



SRI BHARATHI

ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)
Kaikkurichi, Pudukkottai -622 303

www.sbec.edu.in

NAAC DOCUMENTS



Quality Indicator Frame Work

Criterion – 2

Teaching-Learning and Evaluation

Submitted by

IQAC

Internal Quality Assurance Cell

Sri Bharathi Engineering College for Women



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

(Approved by AICTE, New Delhi and affiliated to Anna University, Chennai)

Kaikkurichi, Pudukkottai, Tamil Nadu – 622 303, India

Criteria 2	Teaching-Learning and Evaluation	350
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Key Indicator-2.6 Student Performances and Learning Outcome(90)

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all programmes offered by the institution are stated and displayed on website

COURSE OUTCOMES AND PROGRAMME OUTCOMES

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING
R2021



SRI BHARATHI ENGINEERING COLLEGE FOR WOMEN

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Kaikkurichi, Pudukkottai – 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2021

COURSE OUTCOMES (CO) & CO-PO MAPPING

I SEMESTER

Dr. S. THILAGAVATHI M.E., Ph.D.,
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Kaikkurichi - 622 303, Pudukkottai Dt.



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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
HS3152 (C101)	PROFESSIONAL ENGLISH- I	C101.1: Use appropriate words in a professional context.
		C101.2: Explain the basic grammatic structures and use Them in right context.
		C101.3: Describe the denotative and connotative Meanings of technical texts
		C101.4: Summarize about the definitions, descriptions, Narrations and essays on various topics
		C101.5: Apply language effectively in professional contexts
		C101.6: Discuss the importance of read and write complex texts, summaries, articles, blogs, definitions, essays and user manuals.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C101.1	2	2	2	2	2	2	2	2	2	2	-	2	-	-	-
C101.2	2	2	2	2	2	2	2	2	2	2	-	2	-	-	-
C101.3	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-
C101.4	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-
C101.5	2	2	2	2	-	2	2	2	2	2	-	2	-	-	-
C101.6	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-
C101	2	2	2	2	2	2	2	2	2	2	2	2	-	-	-

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' – No Correlation


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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
MA3151 (C102)	MATRICES AND CALCULUS	C102.1: Use the matrix algebra methods for solving practical problems.
		C102.2: Apply differential calculus tools in solving various application problems.
		C102.3: Describe the partial differential equations with initial and Lagrange's method by using certain techniques with engineering applications.
		C102.4: Carry out the differentiation to solve maxima and minima problems.
		C102.5: Explain different methods of integration in solving practical problems.
		C102.6: Determine multiple integral ideas in solving areas, volumes and other practical problems.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C102.1	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-
C102.2	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-
C102.3	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-
C102.4	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-
C102.5	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-
C102.6	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-
C102	3	3	2	2	-	-	-	-	1	-	1	1	-	2	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
PH3151 (C103)	ENGINEERING PHYSICS	C103.1: Acknowledge the importance of mechanics.
		C103.2: Express their knowledge in electromagnetic waves.
		C103.3: Demonstrate a strong foundational knowledge in oscillations.
		C103.4: Establish a strong foundational knowledge in fibre optics and laser.
		C103.5: Comprehend the importance of quantum physics.
		C103.6: Comprehend and apply quantum mechanical principles towards the formation of energy bands.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C103.1	3	3	2	1	-	1	1	-	-	1	-	1	-	-	-
C103.2	3	3	2	1	-	1	1	-	-	1	-	-	-	-	-
C103.3	3	3	-	-	-	-	-	-	-	1	-	-	-	-	-
C103.4	3	3	2	-	-	1	1	-	-	1	-	-	-	-	-
C103.5	3	3	2	-	-	1	1	-	-	1	-	-	-	-	-
C103.6	3	3	2	1	-	1	1	-	-	1	-	1	-	-	-
C103	3	3	2	1	-	1	1	-	-	1	-	1	-	-	-

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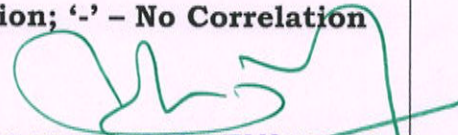
COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
CY8151 (C104)	ENGINEERING CHEMISTRY	C104.1: Describe the quality of water from quality parameter data and propose suitable treatment methodologies to treat water.
		C104.2: Apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications.
		C104.3: Use the knowledge of phase rule and composites for material selection requirements.
		C104.4: Explain the recommend suitable fuels for engineering processes and applications.
		C104.5: Discuss the different forms of energy resources and apply them for suitable applications in energy sectors.
		C104.6: Determine the importance of engineering materials, fuels, energy sources and water treatment techniques will facilitate better understanding of engineering processes and applications for further learning.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C104.1	3	2	2	1	-	1	1	-	-	-	-	1	-	-	-
C104.2	3	2	2	1	-	1	1	-	-	-	-	-	-	-	-
C104.3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
C104.4	3	2	2	-	-	1	1	-	-	-	-	-	-	-	-
C104.5	3	2	2	-	-	1	1	-	-	-	-	-	-	-	-
C104.6	3	2	2	1	-	1	1	-	-	-	-	1	-	-	-
C104	3	2	2	1	-	1	1	-	-	-	-	1	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3151 (C105)	PROBLEM SOLVING AND PYTHON PROGRAMMING	C105.1: Develop algorithmic solutions to simple computational problems.
		C105.2: Design and execute simple Python programs.
		C105.3: Write simple Python programs using conditionals and loops for solving problems.
		C105.4: Describe a Python program into functions.
		C105.5: Discuss compound data using Python lists, tuples, dictionaries etc.
		C105.6: Explain the importance of Read and write data from/to files in Python programs.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C105.1	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1
C105.2	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1
C105.3	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1
C105.4	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1
C105.5	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1
C105.6	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1
C105	3	3	2	2	2	-	-	-	2	2	2	-	3	-	1

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Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3152 (C106)	HERITAGE OF TAMILS	C106.1: Discuss the Tamil language and literature.
		C106.2: Explain about the modern-art sculpture.
		C106.3: Illustrate the folk and martial arts.
		C106.4: Describe the Thinaï concepts of Tamil.
		C106.5: Summarize the contribution of Tamil in Indian culture.
		C106.6: Define the role of siddha medicine.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C106.1	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C106.2	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C106.3	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C106.4	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C106.5	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C106.6	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C106	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3171 (C107)	PROBLEM SOLVING AND PYTHON PROGRAMMING LABORATORY	C107.1: Develop algorithmic solutions to simple computational problems
		C107.2: Design and execute simple Python programs.
		C107.3: Implement programs in Python using conditionals and loops for solving problems.
		C107.4: Describe functions to decompose a Python program.
		C107.5: Explain compound data using Python data structures.
		C107.6: Utilize Python packages in developing software applications.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C107.1	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2
C107.2	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2
C107.3	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2
C107.4	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2
C107.5	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2
C107.6	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2
C107	3	3	2	2	2	-	-	-	2	2	2	2	3	-	2

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
BS3171 (C108)	PHYSICS AND CHEMISTRY LABORATORY	C108.1: Explain the functioning of various physics laboratory equipment
		C108.2: Use graphical models to analyze laboratory data.
		C108.3: Apply mathematical models as a medium for quantitative reasoning and describing physical reality.
		C108.4: Describe products and processes and explain Their uses and purposes clearly and accurately Access, process and analyze scientific information.
		C108.5: Solve problems individually and collaboratively.
		C108.6: Determine the amount of metal ions through volumetric and spectroscopic techniques.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C108.1	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-
C108.2	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-
C108.3	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-
C108.4	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-
C108.5	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-
C108.6	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-
C108	3	3	3	2	2	-	-	-	2	2	-	-	2	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3172 (C109)	ENGLISH LABORATORY	C109.1: Describe and comprehend general as well as complex academic information.
		C109.2: Explain different points of view in a discussion.
		C109.3: Explain formal and informal communicative contexts.
		C109.4: Describe products and processes and explain their uses and purposes clearly and accurately.
		C109.5: Express their opinions effectively in both formal and informal discussions.
		C109.6: Use language efficiently in expressing their opinions via various media.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C109.1	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C109.2	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C109.3	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C109.4	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C109.5	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C109.6	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C109	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

II SEMESTER


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Course Code	Course Name	Course Outcome(CO) Students will be able to
HS3252 (C110)	PROFESSIONAL ENGLISH-II	C110.1: Compare and contrast products and ideas in technical texts.
		C110.2: Identify and report cause and effects in events, industrial processes through technical texts.
		C110.3: Analyse problems in order to arrive at feasible solutions and communicate them in the written format.
		C110.4: Explain the importance of present their ideas and opinions in a planned and logical manner.
		C110.5: Design effective resumes in the context of job search.
		C110.6: Demonstrate an understanding of job applications and interviews for internship and placements.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C110.1	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C110.2	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C110.3	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C110.4	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C110.5	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C110.6	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-
C110	3	3	3	3	2	2	2	2	2	2	2	2	-	-	-

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Course Code	Course Name	Course Outcome(CO) Students will be able to
MA3251 (C111)	STATISTICS AND NUMERICAL METHODS	C111.1: Apply the concept of testing of hypothesis for small and large samples in real life problems.
		C111.2: Apply the basic concepts of classifications of design of experiments in the field of agriculture.
		C111.3: Describe the numerical techniques of interpolation in various intervals.
		C111.4: Apply the numerical techniques of differentiation and integration for engineering problems.
		C111.5: Explain various techniques and methods for solving first and second order ordinary differential equations.
		C111.6: Describe the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C111.1	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-
C111.2	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-
C111.3	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-
C111.4	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-
C111.5	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-
C111.6	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-
C111	3	3	3	2	-	-	-	-	-	1	-	1	-	2	-

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Kaikkurichi, Pudukkottai – 622 303

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2021

COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
PH3256 (C112)	PHYSICS FOR INFORMATION SCIENCE	C112.1: Illustrate the basics of dielectric materials and insulation.
		C112.2: Gain knowledge on the electrical and magnetic properties of materials and their applications
		C112.3: Explain clearly of semiconductor physics and functioning of semiconductor devices
		C112.4: Describe the optical properties of materials.
		C112.5: Discuss the working principles of various optical devices.
		C112.6: Appreciate the importance of nanotechnology and nanodevices.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C112.1	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-
C112.2	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-
C112.3	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-
C112.4	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-
C112.5	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-
C112.6	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-
C112	3	2	1	1	-	1	-	-	-	1	-	1	2	-	-

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' – No Correlation


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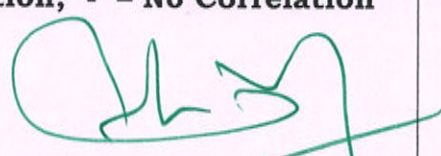
COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
BE3251 (C113)	BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	C113.1: Observe the profession of Civil and Mechanical engineering.
		C113.2: Summarize the planning of building, infrastructure and working of Machineries.
		C113.3: Apply the knowledge gained in respective discipline
		C113.4: Illustrate the ideas of Civil Engineering applications.
		C113.5: Describe the ideas of Mechanical Engineering applications.
		C113.6: Appraise the material, Structures, machines and energy.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C113.1	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-
C113.2	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-
C113.3	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-
C113.4	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-
C113.5	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-
C113.6	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-
C113	2	2	1	1	-	-	1	-	1	1	-	1	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3251 (C114)	ENGINEERING GRAPHICS	C114.1: Use BIS conventions and specifications for engineering drawing.
		C114.2: Construct the conic curves, involutes and cycloid.
		C114.3: Solve practical problems involving projection of lines.
		C114.4: Draw the orthographic, isometric and perspective projections of simple solids.
		C114.5: Draw the development of simple solids.
		C114.6: Draw engineering curves

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C114.1	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-
C114.2	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-
C114.3	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-
C114.4	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-
C114.5	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-
C114.6	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-
C114	3	2	2	-	2	-	2	-	-	2	-	2	2	2	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3251 (C115)	PROGRAMMING IN C	C115.1: Illustrate the constructs of C Language.
		C115.2: Develop C Programs using basic programming constructs
		C115.3: Analyse C programs using arrays and strings
		C115.4: Illustrate modular applications in C using functions
		C115.5: Create applications in C using pointers and structures
		C115.6: Construct the importance of input/output and file handling in C

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C115.1	3	2	2	1	2	1	1	1	2	-	3	2	1	2	-
C115.2	3	3	3	1	2	1	1	1	2	-	3	3	2	2	-
C115.3	3	3	2	1	2	1	1	1	2	-	3	2	2	2	-
C115.4	3	2	2	1	3	1	1	1	2	-	3	3	2	2	-
C115.5	3	3	3	1	2	1	2	1	2	-	3	2	2	3	-
C115.6	3	3	3	2	1	2	-	-	2	1	2	2	2	2	-
C115	3	2.6	2.5	1.2	2	1.2	1	1	2	1	2.8	2.3	1.8	2.1	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3252 (C116)	TAMILS AND TECHNOLOGIES	C116.1: Explain about the weaving and pottery technology in Tamilnadu.
		C116.2: Describe about the design and construction technology in Tamilnadu.
		C116.3: Discuss about the manufacturing technology in Tamilnadu.
		C116.4: Illustrate the agriculture and irrigation technology in Tamilnadu.
		C116.5: Define the growth of science in Tamil.
		C116.6: Learn the contribution of the Tamils to Indian culture.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C116.1	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C116.2	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C116.3	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C116.4	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C116.5	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C116.6	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-
C116	-	-	-	-	-	3	3	2	-	2	-	2	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3271 (C118)	ENGINEERING PRACTICES LABORATORY	C118.1: Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan;
		C118.2: Explain various joints in wood materials used in common household wood work.
		C118.3: Design various wire electrical joints in common household electrical wire work.
		C118.4: Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments.
		C118.5: Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB.
		C118.6: Design a tray out of metal sheet using sheet metal work.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C118.1	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1
C118.2	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1
C118.3	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1
C118.4	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1
C118.5	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1
C118.6	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1
C118	3	2	2	2	-	2	2	-	2	2	-	1	2	1	1

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
CS3271 (C119)	PROGRAMMING IN C LABORATORY	C119.1: Demonstrate knowledge on C programming constructs.
		C119.2: Evaluate programs in C using basic constructs
		C119.3: Create programs in C using arrays.
		C119.4: Design applications in C using strings, pointers, functions.
		C119.5: Develop applications in C using structures.
		C119.6: Construct the importance of C using file processing.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C119.1	3	3	3	2	1	1	-	-	2	1	2	2	2	2	-
C119.2	3	3	3	3	1	1	-	-	2	1	2	2	2	3	-
C119.3	3	3	3	2	1	2	-	-	2	-	2	2	2	2	-
C119.4	3	3	3	2	1	2	-	-	3	-	3	3	3	2	-
C119.5	3	3	3	2	3	2	-	-	3	-	3	3	3	3	-
C119.6	3	3	3	2	1	2	-	-	2	1	2	2	2	2	-
C119	3	3	3	2.1	1.3	1.6	-	-	2.3	1	2.3	2.3	2.3	2.3	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome(CO) Students will be able to
GE3272 (C120)	COMMUNICATION LABORATORY	C120.1: Speak effectively in group discussions held in formal/semi formal contexts.
		C120.2: Discuss, analyse and present concepts and problems from various perspectives to arrive at suitable solutions.
		C120.3: Write emails, letters and effective job applications.
		C120.4: Write critical reports to convey data and information with clarity and precision.
		C120.5: Give appropriate instructions and recommendations for safe execution of tasks.
		C120.6: Discuss the safety issues about electrical devices.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C120.1	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-
C120.2	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-
C120.3	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-
C120.4	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-
C120.5	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-
C120.6	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-
C120	3	3	3	3	3	3	3	3	3	3	3	3	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

III SEMESTER


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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
MA3354 (C201)	DISCRETE MATHEMATICS	C201.1: Explain the concepts needed to test the logic of a program.
		C201.2: Describe the identifying structures on many levels.
		C201.3: Explain the importance of class functions which transform a finite set into another finite set which relates to input and output functions in computer science.
		C201.4: Apply counting principles.
		C201.5: Explain concepts and properties of algebraic structures such as groups, rings and fields.
		C201.6: Compute the concepts and significance of lattices and boolean algebra which are widely used in computer science and engineering.

CO-PO MAPPING

COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C201.1	3	3	2	2	-	-	-	-	-	-	-	2	-	-	-
C201.2	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-
C201.3	3	3	2	2	-	2	-	-	-	3	-	-	-	-	-
C201.4	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-
C201.5	3	2	2	2	-	-	-	-	-	2	-	-	-	-	-
C201.6	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-
C201	3	2.5	2	1.8	-	2	-	-	-	2.5	-	2	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3351 (C202)	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	C202.1: Design various combinational digital circuits using logic gates
		C202.2: Analyze sequential circuits and the design procedures
		C202.3: Examine the characteristics of I/O communication
		C202.4: Analyze different types of control design and identify hazards
		C202.5: Explain the characteristics of various memory systems
		C202.6: Evaluate the fundamentals of computer systems and analyze the execution of an instruction

CO-PO MAPPING

COURSE OUTCOMES	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C202.1	3	3	3	3	3	2	1	1	1	1	2	3	2	3	3
C202.2	3	3	3	3	2	1	1	1	1	1	2	3	1	2	2
C202.3	3	3	3	3	2	2	1	1	1	1	2	3	2	3	1
C202.4	3	3	3	3	1	1	1	1	1	1	2	1	1	3	1
C202.5	3	3	3	3	1	2	1	1	1	1	1	1	1	2	1
C202.6	3	3	3	3	2	2	1	1	1	1	1	1	2	3	1
C202	3.0	3.0	3.0	3.0	1.8	1.6	1.0	1.0	1.0	1.0	1.6	2	1.5	2.6	1.5

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3352 (C203)	FOUNDATIONS OF DATA SCIENCE	C203.1: Examine the data science process
		C203.2: Classify different types of data description for data science process
		C203.3: Explain the importance of relationships between data
		C203.4: Illustrate Python Libraries for Data Wrangling
		C203.5: Classify visualization Libraries in Python to interpret and explore data
		C203.6: Recommend Pandas for data manipulation.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C203.1	3	2	2	2	2	-	-	-	1	1	1	2	2	2	2
C203.2	3	3	2	2	1	-	-	-	2	1	1	2	2	3	1
C203.3	3	3	2	2	2	1	1	-	1	2	1	3	2	2	3
C203.4	3	2	2	2	2	-	-	-	1	1	2	2	3	3	2
C203.5	3	3	2	2	2	-	-	-	1	1	1	2	2	2	2
C203.6	3	3	3	3	2	-	-	-	1	1	1	2	2	2	2
C203	3	2.6	2.1	2.1	1.8	1	1	-	1.1	1.1	1.1	2.1	2.1	2.3	2

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3301 (C204)	DATA STRUCTURES	C204.1: Determine linear and non-linear data structures.
		C204.2: Explain linear data structure operations.
		C204.3: Examine non-linear data structure operations on various applications.
		C204.4: Illustrate appropriate linear/non-linear data structure operations for solving a given problem.
		C204.5: Apply appropriate graph algorithms for graph applications.
		C204.6: Analyze the various searching and sorting algorithms.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C204.1	3	3	3	3	2	1	1	-	1	2	1	3	2	1	1
C204.2	3	3	2	2	2	-	-	-	1	1	1	2	2	2	1
C204.3	3	2	2	2	2	-	-	-	1	1	1	2	2	1	1
C204.4	3	2	2	2	1	-	-	-	2	1	1	2	2	3	1
C204.5	3	2	2	2	2	-	-	-	1	2	1	3	2	2	1
C204.6	3	3	2	2	2	1	1	-	1	1	1	1	2	1	1
C204	3.0	2.5	2.2	2.2	1.8	1.0	1.0	-	1.2	1.3	1.0	2.2	2.0	1.2	1.3

*3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' – No Correlation


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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REGULATION 2021

COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3391 (C205)	OBJECT ORIENTED PROGRAMMING	C205.1: Apply the concepts of classes and objects to solve simple problems
		C205.2: Design programs using inheritance, packages and interfaces
		C205.3: Explain the use of exception handling mechanisms to solve real world problems
		C205.4: Apply the concept of multithreaded model to solve real world problems
		C205.5: Design Java applications with I/O packages, string classes, Collections and generics concepts
		C205.6: Determine the concepts of event handling and JavaFX components and controls for developing GUI based applications

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C205.1	3	2	2	2	2	-	-	-	3	2	2	2	3	1	2
C205.2	3	3	3	2	1	-	-	-	2	1	1	3	3	3	2
C205.3	3	3	2	2	2	-	-	-	3	2	1	2	3	1	3
C205.4	3	2	2	2	2	-	-	-	1	2	1	2	3	1	1
C205.5	3	3	3	2	2	-	-	-	3	2	1	2	3	3	3
C205.6	3	3	3	3	2	-	-	-	2	2	1	2	3	2	2
C205	3.0	2.7	2.5	2.2	1.8	-	-	-	2.3	1.8	1.2	2.2	3.0	2.3	1.8

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3311 (C206)	DATA STRUCTURES LABORATORY	C206.1: Evaluate Linear data structure algorithms on various applications.
		C206.2: Design applications using Stacks and Linked lists
		C206.3: Determine Binary Search tree and AVL tree operations.
		C206.4: Explain the importance of graph algorithms.
		C206.5: Analyze the various sorting algorithms.
		C206.6: Analyze the various searching algorithms.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C206.1	3	3	3	3	-	-	-	-	2	1	2	2	2	2	3
C206.2	3	3	3	2	-	-	-	-	1	1	1	3	1	2	2
C206.3	3	3	3	3	-	-	-	-	1	1	2	3	3	3	3
C206.4	3	3	2	2	-	-	-	-	1	2	3	3	2	1	2
C206.5	3	3	2	2	2	-	-	-	3	3	3	1	3	1	3
C206.6	3	3	2	2	2	-	-	-	1	2	3	3	3	1	3
C206	3.0	3.0	2.5	2.3	2.0	-	-	-	1.5	1.7	2.3	2.5	2.3	1.5	1.7

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3381 (C207)	OBJECT ORIENTED PROGRAMMING LABORATORY	C207.1: Develop java programs using object oriented programming concepts
		C207.2: Construct simple applications using object oriented concepts such as package, exceptions
		C207.3: Explain multithreading concepts
		C207.4: Create GUIs and event driven programming applications for real world problems
		C207.5: Design and deploy web applications using Java
		C207.6: Describe about generics concepts

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C207.1	3	3	3	2	-	-	-	-	1	2	2	2	1	2	3
C207.2	3	3	3	2	-	-	-	-	2	3	3	2	1	3	1
C207.3	3	3	2	2	1	-	-	-	1	2	1	3	2	3	2
C207.4	3	3	3	2	-	-	-	-	3	1	1	1	2	1	2
C207.5	3	3	3	3	3	-	-	-	1	1	1	1	2	1	2
C207.6	3	3	3	3	1	-	-	-	1	2	1	3	2	3	2
C207	3.0	3.0	2.8	2.3	1.7	-	-	-	1.5	1.8	1.5	2.0	1.7	1.5	1.8

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3361 (C208)	DATA SCIENCE LABORATORY	C208.1: Apply python libraries for data science
		C208.2: Explain the basic Statistical measures for data science.
		C208.3: Describe Probability measures for data science.
		C208.4: Illustrate descriptive analytics on the benchmark data sets.
		C208.5: Apply correlation and regression analytics on standard data sets
		C208.6: Explain and interpret data using visualization packages in Python.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C208.1	3	3	3	3	2	-	-	-	1	3	3	3	1	3	2
C208.2	3	3	3	3	2	-	-	-	3	1	3	2	1	3	3
C208.3	3	3	3	3	2	-	-	-	3	1	3	2	1	3	3
C208.4	3	3	3	3	2	-	-	-	2	1	1	1	3	2	3
C208.5	3	3	3	3	2	-	-	-	2	3	2	3	3	3	1
C208.6	3	3	3	3	2	-	-	-	2	1	3	1	1	3	3
C208	3.0	3.0	3.0	3.0	2.0	-	-	-	2.2	1.7	2.5	2.0	1.7	2.2	1.7

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
GE3361 (C209)	PROFESSIONAL DEVELOPMENT	C209.1: Use of MS Word to create quality documents, by structuring and organizing content for their day to day technical and academic requirements
		C209.2: Apply MSEXCEL to perform data operations and analytics, record, retrieve data as per requirements and visualize data for ease of understanding
		C209.3: Prepare MS EXCEL to visualize data for ease of understanding
		C209.4: Load MSEXCEL to visualize data for ease of understanding
		C209.5: Explain MS PowerPoint to create high quality academic presentations by including common tables, charts, graphs
		C209.6: Operate MS PowerPoint to interlinking other elements, and using media objects.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C209.1	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
C209.2	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
C209.3	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
C209.4	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
C209.5	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
C209.6	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
C209	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

IV SEMESTER


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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3452 (C210)	THEORY OF COMPUTATION	C210.1: Construct automata theory using Finite Automata
		C210.2: Write regular expressions for any pattern
		C210.3: Design context free grammar
		C210.4: Design Turing machine for computational functions
		C210.5: Differentiate between decidable and undecidable problems
		C210.6: Design Pushdown Automata

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C210.1	3	3	2	2	1	-	-	-	1	1	1	1	2	2	2
C210.2	2	2	2	2	1	-	-	-	1	1	1	1	2	2	2
C210.3	2	2	2	2	1	-	-	-	1	1	1	1	2	2	2
C210.4	2	2	2	1	1	-	-	-	1	1	1	1	2	2	2
C210.5	2	2	2	1	1	-	-	-	1	1	1	1	3	3	3
C210.6	3	2	2	2	1	-	-	-	1	1	1	1	2	2	2
C210	2.3	2.2	2.0	1.7	1.0	-	-	-	1.0	1.0	1.0	1.0	2.2	1.0	1.0

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3491 (C211)	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	C211.1: Apply appropriate search algorithms for problem solving
		C211.2: illustrate reasoning under uncertainty
		C211.3: Design supervised learning models
		C211.4: Develop unsupervised learning models
		C211.5: Describe deep learning neural network models
		C211.6: Design ensampling models

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
C211.1	3	2	2	3	-	-	-	-	1	3	3	3	1	2	2
C211.2	1	1	1	1	1	-	-	-	1	2	1	3	2	3	2
C211.3	2	2	2	1	1	-	-	-	2	1	1	3	1	1	1
C211.4	3	3	3	1	-	-	-	-	2	1	2	1	2	2	2
C211.5	3	2	1	1	2	-	-	-	3	1	2	3	2	1	2
C211.6	2	1	1	1	1	-	-	-	2	1	2	1	2	2	2
C211	2.3	1.8	1.7	1.3	1.3	-	-	-	1.8	1.5	1.8	2.3	1.7	1.8	1.5

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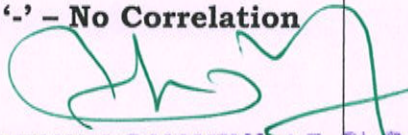
COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3492 (C212)	DATABASE MANAGEMENT SYSTEMS	C212.1: Construct SQL Queries using relational algebra
		C212.2: Define database using ER model and normalize the database
		C212.3: Construct queries to handle transaction processing and maintain consistency of the database
		C212.4: Compare and contrast various indexing strategies
		C212.5: Explain how advanced databases differ from Relational Databases and find a suitable database for the given requirement.
		C212.6: Apply the knowledge to tune the performance of the database

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C212.1	3	3	3	2	1	-	-	-	2	1	1	1	2	1	3
C212.2	3	3	2	1	1	-	-	-	2	3	3	3	3	1	2
C212.3	3	2	2	2	1	-	-	-	2	1	1	2	2	3	3
C212.4	3	3	3	3	-	-	-	-	3	2	3	3	1	2	3
C212.5	3	3	2	2	2	-	-	-	1	3	3	1	2	2	2
C212.6	3	2	2	2	1	-	-	-	2	1	1	2	2	3	3
C212	3.0	2.7	2.3	2.0	1.2	-	-	-	2.0	1.8	2.0	2.0	2.0	2.0	1.8

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3401 (C213)	ALGORITHMS	C213.1: Illustrate the efficiency of algorithms using various frameworks.
		C213.2: Apply graph algorithms to solve problems and analyze their efficiency.
		C213.3: Make use of algorithm design techniques like divide and conquer, dynamic programming and greedy techniques to solve problems.
		C213.4: Describe state space tree method for solving problems.
		C213.5: Solve problems using approximation algorithms.
		C213.6: Classify the importance of randomized algorithms for problem solving.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C213.1	3	2	1	1	-	-	1	-	1	3	-	1	-	1	-
C213.2	2	2	1	1	-	-	1	-	3	2	-	1	-	1	-
C213.3	3	3	3	1	-	-	2	-	3	3	-	-	-	1	1
C213.4	1	1	1	1	-	-	-	-	3	1	-	-	-	-	-
C213.5	1	1	1	1	-	-	-	-	1	2	-	-	-	-	-
C213.6	2	2	1	1	-	-	1	-	3	3	-	1	-	1	-
C213	2.0	1.8	1.3	1.0	-	-	1.3	-	2.3	2.3	-	1.0	-	1.0	1.0

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3451 (C214)	INTRODUCTION TO OPERATING SYSTEMS	C214.1: Discuss basic functions of operating systems, processes and threads
		C214.2: Analyze various scheduling algorithms and process synchronization.
		C214.3: Explain deadlock prevention and avoidance algorithms.
		C214.4: Compare and contrast various memory management schemes.
		C214.5: Explain the functionality of file systems, I/O systems, and Virtualization
		C214.6: Compare iOS and Android Operating Systems

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C214.1	3	2	2	2	-	-	-	-	3	2	3	1	1	2	2
C214.2	2	2	2	1	1	-	-	-	2	1	1	2	2	1	2
C214.3	3	3	2	2	1	-	-	-	2	2	1	1	1	2	2
C214.4	3	3	3	3	-	-	-	-	1	2	1	2	1	3	2
C214.5	3	1	1	1	1	-	-	-	3	2	3	2	2	2	1
C214.6	2	1	1	1	-	-	-	-	3	2	3	1	1	2	2
C214	2.7	2.0	1.8	1.7	1.0	-	-	-	2.3	1.8	2.0	1.5	1.3	2.3	1.8

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
GE3451 (C215)	ENVIRONMENTAL SCIENCES AND SUSTAINABILITY	C215.1: Explain the importance of environment, need for public awareness and types of biodiversity
		C215.2: Describe about environmental pollution, environmental protection and environmental protection acts.
		C215.3: Summarize renewable sources of energy
		C215.4: Discover sustainability concept, needs and challenges
		C215.5: Discuss about material life cycle assessment, energy cycles and carbon cycle
		C215.6: Explain about Zero waste and R concept

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C215.1	2	1	-	-	-	2	3	-	-	-	-	2	-	-	-
C215.2	3	2	-	-	-	3	3	-	-	-	-	2	-	-	-
C215.3	3	2	1	-	-	2	2	-	-	-	-	2	-	-	-
C215.4	3	2	1	1	-	2	2	-	-	-	-	2	-	-	-
C215.5	3	2	1	-	-	2	2	-	-	-	-	1	-	-	-
C215.6	3	2	1	1	-	2	2	-	-	-	-	2	-	-	-
C215	2.8	1.8	1.0	1.0	-	2.2	2.3	-	-	-	-	1.8	-	-	-

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3461 (C217)	OPERATING SYSTEMS LABORATORY	C217.1: Discuss and implement UNIX Commands.
		C217.2: Analyse the performance of various CPU Scheduling Algorithms.
		C217.3: Compare and contrast various Memory Allocation Methods.
		C217.4: Explain File Organization and File Allocation Strategies.
		C217.5: Illustrate various Disk Scheduling Algorithms.
		C217.6: Explain Deadlock Avoidance and Deadlock Detection Algorithms

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C217.1	2	1	1	1	1	-	-	-	1	3	3	3	2	1	3
C217.2	3	3	2	2	2	-	-	-	3	2	1	1	3	1	2
C217.3	3	3	2	1	2	-	-	-	3	3	1	2	2	2	2
C217.4	2	2	2	1	2	-	-	-	3	1	3	1	1	2	1
C217.5	2	2	1	1	3	-	-	-	1	2	2	3	1	3	3
C217.6	3	3	2	1	2	-	-	-	3	3	1	2	2	2	2
C217	2.5	2.3	1.7	1.2	2.0	-	-	-	2.3	2.3	1.8	2.0	1.8	2.3	2.3

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3481 (C218)	DATABASE MANAGEMENT SYSTEMS LABORATORY	C218.1: Investigate databases with different types of key constraints.
		C218.2: Illustrate simple and complex SQL queries using DML and DCL commands.
		C218.3: Classify advanced features such as stored procedures and triggers and incorporate in GUI based application development
		C218.4: Examine an XML database and validate with meta-data (XML schema).
		C218.5: Create and manipulate data using NOSQL database.
		C218.6: Create nested and joint queries.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO1 1	PO 12	PSO 1	PSO 2	PSO 3
C218.1	3	3	3	3	-	-	-	-	3	1	3	2	2	3	2
C218.2	2	2	2	2	2	-	-	-	1	2	3	3	2	1	2
C218.3	3	3	2	1	1	-	-	-	1	1	1	3	2	3	3
C218.4	2	2	2	1	1	-	-	-	1	1	3	2	3	1	3
C218.5	3	2	1	1	1	-	-	-	2	2	3	1	3	1	2
C218.6	3	3	2	1	1	-	-	-	1	1	1	3	2	3	3
C218	2.7	2.5	2.0	1.5	1.2	-	-	-	1.5	1.3	2.3	2.3	2.3	1.5	1.3

***3-High Correlation; 2-Medium Correlation; 1-Low Correlation; '-' – No Correlation**

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COURSE OUTCOMES (CO) & CO-PO MAPPING

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3591 (C301)	COMPUTER NETWORKS	C301.1: Discuss the basic layers and its functions in computer networks
		C301.2: Determine the basics of how data flows from one node to another
		C301.3: Explain the protocol for congestion avoidance and QOS
		C301.4: Analyze routing algorithms
		C301.5: Classify protocols for various functions in the Network for routing the packets.
		C301.6: Analyze the working of various application layer protocols.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C301.1	2	2	1	1	-	-	-	-	-	-	-	-	3	-	-
C301.2	2	1	1	1	2	-	-	-	-	-	-	2	-	2	-
C301.3	2	1	1	1	2	-	-	-	-	-	-	2	-	2	-
C301.4	2	2	1	1	3	-	-	-	-	-	-	-	-	3	-
C301.5	3	3	2	1	2	-	-	-	-	3	-	-	-	-	-
C301.6	3	3	2	1	-	-	-	-	-	-	-	-	-	-	3
C301	2.3	2	1.3	1	2.3	-	-	-	-	3	-	2	3	2.3	3

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3501 (C302)	COMPILER DESIGN	C302.1: Investigate the techniques in different phases of a compiler.
		C302.2: Determine a lexical analyser for a sample language and learn to use the LEX tool.
		C302.3: Classify different parsing algorithms to develop a Parser and learn to use YACC tool
		C302.4: Discuss semantics rules (SDT), intermediate code generation and run
		C302.5: Develop code generation
		C302.6: Design code optimization techniques.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C302.1	3	3	3	3	-	-	-	-	3	3	1	3	2	3	2
C302.2	3	3	3	3	3	-	-	-	3	2	3	2	2	1	2
C302.3	3	3	2	2	3	-	-	-	3	1	1	1	2	2	3
C302.4	3	2	2	1	1	-	-	-	2	3	2	3	1	2	1
C302.5	3	3	3	1	1	-	-	-	2	1	1	3	2	1	2
C302.6	3	3	3	1	1	-	-	-	2	1	1	3	2	1	2
C302	3	2.8	2.7	1.8	1.8	-	-	-	2.5	1.8	1.5	2.5	1.8	1.7	2

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3491 (C303)	CRYPTOGRAPHY AND CYBER SECURITY	C303.1: Illustrate the fundamentals of networks security, security architecture, threats and vulnerabilities
		C303.2: Compare the different cryptographic operations of symmetric cryptographic algorithms
		C303.3: Investigate the different cryptographic operations of public key cryptography
		C303.4: Apply the various Authentication schemes to simulate different applications.
		C303.5: Examine various cyber crimes and cyber security..
		C303.6: Classify various cyber security.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C303.1	3	2	2	2	2		-	-	1	-	-	1	2	3	3
C303.2	3	3	3	3	3		-	-	2	-	-	1	3	3	3
C303.3	3	3	3	3	3		-	-	2	-	-	1	3	3	3
C303.4	3	3	3	3	3		-	-	2	-	-	1	3	3	3
C303.5	3	2	2	2	3		-	-	3	-	-	2	3	2	3
C303.6	3	2	2	2	3		-	-	3	-	-	2	3	2	-
C303	3	2.5	2.5	2.5	2.8		-	-	2.2	-	-	1.3	2.8	2.7	3

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CS3551 (C304)	DISTRIBUTED COMPUTING	C304.1: Determine the foundations of distributed systems
		C304.2: Classify synchronization problems
		C304.3: Analyse consistency problems
		C304.4: Investigate resource sharing techniques in distributed systems
		C304.5: Compare working model of consensus and reliability of distributed systems
		C304.6: Explain the fundamentals of cloud computing

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C304.1	3	3	3	3	1	-	-	-	2	1	3	3	2	1	1
C304.2	3	3	2	1	2	-	-	-	2	2	2	2	1	3	2
C304.3	3	3	2	1	2	-	-	-	2	2	2	2	1	3	2
C304.4	3	3	3	3	3	-	-	-	3	2	1	1	1	2	1
C304.5	3	3	3	3	1	-	-	-	3	3	2	1	3	1	1
C304.6	3	3	2	1	3	-	-	-	3	3	3	1	3	2	3
C304	3	3	2.5	2	2	-	-	-	2.5	2.2	2.2	1.7	1.8	2	1.7

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CCS375 (C305)	WEB TECHNOLOGIES	C305.1: Determine a basic website using HTML and Cascading Style Sheets
		C305.2: Discuss dynamic web page with validation using Java Script objects and by applying different event handling mechanisms.
		C305.3: Develop server side programs using Servlets and JSP.
		C305.4: Construct simple web pages in PHP and to represent data in XML format.
		C305.5: Develop interactive web applications using Angular JS
		C305.6: Design web application using different framework and tools.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C305.1	3	3	3	3	3	-	-	-	1	3	3	1	3	2	3
C305.2	2	2	2	1	2	-	-	-	2	2	1	3	2	2	2
C305.3	3	3	3	2	3	-	-	-	1	2	1	1	1	2	1
C305.4	3	3	3	1	2	-	-	-	3	1	2	2	2	2	2
C305.5	3	3	3	2	2	-	-	-	2	1	3	1	1	2	2
C305.6	3	3	3	2	2	-	-	-	2	1	2	1	1	1	2
C305	2.8	2.8	2.8	1.8	2.3	-	-	-	1.8	1.7	2.0	1.5	1.7	1.8	2.0

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COURSE OUTCOMES (CO) & CO-PO MAPPING

Course Code	Course Name	Course Outcome (CO) Students will be able to
CCS367 (C306)	STORAGE TECHNOLOGIES	C306.1: Demonstrate the fundamentals of information storage management
		C306.2: various models of Cloud infrastructure services and deployment
		C306.3: Illustrate the usage of advanced intelligent storage systems and RAID
		C306.4: Interpret various storage networking architectures - SAN, including storage subsystems and virtualization
		C306.5: Examine the different role in providing disaster recovery and remote replication technologies
		C306.6: Infer the security needs and security measures to be employed in information storage management

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C306.1	1	2	1	3	3	-	-	-	1	1	1	3	1	2	1
C306.2	1	2	1	3	3	-	-	-	1	1	1	3	1	2	1
C306.3	3	1	2	3	3	-	-	-	3	2	3	2	2	3	1
C306.4	1	1	3	2	2	-	-	-	3	1	1	2	2	3	3
C306.5	3	2	1	2	2	-	-	-	1	1	3	1	2	2	1
C306.6	1	3	2	1	2	-	-	-	1	2	3	1	3	2	1
C306	1.7	1.8	1.7	2.3	2.5	-	-	-	1.7	1.3	2.0	2.0	1.8	2.3	1.3

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COURSE OUTCOMES (CO) & CO-PO MAPPING

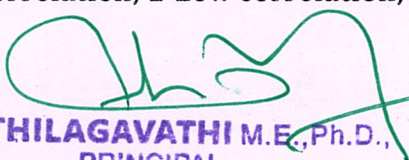
MX3081 - INTRODUCTION TO WOMEN AND GENDER STUDIES

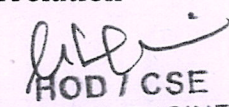
Course Code	Course Name	Course Outcome (CO) Students will be able to
MX3081 (C307)	Introduction to Women and Gender Studies	C307.1: Exhibit the fundamental concepts of gender studies.
		C307.2: Illustrate about the types of feminist theory.
		C307.3: Analyze the history of women's movements.
		C307.4: Distinguish between the gender based on linguistic forms.
		C307.5: Explain the role of media in gender equality.
		C307.6: Discuss the representation of women in media.

CO-PO MAPPING

CO	PROGRAM OUTCOMES												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
C307.1		-	-	-	-	1	1	1	3	2	-	2	-	-	-
C307.2	-	-	-	-	-	1	1	1	3	2	-	2	-	-	-
C307.3	-	-	-	-	-	1	1	1	3	2	-	2	-	-	-
C307.4	-	-	-	-	-	1	1	1	3	2	-	2	-	-	-
C307.5	-	-	-	-	-	1	1	1	3	2	-	2	-	-	-
C307.6	-	-	-	-	-	1	1	1	3	2	-	2	-	-	-
C307	-	-	-	-	-	1	1	1	3	2	-	2	-	-	-

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