



TAGORE ENGINEERING COLLEGE
 (Approved by AICTE, Affiliated to Anna University)
 Vandalur – Kelambakkam Road, Rathinamangalam, Chennai-600127.
B. Tech-Information Technology
Anna University, Regulations – 2017 CSBS
Course Outcomes & CO-PO Mapping

Batch: 2019-2023
Academic Year: 2019 - 2020 (ODD Semester)

Course Code
C101

Communicative English

Subject Code
HS8151

CO No.	Course Outcomes
C101.1	Listen and recognize main ideas from different discourses in different accents
C101.2	Speak clearly, confidently, comprehensively and communicate with one or many listeners using appropriate communicative strategies
C101.3	Read different genres of text adopting various reading strategies
C101.4	Write cohesively and coherently by using a wide range of vocabulary and organize ideas logically on a topic without grammatical errors
C101.5	Determine the main and subordinate ideas, draws conclusion and summarize information from written material

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C101.1	-	-	-	-	-	-	-	-	3	3	2	2	-	-	-
C101.2	-	-	-	-	-	-	-	-	2	3	2	3	-	-	-
C101.3	-	-	-	-	-	-	-	-	1	3	1	2	-	-	-
C101.4	-	-	1	-	-	1	-	-	1	3	1	3	-	-	-
C101.5	-	-	-	-	-	-	-	-	3	3	2	1	-	-	-
C101 (Average)	-	-	1	-	-	1	-	-	2	3	1.6	2.2	-	-	-



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Course Outcomes & CO-PO Mapping

Course Code C102	Engineering Mathematics – I	Subject Code MA8151
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CO No.	Course Outcomes
C102.1	Use both the limit definition and rules of differentiation to differentiate functions.
C102.2	Apply differentiation to solve maxima and minima problems.
C102.3	Evaluate integrals both by using Riemann sums and by using the Fundamental Theorem of Calculus, also evaluate integrals using techniques of integration, such as substitution, partial fractions and integration by parts, in addition to determine convergence/divergence of improper integrals and evaluate convergent improper integrals.
C102.4	Apply integration to compute multiple integrals, area, volume, integrals in polar coordinates, in addition to change of order and change of variables.
C102.5	Apply various techniques in solving differential equations.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C102.1	3	3	3	-	-	-	-	-	-	-	-	2	-	-	-
C102.2	3	3	3	-	-	-	-	-	-	-	-	2	-	-	-
C102.3	3	3	3	-	-	-	-	-	-	-	-	1	-	-	-
C102.4	3	3	3	-	-	-	-	-	-	-	-	1	-	-	-
C102.5	3	3	3	-	-	-	-	-	-	-	-	2	-	-	-
C102 (Average)	3	3	3	-	-	-	-	-	-	-	-	1.6	-	-	-



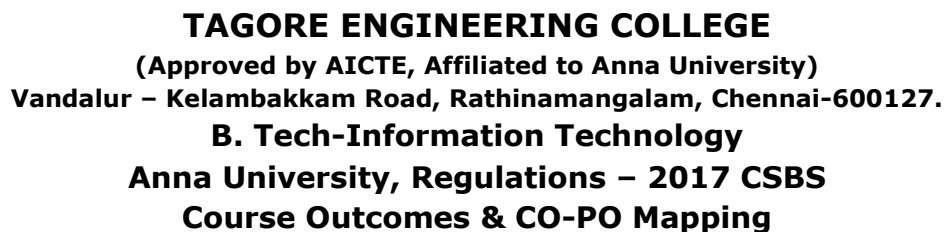
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Course Code C103	PH8151 & Engineering Physics	Subject Code PH8151
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CO No.	Course Outcomes
C103.1	Analyze the elastic nature of materials and be able to choose the materials depending upon the modulus of elasticity for different applications.
C103.2	Illustrate the advantages of optical communication using LASER.
C103.3	Explain the conducting properties of solids, liquids, good thermal conductor and bad thermal conductors
C103.4	Apply the knowledge of quantum mechanics and classical mechanics in addressing the problems related to science and technology
C103.5	Describe the crystal structures, crystal defects and various crystal growth techniques.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C103.1	2	2	1	-	-	-	2		-	-	-	1	-	-	-
C103.2	2	3	2	-	-	-	2	-	-	-	-	1	-	-	-
C103.3	1	1	1	-	-	-	2	-	-	-	-	-	-	-	-
C103.4	3	2	3	-	-	-	3	-	-	-	-	1	-	-	-
C103.5	2	1	2	-	-	-	0	-	-	-	-	-	-	-	-
C103 (Average)	2.00	1.80	1.80	-	-	-	1.80	-	-	-	-	1.00	-	-	-

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CO No.	Course Outcomes
C105.1	Develop algorithmic solutions to simple computational problems.
C105.2	Read, write and execute simple python programs.
C105.3	Apply control, looping structures and functions to solve problems.
C105.4	Represent compound data using python lists, tuples, and dictionaries.
C105.5	Read and Write data from/to files in python programs.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C105.1	3	2	1	1	1	-	-	-	1	1	1	1	1	2	1
C105.2	3	2	1	1	2	-	-	-	1	1	1	1	1	2	1
C105.3	3	2	1	1	2	-	-	-	1	1	1	1	1	2	1
C105.4	3	2	1	1	2	-	-	-	1	1	1	1	1	2	1
C105.5	3	2	1	1	2	-	-	-	1	1	1	1	1	2	1
C105 (Average)	3	2	1	1	1.8	-	-	-	1	1	1	1	1	2	1

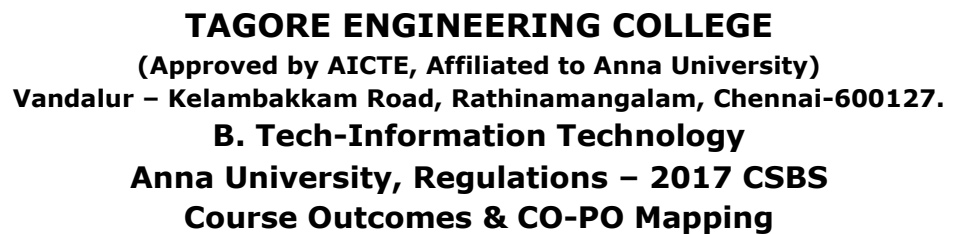


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Course Outcomes & CO-PO Mapping

Course Code C106	Engineering Graphics	Subject Code GE8152
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CO No.	Course Outcomes
C106.1	Familiarize with the fundamentals and standards of Engineering graphics
C106.2	Project orthographic projections of lines and plane surfaces
C106.3	Draw the projections of a simple solids and truncated solids
C106.4	Draw the sectional view and develop the lateral surface of simple and truncated solids.
C106.5	Visualize and to project isometric and perspective sections of simple solids.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C106.1	-	1	1	-	-	-	1	-	-	-	-	-	-	-	-
C106.2	-	3	3	-	-	-	1	-	-	-	-	-	-	-	-
C106.3	-	3	3	-	-	-	1	-	-	-	-	-	-	-	-
C106.4	-	3	3	-	-	-	1	-	-	-	-	-	-	-	-
C106.5	-	3	3	-	-	-	1	-	-	-	-	-	-	-	-
C106 (Average)	-	2.6	2.6	-	-	-	1	-	-	-	-	-	-	-	-



CO No.	Course Outcomes
C107.1	Write, test, and debug simple Python programs.
C107.2	Implement Python programs with conditionals and loops.
C107.3	Develop Python programs step-wise by defining functions and calling them.
C107.4	Demonstrate the use Python lists, tuples, and dictionaries for representing compound data.
C107.5	Illustrate the concepts of read and write data from/to files in Python.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C107.1	3	2	1	1	1	-	-	1	1	1	1	1	1	2	1
C107.2	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C107.3	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C107.4	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C107.5	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C107 (Average)	3	2	1	1	1.8	-	-	1	1	1	1	1	1	2	1



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Course Code C108	Physics and Chemistry Laboratory	Subject Code BS8161
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CO No.	Course Outcomes
C108.1	To evaluate moment of inertia of disc and rigidity modulus for thin wire using Torsion pendulum
C108.2	To appraise Young's modulus of the beam by Non-Uniform bending method
C108.3	To measure the wavelength of LASER, particle size and basic parameter of optical fibre using Semiconductor diode LASER
C108.4	Determine the strength of a pure acid and mixture of acids by using conductivity meter
C108.5	Estimate the amount of iron content present in a given solution by means of potentiometric titration

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C108.1	3	3	2	-	-	-	-	2	3	3	-	-	-	-	-
C108.2	3	3	3	-	-	-	-	2	3	3	-	-	-	-	-
C108.3	3	3	3	-	-	-	-	2	3	3	-	-	-	-	-
C108.4	3	3	3	-	-	-	-	2	3	3	-	-	-	-	-
C108.5	3	3	3	-	-	-	-	2	3	3	-	-	-	-	-
C108 (Average)	3	3	2.75	-	-	-	-	2	3	3	-	-	-	-	-



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Batch: 2019-2023
Academic Year: 2019 - 2020 (EVEN Semester)

Course Code
C109

Technical English

Subject Code
HS8251

CO No.	Course Outcomes
C109.1	Read technical texts and write area specific texts effortlessly
C109.2	Listen and comprehend lectures and talks in their area of specialization successfully
C109.3	Speak appropriately and effectively in varied formal and informal contexts
C109.4	Write reports and winning job applications
C109.5	Use appropriate technologies to organize, present, and communicate information to address a range of audiences, purpose, genres

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C109.1	-	-	-	-	-	-	-	-	2	3	2	2	-	-	-
C109.2	-	-	-	1	-	-	-	-	2	3	2	2	-	-	-
C109.3	-	-	-	-	-	-	-	-	3	3	2	3	-	-	-
C109.4	-	-	-	-	-	-	-	-	3	3	3	2	-	-	-
C109.5	-	-	-	-	-	-	-	-	3	2	3	2	-	-	-
C108 (Average)	-	-	-	-	-	-	-	-	2.6	2.8	2.4	2.2	-	-	-



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Course Outcomes & CO-PO Mapping

Course Code C110	Engineering Mathematics – II	Subject Code MA8251
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CO No.	Course Outcomes
C110.1	Calculate the eigen values and eigen vectors, diagonalization of a matrix symmetric matrices, positive definite matrices and similar matrices
C110.2	Evaluate of line, surface and volume integrals using Gauss, Stokes and Green's theorems and their verification
C110.3	Determine Analytic functions, conformal mapping and Bilinear transformation
C110.4	Evaluate of Cauchy's integrals, Taylor's and Laurent's and residue theorem for evaluation for real integrals using circular and semi-circular, contour
C110.5	Evaluate Laplace transform and inverse transform of simple functions, properties, various related theorems and application to differential equations with constant coefficients

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C110.1	3	3	3	-	-	-	-	-	2	-	-	2	-	-	-
C110.2	3	3	3	-	-	-	-	-	2	-	-	2	-	-	-
C110.3	3	3	3	-	-	-	-	-	2	-	-	2	-	-	-
C110.4	3	3	3	-	-	-	-	-	2	-	-	2	-	-	-
C110.5	3	3	3	-	-	-	-	-	2	-	-	2	-	-	-
C108 (Average)	3	3	3	-	-	-	-	-	2	-	-	2	-	-	-



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Course Code C111	Physics for Information Science	Subject Code PH8252
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CO No.	Course Outcomes
C111.1	Gain the knowledge on classical and quantum electron theories and energy band structure
C111.2	Acquire knowledge on basics of semiconductor physics and its applications in various device
C111.3	Get knowledge on magnetic properties of materials
C111.4	Have the necessary understanding on the functioning of optical materials for optoelectronics
C111.5	Understand the basics of quantum structures application and carbon nanotubes

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C111.1	1	1	1	-	-	-	-		-	-	-	-	-	-	1
C111.2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	1
C111.3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	2
C111.4	3	3	1	-	-	-	1	-	-	-	-	1	-	-	3
C111.5	3	3	2	-	-	-	2	-	-	-	-	2	-	-	3
C108 (Average)	2	2	1.2	-	-	-	1.5	-	-	-	-	1.5	-	-	2

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Course Outcomes & CO-PO Mapping

Course Code C113	Information Technology Essentials	Subject Code IT8201
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CO No.	Course Outcomes
C113.1	Design and deploy web-sites
C113.2	Design and deploy simple web-applications
C113.3	Create simple database applications
C113.4	Develop information system
C113.5	Describe the basics of networking and mobile communications

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C113.1	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C113.2	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C113.3	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C113.4	3	2	2	2	-	-	-	-	-	-	-	-	1	-	-
C113.5	2	1	1	1	-	-	-	-	-	-	-	-	1	-	-
C108 (Average)	2.8	1.8	1.8	1.8	-	-	-	-	-	-	-	-	1	-	-



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Course Outcomes & CO-PO Mapping

Course Code C114	Programming in C	Subject Code CS8251
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CO No.	Course Outcomes
C114.1	Develop simple applications in C using basic constructs
C114.2	Design and implement applications using arrays and strings
C114.3	Develop and implement applications in C using functions and pointers.
C114.4	Develop applications in C using structures.
C114.5	Design applications using sequential and random access file processing.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C114.1	3	3	2	2	2	-	-	-	1	1	1	1	2	2	2
C114.2	3	2	2	2	2	-	-	-	1	1	1	1	2	2	2
C114.3	3	3	2	2	2	-	-	-	1	1	1	1	2	2	2
C114.4	3	3	2	2	2	-	-	-	1	1	1	1	2	2	2
C114.5	2	3	2	2	2	-	-	-	1	1	1	1	1	3	2
C108 (Average)	2.8	2.8	2	2	2	-	-	-	1	1	1	1	1.8	2.2	2



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Course Outcomes & CO-PO Mapping

Course Code C115	Engineering Practices Laboratory	Subject Code GE8261
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CO No.	Course Outcomes
C115.1	Apply the knowledge of pipeline connections to household fittings and industrial buildings
C115.2	Prepare the different joints in roofs, doors, windows and furniture
C115.3	Perform step turning operation in a lathe
C115.4	Perform the various welding processes and know about its applications
C115.5	Produce a funnel using sheet metal

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C115.1	3	3	3	3	3	3	-	2	3	2	-	3	-	-	-
C115.2	3	3	3	2	3	3	-	2	3	3	-	3	-	-	-
C115.3	3	3	3	3	3	3	-	2	3	3	-	3	-	-	-
C115.4	3	3	3	2	3	3	-	2	3	3	-	3	-	-	-
C115.5	3	2	3	2	2	1	-	1	1	1	-	1	-	-	-
C108 (Average)	3	2.8	3	2.4	2.8	2.6	-	1.8	2.6	2.4	-	2.6	-	-	-



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Course Outcomes & CO-PO Mapping

Course Code C116	C Programming Laboratory	Subject Code CS8261
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CO No.	Course Outcomes
C116.1	Develop C programs for simple applications making use of basic constructs
C116.2	Develop C programs for simple applications making use of arrays and strings.
C116.3	Develop C programs involving recursion and functions.
C116.4	Develop C programs involving pointers and structures.
C116.5	Design applications using sequential and random access file processing.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C116.1	3	2	1	1	1	-	-	1	1	1	1	1	2	2	2
C116.2	3	2	1	1	2	-	-	1	1	1	1	1	2	2	2
C116.3	3	2	1	1	2	-	-	1	1	1	1	1	2	2	2
C116.4	3	2	1	1	2	-	-	1	1	1	1	1	2	2	2
C116.5	3	2	1	1	2	-	-	1	1	1	1	1	1	3	1
C108 (Average)	3	2	1	1	1.8	-	-	1	1	1	1	1	1.8	2.2	1.8

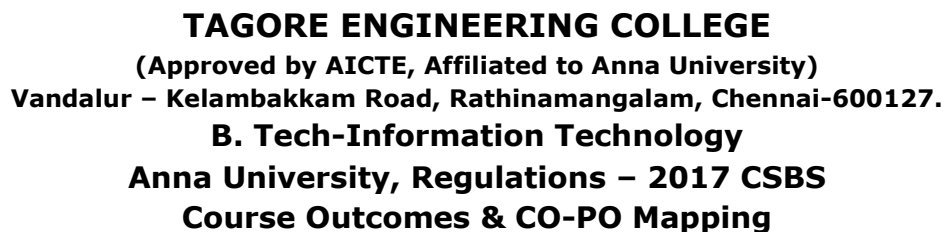


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Course Code C117	Information Technology Essentials Laboratory	Subject Code IT8211
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CO No.	Course Outcomes
C117.1	Design interactive websites using basic HTML tags, different styles, links and with all basic control elements.
C117.2	Create client side and server side programs using scripts using PHP.
C117.3	Design dynamic web sites and handle multimedia components
C117.4	Create applications with PHP connected to database.
C117.5	Create Personal Information System

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C117.1	2	3	1	-	1	1	-	-	-	-	-	-	3	3	2
C117.2	2	2	2	-	2	2	-	-	-	-	-	-	3	3	3
C117.3	2	2	2	-	2	2	-	-	-	-	-	-	2	2	2
C117.4	2	2	2	-	2	2	-	-	-	-	-	-	2	2	2
C117.5	1	3	2	-	2	2	-	-	-	-	-	-	2	2	2
C108 (Average)	1.8	2.4	1.8	-	1.8	1.8	-	-	-	-	-	-	2.4	2.4	2.2



Course Code C201	Discrete Mathematics	Subject Code MA8351
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Course Code C202	Digital Principles and System Design	Subject Code CS8351
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CO No.	Course Outcomes
C202.1	Apply Arithmetic operations in any number system and various techniques to simplify the Boolean function
C202.2	Build combinational circuits that perform arithmetic operations & code Conversions
C202.3	Design synchronous sequential circuits
C202.4	Design Asynchronous sequential circuits
C202.5	Model memory arrays for any boolean function

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C202.1	3	3	2	3	1	1	1	1	2	1	1	2	2	2	2
C202.2	3	2	2	1	1	1	1	1	1	1	1	1	2	2	1
C202.3	3	3	3	2	1	1	1	0	1	1	1	1	3	1	1
C202.4	3	3	2	1	1	1	1	0	1	1	1	2	2	2	1
C202.5	2	3	2	3	1	1	1	1	1	1	1	1	2	3	2
C202 (Average)	2.8	2.8	2.2	2	1	1	1	0.6	1.2	1	1	1.4	2.2	2	1.4



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Course Code C203	Data Structures	Subject Code CS8391
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CO No.	Course Outcomes
C203.1	Implement abstract data types for linear data structures.
C203.2	Learn linear data structures – lists, stacks, and queues
C203.3	To apply the different linear and non-linear data structures to problem solutions.
C203.4	To apply Tree and Graph structures Explore the applications of linear and non-linear data structures
C203.5	To understand sorting, searching and hashing algorithms

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C203.1	3	3	3	3	1	1	1	1	2	1	2	2	2	2	2
C203.2	3	2	3	3	1	1	1	1	1	1	2	1	2	2	3
C203.3	3	3	3	2	1	1	1	1	2	2	1	1	3	3	2
C203.4	3	3	2	3	1	1	1	1	2	1	1	2	2	2	2
C203.5	2	3	2	3	1	1	1	1	1	1	1	1	2	3	2
C203 (Average)	2.8	2.8	2.6	2.8	1	1	1	1	1.6	1.2	1.4	1.4	2.2	2.4	2.2



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Course Code C204	Object Oriented Programming	Subject Code CS8392
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CO No.	Course Outcomes
C204.1	Understand OOPS concepts and basic characteristics of Java
C204.2	Develop Java programs with the concepts inheritance and interfaces
C204.3	Build Java applications using exceptions and I/O streams
C204.4	Develop Java applications with threads and generics classes
C204.5	Develop interactive Java programs using swings

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C204.1	3	3	3	1	1	1	-	-	1	1	1	1	3	2	2
C204.2	3	2	3	1	1	1	-	-	1	1	1	1	3	2	2
C204.3	3	3	3	1	1	1	-	-	1	1	1	1	3	3	2
C204.4	3	3	2	1	1	1	-	-	1	1	1	1	2	2	2
C204.5	2	3	2	1	1	1	-	-	1	1	1	1	2	3	1
C204 (Average)	2.8	2.8	2.6	1	1	1	-	-	1	1	1	1	2.6	2.4	1.8



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Course Code C205	Analog and Digital Communication	Subject Code EC8394
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CO No.	Course Outcomes
C205.1	Attain knowledge in Analog communication techniques
C205.2	Apply digital communication techniques in telecommunication.
C205.3	Use data and pulse communication techniques.
C205.4	Analyze Source and Error control coding.
C205.5	Utilize multi-user radio communication.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C205.1	3	2	2	2	3	1	1	-	-	-	-	3	3	2	1
C205.2	3	3	3	2	3	1	1	-	-	-	-	3	3	3	2
C205.3	3	2	3	2	2	1	1	-	-	-	-	2	2	3	2
C205.4	2	2	2	1	2	1	1	-	-	-	-	2	2	3	2
C205.5	3	3	2	3	3	2	1	-	-	-	-	1	2	2	2
C205 (Average)	2.8	2.4	2.4	2	2.6	1.2	1	-	-	-	-	2.2	2.4	2.6	1.8



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Course Code C206	Data Structures Laboratory	Subject Code CS8381
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CO No.	Course Outcomes
C206.1	Write functions to implement linear and non-linear data structure operations.
C206.2	Suggest appropriate linear / non-linear data structure operations for solving a given problem.
C206.3	Appropriately use the linear / non-linear data structure operations for a given problem.
C206.4	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval.
C206.5	Apply searching and sorting algorithms techniques in linear / non-linear data structure

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C206.1	3	3	3	3	3	1	1	1	-	-	-	-	3	2	2
C206.2	3	3	3	3	2	1	1	1	-	-	-	-	3	2	2
C206.3	3	2	2	2	3	1	1	1	-	-	-	-	3	2	1
C206.4	3	3	3	3	2	1	1	1	-	-	-	-	3	2	2
C206.5	3	3	3	2	3	1	1	1	-	-	-	-	3	2	2
C206 (Average)	3	2.8	2.8	2.6	2.6	1	1	1	-	-	-	-	3	2	1.8



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Course Code C207	Object Oriented Programming Laboratory	Subject Code CS8383
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CO No.	Course Outcomes
C207.1	Develop and implement Java programs for simple applications that make use of classes packages and interfaces.
C207.2	Develop and implement Java programs with array list, exception handling and multithreading
C207.3	Design applications using file processing, generic programming and event handling.
C207.4	Implement Object Oriented Programs using exceptional handling concept
C207.5	Design various ways of algorithm to solve the problems

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C207.1	3	3	3	1	1	1	-				1	1	2	2	2
C207.2	3	2	3	1	1	1	-	1			1	1	2	2	2
C207.3	3	3	3	1	1	1	-	1			1	1	3	3	1
C207.4	3	3	2	1	1	1	-	1			1	1	2	2	2
C207.5	2	3	2	1	1	1	-	1			1	1	2	3	2
C207 (Average)	2.8	2.8	2.6	1	1			1			1	1	2.2	2.4	1.8



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Course Code C208	Digital Systems Laboratory	Subject Code CS8382
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CO No.	Course Outcomes
C208.1	Implement simplified combinational circuits using basic logic gates
C208.2	Implement combinational circuits using MSI devices.
C208.3	Implement sequential circuits like registers and counters
C208.4	Simulate combinational circuits using HDL
C208.5	Simulate sequential circuits using HDL

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C208.1	2	2	1	2	1	-	-	-	1	1	-	-	1	1	1
C208.2	2	2	1	2	1	-	-	-	1	1	-	-	1	1	1
C208.3	2	2	1	3	1	-	-	-	1	1	-	-	1	1	2
C208.4	1	2	1	2	1	-	-	-	1	1	-	-	1	1	1
C208.5	2	2	1	2	3	-	-	-	1	1	-	-	1	3	1
C208 (Average)	1.8	2	1	2.2	1.4				1	1			1	1.4	1.2



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Course Code C209	Interpersonal Skills/Listening & Speaking	Subject Code HS8381
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CO No.	Course Outcomes
C209.1	Identify the different types of listening and speaking for effective interpersonal communication.
C209.2	Discuss and respond to content of a listening passage.
C209.3	Comprehend and answer questions based on the texts/passages given.
C209.4	Understand different genres of texts and comprehend the materials to improve their vocabulary and are familiar with new words, phrases, sentence structures and ideas.
C209.5	Make inferences and predictions about spoken is course.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C209.1	-	-	-	1	-	-	-	-	3	3	1	2	-	-	-
C209.2	-	-	-	-	-	-	-	-	3	3	1	2	-	-	-
C209.3	-	-	-	-	-	-	-	-	3	3	1	2	-	-	-
C209.4	-	-	-	-	-	-	-	-	3	3	2	3	-	-	-
C209.5	-	-	1	-	-	-	-	-	3	3	2	2	-	-	-
C209 (Average)	-	-	1	1	-	-	-	-	3	3	1.4	2.2	-	-	-



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CO No.	Course Outcomes
C210.1	Characterize standard probability distribution by employing basic techniques and methods of probability mass function and probability density function for discrete and continuous random variables
C210.2	Develop skills to solve problems on correlation and regression
C210.3	Obtain statistical data from experiments and able to analyze the same using statistical test.
C210.4	Design experiments using suitable ANOVA techniques and draw conclusions.
C210.5	Use control charts to study, analyze and interpret problems in statistical quality control.

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Course Outcomes & CO-PO Mapping

Course Code C211	Computer Architecture	Subject Code CS8491
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CO No.	Course Outcomes
C211.1	Understand the basics structure of computers, operations and instructions.
C211.2	Design arithmetic and logic unit.
C211.3	Understand pipelined execution and design control unit.
C211.4	Understand parallel processing architectures.
C211.5	Understand the various memory systems and I/O communication.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C211.1	3	3	3	1	1	-	-	-	-	-	-	-	1	2	2
C211.2	3	2	3	1	1	-	-	-	-	-	-	-	2	1	3
C211.3	3	3	3	1	1	-	-	-	-	-	-	-	2	2	2
C211.4	3	3	2	1	1	-	-	-	-	-	-	-	2	2	1
C211.5	2	3	2	1	1	-	-	-	-	-	-	-	2	1	1
C211 (Average)	2.8	2.8	2.6	1	1	-	-	-	-	-	-	-	1.8	1.6	1.8



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Course Code C212	Database Management Systems	Subject Code CS8492
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CO No.	Course Outcomes
C212.1	Classify the modern and futuristic database applications based on size and complexity
C212.2	Map ER model to Relational model to perform database design effectively
C212.3	Write queries using normalization criteria and optimize queries
C212.4	Compare and contrast various indexing strategies in different database systems
C212.5	Appraise how advanced databases differ from traditional databases.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C212.1	3	3	3	2	1	1	1	1	1	1	1	1	3	2	2
C212.2	3	2	2	2	1	1	1	1	1	1	1	1	2	2	1
C212.3	3	2	2	1	1	1	1	1	1	1	1	1	3	3	2
C212.4	3	3	2	1	1	1	1	1	1	1	1	1	2	2	2
C212.5	3	2	2	1	1	1	1	1	1	1	1	1	2	3	2
C212 (Average)	3	2.4	2.2	1.4	1	1	1	1	1	1	1	1	2.4	2.4	1.8

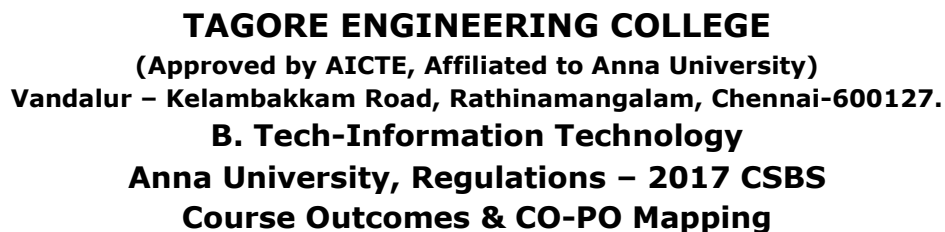


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Course Outcomes & CO-PO Mapping

Course Code C213	Design and Analysis of Algorithms	Subject Code CS8451
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CO No.	Course Outcomes
C213.1	Design algorithms for various computing problems.
C213.2	Analyze the time and space complexity of various sorting algorithms
C213.3	Critically analyze the different algorithm design techniques for a given problem.
C213.4	Modify existing algorithms to improve efficiency.
C213.5	Able to Describe the classes P, NP, and NP Complete and be able to prove that a certain problem is NP-Complete.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C213.1	3	3	3	2	-	-	-	-	1	1	-	2	3	1	2
C213.2	3	3	2	1	-	-	-	-	1	1	-	1	2	2	2
C213.3	3	2	3	1	-	-	-	-	1	1	-	1	2	2	1
C213.4	3	2	3	1	-	-	-	-	1	1	-	1	2	1	2
C213.5	3	3	3	1	-	-	-	-	1	1	-	1	1	2	1
C213 (Average)	3	2.6	2.8	1.2	-	-	-	-	1	1	-	1.2	2	1.6	1.6



Course Code C214	Operating Systems	Subject Code CS8493
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CO No.	Course Outcomes
C214.1	Understand the basic concepts and functions of operating systems.
C214.2	Understand processes and threads Analyze various scheduling algorithms and concept of deadlock
C214.3	Compare and contrast various memory management schemes.
C214.4	Understand the functionality of file systems
C214.5	Perform administrative tasks on Linux Servers and compare iOS and Android operating systems.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C214.1	3	2	1	1	1	1	-	1	1	1	1	1	1	2	1
C214.2	2	3	3	3	3	2	-	2	2	2	2	2	2	2	3
C214.3	3	3	3	3	3	2	-	2	2	2	2	2	2	2	3
C214.4	3	3	2	3	3	2	-	2	2	2	2	2	2	2	3
C214.5	3	3	2	3	3	2	-	2	2	2	2	2	2	2	3
C214 (Average)	2.8	2.8	2.2	2.6	2.6	1.8	-	1.8	1.8	1.8	1.8	1.8	1.8	2	2.6



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Course Code C215	Environmental Science and Engineering	Subject Code GE8291
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CO No.	Course Outcomes
C215.1	Solve problems that cannot be solved by mere laws.
C215.2	Get familiarized with ecological balance.
C215.3	Get public awareness of environment at in fan stage.
C215.4	Find ways to protect the environment and play proactive roles.
C215.5	Develop and improve the standard of better living.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C215.1	1	1	1	-	-	1	3	1	-	-	-	1	-	-	-
C215.2	1	1	1	-	-	1	3	1	-	-	-	1	-	-	-
C215.3	1	1	1	-	-	1	3	1	-	-	-	1	-	-	-
C215.4	1	1	1	-	-	1	3	1	-	-	-	1	-	-	-
C215.5	1	1	1	-	-	1	3	1	-	-	-	1	-	-	-
C215 (Average)	1	1	1	-	-	1	3	1	-	-	-	1	-	-	-



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Course Code C216	Database Management Systems Laboratory	Subject Code CS8481
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CO No.	Course Outcomes
C216.1	Use typical data definitions and manipulation commands.
C216.2	Design applications to test Nested and Join Queries.
C216.3	Implement simple applications that use Views.
C216.4	Implement applications that require a Front-end Tool.
C216.5	Critically analyze the use of Tables, Views, Functions and Procedures

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C216.1	3	3	2	-	-	-	-	1	2	2	1	2	3	2	2
C216.2	3	3	2	-	-	-	-	2	2	2	1	2	2	2	2
C216.3	3	2	3	-	-	-	-	2	1	1	1	2	2	2	1
C216.4	3	2	2	-	-	-	-	2	1	1	1	2	2	2	2
C216.5	3	3	3	-	-	-	-	1	1	2	1	2	3	2	1
C216 (Average)	3	2.6	2.4	-	-	-	-	1.6	1.4	1.6	1	2	2.4	2	1.6



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Course Code C217	Operating Systems Laboratory	Subject Code CS8461
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CO No.	Course Outcomes
C217.1	Understand the basic concepts and functions of operating systems.
C217.2	Understand processes and threads Analyze various scheduling algorithms and concept of deadlock.
C217.3	Compare and contrast various memory management schemes.
C217.4	Understand the functionality of file systems.
C217.5	Perform administrative tasks on Linux Servers and compare iOS and Android operating systems.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C217.1	3	3	3	3	3	2	-	2	2	2	2	3	3	2	1
C217.2	3	3	3	3	3	2	-	2	2	2	2	3	3	2	1
C217.3	3	3	3	3	3	2	-	2	2	2	2	3	3	2	1
C217.4	3	3	3	3	3	2	-	2	2	2	2	3	3	2	1
C217.5	3	3	3	3	3	2	-	2	2	2	2	3	3	2	1
C217 (Average)	3	3	3	3	3	2	-	2	2	2	2	3	3	2	1

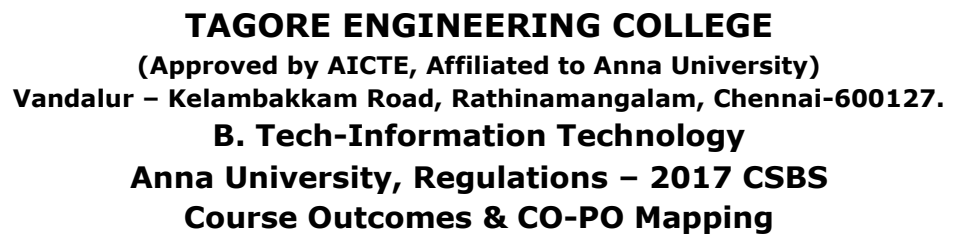


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Course Code C218	Advanced Reading and Writing	Subject Code HS8461
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CO No.	Course Outcomes
C218.1	Write different types of essays.
C218.2	Write winning job applications
C218.3	Read and evaluate texts critically.
C218.4	Display critical thinking in various professional contexts
C218.5	Develop students' critical thinking skills.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C218.1	-	-	-	1	-	-	-	-	3	3	1	2	-	-	-
C218.2	-	-	-	-	-	-	-	-	3	3	1	2	-	-	-
C218.3	-	-	-	-	-	-	-	-	3	3	1	2	-	-	-
C218.4	-	-	-	-	-	-	-	-	3	3	2	3	-	-	-
C218.5	-	-	1	-	-	-	-	-	3	3	2	2	-	-	-
C218 (Average)	-	-	1	1	-	-	-	-	3	3	1.4	2.2	-	-	-



Course Code C301	Algebra and Number Theory	Subject Code MA8551
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Course Code C302	Computer Networks	Subject Code CS8591
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CO No.	Course Outcomes
C302.1	Understand the basic layers and its functions in computer networks.
C302.2	Evaluate the performance of a network.
C302.3	Understand the basics of how data flows from one node to another.
C302.4	Analyze and design routing algorithms.
C302.5	Design protocols for various functions in the network.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C302.1	3	3	3	-	-	-	-	-	-	-	-	-	2	2	2
C302.2	3	2	3	-	-	-	-	-	-	-	-	-	2	2	1
C302.3	3	3	3	-	-	-	-	-	-	-	-	-	3	3	2
C302.4	3	3	2	-	-	-	-	-	-	-	-	-	2	2	1
C302.5	2	3	2	-	-	-	-	-	-	-	-	-	2	3	1
C302 (Average)	2.8	2.8	2.6	-	-	-	-	-	-	-	-	-	2.2	2.4	1.4



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Course Outcomes & CO-PO Mapping

Course Code C303	Microprocessors and Microcontrollers	Subject Code EC8691
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CO No.	Course Outcomes
C303.1	Understand and execute programs based on 8086 microprocessor
C303.2	Design Memory Interfacing circuits.
C303.3	Design and interface I/O circuits.
C303.4	Design and implement 8051 microcontroller based systems.
C303.5	Design interfacing microcontroller

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C303.1	3	1	2	-	2	-	-	-	-	-	-	2	2	2	1
C303.2	3	1	2	-	2	-	-	-	-	-	-	2	2	2	2
C303.3	3	1	2	-	2	-	-	-	-	-	-	2	2	2	2
C303.4	3	1	2	-	3	-	-	-	-	-	-	2	2	2	1
C303.5	3	1	2	-	2	-	-	-	-	-	-	2	2	2	1
C303 (Average)	3	1	2	-	2.2	-	-	-	-	-	-	2	2	2	1.4



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Course Outcomes & CO-PO Mapping

Course Code C304	Web Technology	Subject Code IT8501
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CO No.	Course Outcomes
C304.1	Design simple web pages using markup languages like HTML and XHTML.
C304.2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
C304.3	Program server side web pages that have to process request from client side web pages.
C304.4	Represent web data using XML and develop web pages using JSP.
C304.5	Understand various web services and how these web services interact.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C304.1	3	1	1	2	3	2	2	1	2	-	1	1	1	1	2
C304.2	3	2	3	2	3	2	2	1	2	-	1	1	1	1	2
C304.3	3	2	3	2	3	2	2	1	2	-	1	1	1	1	2
C304.4	3	2	3	2	3	2	2	1	2	-	1	1	1	1	2
C304.5	3	2	3	1	3	2	2	1	2	-	1	1	1	1	2
C304 (Average)	3	1.8	2.6	1.8	3	2	2	1	2	-	1	1	1	1	2



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Course Outcomes & CO-PO Mapping

Course Code C305	Software Engineering	Subject Code CS8494
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CO No.	Course Outcomes
C305.1	To understand the phases in a software project
C305.2	To understand fundamental concepts of requirements engineering and Analysis Modeling
C305.3	To understand the various software design methodologies
C305.4	To learn various testing and maintenance measures
C305.5	To make use of all concept in project development

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C305.1	2	2	1	2	2	-	-	-	-	1	1	1	3	3	2
C305.2	3	3	1	1	2	-	-	-	-	1	1	1	2	1	1
C305.3	3	3	2	1	2	-	-	-	-	1	1	1	2	2	2
C305.4	3	3	2	1	2	-	-	-	-	1	1	1	2	1	1
C305.5	2	2	2	2	2	-	-	-	-	1	1	1	2	2	2
C305 (Average)	2.6	2.6	1.6	1.4	2					1	1	1	2.2	1.8	1.6



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Course Outcomes & CO-PO Mapping

Course Code C306	Geographic Information System	Subject Code OCE552
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CO No.	Course Outcomes
C306.1	Have basic idea about the fundamentals of GIS.
C306.2	Understand the types of data models.
C306.3	Get knowledge about data input and topology
C306.4	Gain knowledge on data quality and standards.
C306.5	Explain the difference between simulator and Emulator

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C306.1	2	0	1	0	2	1	-	-	-	-	-	1	2	2	1
C306.2	2	1	2	2	3	1	-	-	-	-	-	1	1	1	1
C306.3	2	1	2	2	3	1	-	-	-	-	-	1	2	1	-
C306.4	2	1	2	0	3	1	-	-	-	-	-	1	1	1	-
C306.5	2	0	2	0	3	1	-	-	-	-	-	2	2	1	-
C306 (Average)	2	0.6	1.8	0.8	2.8	1	-	-	-	-	-	1.2	1.6	1.2	1



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Course Outcomes & CO-PO Mapping

Course Code C307	Microprocessors and Microcontrollers	Subject Code EC8681
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CO No.	Course Outcomes
C307.1	Students have the ability to Write ALP Programmes for fixed and Floating Point and Arithmetic operations.
C307.2	Students are able to Interface different I/Os with processor.
C307.3	Students are able to generate waveforms using Microprocessors.
C307.4	Students are able to execute Programs in 8051.
C307.5	Students are able to explain the difference between simulator and Emulator.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C307.1	3	1	2	-	2	-	-	-	-	-	-	2	2	2	1
C307.2	3	1	2	-	2	-	-	-	-	-	-	2	2	2	1
C307.3	3	1	2	-	2	-	-	-	-	-	-	2	2	2	1
C307.4	3	1	2	-	3	-	-	-	-	-	-	2	2	2	1
C307.5	3	1	2	-	2	-	-	-	-	-	-	2	2	2	1
C307 (Average)	3	1	2	-	2.2	-	-	-	-	-	-	2	2	2	1



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Course Outcomes & CO-PO Mapping

Course Code C308	Networks Laboratory	Subject Code CS8581
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CO No.	Course Outcomes
C308.1	Implement various protocols using TCP and UDP.
C308.2	Compare the performance of different transport layer protocols.
C308.3	Use simulation tools to analyze the performance of various network protocols
C308.4	Analyze various routing algorithms.
C308.5	Implement error correction codes.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C308.1	3	2	2	1	1	1	-	-	-	-	1	1	3	1	2
C308.2	2	2	3	2	2	1	-	-	-	-	1	2	2	1	1
C308.3	3	2	1	1	1	1	-	-	1	1	1	1	2	2	2
C308.4	3	1	2	2	1	1	-	-	1	1	2	1	2	2	1
C308.5	3	2	2	2	2	1	-	-	-	-	2	1	1	2	2
C308 (Average)	2.8	1.8	2	1.6	1.4	1	-	-	1	1	1.4	1.2	2	1.6	1.6



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Course Outcomes & CO-PO Mapping

Course Code C309	Web Technology Laboratory	Subject Code IT8511
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CO No.	Course Outcomes
C309.1	Design simple web pages using markup languages like HTML and XHTML.
C309.2	Create dynamic web pages using DHTML and java script that is easy to navigate and use.
C309.3	Program server side web pages that have to process request from client side web pages.
C309.4	Represent web data using XML and develop web pages using JSP.
C309.5	Understand various web services and how these web services interact.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C309.1	3	3	3	-	-	1	1	1	3	2	1	2	3	2	1
C309.2	3	3	3	-	-	1	1	1	3	2	1	2	3	2	1
C309.3	3	3	3	-	-	1	1	1	3	2	1	2	3	2	1
C309.4	3	3	3	-	-	1	1	1	3	2	1	2	3	2	1
C309.5	3	3	3	-	-	1	1	1	3	2	1	2	3	2	1
C309 (Average)	3	3	3	-	-	-	-	2	2	2	-	2	2	2	1



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Batch: 2019-2023
Academic Year: 2021 - 2022 (EVEN Semester)

Course Code
C310

Computational Intelligence

Subject Code
IT8601

CO No.	Course Outcomes
C310.1	Provide a strong foundation on fundamental concepts in Computational Intelligence and enable Problem-solving through various searching techniques.
C310.2	Apply computational techniques in applications which involve perception, reasoning and learning
C310.3	Apply Computational Intelligence techniques for information retrieval.
C310.4	Apply Computational technique primarily for machine learning.
C310.5	Apply applications of AI techniques in intelligent agents, expert systems, artificial neural networks and other machine learning models

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C310.1	3	3	3	2	1	-	-	-	-	-	1	1	3	2	2
C310.2	3	2	3	2	1	-	-	-	-	-	1	1	2	2	1
C310.3	3	3	3	1	1	-	-	-	-	-	2	1	3	3	2
C310.4	3	3	2	2	1	-	-	-	-	-	2	1	2	2	2
C310.5	2	3	2	1	1	-	-	-	-	-	1	1	2	3	2
C310 (Average)	2.8	2.8	2.6	1.6	1	-	-	-	-	-	1.4	1	2.4	2.4	1.8



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Course Outcomes & CO-PO Mapping

Course Code C311	Object Oriented Analysis and Design	Subject Code CS8592
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CO No.	Course Outcomes
C311.1	Explain OOAD concepts and various UML diagrams
C311.2	Select an appropriate design pattern
C311.3	Illustrate about domain models and conceptual classes
C311.4	Compare and contrast various testing techniques
C311.5	Construct projects using UML diagrams

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C311.1	3	3	-	-	3	2	1	-	-	-	3	2	1	2	2
C311.2	2	2	2	2	3	2	1	-	-	-	3	2	1	3	2
C311.3	2	2	-	-	3	2	1	-	1	1	-	2	1	3	2
C311.4	2	2	2	2	3	2	1	-	-	-	3	2	1	3	2
C311.5	2	2	2	2	3	2	1	-	-	-	3	2	1	3	2
C311 (Average)	2.2	2.2	2	2	3	2	1	-	1	1	3	2	1	2.8	2



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Course Outcomes & CO-PO Mapping

Course Code C312	Mobile Communication	Subject Code IT8602
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CO No.	Course Outcomes
C312.1	Explain the basics of mobile telecommunication system
C312.2	Illustrate the generations of telecommunication systems in wireless network
C312.3	Understand the architecture of Wireless LAN technologies
C312.4	Determine the functionality of network layer and identify a routing protocol for a given Ad hoc networks
C312.5	Explain the functionality of Transport and Application layer

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C312.1	3	2	2	2	3	2	2	-	-	2	-	-	1	2	1
C312.2	3	3	2	2	3	3	2	-	-	2	-	-	1	2	2
C312.3	3	2	2	2	3	2	2	-	-	2	-		1	2	1
C312.4	3	2	3	3	3	2	3	-	-	2	-	-	1	2	2
C312.5	3	3	2	2	3	2	2	-		2	-	-	1	2	2
C312 (Average)	3.0	2.4	2.2	2.2	3.0	2.2	2.2	-	-	2	-	-	1	2	1.6



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Course Outcomes & CO-PO Mapping

Course Code C313	Big Data Analytics	Subject Code CS8091
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CO No.	Course Outcomes
C313.1	Work with big data tools and its analysis techniques
C313.2	Analyze data by utilizing clustering and classification algorithms
C313.3	Learn and apply different mining algorithms and recommendation systems for large volumes of data
C313.4	Perform analytics on data streams
C313.5	Learn NoSQL databases and management

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C313.1	3	2	2	2	2	2	-	-	-	-	-	-	3	2	2
C313.2	3	2	2	2	3	2	-	-	-	-	-	-	3	2	2
C313.3	3	3	1	3	1	2	-	-	-	-	-	-	3	2	3
C313.4	3	2	2	2	1	1	-	-	-	-	-	-	3	2	1
C313.5	3	2	2	2	2	1	-	-	-	-	-	-	3	2	1
C313 (Average)	3	2.2	1.8	2.2	1.8	2	-	-	-	-	-	-	3	2	1.8



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Course Outcomes & CO-PO Mapping

Course Code C314	Computer Graphics and Multimedia	Subject Code CS8092
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CO No.	Course Outcomes
C314.1	Apply Illumination and color models
C314.2	Apply 2D transformations and design 2D graphics
C314.3	Apply 3D transformations and design 3D graphics
C314.4	Understand different types of multimedia applications.
C314.5	Understand Hypermedia, Design 3D shapes using Blender

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C314.1	3	2	1	-	1	1	-	1	1	-	-	1	2	1	1
C314.2	3	3	3	-	3	2	-	2	2	-	-	2	2	3	1
C314.3	3	3	3	-	3	2	-	2	2	-	-	2	2	3	1
C314.4	3	3	2	-	3	2	-	2	2	-	-	2	2	3	1
C314.5	3	3	2	-	3	2	-	2	2	-	-	2	2	3	1
C314 (Average)	3	2.8	2.2	-	2.6	1.8	-	1.8	1.8	-	-	1.8	2	2.6	1



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Course Outcomes & CO-PO Mapping

Course Code C315	Software Testing	Subject Code IT8076
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CO No.	Course Outcomes
C315.1	Design test cases suitable for a software development for different domains.
C315.2	Identify suitable tests to be carried out.
C315.3	Prepare test planning based on the document.
C315.4	Document test plans and test cases designed.
C315.5	Use of automatic testing tools.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C315.1	3	3	1	1	3	2	1	1	-	-	3	2	1	3	1
C315.2	2	2	2	2	3	2	1	1	-	-	3	2	1	3	1
C315.3	2	2	1	1	3	2	1	-	1	1	-	2	1	3	1
C315.4	2	2	2	2	3	2	1	1	-	-	3	2	1	3	1
C315.5	2	2	2	2	3	2	1	1	-	-	3	2	1	3	1
C315 (Average)	2.2	2.2	1.6	1.6	3	2	1	1	1	1	3	2	1	3	1



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Course Code C316	Mobile Application Development Laboratory	Subject Code IT8662
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CO No.	Course Outcomes
C316.1	Develop mobile applications using GUI and Layouts.
C316.2	Develop mobile applications using Event Listener.
C316.3	Develop mobile applications using Databases.
C316.4	Develop mobile applications using RSS Feed, Internal/External Storage, SMS, Multi-threading and GPS.
C316.5	Analyze and discover own mobile app for simple needs.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C316.1	3	2	3	1	1	-	-	-	-	1	-	-	3	2	3
C316.2	3	2	3	1	1	-	-	-	-	1	-	-	2	2	3
C316.3	3	2	3	1	1	-	-	-	-	1	-	-	2	3	2
C316.4	3	2	3	1	1	-	-	-	-	1	-	-	3	2	2
C316.5	3	2	3	1	1	-	-	-	-	1	-	-	3	3	2
C316 (Average)	3	2	3	1	1	-	-	-	-	1	-	-	2.6	2.4	2.4

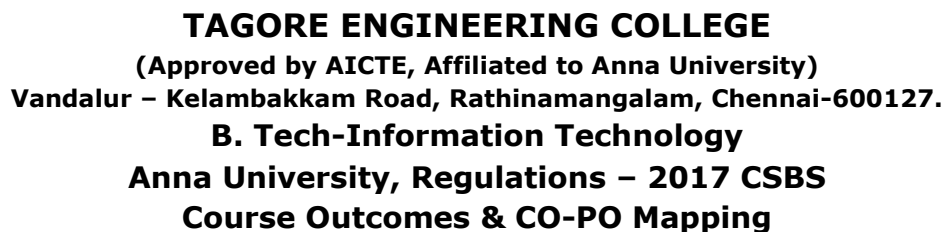


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Course Code C317	Object Oriented Analysis and Design	Subject Code CS8582
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CO No.	Course Outcomes
C317.1	Design and implement projects using OO concepts
C317.2	Use the UML analysis and design diagrams.
C317.3	Apply appropriate design patterns
C317.4	Create code from design.
C317.5	Compare and contrast various testing techniques.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C317.1	3	3	2	1	1	1	1	-	-	-	1	2	3	2	2
C317.2	3	3	2	2	1	1	1	-	-	-	1	2	2	2	1
C317.3	3	2	3	1	1	1	1	-	-	-	1	2	3	1	1
C317.4	3	3	2	2	1	1	1	-	-	-	2	2	2	1	2
C317.5	3	2	1	2	1	1	1	-	-	-	2	2	3	2	2
C317 (Average)	3	2.6	2	1.6	1	1	1	-	-	-	1.4	2	2.6	1.6	1.6



CO No.	Course Outcomes
C318.1	Apply the fundamental knowledge and skills, which are acquired within the technical area to a given problem as well as summarize list of literature review, analyze previous researcher's work and relate them to the project.
C318.2	Design engineering solutions to complex problems and conduct experiments, as well as analyze and interpret the data.
C318.3	Utilize technology tools for communication, collaboration, decision support and also demonstrate the knowledge, skills and attitudes of a professional engineer.
C318.4	Interact with team members in a professional manner, respecting differences, to ensure a collaborative project environment and also demonstrate a strong working knowledge of ethics.
C318.5	Document and present one's own work for a given target group with good oral and written presentation skills and also recognize the need for life-long learning by undergoing the project work

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C318.1	3	2	1	1	1	-	-	1	1	1	1	1	1	2	1
C318.2	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C318.3	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C318.4	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C318.5	3	2	1	1	2	-	-	1	1	1	1	1	1	2	1
C318 (Average)	3	2	1	1	1.8	-	-	1	1	1	1	1	1	2	1



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Course Code C319	Professional Communication	Subject Code HS8581
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CO No.	Course Outcomes
C319.1	Cultivate intercultural communication skills, to guide students in making appropriate and responsible decisions, to develop leadership traits and soft skills and to create a desire to fulfill individual goals and team goals.
C319.2	Help the learners acquire listening and speaking skills through lab based activities, and enable them to introduce themselves and make effective presentations.
C319.3	Guide learners to evaluate their thinking skills, acquire listening and speaking skills and enable them to involve in group participation.
C319.4	Teach various formats of interview, answering techniques, body language and paralinguistic skills.
C319.5	Clarify and prioritize learners' objectives and goals, to contribute and work as a team by creating more leadership opportunities.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C319.1	-	-	-	1	-	-	-	-	3	3	2	2	-	-	-
C319.2	-	-	-	-	-	-	-	-	2	3	3	3	-	-	-
C319.3	-	-	-	-	-	-	-	-	3	3	2	2	-	-	-
C319.4	-	-	-	-	-	-	-	-	3	3	2	2	-	-	-
C319.5	-	-	1	-	-	-	-	-	3	3	3	2	-	-	-
C319 (Average)	-	-	1	1	-	-	-	-	3	3	1.4	2.2	-	-	-



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Batch: 2019-2023
Academic Year: 2022 - 2023 (ODD Semester)

Course Code
C401

Principles of Management

Subject Code
MG8591

CO No.	Course Outcomes
C401.1	Outlines the evolution of Management concepts.
C401.2	Apply the functions and principles of planning process in management.
C401.3	Apply the different principles of organizing process in management.
C401.4	Understand the functions and principles of directing process in management.
C401.5	Understand the principles of controlling process in management.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C401.1	-	-	2	-	-	-	-	-	-	-	2	-	-	-	-
C401.2	-	-	2	-	-	1	-	-	-	-	3	-	-	-	-
C401.3	-	-	2	-	-	1	-	-	-	-	2	-	-	-	-
C401.4	-	-	2	-	-	2	-	2	2	2	2	-	-	-	-
C401.5	-	-	2	-	-	1	-	3	2	-	2	-	-	-	-
C401 (Average)	-	-	2	-	-	1.25	-	2.5	2	2	2.2	-	-	-	-



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Course Code C402	Cloud Computing	Subject Code CS8791
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CO No.	Course Outcomes
C402.1	Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
C402.2	Learn the key and enabling technologies that help in the development of cloud.
C402.3	Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models
C402.4	Be able to install and use current cloud technologies.
C402.5	Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C402.1	3	3	3	3	1	1	-	1	3	1	1	3	2	2	3
C402.2	3	3	3	3	2	2	-	2	2	2	2	3	2	2	3
C402.3	3	3	3	3	2	2	-	2	2	2	2	2	2	2	3
C402.4	3	3	3	3	2	2	-	2	2	2	2	2	2	2	3
C402.5	3	3	3	3	3	3	-	3	3	3	3	3	2	2	3
C402 (Average)	3	3	3	3	2	2	-	2	2.4	2	2	2.6	2	2	3



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Course Code C403	Cryptography and Network Security	Subject Code CS8792
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CO No.	Course Outcomes
C403.1	Understand various security trends and Cryptographic Techniques
C403.2	Interpret the functionalities of public key encryption and number theory concepts.
C403.3	Analyze the functions of authentication techniques and hashing.
C403.4	Learn network security tools and authentication applications.
C403.5	Understand the concepts of system level security, intruders and firewall standards.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C403.1	3	2	2	1	1	1	-	-	2	2	1	1	2	2	1
C403.2	2	1	2	2	1	1	-	-	1	2	1	2	2	2	1
C403.3	3	3	2	3	1	1	-	-	2	1	1	2	2	3	1
C403.4	3	2	2	2	2	1	-	-	2	2	1	2	2	2	1
C403.5	2	2	2	2	2	1	-	-	2	2	1	2	2	3	1
C403 (Average)	2.60	2.00	2.00	2.00	1.40	1.00	0.00	0.00	1.80	1.80	1.00	1.80	2.00	2.40	1.00



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Course Code C404	Supply Chain Management	Subject Code OME752
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CO No.	Course Outcomes
C404.1	Understanding the fundamental concepts of supply chain management
C404.2	Understand the framework and scope of Supply Chain Network Design
C404.3	Summarizing the role of logistics in supply chain management
C404.4	Explaining the concept of sourcing and coordination in supply chain management
C404.5	Understand the framework and scope of Supply Chain and Information Technology

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C404.1	2	1	1	1	-	2	2	2	1	1	1	2	1	2	2
C404.2	3	2	2	1	-	-	-	-	-	-	-	-	1	2	2
C404.3	3	2	2	1	-	2	2	2	1	1	1	2	1	2	2
C404.4	3	2	2	1	-	2	2	2	1	1	1	2	1	2	2
C404.5	2	1	1	1	-	2	2	2	1	1	1	2	1	2	2
C404 (Average)	2.6	1.6	1.6	1	-	2	2	2	1	1	1	2	1	2	2



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Course Code C405	PROFESSIONAL READINESS FOR INNOVATION, EMPLOYABILITY AND ENTREPRENEURSHIP	Subject Code HX8001
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CO No.	Course Outcomes
C405.1	Illustrate agile development process in real world problems
C405.2	Develop Career readiness competencies, Team Skills / Leadership qualities
C405.3	Develop Time Management, Project management skills and Communication Skills
C405.4	Use Critical Thinking for innovative Problem Solving
C405.5	Develop Entrepreneurship skills to independently work on products

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C405.1	3	2	2	1	-	2	2	2	2	2	2	1	1	1	1
C405.2	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
C405.3	3	3	3	2	2	2	2	2	2	2	2	1	2	2	2
C405.4	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
C405.5	3	3	3	3	2	2	2	2	2	2	2	1	2	2	2
C405 (Average)	3	2.8	2.8	2.4	2	2	2	2	2	2	2	1	1.8	1.8	1.8



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Course Code C406	Human Computer Interaction	Subject Code CS8079
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CO No.	Course Outcomes
C406.1	Sensitize the Engineering students to various aspects of Human Rights.
C406.2	classification of Rights
C406.3	Evolution of the concept of Human Rights Magana
C406.4	Theories and perspectives of UN Laws
C406.5	Human Rights in India – Constitutional Provisions

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C406.1	3	3	3	2	-	3	-	-	-	1	-	1	1	1	2
C406.2	3	3	3	2	-	3	-	-	-	1	-	1	1	1	2
C406.3	3	3	3	2	-	3	-	-	-	1	-	1	1	1	2
C406.4	3	3	3	2	-	3	-	-	-	1	-	1	1	1	2
C406.5	3	3	3	2	-	3	-	-	-	1	-	1	1	1	2
C406 (Average)	3	3	3	2	-	3	-	-	-	1	-	1	1	1	2



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Course Code C407	FOSS and Cloud Computing Laboratory	Subject Code IT8711
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CO No.	Course Outcomes
C407.1	Configure various virtualization tools such as Virtual Box, VMware
C407.2	Design and deploy a web application in a PaaS environment
C407.3	Learn how to simulate a cloud environment to implement new schedulers.
C407.4	Install and use a generic cloud environment that can be used as a private cloud.
C407.5	Manipulate large data sets in a parallel environment.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C407.1	3	3	3	-	3	-	-	3	3	2	-	2	3	2	2
C407.2	3	3	3	-	2	-	-	3	3	2	-	2	3	2	1
C407.3	3	3	3	-	2	-	-	3	3	2	-	2	3	2	2
C407.4	3	3	3	-	2	-	-	3	3	2	-	2	3	2	2
C407.5	3	3	3	-	2	-	-	3	3	2	-	2	3	2	1
C407 (Average)	3	3	3	-	2.2	-	-	3	3	2	-	2	3	2	1.6



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Course Code C408	Security Laboratory	Subject Code IT8761
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CO No.	Course Outcomes
C408.1	Develop programs in classical cipher techniques.
C408.2	Create a design of modern cipher algorithms.
C408.3	Gain knowledge about network security tools.
C408.4	Install root kits for security.
C408.5	Demonstrate the network security system using open source tools

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C408.1	3	2	3	2	2	2	-	2	3	3	-	2	1	2	1
C408.2	3	2	3	2	2	2	-	2	3	3	-	2	1	2	1
C408.3	3	2	3	2	2	2	-	2	3	3	-	2	1	2	1
C408.4	3	2	3	2	2	2	-	2	3	3	-	2	1	2	1
C408.5	3	2	3	2	2	2	-	2	3	3	-	2	1	2	1
C408 (Average)	3	2	3	2	2	2	-	2	3	3	-	2	1	2	1



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Batch: 2019-2023
Academic Year: 2022 - 2023 (EVEN Semester)

Course Code
C409

Professional Ethics in Engineering

Subject Code
GE8076

CO No.	Course Outcomes
C409.1	Apply ethics, morals and human values in society.
C409.2	Explain about engineering ethics.
C409.3	Realize the responsibilities of engineers as experimenters.
C409.4	Recognize the safety, risks, risk benefit analysis and rights of an engineer.
C409.5	Discuss the importance of the global issues, moral leadership and code of conduct.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C409.1	-	-	-	-	-	1	-	3	3	2	-	3	-	-	-
C409.2	-	-	-	-	-	-	2	3	2	2	-	1	-	-	-
C409.3	-	-	-	-	-	-	-	3	-	1	-	-	-	-	-
C409.4	-	-	-	-	-	3	1	3	2	-	-	3	-	-	-
C409.5	-	-	-	-	-	2	2	3	1	1	-	2	-	-	-
C409 (Average)	-	-	-	-	-	2.0	1.7	3.0	2.0	1.5	-	2.3	-	-	-



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Course Code C410	Information Retrieval Techniques	Subject Code CS8080
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CO No.	Course Outcomes
C410.1	Use an open-source search engine framework and explore its capabilities
C410.2	Apply information retrieval models
C410.3	Apply appropriate method of text classification and clustering.
C410.4	Design and implement innovative features in a search engine.
C410.5	Implement different techniques of recommender system.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C410.1	3	2	3	2	2	1	-	-	-	-	1	1	3	2	2
C410.2	2	2	3	2	1	1	-	-	-	-	1	1	2	3	1
C410.3	3	1	2	2	1	2	-	-	-	-	1	1	3	2	2
C410.4	3	2	2	2	1	1	-	-	-	-	1	1	2	2	1
C410.5	3	1	2	2	1	1	-	-	-	-	1	1	2	1	2
C410 (Average)	2.8	1.6	2.4	2	1.2	1.2	-	-	-	-	1	1	2.4	2	1.6



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Course Code C411	Project Work	Subject Code IT8811
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CO No.	Course Outcomes
C411.1	The students will be able to apply the fundamental knowledge and skills, which are acquired within the technical area, to a given problem
C411.2	The students will be able to identify and summarize an appropriate list of literature review, analyze previous researchers' work and relate them to the project
C411.3	The students will be able to design engineering solutions to complex problems in a systematic approach.
C411.4	The students will be able to apply research and conduct experiments, as well as to analyze and interpret data that yield the results and answer important applicable research questions.
C411.5	The students will be able to utilize technology tools for communication, collaboration, information management, and decision support.

Course Outcomes (CO)	Program Outcomes (PO)												PSO		
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
C411.1	3	2	3	2	2	-	-	-	-	-	-	-	1	2	1
C411.2	3	2	3	2	2	-	-	-	-	-	-	-	1	2	1
C411.3	3	1	3	2	2	-	-	-	-	-	-	-	1	2	2
C411.4	3	1	3	2	2	-	-	-	-	-	-	-	1	2	1
C411.5	3	2	3	2	2	-	-	-	-	-	-	-	1	2	1
C411 (Average)	3	1.6	3	2	2	-	-	-	-	-	-	-	1	2	1.2