DHANALAKSHMI SRINIVASAN ENGINEERING COLLEGE
(AUTONOMOUS)
(Approved by AICTE & Affiliated to Anna University, Chennai)
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DEPARTMENT OF SCIENCE AND HUMANITIES

COMPUTER SCIENCE AND ENGINEERING
(R-2023)

DEPARTMENT OF SCIENCE AND HUMANITIES

SUBJECT CODE	:	U23HST11
SUBJECT NAME	:	COMMUNICATIVE ENGLISH
SEMESTER	:	I
COURSE CODE	:	C101

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Speak clearly, effortlessly, confidently and appropriately.
CO2	Write coherently with acceptable accuracy, organizing ideas logically.
CO3	Listen and comprehend different discourses and genres of texts
CO4	Read and comprehend different discourses and genres of texts
CO5	Read and infer, analyze, predict, interpret and draw conclusions any printed text
CO6	Write definitions, descriptions, narrations and essays on various topics.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	-	-	-	-	-	-	-	2	3	3	-	2
CO 2	-	-	-	-	-	-	-	2	2	2	-	2
CO 3	-	-	-	-	-	-	-	2	2	3	-	3
CO 4	-	-	-	-	-	-	-	2	2	3	-	2
CO 5	-	-	-	-	-	-	-	2	2	2	-	3
CO6	-	-	-	-	-	-	-	2	2	3	-	3
AVG	-	-	-	-	-	-	-	2	2	3	-	3

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DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23MAT12
SUBJECT NAME	:	MATRICES AND CALCULUS
SEMESTER	:	I
COURSE CODE	:	C102

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Use the matrix algebra methods for solving practical problems.
CO2	Apply differential calculus tools in solving various application problems.
CO3	Able to use differential calculus ideas on several variable functions
CO4	Apply multiple integral ideas in solving areas, volumes and other practical problems
CO5	Solve the ordinary differential equations using different techniques for that model engineering problems
CO6	Arrive the Euler's and Legendre's equations

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	3	3	3	-	-	-	-	-	-	-	-	3
CO 2	3	3	3	-	-	-	-	-	-	-	-	3
CO 3	3	3	2	-	-	-	-	-	-	-	-	3
CO 4	3	2	2	-	-	-	-	-	-	-	-	3
CO 5	3	3	3	-	-	-	-	-	-	-	-	3
CO6	2	2	1	-	-	-	-	-	-	-	-	2
AVG	3	3	2	0	0	0	0	0	0	0	0	3

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23PHT13
SUBJECT NAME	:	PHYSICS FOR ENGINERRING AND TECHNOLOGIST
SEMESTER	:	I
COURSE CODE	:	C103

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Differentiate the elastic and plastic nature of the materials
CO2	Know the experimental techniques in both production and applications of ultrasonic waves.
CO3	Gain knowledge in the basics of quantum mechanics concepts.
CO4	Develop new devices based on LASER source.
CO5	Understand the advantages of optical fiber than metal wire.
CO6	Demonstrate some useful experiments based on optical fibre.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	3	2	1	3	3	-	-	-	-	-	2	-
CO 2	3	3	2	-	-	2	-	-	-	-	-	-
CO 3	1	-	1	3	1	-	-	-	-	-	-	-
CO 4	2	1	-	1	3	-	-	-	-	-	2	-
CO 5	3	-	2	3	3	2	-	-	-	-	-	-
CO 6	2	1	2	3	2	1	-	-	-	-	-	-
AVG	2	1	1	2	2	1	0	0	0	0	1	0

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23CYT14
SUBJECT NAME	:	CHEMISTRY FOR ENGINEERING & TECHNOLOGY
SEMESTER	:	I
COURSE CODE	:	C104

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Develop innovative methods to produce soft water for industrial use and potable water at cheaper cost.
CO2	Apply the basic knowledge of Corrosion and various electrodes.
CO3	Know the economically and new methods of synthesis nano materials.
CO4	Apply the knowledge of phase rule and composites for material selection requirements.
CO5	Understand the concepts of suitable fuels for engineering processes and applications.
CO6	Have the knowledge of different forms of energy resources and apply them for suitable applications in energy sectors.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	3	-	-	-	3	3	-	-	-	-	-	-
CO 2	3	2	-	-	3	2	-	-	-	-	-	-
CO 3	3	2	-	2	-	-	-	-	-	-	-	-
CO 4	3	-	2	-	3	2	-	-	-	-	-	-
CO 5	3	-	2	-	3	3	-	-	-	-	-	-
CO 6	3	1	3	1	2	2	-	-	-	-	-	-
AVG	3	1	1	1	2	2	0	0	0	0	0	0

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DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23HST15
SUBJECT NAME	:	PROBLEM SOLVING AND PYTHON PROGRAMMING
SEMESTER	:	II
COURSE CODE	:	C105

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Explain the logical solutions through Flowcharts, Algorithms and Pseudo code
CO2	Explain the concept of expressions & statements
CO3	Construct the conditional statement to obtain the programmatic solution.
CO4	Develop the compound data using Python lists, tuples, and dictionaries
CO5	Construct the errors and exceptions.
CO6	Understand the concept of read and write file.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	2	1	-	-	-	-	-	-	-	-	2	2
CO 2	2	1	-	-	-	-	-	-	-	-	2	2
CO 3	2	1	-	-	-	-	-	-	-	-	2	2
CO 4	3	2	1	1	1	-	-	-	-	-	2	2
CO 5	3	2	1	1	1	-	-	-	-	-	2	2
CO6	2	1	-	-	-	-	-	-	-	-	2	2
AVG	2	1	1	1	1	-	-	-	-	-	2	2

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23BSP11
SUBJECT NAME	:	PHYSICS AND CHEMISTRY LABORATORY
SEMESTER	:	I
COURSE CODE	:	C106

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Understand the functioning of various physics laboratory equipment.
CO2	Observe and tabulate experimental data.
CO3	Solve problems individually and collaboratively.
CO4	Estimate the amount of the given acids using pH titrations
CO5	Determine the amount of iron content in the given substance using potentiometric titration
CO6	Determine the amount of chloride content in the given water sample

CO-PO MATRIX

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	2	2	-	3	2	3	2	3	-	-	3	-
CO 2	2	2	-	2	3	1	2	3	-	-	2	-
CO 3	3	3	-	1	2	3	3	2	-	-	3	-
CO 4	3	2	-	-	-	-	-	-	-	-	-	-
CO 5	3	3	-	-	-	-	-	-	-	-	-	-
CO 6	3	3	-	-	-	-	-	-	-	-	-	-
AVG	3	3	0	1	1	1	1	1	0	0	1	0

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23HSP13
SUBJECT NAME	:	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY
SEMESTER	:	I
COURSE CODE	:	C107

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Develop and implement simple Python programs.
CO2	Apply the concept of conditionals and loops in Python programs.
CO3	Develop the Python programs step-wise by defining functions and calling them.
CO4	Make use of Python lists, tuples and dictionaries for representing compound data.
CO5	Analyze files in Python.
CO6	Apply the concept of Pygame and Sorting

CO-PO MATRIX

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	2	1	1	1	-	-	3	3	2	-	2
CO 2	3	2	1	1	1	-	-	3	2	3	-	2
CO 3	3	2	2	1	1	-	-	3	2	2	-	2
CO 4	3	2	1	1	1	-	-	2	3	3	-	1
CO 5	1	3	2	2	2	-	-	3	2	2	-	2
CO 6	3	2	1	1	1	-	-	3	3	3	-	1
AVG	3	2	1	1	1	-	-	3	3	3	-	2

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23HSP12
SUBJECT NAME	:	ENGLISH LABORATORY
SEMESTER	:	I
COURSE CODE	:	C108

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	To enhance students listening ability for academic and Professional purposes.
CO2	To learn to use basic grammatical structures in suitable contexts
CO3	To help students acquire the ability to speak effectively in English in real -life situations.
CO4	To help learners use language effectively in professional contexts
CO5	To develop student's ability to read and write complex texts, summaries, articles, definitions, Paragraph user manuals
CO6	To enhance students listening ability for academic and Professional purposes.

CO-PO MATRIX

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO10	PO11	PO12
CO 1	0	0	0	0	0	0	0	0	2	1	0	2
CO 2	0	0	0	0	0	0	0	0	2	2	0	3
CO 3	0	0	0	0	0	0	0	0	3	3	0	2
CO 4	0	0	0	0	0	0	0	0	2	1	0	1
CO 5	-	-	-	-	-	-	-	-	3	2	0	3
CO 6	-	-	-	-	-	-	-	-	2	3	0	2
AVG	0	0	0	0	0	0	0	0	2	2	0	2

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23HST21
SUBJECT NAME	:	PROFESSIONAL ENGLISH
SEMESTER	:	II
COURSE CODE	:	C109

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Compare and contrast products and ideas in technical texts.
CO2	Identify cause and effects in events, industrial processes through technical texts.
CO3	Analyze problems in order to arrive at feasible solutions and communicate them orally and in the written format.
CO4	Motivate students to write reports and winning job applications.
CO5	Recall and comprehend different discourses and genres of texts.
CO6	Making the students to become virtuous presenters

CO-PO MATRIX

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	0	0	0	2	0	2	0	2	2	2	0	2
CO 2	0	0	0	0	0	0	0	2	2	3	0	2
CO 3	0	0	0	2	0	2	0	2	3	2	0	2
CO 4	0	0	0	0	0	0	0	2	2	3	0	3
CO 5	0	0	0	0	0	0	0	2	2	3	0	2
CO 6	0	0	0	2	0	2	0	2	2	2	0	2
AVG	0	0	0	1	0	1	0	2	2	3	0	2

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DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23MAT22
SUBJECT NAME	:	STATISTICS AND NUMERICAL METHODS
SEMESTER	:	II
COURSE CODE	:	C110

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Apply the concept of testing of hypothesis for small and large samples in real life problems.
CO2	Apply the basic concepts of classifications of design of experiments in the field of agriculture.
CO3	Solve the algebraic and transcendental equations.
CO4	Understand the knowledge of numerical techniques of interpolation in various intervals
CO5	Solve the ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.
CO6	Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations.

CO-PO MATRIX

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12
CO 1	3	3	3	0	0	0	0	0	0	0	0	3
CO 2	3	3	3	0	0	0	0	0	0	0	0	3
CO 3	3	3	2	0	0	0	0	0	0	0	0	3
CO 4	3	2	2	0	0	0	0	0	0	0	0	3
CO 5	3	3	3	0	0	0	0	0	0	0	0	3
CO 6	3	3	2	0	0	0	0	0	0	0	0	3
AVG	3	3	3	0	0	0	0	0	0	0	0	3

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DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23PHT25
SUBJECT NAME	:	PHYSICS FOR INFORMATION SCIENCES
SEMESTER	:	II
COURSE CODE	:	C111

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Know basics of crystallography and its importance for varied materials properties.
CO2	Acquire knowledge on basics of semiconductor physics and its applications in various devices.
CO3	Illustrate the SMA and metallic glasses.
CO4	Understand the optical properties of materials and working principles of various optical devices
CO5	Explain types of polarization and its mathematical expression
CO6	Classify the various types of dielectric breakdown based on materials

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	3	2	3	1	-	-	2	2	-	3	-	3
CO 2	3	3	3	2	-	-	2	1	-	3	-	2
CO 3	2	1	2	1	-	-	3	1	-	2	-	3
CO 4	2	1	2	2	-	-	3	1	-	2	-	3
CO 5	2	2	1	3	-	-	2	2	-	2	-	2
CO6	2	2	2	2	-	-	2	1	-	2	-	2
AVG	2	2	2	2	0	0	2	1	0	2	0	3

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23CST21
SUBJECT NAME	:	PROGRAMMING IN C
SEMESTER	:	II
COURSE CODE	:	C112

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Explain the syntax for C programming
CO2	Understand the programs in 'C' for real world situation
CO3	Apply the concept of functions and pointers.
CO4	Understand the programs with structure using 'C' language.
CO5	Compare the applications using sequential and random access file processing.
CO6	Extend to read and write data from/to files in 'C' Programs.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	2	1	-	-	2	-	-	2	1	2	-	2
CO 2	2	1	-	-	2	-	-	2	2	2	-	2
CO 3	3	2	1	1	3	-	-	1	1	2	-	2
CO 4	2	1	-	-	2	-	-	2	2	2	-	2
CO 5	2	1	-	-	2	-	-	2	1	2	-	2
CO6	2	1	-	-	2	-	-	2	1	2	-	2
AVG	2	1	1	1	2	-	-	2	1	2	-	2

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REGULATION	:	2023
SUBJECT CODE	:	U23EET23
SUBJECT NAME	:	BASIC ELECTRICAL AND ELECTRONICSENGINEERING
SEMESTER	:	II
COURSE CODE	:	C113

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Understand electric circuits and working principles of electrical machines.
CO2	Understand the concepts of various electronic devices.
CO3	Choose appropriate instruments for electrical measurement for a specific application.
CO4	Explain the basic concepts of digital electronics.
CO5	Explain the operating principles of measuring instruments.
CO6	Analyze the AC Electrical Circuits.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO 1	3	2	1	1				1				2
CO 2	3	2	1	1				1				2
CO 3	2	1						1				2
CO 4	2	1						1				2
CO 5	2	1						1				2
CO6	2	1						1				2
AVG	2	1	1	1	1			1				2

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23ECT23
SUBJECT NAME	:	DIGITAL PRINCIPLES AND SYSTEM DESIGN
SEMESTER	:	II
COURSE CODE	:	C114

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Simplify Boolean functions using KMap
CO2	Design and Analyze Combinational Circuits.
CO3	Design and Analyze Synchronous Sequential Circuits.
CO4	Write HDL code for combinational and Sequential Circuits
CO5	Implement the different memory management.
CO6	Implement designs using Programmable Logic Devices

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO1	3	3	3	2	-	-	-	-	-	-	-	2
CO2	3	3	3	-	-	-	-	-	-	-	-	2
CO3	3	3	3	-	-	-	-	-	-	-	-	2
CO4	3	3	3	-	-	-	-	-	-	-	-	-
CO5	3	3	3	2	-	-	-	-	-	-	2	2
CO6	3	3	3	2	-	-	-	-	-	-	2	2
AVG	3	3	3	2	0	0	0	0	0	0	2	2

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23CSP21
SUBJECT NAME	:	PROGRAMMING IN C LABORATORY
SEMESTER	:	II
COURSE CODE	:	C115

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	Develop C programs for simple applications of array and string
CO2	Apply the concept of conditional statement and looping statement in C programs.
CO3	Develop the C programs with function and recursive function
CO4	Apply the concept of pointers and structures
CO5	Apply the concept of sequential file processing
CO6	Apply the concept of random access file processing

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	3	2	1	1	3	-	-	2	3	2	-	3
CO 2	3	2	1	1	3	-	-	2	3	2	-	3
CO 3	3	2	1	1	3	-	-	2	3	2	-	3
CO 4	3	2	1	1	3	-	-	2	3	2	-	3
CO 5	3	2	1	1	3	-	-	2	3	2	-	3
CO6	3	2	1	1	3	-	-	2	3	2	-	3
AVG	3	2	1	1	3	-	-	2	3	2	-	3

DEPARTMENT OF SCIENCE AND HUMANITIES

REGULATION	:	2023
SUBJECT CODE	:	U23HSP22
SUBJECT NAME	:	COMMUNICATION LABORATORY
SEMESTER	:	II
COURSE CODE	:	C116

COURSE OUTCOMES:

Course Code	Upon completion of the course, the students will be able to
CO1	To identify varied group discussion skills and apply them to take part in effective discussions in a professional context.
CO2	To be able to communicate effectively through writing.
CO3	Encouraging plan designing and decision making.
CO4	Understanding and writing technical instruction.
CO5	To understand the value of letter writing with correct format.
CO6	To be able to communicate effectively through writing.

CO-PO MATRIX

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1-	PO11	PO12
CO 1	0	0	0	0	0	0	0	0	2	1	0	2
CO 2	0	0	0	0	0	0	0	0	2	2	0	3
CO 3	0	0	0	0	0	0	0	0	3	3	0	2
CO 4	0	0	0	0	0	0	0	0	2	1	0	1
CO 5	0	0	0	0	0	0	0	0	2	2	0	2
CO6	0	0	0	0	0	0	0	0	3	1	0	2
AVG	0	0	0	0	0	0	0	0	2	2	0	2