	3
CO3	3	3	3	2	1	1	1	3	3	3	2	3
CO4	3	3	3	2	1	1	1	3	3	3	2	3
CO5	3	3	3	2	1	1	1	3	3	3	2	3

Course Assessment methods

Direct		Indirect
CIE test I (30) - Theory	Total CIE: 100 marks Semester End Examination – NIL	Course end survey
CIE test II (30) - Theory		
CIE test III (40) – Theory		

Unit 01				6 Hours
Number Properties: Classification of numbers - Divisibility - Division algorithm - Successive Division - HCF and LCM – Problems Verbal Aptitude: Synonyms and b. Antonyms				
Unit 02				6 Hours
Simplification: BODMAS Rule - Approximation - Surds and Indices - Algebraic Simplification - Square root and Cube root – Problems Verbal Aptitude: Verbal analogy, Editing passages				
Unit 03				6 Hours
Ratio and Proportion : Ratio - Properties of Ratios - Compound Ratio - Coin based problems - Proportion - Proportionality Test - Proportionality Theorems - Inverse Proportion - Variation – Problems Verbal Aptitude: Reading Comprehension				
Unit 04				6 Hours
Equations: a. Linear equation: Simultaneous Linear Equations - Consistent System - Inconsistent System - Problems b. Quadratic Equation: Different Ways to Express the Quadratic Equation - Discriminant of the Quadratic Equations - Roots - Nature of the Roots - Relation between roots and coefficient of equation - Formation of a Quadratic Equation – Problems Verbal Aptitude: One word substitution , Sentence filler words				
Unit 05				6 Hours
Logical Reasoning : Number series – Coding and Decoding – Problem Verbal Aptitude: Error detection				
Theory: 30 Hrs	Tutorial: 0	Practical: 0	Project: 0	Total Hours: 30 Hrs
TEXT BOOKS				
1.	S.Chand and Dr.R.S.Aggarwal, “Quantitative Aptitude for competitive examinations”, S Chand and Company Limited 2019.			
2.	Nishit K.Sinha, “Logical Reasoning and Data Interpretation”, Pearson 2021.			

S. Anita
11/09/2023

Dr.S.Anita
Head/Training
Dr. S. ANITA
Professor and Head
Department of Training,
SONA COLLEGE OF TECHNOLOGY,
SALEM-636 005.

U23CHL111B	CHEMISTRY LABORATORY (Common to Mechanical, Safety and Fire Engineering, EEE, EFE & FT branches)		L	T	P	J	C							
			0	0	2	0	1							
Course Outcomes														
At the end of the course, the student will be able to														
CO1:	Analyse the amount of hardness and alkalinity of a given water sample, determine the amount of HCl by pH metry and conductometry, and determine the copper in brass by EDTA method.													
CO2:	Estimate the amount of mixture of acids by conductometry and estimate the amount of iron in a sample by potentiometry and spectrophotometry, determine the molecular weight of the water-soluble polymer and estimate the amount of chromium in wastewater.													
CO3:	Estimate the amount of hardness present in the household ground water by EDTA method.													
Pre-requisite: Capable of handling pipette, burette, standard measuring flask and conical flask.														
CO/PO, PSO Mapping (3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak														
COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2		1		1	2		1					2
CO2	3	2		1		1	2		1					2
CO3	3	2		1		1	2		1					2
Course Assessment methods														
Direct						Indirect								
CIE test I (15)						RTPS (10)		Course end survey						
Quiz 1 (5)						Record (10)								
CIE test II (15)						Total CIE:60 marks								
Quiz 2 (5)						Semester End Examination (40 marks)								
LIST OF EXPERIMENTS														
1	Estimation of hardness of water sample by EDTA method.													
2	Estimation of alkalinity of water sample by indicator method.													

3	Estimation of copper in brass by EDTA method.
4	Estimation of HCl acid by pH metry.
5	Estimation of HCl by conductometry. (HCl vs NaOH)
6	Estimation of mixture of acids by conductometry. (HCl + CH ₃ COOH vs NaOH)
7	Estimation of ferrous ion by potentiometric titration.
8	Estimation of chromium prepared from electroplating sludge by Permanganometry.
9	Determiration of molecular weight of a polymer by viscosity measurements.
10	Estimation of iron content in water by spectrophotometry.
	TOTAL : 30 HOURS

C. Shanthi
24.7.2024

Dr. C. Shanthi
HOD / Science

Dr. C. SHANTHI, M.Sc., M.E., Ph.D.,
Professor of Physics,
Head, Department of Sciences,
Sona College of Technology (Autonomous),
SALEM - 636 005.

M. Renuka
24/7/24

Dr. M. Renuka
BoS – Chairperson
Science and Humanities

Dr. M. RENUKA
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 636 005.

U23PPL112	PYTHON PROGRAMMING LABORATORY (Common to ADS, IT, CSE, CSE(AIML), CSD, SCE, CBE, CIVIL, BME, ECE, EXE, EVE, EEE, EFE, MECH, MCT and SFE Branches)	L	T	P	J	C
		0	0	2	0	1

Course Outcomes

At the end of the course, the student will be able to

CO1	Implement the algorithms using basic control structures in Python
CO2	Develop Python programs to use functions, strings and data structures to solve different types of problems
CO3	Implement persistent storing information through file operations

Pre-requisite: NIL

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	2	3	2	1								1
CO2	3	3	3	3	2	2								1
CO3	3	3	3	3	2	2								1

Course Assessment methods

Direct		Indirect
CIE test I (15)	RTPS (10) Record (10) Total CIE: 60 marks Semester End Examination (40 marks)	Course end survey
Quiz I- (5)		
CIE test II (15)		
Quiz II- (5)		

LIST OF EXPERIMENTS

1. Draw flowchart using any open source software.
2. Implement programs with simple language features.
3. Implement various branching statements in python.
4. Implement various looping statements in python.
5. Develop python programs to perform various string operations like concatenation, slicing, indexing.
6. Implement user defined functions using python.
7. Implement recursion using python.
8. Implement python program to perform operations on file and module.
9. Develop python programs to perform operations on list and tuples.
10. Implement dictionary and set in python.

Theory: --

Tutorial: --

Practical: 30Hrs

Project: --

Total Hours: 30 Hs

J. Akilandeswari

Dr. J. AKILANDESWARI
Professor & Head

Department of Information Technology
SONA COLLEGE OF TECHNOLOGY
SALEM - 636 005



U23OL1101		French			L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Read French phrases, Spell French phonitis, practice French accents, differentiate French and English sounds								
CO2:	Introduce oneself, talk about someone, ask others personal information, identify an object, ask and respond politely in a conversation								
CO3:	Read and write a small announcement, describe about neighbours, write a small portrait								
CO4:	Express one's wishes, talk about one's hobbies, ask time, describe one's status of life in a blog, justify a choice, express one's preferences, write a list of needs								
CO5:	Suggest to do something, appreciate something, talk about a movie, write a postal card								
Course Assessment methods									
Direct					Indirect				
CIE test I (30) CIE test II (30) CIE test III (40)					Total CIE: 100 marks Semester End Examination: NIL			Course end survey	
Unit 01:							3 Hours		
Hr 2: Alphabets, Basic wishes, self-introduction, basic verbs: avoir and être Hr 4: Nationalities and countries, colors, days & months Hr 6: Definite articles, numbers 0-20, write about one's identification									
Unit 02:							3 Hours		
Hr 8: Professions, conjugation: 1 st group verbs, indefinite articles Hr 10: Preposition of place, identity card, negative sentence Hr 12: Things around us, subjective and ephatic pronouns, self-introduction online									
Unit 03:							3 Hours		
Hr 14: Talk about accommodation, conjugation: aller and venir, possessive adjectives Hr 16: Adjective's gender, noun's gender, things in a room, simple prepositions Hr 18: Physical description, speak about accommodation, writing a self-potrait									
Unit 04:							3 Hours		
Hr 20: Hobbies, conjugation: vouloir, pouvoir and devoir, connected articles Hr 22: Interrogative adjectives, daily activities, time and seasons, pronominal verbs Hr 24: Near future tense, talk about preferences, write a mail									
Unit 05:							3 Hours		
Hr 26: Outing activities, conjugation: faire and sortir, demonstrative adjectives Hr 28: Adverbs of frequency, family members, past tenses (passé composé and imparfait) Hr 30: French arts, talk about a film, and write a postal card									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
TEXT BOOKS									
1.	The course faculty will provide relevant audios, videos, handouts and notes								
2.	Books : Saison (Méthode de français, cahier d'activités)								
3.	Reference books : La conjugaison, Dondon, Echo								

M. Renuga
HOD

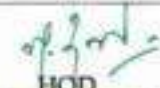
Dr. M. RENUGA,
Professor & Head,

Department of Humanities & Language
Sona College of Technology,
SALEM - 637 002

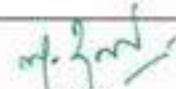
U23OL1102	German				L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Use common, everyday expressions to greet others and introduce themselves.								
CO2:	Construct simple sentences /questions.								
CO3:	Initiate and sustain basic conversation based on family, professions,								
CO4:	Hobbies and food.								
CO5:	Identify differences in using nouns based on gender.								
Course Assessment methods									
Direct					Indirect				
CIE test I (30) CIE test II (30) CIE test III (40)					Total CIE: 100 marks Semester End Examination: NIL				
					Course end survey				
Unit 01:					3 Hours				
<ul style="list-style-type: none"> Greeting and taking leave, introducing oneself, introducing others 									
Unit 02:					3 Hours				
<ul style="list-style-type: none"> Alphabets, spelling, numbers 									
Unit 03:					3 Hours				
<ul style="list-style-type: none"> Age, Telephone/mobile numbers, Month, Date, Time 									
Unit 04:					3 Hours				
<ul style="list-style-type: none"> Languages, Family, Asking/giving information about family members 									
Unit 05:					3 Hours				
<ul style="list-style-type: none"> Hobbies, Professions 									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
TEXT BOOKS									
1. Netzwerk A1									


 HOD
Dr. M. RENUGA,
 Professor & Head,
 Department of Humanities & Languages,
 Sona College of Technology,
 SALEM - 637

U23OL1103		Japanese					L	T	P	J	C
							1	0	0	0	1
Course Outcomes											
At the end of the course, the student will be able to											
CO1:	Use words and phrases of greeting in Japanese, write the letters of the alphabet, identify names of objects and do a self-introduction using short and simple sentences										
CO2:	Demonstrate the use of time-related words and verb conjunctions and make light conversation asking for directions and answering questions										
CO3:	Use different kinds of verbs through the day and those used for giving things, and demonstrate the use of adjectives										
CO4:	Express liking for the Japanese language, describe the locations of different things and demonstrate counting in Japanese										
CO5:	Make comparisons of stated things, express a willingness to go to Japan and use 'Te-form' verbs										
Course Assessment methods											
Direct						Indirect					
CIE test I (30)			Total CIE: 100 marks			Course end survey					
CIE test II (30)			Semester End Examination: NIL								
CIE test III (40)											
Unit 01:						3 Hours					
Hr 1-2: Greeting words and phrases; the Japanese alphabet: 104 Hiragana and 104 Katakana letters Hr 3-4: Identifying words from pictures or objects shown Hr 5-6: Self-introduction											
Unit 02:						3 Hours					
Hr 7-8: Asking for directions when shopping Hr 9-10: Time words and Verb Conjugations Hr 11-12: Making light conversation											
Unit 03:						3 Hours					
Hr 13-14: Expressions to use verbs from morning to night Hr 15-16: Verbs used for giving things Hr 17-18: Adjectives											
Unit 04:						3 Hours					
Hr 19-20: Ways to show liking for the Japanese language Hr 21-22: Describing the location of things (or where things are) Hr 23-24: Japanese numbers and counting											
Unit 05:						3 Hours					
Hr 25-26: Making comparisons Hr 27-28: Expressions wishing for something, like 'I want to go to Japan ...!' Hr 29-30: Using 'Te-form' Verb											
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs			
TEXT BOOKS											
1.	The course faculty will provide handouts / notes / course material.										
2.	Books on Basic Japanese language available in the college library.										


 HOD
Dr. M. RENUGA,
 Professor & Head,
 Department of Humanities & Language

U23OL1104	Korean	L	T	P	J	C
		1	0	0	0	1
Course Outcomes						
At the end of the course, the student will be able to						
CO1:	Use single vowels and consonants syllable structure.					
CO2:	Greet others and introduce themselves.					
CO3:	Identify time , date and week					
CO4:	Explain location and places					
CO5:	Construct simple sentences / questions.					
Course Assessment methods						
Direct				Indirect		
CIE test I (30)	Total CIE: 100 marks			Course end survey		
CIE test II (30)	Semester End Examination: NIL					
CIE test III (40)						
Unit 01: Hangeul					3 Hours	
Single Vowels & Consonants Syllable Structure Tense Consonants Aspirated Consonants Double Vowels Final Consonants Double Final Consonants Liaison						
Unit 02: Introduction					3 Hours	
Greetings Talking about names Self-introduction Introducing my family members						
Unit 03: Time and Date					3 Hours	
Talking about location Talking about dates and days of the week Talking about doing something in the past						
Unit 04: Location and Places					3 Hours	
Talking about location Talking about doing something at a location Talking about directions						
Unit 05: Future					3 Hours	
Talking about doing something in the future Talking about plans for the future Talking about hope for the future						
Theory: 15 Hrs		Tutorial: --	Practical: --	Project:--	Total Hours: 15 Hrs	
REFERENCES						
1	Vitamin Korean - 1					


 HOD
Dr. M. RENUGA,
 Professor & Head,
 Department of Humanities & Languages,
 Sona College of Technology,

U23OL1105		Hindi			L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the students will be able to									
CO1:	Write स्वर(अ - अः), व्यंजन(क - श्र)								
CO2:	Identify and write बारहखडी(क - श्रः)								
CO3:	Coin 2,3&4 letters words								
CO4:	Read and frame sentences (grammar, verb, noun, pronoun, adjective, etc...)								
CO5:	Communicate effectively using tenses (with Continuous)								
Course Assessment methods									
Direct					Indirect				
CIE test I (30) CIE test II (30) CIE test III (40)					Total CIE: 100 marks Semester End Examination: NIL			Course end survey	
Unit 01: स्वर (अ - अः), व्यंजन (क - श्र)								3 Hours	
Hindi letters learning Letters identification Reading Writing Letters pronunciation									
Unit 02: बारहखडी (क - श्रः)								3 Hours	
Hindi letters learning Letters identification Reading Writing Letters pronunciation									
Unit 03: 2,3 & 4 letters words								3 Hours	
Words making Words meaning Reading & Writing									
Unit 04 : Grammar, (Verb, noun, pronoun, adjective, etc...)								3 Hours	
Words meaning Reading & Writing Sentence framing									
Unit 05 : Tenses (with Continuous)								3 Hours	
Talking about school Talking about family, friends Talking about doing something in the past, present, future Translation									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
REFERENCES									
1	Diploma in Hindi (department of higher education, Delhi)								


FOD

Dr. M. RENUGA,
Professor & Head,

Department of Humanities & Languages
Sri Sankar College of Technology,
SALEM - 636 012

Sona College of Technology, Salem
(An Autonomous Institution)

Courses of Study for B.E/B.Tech. Semester II under Regulations 2023 (CBCS)

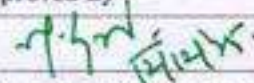

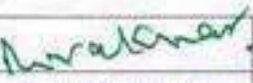

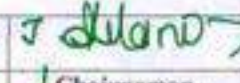
Branch: Electrical and Electronics Engineering

S.No	Course Code	Course Title	L	T	P	J	C	Category	Total Contact Hours	Course Type*
Theory courses										
1.	U23ENG201A	Technical English	2	0	0	0	2	HS	30	T
2.	U23MAT202B	Transforms and Differential Equations	3	1	0	0	4	BS	60	TT
3.	U23PHY203D	Engineering Physics	3	0	0	0	3	BS	45	T
4.	U23EE201	Electrical Circuit Analysis	3	1	0	0	4	PC	60	TT
5.	U23ME204	Thermodynamics and Fluid Machines	3	0	0	0	3	ES	45	T
6.	U23TAM201	தமிழரும் தொழில்நுட்பமும் / Tamils and Technology	1	0	0	0	1	HS	15	T
7.	U23GE201	Basic Aptitude -II	2	0	0	0	0	AC	30	T
8.	U23GE202	Disaster Management and Preparedness	2	0	0	0	0	AC	30	T
Practical courses										
9.	U23PHL210B	Engineering Physics Laboratory	0	0	2	0	1	BS	30	L
10.	U23EE202	Electrical Circuits Laboratory	0	0	3	0	1.5	PC	45	L
							Total Credits	19.5		
Optional Language Courses**										
11.	U23OL1201	French - II							15	T
12.	U23OL1202	German - II							15	T
13.	U23OL1203	Japanese - II	1	0	0	0	1	OL	15	T
14.	U23OL1204	Korean - II							15	T
15.	U23OL1205	Hindi - II							15	T

*T- Theory, TT- Theory with Tutorial, TL- Theory with Laboratory, TP- Theory with Project, TLP- Theory with Laboratory and Project, L-Laboratory, LT- Laboratory with Theory, LP- Laboratory with Project

**Students may opt for foreign languages viz., German/French/Japanese/Korean/Hindi with additional one credit (Not accounted for CGPA calculation)

Approved By

				
Chairperson, Science and Humanities BoS	Chairperson, EEE BoS	Member Secretary, Academic Council	Dean-Academics	Chairperson, Academic Council & Principal
Dr.M.Renuga	Dr.S.Padma	Dr.R.Shivakumar	Dr.J.Akilandeswari	Dr.S.R.R.Senthil Kumar

Copy to:-

HOD/ Electrical and Electronics Engineering, Second Semester B.E. EEE, Students and Staff, COE

U23ENG201A	Technical English (Common to ADS, AIML, BME, CSD, CSE, SCE, CIVIL, ECE, EEE,EVE, EXE, EFE, MCT, FT, IT Branches)	L	T	P	J	C
		2	0	0	0	2

Course Outcomes

At the end of the course, the student will be able to

CO1:	Frame sentences correctly, both in written and spoken forms of language with accuracy and fluency.
CO2:	Develop effective reading skills and reinforce language skills required for using grammar and building vocabulary
CO3:	Organise ideas and supporting arguments logically.
CO4:	Develop skills for writing conversations, proposals, reports and transcoding.
CO5:	Read for understanding and interpreting information and to utilise information accordingly.

Pre-requisite:

- Knowledge and Understanding of Grammar
- Fundamental Language Skills (LSRW)

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	1	1	2	2	2	3	3	2	3	3	3	3	3	3
CO2	1	2	2	3	2	3	3	2	3	3	2	3	3	3
CO3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
CO4	1	3	1	2	2	3	3	3	3	3	3	3	3	3
CO5	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Course Assessment methods

Direct		Indirect
CIE test I (8)	Attendance (5)	Course end survey
CIE test II (8)	Assignment/seminar/Quiz (5)	
CIE test III (8)	Total CIE: 40 marks	
Objectives Test (6)	Semester End Examination (60)	

Unit 01:

6 Hours

- Comparative adjectives
- Recommendations
- Guided writing – Conversation in workplace context
- Reading passages for specific information transfer

Unit 02:

6 Hours

- Prepositions, adverbs
- Note making
- Reading passage with multiple choice questions, reading for gist and reading for specific information

Unit 03

6 Hours



- Collocations, direct and indirect speech

<ul style="list-style-type: none"> • Memo • Proposal: establishing a lab, introducing a subject in the curriculum, training programme for students • Short reading passage: gap-filling exercise related to grammar 				
Unit 04:				6 Hours
<ul style="list-style-type: none"> • Cause and effect • Technical report writing – feasibility report, accident report, survey report • Short reading passages for sentence matching exercises, picking out specific information in a short text 				
Unit 05:				6 Hours
<ul style="list-style-type: none"> • Active, Passive and Impersonal Passive Voices • Transcoding – bar chart, pie chart, tabular column, graph, flow chart 				
Theory: 30 Hrs	Tutorial: --	Practical: --	Project:--	Total Hours: 30 Hrs
TEXT BOOKS				
1. Technical English I & II, Dr. M. Renuga et al. Sonaversity, 2016				
2. Extensive Reading				
<ul style="list-style-type: none"> 1. Who Moved my Cheese? – Spencer Johnson-G. P. Putnam's Sons 2. Discover the Diamond in You – Arindham Chaudhari – Vikas Publishing House Pvt. Ltd. 				
REFERENCES				
1. Norman Whitby, Business Benchmark – Pre-Intermediate to Intermediate, Students Book, Cambridge University Press, 2006.				
2. A Course in Communication Skills, P. Kiranmai Dutt, Geetha Rajeevan, C. L. N. Prakash, published by Cambridge University Press India Pvt. Ltd.				


 HOD

Dr. M. RENUGA,
Professor & Head,
 Department of Humanities & Languages,
 Sona College of Technology,
 SALEM - 636 005.

SEMESTER - II		TRANSFORMS AND DIFFERENTIAL EQUATIONS										L	T	P	J	C
U23MAT202B		(Common to EEE, ECE, BME, EFE, EXE and EVE)										3	1	0	0	4
Course Outcomes																
At the end of the course, the student will be able to																
CO1:	apply the classical methods to solve linear ordinary differential equations with constant coefficients.															
CO2:	apply the Laplace transforms technique and its properties to solve ordinary differential equations.															
CO3:	express a periodic signal as an infinite sum of sine and cosine wave components using Fourier series.															
CO4:	apply the Fourier transform techniques to convert the signal in terms of the frequencies of the waves.															
CO5:	find the general and singular solutions of linear and nonlinear partial differential equations.															
Pre-requisites:																
<ul style="list-style-type: none"> Fundamentals of elementary algebra Fundamentals of calculus 								<ul style="list-style-type: none"> Fundamentals of trigonometry Fundamentals of geometry 								
CO/PO, PSO Mapping																
(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak																
Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)																
COs	Programme Outcomes (POs)												PSO1 (EEE, ECE EFE, EXE)		PSO2 (EEE, BME & EFE)	PSO3 (BME)
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12				
CO1	3	3	3	3	2							2	3	3	1	
CO2	3	3	3	3	2							2	3	3	1	
CO3	3	3	3	3	2							2	3	3	1	
CO4	3	3	3	3	2							2	3	3	1	
CO5	3	3	3	3	2							2	3	3	1	
Course Assessment methods																
Direct										Indirect						
CIE test I (8)					Attendance (5)					Course end survey						
CIE test II (8)					Assignment/seminar/Quiz (5)											
CIE test III (8)					Total CIE: 40 marks											
Objectives Test (6)					Semester End Examination: 60 marks											
Unit 01	ORDINARY DIFFERENTIAL EQUATIONS												12 Hours			
Higher order linear ordinary differential equations with constant coefficients – Cauchy's and Legendre's linear ordinary differential equations – Method of variation of parameters.																
Unit 02	LAPLACE TRANSFORMS												12 Hours			
Laplace transform: Conditions for existence – Transform of elementary functions – Basic properties – Transform of derivatives and integrals – Transform of unit step function and impulse function – Initial and final value theorems – Transform of periodic functions. Inverse Laplace transform: Standard results – Statement of convolution theorem and its applications – Solution of second order linear ordinary differential equations with constant coefficients using Laplace transform.																

Unit 03	FOURIER SERIES	12 Hours
General Fourier series – Dirichlet's conditions – Change of intervals – Odd and even functions – Half range sine and cosine series – Root mean square – Parseval's identity – Harmonic analysis.		
Unit 04	FOURIER TRANSFORMS	12 Hours
Statement of Fourier integral theorem – Infinite Complex Fourier transform pair and their Properties – Infinite Fourier sine and cosine transforms pair and their properties – Transforms of simple functions – Parseval's identity.		
Unit 05	PARTIAL DIFFERENTIAL EQUATIONS	12 Hours
Formation of partial differential equations – Lagrange's partial differential equation – Clairaut's form of partial differential equations – Second order linear partial differential equation with constant coefficients.		
Theory: 45 Hours	Tutorial: 15 Hours	Practical: - Project: - Total Hours: 60 Hours
TEXT BOOKS:		
1.	T. Veerarajan, "Transforms and Partial Differential Equations", McGraw Hill Publishers, 3 rd Edition, 2016.	
2.	T. Veerarajan, "Engineering Mathematics for Semesters I & II", McGraw Hill Publishers, 1 st Edition, 2019.	
REFERENCE BOOKS:		
1.	E. Kreyszig, "Advanced Engineering Mathematics", Wiley Publishers, 10 th Edition, Reprint, 2017.	
2.	C. Prasad and R. Garg, "Advanced Engineering Mathematics", Khanna Publishers, 1 st Edition, 2018.	
3.	B. S. Grewal, "Higher Engineering Mathematics", Khanna Publishers, 44 th Edition, 2018.	
 Dr. S. JAYABHARATHI Head / Department of Mathematics Dr. S. JAYABHARATHI ASSOCIATE PROFESSOR & HEAD DEPARTMENT OF MATHEMATICS, SONA COLLEGE OF TECHNOLOGY, SALEM-636 005, Tamilnadu. Ph: 0427 - 4099999.		
 Dr. M. RENUGA Dr. M. RENUGA, Professor & Head, Department of Humanities & Languages, Sona College of Technology, SALEM - 636 005.		
B.E/B. Tech Regulations 2023		S&H BoS Date: 14.06.2025

U23PHY203D	ENGINEERING PHYSICS (Common to Electrical and Electronics Engineering & Electrical and Computer Engineering)	L	T	P	J	C
		3	0	0	0	3

Course Outcomes

At the end of the course, the student will be able to

CO1:	Analyse the relation between the arrangement of atoms and material properties.
CO2:	Discuss the dual nature of matter and radiation and the application of the wave nature of particles.
CO3:	Describe the basic components of lasers.
CO4:	Differentiate the electrical and thermal conductivity of metals.
CO5:	Elucidate the classification and theory of semiconducting materials.

Pre-requisite:

Basic Knowledge of atomic physics, optics, and electricity.

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	-	-	-	2	2	-	-	2	-	1	-	2
CO2	3	2	-	-	-	2	2	-	-	2	-	1	-	2
CO3	3	2	-	-	-	2	2	-	-	2	-	1	-	2
CO4	3	2	-	-	-	2	2	-	-	2	-	1	-	2
CO5	3	2	-	-	-	2	2	-	-	2	-	1	-	2

Course Assessment methods

Direct		Indirect
CIE test I (8)	Attendance (5)	Course end survey
CIE test II (8)	Assignment/seminar/Quiz (5)	
CIE test III (8)	Total CIE: 40 marks	
Objectives Test (6)	Semester End Examination (60)	

Unit 01: CRYSTAL PHYSICS		9 Hours
<p>Importance of crystals - Types of crystals - Basic definitions in crystallography (Lattice -space lattice - unit cell - lattice parameters - basis) - Bravais lattices - Lattice planes and Miller indices - Interplanar distance - d spacing in cubic lattice - Calculation of number of atoms per unit cell - Atomic radius - Coordination number - Atomic Packing Factor for SC, BCC, FCC and HCP structures - Polymorphism and allotropy - Crystal imperfections - Point, line and surface defects - Burger vector.</p>		
Unit 02: QUANTUM PHYSICS		9 Hours
<p>Limitations of classical theory - Dual nature of matter and radiation - Compton effect - Expression for Compton shift (no derivation) - de Broglie waves - Heisenberg's Uncertainty Principle - Schrödinger's time independent and time dependent wave equations - Physical significance of wave function - Energy and wave function of an electron trapped in one dimensional box - Application of wave nature of particles - Electron microscope - Comparison of optical and electron microscope - Scanning electron microscope - Transmission electron microscope - Limitations of electron microscope.</p>		
Unit 03: LASERS		9 Hours
<p>Energy level - Stimulated absorption - Population inversion - Meta stable state - Spontaneous emission - Stimulated emission - Basic components of a laser - Einstein's theory of spontaneous and stimulated emission of radiation - Types of lasers - Solid state laser - Nd: YAG laser - Gas laser - CO₂ laser - Semiconductor laser - Homojunction and hetero junction laser - Holography - Construction and reconstruction of hologram - Application of laser in industry - Cutting, welding and drilling - Medical applications - Lasik.</p>		
Unit 04: CONDUCTING MATERIALS		9 Hours
<p>Basic definitions - Classical free electron theory of metals - Expression for electrical conductivity and thermal conductivity - Wiedemann Franz law - Lorentz number - Drawbacks of classical free electron theory - Quantum theory - band theory of solids (qualitative treatment only) - Fermi energy and Fermi distribution function - Effect of temperature on Fermi function - Density of energy states - Carrier concentration in metals.</p>		

Unit 05: SEMICONDUCTING MATERIALS					9 Hours
Intrinsic semiconductors - Energy band diagram - Direct and indirect band gap semiconductors - Carrier concentration in intrinsic semiconductors - Fermi level - Variation of Fermi level with temperature - Electrical conductivity - Band gap determination - Extrinsic semiconductors - Carrier concentration in n-type and p-type semiconductors (Qualitative Treatment only) - Variation of Fermi level with temperature and impurity concentration - Hall effect - Determination of Hall coefficient - Applications.					
Theory: 45 Hrs	Tutorial: --	Practical: --	Project: --	Total Hours: 45 Hrs	
TEXTBOOKS					
1.	M.N. Avadhanulu, P.G. Kshirsagar, "A Textbook of Engineering Physics", S. Chand & Company Ltd, New Delhi 2014.				
2.	B D. K. Bhattacharya, Poonam Tandon "Engineering Physics", Oxford University Press 2017.				
REFERENCES					
1.	"Engineering Physics", Sonaversity, Sona College of Technology, Salem, Revised Edition 2018.				
2.	B. K. Pandey and S. Chaturvedi, "Engineering Physics", Cengage Learning India Pvt. Ltd., Delhi, 2021.				
3.	V. Raghavan, "Materials Science and Engineering: A First Course" Prentice Hall India Learning Private Limited, 6 th Edition, 2015.				
4.	William D. Callister Jr., David G. Rethwisch, "Callister's Materials Science and Engineering", 10 th Edition, Global Edition 2019.				
5.	R. Wolfson, "Essential University Physics", Volume 1 & 2. Pearson Education (Indian Edition), 2009.				

Usull
8.1.2026

Dr. C. Shanthi

HOD / Science

Dr. C. SHANTHI, M.Sc., M.E., Ph.D.,

Professor of Physics

Head, Department of Sciences

Sona College of Technology (Autonomous)

SALEM-636 005.

M. Renuga
8/1/26

Dr.M. Renuga

BoS - Chairperson,

Science and Humanities

Dr. M. RENUGA,

Professor & Head,

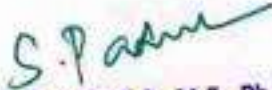
Department of Humanities & Languages

Sona College of Technology,

SALEM - 636 005.

U23EE201	ELECTRICAL CIRCUIT ANALYSIS (Common to EEE & EFE)					L	T	P	J	C				
						3	1	0	0	4				
Course Outcomes														
At the end of the course, the students will be able to														
CO1:	solve AC & DC circuits using Ohm's law and Kirchhoff's laws.													
CO2:	apply the concepts of different theorems to solve complex problems in DC circuits													
CO3:	analyze the steady state behaviour of series and parallel RL, RC, and RLC circuits.													
CO4:	analyze the transient behavior of RL, RC, and RLC circuits with step and sinusoidal excitations.													
CO5:	analyze the three-phase balanced and unbalanced systems in star & delta configurations.													
Pre-requisite:														
<ul style="list-style-type: none"> Linear Algebra and Calculus with MATLAB 														
CO/PO, PSO Mapping														
(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak														
COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2		2						3	3	3
CO2	3	3	2	2		2						3	3	3
CO3	3	3	2	2		2						3	3	3
CO4	3	3	2	2		2						3	3	3
CO5	3	3	2	2		2						3	3	3
Course Assessment methods														
Direct						Indirect								
CIE test I	(8)					Assignment/seminar/Quiz (5)					Course end survey			
CIE test II	(8)					Total CIE: 40 marks								
CIE test III	(8)					Semester End Examination: 60								
Objectives Test	(6)					marks								
Attendance	(5)													
Unit 01: DC AND AC FUNDAMENTALS											12 Hours			
Introduction – Voltage, Current, Power and Energy – Circuit Elements – Energy Sources – Ohm's law – Kirchhoff's Laws – R, L & C in series and Parallel – Voltage Division – Current Division – Star-Delta Transformation – Source transformations – Sine Wave Equation – Terminologies – RMS Value, Average Value, Form factor and Peak factor for Sine Waveform.														
Unit 02: DC NETWORK ANALYSIS											12 Hours			
Mesh Analysis – Nodal analysis – Superposition Theorem – Thevenin's Theorem – Norton's Theorem – Maximum Power Transfer Theorem – Reciprocity Theorem.														

Unit 03: AC NETWORK ANALYSIS				12 Hours
RL, RC and RLC - Series and Parallel circuits - Impedance, Current, Voltage, Power and Power Factor – Impedance Triangle-Power Triangle - RLC Series and Parallel Resonance-resonant frequency-Q factor-Bandwidth.				
Unit 04: CIRCUIT TRANSIENT ANALYSIS				12 Hours
Introduction – transient response of RL and RC for step and sinusoidal inputs –transient response of RLC series circuit for step input using Laplace transform method. (only qualitative treatment for sinusoidal input)				
Unit 05: THREE PHASE CIRCUITS				12 Hours
Polyphase Systems – Advantages of a Three-Phase System – Generation of Three-Phase Voltages - Phase Sequence – Voltage, Current, and Power in a Star Connected and Delta-Connected System – Three-Phase Balanced & Unbalanced loads — Power and power factor Measurement by two wattmeter method.				
Theory: 45 Hrs	Tutorial: 15 Hrs	Practical: --	Project:--	Total Hours: 60 Hrs
TEXT BOOKS				
1.	Shyam Mohan S.P., Sudhakar A, "Circuits and Network Analysis & Synthesis", Tata McGraw Hill, 5 th edition, 2015.			
2.	V N Mittle and Arvind Mittal, "Basic Electrical Engineering", McGraw Hill, 2 nd edition, 2018.			
REFERENCES				
1.	Charles K Alexander, Matthew Sadiku, Fundamentals of Electric Circuits, McGraw Hill Education, 7 th edition, 2022.			
2.	William Hayt, Jack Hemmerly, Jaime Phillips, Steven Durbin, "Engineering Circuit Analysis", McGraw Hill Education, 9 th edition, 2020.			
3.	Ravish. R. Singh, Network Analysis & Synthesis, McGraw Education, 2 nd Edition, 2019.			
4.	Arumugam M and Premkumaran, "Electric Circuit Theory", Khanna Publishers, 5 th Edition, 2000.			


Dr. S. PADMA, M.E., Ph.D.,
 Professor and Head,
 Department of EEE,
 Sona College of Technology
 Salem-636 005. Tamil Nadu.

U23ME204	THERMODYNAMICS AND FLUID MACHINES	L	T	P	J	C
		3	0	0	0	3

Course Outcomes

At the end of the course, the student will be able to

- CO1:** Discuss the thermodynamic properties of system and apply First Law of Thermodynamics to solve engineering problems.
- CO2:** Apply the Second law of Thermodynamics to various processes and analyze its performance.
- CO3:** Determine the Thermodynamic properties of steam and summarize the principle of operation of various conventional power plants.
- CO4:** Explain the types of Refrigeration system and calculate the cooling, heating and humidifier capacities for various air-conditioning components by using psychrometric charts.
- CO5:** Analyze the performances of hydraulic turbines and discuss the working principle of pumps.

Pre-requisite: Fundamentals of Mathematics, Physics.

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	P09	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	1	2	1					2	2	2
CO2	3	3	2	2	1	2	1					2	2	2
CO3	3	3	3	3	1	2	1					3	2	2
CO4	3	3	3	3	1	2	1					3	2	2
CO5	3	3	3	3	2	3	1					3	2	2

Course Assessment methods

Direct

CIE test I (8)
CIE test II (8)
CIE test III (8)
Assignment/seminar/Quiz (5)

Objectives Test (6)
Attendance (5)
Total CIE: 40 marks
Semester End Examination (60)

Indirect

Course end survey

Unit 01: FUNDAMENTALS AND FIRST LAW OF THERMODYNAMICS

9 Hours

Introduction to Thermodynamics – Concept of a System – Types of Systems – Thermodynamic Equilibrium – Properties - State - Process and Cycle – Zeroth Law – Energy Interactions – Heat and Work – First Law: Cycle and Process – Applications to non-flow and flow processes, simple problems.

Unit 02: SECOND LAW OF THERMODYNAMICS

9 Hours

Kelvin-Planck and Clausius Statements of the Second Law - Heat engine, Heat pump and Refrigerator.

Equivalence of Kelvin-Planck and Clausius statements, Reversible and Irreversible processes - Carnot Cycle, Carnot theorem and its corollaries, Concept of entropy, simple problems.

Unit 03: STEAM PROPERTIES AND CONVENTIONAL POWER PLANTS	9 Hours
--	----------------

Steam properties- enthalpy, entropy, specific volume, Dryness fraction - Use of Steam Table and Mollier Chart. - Simple Rankine cycle, simple problems.

Working of Steam, Gas Turbine, Nuclear and Diesel Power plant.

Unit 04: REFRIGERATION & AIR CONDITIONING	9 Hours
--	----------------

Refrigeration-COP-Vapour compression and vapour absorption Refrigeration system. Refrigerants, Desirable properties of refrigerants (Qualitative).

Study of Psychrometric terms - psychrometric process- psychrometric chart - simple problems.

Air conditioning –Types, working of summer and winter air-conditioning.

Unit 05: HYDRAULIC TURBINES & PUMPS	9 Hours
--	----------------

Layout Hydro power plant – Hydraulic Turbines - Classification and working principle. Pelton wheel turbine - Francis turbine -Kaplan turbine - Velocity triangle - work done – Efficiencies - Performance calculations.

Pumps- Classification- Working principle of Centrifugal Pump, Reciprocating Pump, Comparison (Qualitative)


Theory: 45 Hrs	Tutorial: --	Practical: --	Project:--	Total Hours: 45 Hrs
----------------	--------------	---------------	------------	---------------------

TEXT BOOKS

1. Mahesh M Rathore, " Thermal Engineering" Tata McGraw-Hill Education(India), 2010
2. R.K.Rajput, "Thermal Engineering", Laxmi Publications, New Delhi, 11th edition, 2020.
3. R. K. Bansal, "Fluid Mechanics and Hydraulics Machines, (10th edition), Laxmi publications (P) Ltd, New Delhi, 2019.

REFERENCES

1. Yunus A Cengel, " Thermodynamics: An Engineering Approach" McGraw Hill Education (India), 9th Edition 2019.
2. P.K.Nag, "Engineering Thermodynamics" McGraw Hill Education (India), Sixth Edition, 2018.
3. R.S.Khurmi, J.K.Gupta, "A Textbook of Thermal Engineering" S. Chand Publishing, New Edition, 2020.
4. R.K.Rajput, " Power Plant Engineering", Laxmi Publications, New Delhi, 5th edition, 2016.
5. Sukumar Pati., " Fluid Mechanics and Hydraulics Machines", Tata McGraw Hill publications (p) Ltd, 2015.
6. Yunus A Cengel, " Fluid Mechanics" McGraw Hill Education (India), 4th Edition 2019.


Dr. D. SENTHIL KUMAR, M.E. Ph.D.
 PROFESSOR & HEAD
 DEPT. OF MECHANICAL ENGG
 SONA COLLEGE OF TECHNOLOGY
 ANANTHUR MAIN ROAD, SALEM-5

U23PHL210B	ENGINEERING PHYSICS LABORATORY (Common to I Year B.E. Electrical and Electronics Engineering & Electrical and Computer Engineering)	L	T	P	J	C
		0	0	2	0	1

Course Outcomes

At the end of the course, the student will be able to

CO1:	Apply the principles of optics to determine the engineering properties of materials.
CO2:	Apply the principles of thermal Physics, electricity and elasticity to determine the engineering properties of materials.
CO3:	Apply fundamental Physics principles to analyse and interpret experimental results.

Pre-requisite: Capable of using Screw gauge, Vernier calliper, Travelling microscope, able to handle interferometer.

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO 1	3	2		1		1			1					2
CO 2	3	2		1		1			1					2
CO 3	3	2		1		1			1					2

Course Assessment methods

Direct		Indirect
CIE test I (15)	RTPS (10)	Course end survey
Quiz 1 (5)	Record (10)	
CIE test II (15)	Total CIE:60 marks	
Quiz 2 (5)	Semester End Examination (40 marks)	

LIST OF EXPERIMENTS

1.	Determination of the thickness of a thin wire by forming interference fringes using air wedge apparatus.
2.	Determination of the wavelength of a diode laser.
3.	Determination of particle size of lycopodium powder using diode laser.
4.	Determination of acceptance angle and numerical aperture of an optical fibre using diode laser.
5.	Determination of wavelength of mercury spectrum using spectrometer.

6.	Determination of the thermal conductivity of a bad conductor using Lee's Disc apparatus.
7.	Determination of velocity of ultrasonic waves and compressibility of the given liquid using ultrasonic interferometer.
8.	Determination of specific resistance of a given wire using Carey Foster's bridge.
9.	Determination of band gap of the given semiconductor diode.
10.	Determination of coefficient of viscosity of liquid by Poiseuille's method.
	TOTAL : 30 HOURS

C.S.
14.6.2025

Dr. C. Shanthi
HOD / Science

Dr. C. SHANTHI, M.Sc., M.E., Ph.D.,
Professor of Physics
Head, Department of Sciences
Sona College of Technology (Autonomous)
SALEM-636 005.

M.R.
14/6/25

Dr.M. Renuga
BoS - Chairperson,
Science and Humanities

Dr. M. RENUGA
Professor & Head,
Department of Humanities & Languages
Sona College of Technology,
SALEM - 636 005.


U23EE202	ELECTRICAL CIRCUITS LABORATORY (Common to EEE & EFE)					L	T	P	J	C				
						0	0	3	0	1.5				
Course Outcomes														
At the end of the course, the students will be able to														
CO1:	analyze the basic laws and theorems of electric circuits.													
CO2:	analyze the single phase and three phase circuits.													
CO3:	design and analyse a circuit for specific application.													
CO/PO, PSO Mapping (3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak														
COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	3	2	2	2	2			3	2	2	3	3	3
CO2	3	3	2	2	2	2			3	2	2	3	3	3
CO3	3	3	2	2	2	2			3	2	2	3	3	3
Course Assessment methods														
Direct							Indirect							
CIE test I (15) Quiz I- (5) CIE test II (15) Quiz II- (5)							RTPS (10) Record (10) Total CIE: 60 marks Semester End Examination :40 marks				Course end survey			

Students may use LTSPICE / TinkerCad tool for simulating the below experiments.

List of Experiments:

1. Verification of Ohm's law and Kirchoff's laws.
2. Verification of Superposition theorem.
3. Verification of Thevenin's theorem.
4. Verification of Norton's theorem.
5. Verification of Maximum power transfer theorem.
6. Verification of Reciprocity theorem.
7. Calculation of Resonant Frequency, Bandwidth and Q factor for RLC Circuits.
8. Determination of RMS Value, Average Value, Form factor and Peak factor for Sinusoidal Waveform.
9. Simulate the transient behaviour of RL and RC circuits for various inputs.
10. Simulate the transient behaviour of RLC circuits for various inputs.
11. Measurement of voltage, current and power for a 3 phase load.
12. Power and power factor measurements by two wattmeter method.

Theory: --	Tutorial: --	Practical: 45 Hrs	Project: --
------------	--------------	-------------------	-------------


 S. PADMA, M.E., Ph.D.
 Professor and Head
 Department of EEE,
 Sona College of Technology
 Salem-636 005, Tamil Nadu.

U23TAM201	தமிழரும் தொழில்நுட்பமும்	L	T	P	J	C
		1	0	0	0	1
Course Outcomes						
At the end of the course, the student will be able to						
CO1:	Describe the weaving and ceramic technology					
CO2:	Explain the design and construction technology					
CO3:	Analyse the manufacturing technology					
CO4:	Describe the agriculture and irrigation technology					
CO5:	Explain the Scientific Tamil and Tamil Computing					
Course Assessment methods						
Direct				Indirect		
CIE test I (30)	Total CIE: 100 marks			Course end survey		
CIE test II (30)	Semester End Examination: NIL					
CIE test III (40)						
Unit 01: WEAVING AND CERAMIC TECHNOLOGY						3 Hours
அலகு I <u>நெசவு மற்றும் பாணைத் தொழில்நுட்பம்:</u> சங்க காலத்தில் நெசவுத் தொழில் - பாணைத் தொழில்நுட்பம் - கரும்பு சிவப்பு பாண்டங்கள் பாண்டங்களில் கீறல் குறிப்பீடுகள்.						
Unit 02: DESIGN AND CONSTRUCTION TECHNOLOGY						3 Hours
அலகு II <u>வடிவமைப்பு மற்றும் கட்டிடத் தொழில்நுட்பம்:</u> சங்க காலத்தில் வடிவமைப்பு மற்றும் கட்டுமானங்கள் & சங்க காலத்தில் வீட்டுப் பொருட்களில் வடிவமைப்பு- சங்க காலத்தில் கட்டுமான பொருட்களும் நடுகல்லும் - சிலப்பதிகாரத்தில் மேடை அமைப்பு பற்றிய விவரங்கள் - மாமல்லபுரம் சிற்பங்களும், கோவில்களும் - சோழர் காலத்துப் பெருங்கோயில்கள் மற்றும் பிற வழிபாட்டுத் தலங்கள் - நாயக்கர் காலக் கோயில்கள் - மாதிரி கட்டமைப்புகள் பற்றி அறிதல், மதுரை மீனாட்சி அம்மன் ஆலயம் மற்றும் திருமலை நாயக்கர் மஹால் - செட்டிநாட்டு வீடுகள் - பிரிட்டிஷ் காலத்தில் சென்னையில் இந்தோ-சாரோசெனிக் கட்டிடக் கலை.						
Unit 03: MANUFACTURING TECHNOLOGY						3 Hours
அலகு III <u>உற்பத்தித் தொழில் நுட்பம்:</u> கப்பல் கட்டும் கலை - உலோகவியல் - இரும்புத் தொழிற்சாலை - இரும்பை உருக்குதல், எஃகு - வரலாற்றுச் சான்றுகளாக செம்பு மற்றும் தங்க நாணயங்கள் - நாணயங்கள் அச்சுத்தல் - மணி உருவாக்கும் தொழிற்சாலைகள் - கம்மணிகள், கண்ணாடி மணிகள் - கடுமண் மணிகள் - சங்கு மணிகள் - எஃகு உருவாக்கும் தொழிற்சாலைகள் - தொல்லியல் சான்றுகள் - சிலப்பதிகாரத்தில் மணிகளின் வகைகள்.						
Unit 04: AGRICULTURE AND IRRIGATION TECHNOLOGY						3 Hours
அலகு IV <u>வேளாண்மை மற்றும் நீர்ப்பாசனத் தொழில் நுட்பம்:</u> அணை, ஏரி, குளங்கள், மதுகு - சோழர்காலக் குழுவித் தூம்பின் முக்கியத்துவம் - கால்நடை பராமரிப்பு - கால்நடைகளுக்காக வடிவமைக்கப்பட்ட கிணறுகள் - வேளாண்மை மற்றும் வேளாண்மைச் சார்ந்த செயல்பாடுகள் - கடல்சார் அறிவு - மீன்வளம் - மூத்து மற்றும் முத்துக்குளித்தல் - பெருங்கடல் குறித்த பண்டைய அறிவு - அறிவுசார் சமூகம்.						
Unit 05: SCIENTIFIC TAMIL & TAMIL COMPUTING						3 Hours
அலகு V <u>அறிவியல் தமிழ் மற்றும் கணிததமிழ்:</u> அறிவியல் தமிழின் வளர்ச்சி - கணிததமிழ் வளர்ச்சி - தமிழ் நூல்களை மின்பதிப்பு செய்தல் - தமிழ் மென்பொருட்கள் உருவாக்கம் - தமிழ் இணையக் கல்விக்கழகம் - தமிழ் மின் நூலகம் - இணையத்தில் தமிழ் அகராதிகள் - சொற்குவைத் திட்டம்.						

Theory: 15 Hrs	Tutorial: --	Practical: --	Project:--	Total Hours: 15 Hrs
TEXT BOOKS				
1.	தமிழக வரலாறு - மக்களும் பண்பாடும் - கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).			
2.	கணினித் தமிழ் - முனைவர் இல. சுந்தரம். (லிகடன் பிரசுரம்). கீழடி - வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு) பொருளை - ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)			
REFERENCES				
3.	Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)			
4.	Social Life of the Tamils - The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies).			
5.	Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).			
6.	The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)			
7.	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)			
8.	Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Published by: The Author)			
9.	Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)			
10	Journey of Civilization Indus to Vaigai (R.Ramakrishna) (Published by: RMRL) – Reference Book.			


HOD

Dr. M.RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 636 005.

U23TAM201	TAMILS AND TECHNOLOGY	L	T	P	J	C
		1	0	0	0	1
Course Outcomes						
At the end of the course, the student will be able to						
CO1:	Describe the weaving and ceramic technology					
CO2:	Explain the design and construction technology					
CO3:	Analyse the manufacturing technology					
CO4:	Describe the agriculture and irrigation technology					
CO5:	Explain the Scientific Tamil and Tamil Computing					
Course Assessment methods						
Direct				Indirect		
CIE test I (30)		Total CIE: 100 marks		Course end survey		
CIE test II (30)		Semester End Examination: NIL				
CIE test III (40)						
Unit 01: WEAVING AND CERAMIC TECHNOLOGY						3 Hours
Weaving Industry during Sangam Age – Ceramic technology – Black and Red Ware Potteries (BRW) – Graffiti on Potteries						
Unit 02: DESIGN AND CONSTRUCTION TECHNOLOGY						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 - Chetti Nadu Houses, Indo - Saracenic architecture at Madras during British Period.						
Unit 03: 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 beats - Archeological evidences - Gem stone types described inSilappathikaram.						
Unit 04: AGRICULTURE AND IRRIGATION TECHNOLOGY						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 - Conche diving - Ancient Knowledge of Ocean - Knowledge Specific Society						
Unit 05: SCIENTIFIC TAMIL & TAMIL COMPUTING						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						
Theory: 15 Hrs		Tutorial: --	Practical: --	Project:--	Total Hours: 15 Hrs	
TEXT BOOKS						
1.	தமிழக வரலாறு - மக்களும் பண்பாடும் - கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).					
2.	கணினித் தமிழ் - முனைவர் இல. சுந்தரம். (விகடன் பிரசுரம்). கீழடி - வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு) பொருதை - ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)					

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.Ramakrishna) (Published by: RMRL) – Reference Book.



HOD

Dr. M.RENUGA,**Professor & Head,**

Department of Humanities & Languages,

D. J. Somaiya Institute of Technology,

Mumbai - 400 005.

U23GE201	BASIC APTITUDE-II	L	T	P	J	C
		2	0	0	0	0

Course Outcomes

At the end of the course, the students will be able to

CO1:	Solve the problems in Divisibility, Division algorithm, Successive Division and HCF & LCM. Identify Synonyms and Antonyms.
CO2:	Elucidate the problems in BODMAS rule, Approximation, Surds and Indices, Algebraic Simplification and Square root and Cube root. Choose appropriate Verbal Analogies and edit the given passages.
CO3:	Crack the problems involving Ratio and Proportion, and discuss Proportionality Theorems. Comprehend the given passages for Reading Comprehension activity and answer the questions correctly.
CO4:	Deduce the problems involving Linear equation and Quadratic equation. Demonstrate good vocabulary skill by doing the one word substitution and sentence filler exercise with high degree of accuracy.
CO5:	Interpret the logical reasoning problems from Number series ,Coding and Decoding and Exhibit good expertise in detecting errors in the given sentences.

Pre-requisite:

- Basic English language and Grammar knowledge
- Knowledge in Basic Mathematics

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

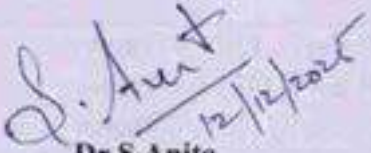
Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	2	1	1	1	3	3	3	2	3
CO2	3	3	3	2	1	1	1	3	3	3	2	3
CO3	3	3	3	2	1	1	1	3	3	3	2	3
CO4	3	3	3	2	1	1	1	3	3	3	2	3
CO5	3	3	3	2	1	1	1	3	3	3	2	3

Course Assessment methods

Direct		Indirect
CIE test I (30) - Theory	Total CIE: 100 marks Semester End Examination – NIL	Course end survey
CIE test II (30) - Theory		
CIE test III (40) - Theory		

Unit 01	6 Hours
Number Properties: Classification of numbers - Divisibility - Division algorithm - Successive Division - HCF and LCM - Problems Verbal Aptitude: Synonyms and b. Antonyms	
Unit 02:	6 Hours
Simplification: BODMAS Rule - Approximation - Surds and Indices - Algebraic Simplification - Square root and Cube root - Problems Verbal Aptitude: Verbal analogy, Editing passages	
Unit 03:	6 Hours
Ratio and Proportion : Ratio - Properties of Ratios - Compound Ratio - Coin based problems - Proportion - Proportionality Test - Proportionality Theorems - Inverse Proportion - Variation - Problems Verbal Aptitude: Reading Comprehension	
Unit 04:	6 Hours
Equations: a. Linear equation: Simultaneous Linear Equations - Consistent System - Inconsistent System - Problems b. Quadratic Equation: Different Ways to Express the Quadratic Equation - Discriminant of the Quadratic Equations - Roots - Nature of the Roots - Relation between roots and coefficient of equation - Formation of a Quadratic Equation - Problems Verbal Aptitude: One word substitution , Sentence filler words	
Unit 05:	6 Hours
Logical Reasoning : Number series - Coding and Decoding - Problem Verbal Aptitude: Error detection	
Theory: 30 Hrs	Tutorial: 0
Practical: 0	Project: 0
Total Hours: 30 Hrs	
TEXT BOOKS	
1.	S.Chand and Dr.R.S.Aggarwal, "Quantitative Aptitude for competitive examinations", S Chand and Company Limited 2019.
2.	Nishit K.Sinha, "Logical Reasoning and Data Interpretation", Pearson 2021.


Dr.S.Anita
Professor & Head
Department of Training

U23GE202	Disaster Management and Preparedness	L	T	P	J	C
		2	0	0	0	0

Course Outcomes

At the end of the course, the students will be able to

CO1:	Explain basic disaster concepts, causes, and vulnerability in India.
CO2:	Classify natural and man-made disasters and their impacts.
CO3:	Apply disaster risk reduction measures and disaster management cycle.
CO4:	Describe disaster management policies, institutions, and stakeholder roles in India.
CO5:	Analyze the role of development and technology in disaster management.

Pre-requisite:

Nil

CO/PO, PSO Mapping

(3/2/1 indicates the strength of correlation) 3-Strong, 2-Medium, 1-Weak

COs	Programme Outcomes (POs) and Programme Specific Outcomes (PSOs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	-	-	-	2	2	-	-	-	-	-	-	-
CO2	2	3	-	-	-	2	3	-	-	-	-	-	-	-
CO3	-	2	3	2	-	2	2	-	-	-	-	-	-	-
CO4	-	-	-	-	-	3	2	2	2	2	-	-	-	-
CO5	-	-	2	2	3	-	3	-	-	-	-	2	-	-

Course Assessment methods

Direct		Indirect
CIE Test I (30) Theory CIE Test II (30) Theory CIE Test III (40) Theory	Total CIE: 100 marks Semester End Examination - Nil	Course end survey

UNIT-I - INTRODUCTION				06 Hours
Concepts and definitions: disaster, hazard, vulnerability and its types, risk-severity, frequency, impact, prevention, mitigation. Causes for Disasters. Vulnerability profile of India				
UNIT-II - DISASTERS AND ITS IMPACTS				06 Hours
Disaster's classification: natural disasters (floods, cyclones, earthquakes, landslides, forest fires, etc.); manmade disasters (industrial pollution, transportation accidents, terrorist strikes, etc.) Disaster impacts and their effects				
UNIT-III - DISASTER RISK REDUCTION (DRR)				06 Hours
Disaster management cycle - its phases: (prevention, mitigation, preparedness, relief, and recovery); structural and non-structural measures; early warning systems; post-disaster environmental response.				
UNIT-IV - DISASTER MANAGEMENT IN INDIA				06 Hours
Indian Disaster Management Act 2005- Policy on Disaster Management. Roles and responsibilities of NGOs, the community, and army forces. DRR programmes and the activities in India.				
UNIT-V - DEVELOPMENT AND TECHNOLOGY FOR DISASTER MANAGEMENT				06 Hours
Relationship between disaster and development. Reconstruction and development methods for disasters. Geo-informatics in Disaster Management (RS, GIS, IOT). Accessibility and Emergency Services for People with Disabilities.				
Theory: 30 Hrs	Tutorial: --	Practical: --	Project:--	Total Hours: 30 Hrs
TEXT BOOKS				
1.	Ghosh G.K., 2006, Disaster Management, APH Publishing Corporation.			
2.	Singh B.K., 2008, Handbook of Disaster Management: Techniques & Guidelines, Rajat Publication.			
3.	Pradeep Sahni, 2004, Disaster Risk Reduction in South Asia, Prentice Hall.			
REFERENCES				
1.	Disaster Medical Systems Guidelines. Emergency Medical Services Authority, State of California, EMSA no.214, June 2003.			
2.	Inter-Agency Standing Committee (IASC) (Feb. 2007). IASC Guidelines on Mental Health and Psychosocial Support in Emergency Settings. Geneva: IASC.			
3.	http://ndma.gov.in/ (Home page of National Disaster Management Authority).			
4.	http://www.ndmindia.nic.in/ National Disaster management in India, Ministry of Home.			



U23OL1201	French - II				L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Accept and refuse of an invitation, give some instruction of do's and don'ts, converse in commercial centres, write an invitation								
CO2:	Describe a city, locate a place in a city, ask further details, describe one's hometown								
CO3:	Talk about things around us, recite a past event, identify sign boards, express agree and disagree, express obligation and prohibition, sell an object in online								
CO4:	Talk about one's goals, express one's feelings, write a list of things to do, express an opinion, talk about weather, draft a mail response								
CO5:	Express one's interest and wish, describe a pet animal, express one's aversions, encourage others, write to ask for a help, narrate a past event, write a biography								
Course Assessment methods									
Direct					Indirect				
CIE test I (30)			Total CIE: 100 marks		Course end survey				
CIE test II (30)			Semester End Examination: NIL						
CIE test III (40)									
Unit 01:							3 Hours		
Hr 2: City shopping and services, conjugation: payer, manger and acheter, negative sentence									
Hr 4: Imperative sentence, food and beverages, utensils, cutleries, corckeries									
Hr 6: Quantitative articles, quantities, pronoun 'en', express appreciation, write an invitation									
Unit 02:							3 Hours		
Hr 8: City and localities, Conjugation: prendre, adjectives of place, pronoun 'y'									
Hr 10: Transport, leisure activities, preposition of place, degrees of comparison									
Hr 12: Asking information about a new place, describe a city									
Unit 03:							3 Hours		
Hr 14: Things in a store, conjugation : faire, imparfait 2, passé composé									
Hr 16: Things in a repairing shop, computer, relative pronouns: que and qui									
Hr 18: Imperative negative, express obligation and interdiction, online sale and response									
Unit 04:							3 Hours		
Hr 20: Professions, conjugation: croire, voir, recent past tense									
Hr 22: Traveling formalities, expressing about health condition, future tense									
Hr 24: Pronoun COD, talk about weather condition, write about one's plans and projections									
Unit 05:							3 Hours		
Hr 26: Citizenship and solidarity, conjugation: connaitre and savoir, depuis vs pendant									
Hr 28: Imparfait vs passé composé, nature and environment, indirect pronouns COI									
Hr 30: Animals, conditional, talk on supporting others, write a biography									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
TEXT BOOKS									
1. The course faculty will provide relevant audios, videos, handouts and notes.									
2. Books : Saison (Méthode de français, cahier d'activités)									
3. Reference books : La conjugaison, Dondon, Echo									

M. Renuga
13/2/24
HOD

Dr. M. RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM

U23OL1202	German - II				L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Use grammatical expressions appropriately in day-to-day conversation.								
CO2:	Make them frame simple sentences /questions.								
CO3:	Accentuate to start and sustain basic conversation								
CO4:	Helps them articulate thoughts in German								
CO5:	Identify the different forms of the verb								
Course Assessment methods									
Direct					Indirect				
CIE test I (30) CIE test II (30) CIE test III (40)					Total CIE: 100 marks Semester End Examination: NIL Course end survey				
Unit 01: Nominative/accusative case, adjectives							3 Hours		
Unit 02: Modes of transportation, orientation, giving/understanding simple directions							3 Hours		
Unit 03: • Food and beverages, Modal verbs, Separable verbs							3 Hours		
Unit 04: • Simple sentences using modal / separable verbs							3 Hours		
Unit 05: • Articles of clothing							3 Hours		
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
TEXT BOOKS									
1.	Netzwerk A1								

Handwritten signature
HOD 13/2/24

Dr. M.RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,
SALEM - 636 :

U23OL1203	Japanese - II				L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Use verbs in polite conversation or for dissuasion and describe two different activities								
CO2:	Demonstrate the application of causative verbs and those that express ability or possibility, and describe experiences								
CO3:	Use plain-style expressions, those that state opinions, and verbs and adjectives that go with nouns								
CO4:	Express sentences that use 'when' and 'if' and those that describe how services are given and received								
CO5:	Read 126 letters of Kanji, and demonstrate adequate knowledge of the lessons learnt in Levels I and II to pass the Japanese Language Proficiency Test (JLPT) for the N5 Level								
Course Assessment methods									
Direct					Indirect				
CIE test I (30)					Total CIE: 100 marks Semester End Examination: NIL Course end survey				
CIE test II (30)									
CIE test III (40)									
Unit 01:								3 Hours	
Hr 1-2: Words and verbs expressing requests / Kanji 1-10									
Hr 3-4: Asking for permission; making statements to prohibit something / Kanji 11-20									
Hr 5-6: Describing two activities / Kanji 21-30									
Unit 02:								3 Hours	
Hr 7-8: Verbs that express 'I have to ...' / Kanji 31-40									
Hr 9-10: Verbs which express ability or possibility / Kanji 41-50									
Hr 11-12: Describing experience / Kanji 51-60									
Unit 03:								3 Hours	
Hr 13-14: Plain-style expressions / Kanji 61-70									
Hr 15-16: Expressions like 'I think that ...' / Kanji 71-80									
Hr 17-18: Qualifying nouns with verbs and adjectives / Kanji 81-90									
Unit 04:								3 Hours	
Hr 19-20: Expressions using 'When ...' / Kanji 91-100									
Hr 21-22: Describing the giving and receiving of services / Kanji 101-110									
Hr 23-24: Expressions using 'If ...' / Kanji 111-126									
Unit 05:								3 Hours	
Hr 25-26: Preparing for JLPT N5									
Hr 27-28: Preparing for JLPT N5									
Hr 29-30: Preparing for JLPT N5									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
TEXT BOOKS									
1.	The course faculty will provide handouts / notes / course material.								
2.	Books on Basic Japanese language available in the college library.								

HOD

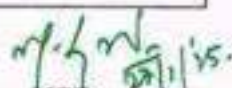
Dr. M. RENUGA,
Professor & Head,
Department of Humanities & Languages,
Sona College of Technology,

U23OL1204		Korean - II			L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the student will be able to									
CO1:	Identify time								
CO2:	Identify the date and days of the week								
CO3:	Explain location and places								
CO4:	Explain destination								
CO5:	Construct simple sentences / questions.								
Course Assessment methods									
Direct					Indirect				
CIE test I (30) CIE test II (30) CIE test III (40)					Total CIE: 100 marks Semester End Examination: NIL			Course end survey	
Unit 01: Time						3 Hours			
Talking about time									
Unit 02: Date						3 Hours			
Talking about dates and days of the week Talking about doing something in the past									
Unit 03: Location						3 Hours			
Talking about location Talking about doing something at a location									
Unit 04: Direction						3 Hours			
Talking about directions									
Unit 05: Future						3 Hours			
Talking about doing something in the future Talking about plans for the future Talking about hope for the future									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
REFERENCES									
1	Vitamin Korean - 1								


 13/2/24
 HOD

Dr. M. RENUGA,
Professor & Head,
 Department of Humanities & Languages,
 Sona College of Technology,
 SALEM - 636 002.

U23OL1205		Hindi - II			L	T	P	J	C
					1	0	0	0	1
Course Outcomes									
At the end of the course, the students will be able to									
CO1:	Write Tenses and Self – Introduction								
CO2:	Write Hindi numbers & sentence Translations								
CO3:	Read and Write comprehension question & days of the week								
CO4:	Read and frame sentences (Story) & part of the body								
CO5:	Communicate effectively using tenses (Conversation)								
Course Assessment methods									
Direct					Indirect				
CIE test I (30) CIE test II (30) CIE test III (40)					Total CIE: 100 marks Semester End Examination: NIL			Course end survey	
Unit 01: Tenses and Self – Introduction								3 Hours	
Learning Hindi pronunciation Speaking based on Tenses (Present, past & future) Reading Writing									
Unit 02: Hindi Numbers & Sentence Translations								3 Hours	
Reading Writing Letters pronunciation Meanings learning									
Unit 03: Comprehension question & Days of the week								3 Hours	
Reading & analysing the meaning Learning									
Unit 04 : Story and Part of the body								3 Hours	
Words meaning Reading & Writing Sentence framing									
Unit 05 : Conversation and Colours name								3 Hours	
Conversation between a boy and Doctor Coersation between Taxi driver and Passenger									
Theory: 15 Hrs		Tutorial: --		Practical: --		Project:--		Total Hours: 15 Hrs	
REFERENCES									
1 Diploma in Hindi (department of higher education, Delhi)									
2 Hindi Prachara sabha exam books (Pratharnic and Madhyama)									


 HOD

Dr. M. RENUGA,
 Professor & Head,
 Department of Humanities & Languages,
 Sona College of Technology,
 SALEM - 636 005.