Netaji Subhas Institute of Technology, Bihta, Patna
Bihar Engineering University
B. Tech.
DEPARTMENT OF
Computer science and engineering

SEMESTER-01

100103-Chemistry

LIST OF COURSE OUTCOMES

CO1	Analyse microscopic chemistry in terms of atomic and molecular orbitals and intermolecular forces .
CO2	Rationlise bulk properties and processes using thermodynamic considerations.
CO3	Analyze hardness of water for industrial and domestic applications .
CO4	Distinguish the ranges of the electromagnetic spectrum used exciting different molecular energy levels in various spectroscopic techniques .
CO5	learn periodic properties such as ionisation potential, electronegativity, oxidation state, electron affinities.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	0	1	1	1	0	0	3	0	1	0	1	2	3	2
C02	1	1	1	1	1	0	1	3	1	1	0	1	2	3	2
C03	1	1	0	1	0	0	0	0	0	0	1	0	2	3	2
C04	2	1	1	1	0	3	0	3	0	1	1	0	2	3	3
C05	0	1	0	1	2	0	0	0	0	1	0	0	2	3	3

CO-PO ATTAINMENT															
Average	0.87	0.58	0.43	0.72	0.58	0.43	0.14	1.3	0.14	0.58	0.29	0.29	1.44	2.17	1.73

105102-Mathematics - I (Calculus and Linear Algebra)

LIST OF COURSE OUTCOMES

CO1	Learn properties of real line and learn the concept of limit, continuity, differentiability of a real valued function and how to expand a function
CO2	Understand the basics of Gamma and Beta function and Riemann integral for computing area, volume, mass etc.
CO3	Solve a function in powers of independent variable; its properties and Fourier series.
CO4	Apply theory of Matrices and its applications.
CO5	Describe about the maxima and minima of two variables using Lagrange's multiplier, tangent and normal plane.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	3	1	2	1	0	1	0	0	1	2	0	0	0	0
C02	3	3	1	3	2	0	0	0	0	1	0	0	0	0	0
C03	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
C04	3	3	2	2	2	3	1	0	0	0	2	0	0	0	0
C05	3	3	1	2	2	0	2	0	0	0	2	0	0	0	0

CO-PO ATTAINMENT															
Average	1.76	1.64	0.63	1.13	0.88	0.38	0.5	0	0	0.25	0.76	0	0	0	0

100106-ENGLISH

LIST OF COURSE OUTCOMES

CO 1	Ability to communicate effectively and write and present properly.
CO 2	Ability to work individually and in intra disciplinary and multidisciplinary teams
CO 3	Recognition of the need for lifelong learning and to access information as well as development in science and technology
CO 4	Knowledge of project management, risk management, innovation and change management, entrepreneurship and sustainable development
CO 5	Ability to identify, define, formulate and solve complex engineering problems as well as electing and applying appropriate analysis and

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	2	1	1	2	0	2	3	1	1	2	2	1	3	3
C02	0	1	1	2	1	0	0	0	0	1	0	1	2	2	2
C03	3	2	1	0	2	0	0	0	0	1	1	1	2	2	2
C04	1	2	1	2	2	3	1	0	1	1	2	2	1	1	3
C05	2	2	1	1	0	0	0	0	0	0	2	2	2	1	1
C06	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CO-PO ATTAINMENT															
Average	1.3	1.3	0.72	0.87	1.01	0.43	0.43	0.43	0.29	0.58	1.01	1.16	1.16	1.3	1.59

100104-PROGRAMMING FOR PROBLEM SOLVING

LIST OF COURSE OUTCOMES

CO1	Students will be able to develop simple applications in C using basic constructs
CO2	Students will be able to design and implement applications in C using Arrays and Strings
CO3	Students will be able to design and implement applications in C using Functions and Pointers
CO4	Students will be able to develop applications in C using Structures

CO5	Students will be able to design applications using sequential and random access file processing.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	0	1	0	0	0	0	0	0	0	2	3	1	2
C02	3	2	3	1	1	0	0	0	0	0	0	1	2	1	2
C03	2	3	0	1	1	0	0	0	0	0	0	2	3	1	2
C04	3	3	2	1	1	0	0	0	0	0	0	2	2	1	3
C05	3	3	0	1	2	0	0	0	0	0	0	1	3	1	3

CO-PO ATTAINMENT															
Average	2.02	2.02	0.72	0.72	0.72	0	0	0	0	0	0	1.16	1.88	0.72	1.73

100105-WORKSHOP MANUFACTURING PRACTICE

LIST OF COURSE OUTCOMES

CO1	Understand different types of manufacturing techniques, their advantages with their economic,socail and sustainable aspects.
CO2	Apply principal of fundamental and advanced mathematics, basic science and engineering, statistical techniques to calculate process parameters and design
CO3	Compare, analyze, document and present various traditional workshop manufacturing processes as well as modern manufacturing tools.

CO4	Analyze alternative design as well as economic aspects of a given manufacturing process
CO5	Identify emerging technologies and make students aware of them for their continuous professional growth by bridging knowledge about emerging

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	0	1	2	2	2	0	1	1	2	3	1	0	0
C02	3	3	2	2	3	3	1	3	0	1	0	0	2	0	0
C03	2	2	2	2	2	0	0	0	0	3	1	2	0	1	0
C04	0	1	2	2	1	0	0	0	0	1	3	0	0	2	0
C05	0	2	1	1	1	0	0	0	0	1	1	2	0	1	0

CO-PO ATTAINMENT															
Average	1.01	1.3	1.01	1.16	1.3	0.72	0.43	0.43	0.14	1.01	1.01	1.01	0.43	0.58	0

100105(P)-WORKSHOP MANUFACTURING PRACTICES(Practical)

LIST OF COURSE OUTCOMES

CO1	Understand the appropriate conventional and modern tools, materials, instruments required for specific operations with their limitations in workshop.

CO2	Identify , develop and improve practical skills in various machining operations and safety consciousness and show team work.
CO3	Design ,anlayze ,create and inspect an object in workshop using various machine and hand tool available in different shops such as fitting , carpentary
CO4	Apply different conventional and advanced manufacturing techniques and measuring instruments for making a job with help of laws of basic science
CO5	Discriminate and develop various sustainable,ethical and cost-effective solutions for real engineering problems using machine and equipments in

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	1	1	1	1	2	0	0	0	0	1	0	1	1	0	0
C02	1	2	1	2	2	2	0	2	3	1	1	2	2	0	0
C03	2	1	1	2	2	0	1	0	1	3	1	0	0	1	0
C04	3	1	2	2	1	0	0	0	0	1	2	2	0	2	0
C05	2	2	1	1	1	0	3	3	0	0	2	1	0	1	0

CO-PO ATTAINMENT															
Average	1.32	1.03	0.88	1.17	1.17	1.47	1.47	1.83	1.47	1.1	1.1	1.1	1.1	0.98	0

100106P-ENGLISH LANGUAGE LAB

LIST OF COURSE OUTCOMES

CO1	Identify common errors in spoken and written communication
CO2	Get familiarized with English vocabulary and language proficiency
CO3	Improve nature and style of sensible writing, acquire employment and workplace communication skills.
CO4	Improve their Technical Communication Skills through Technical Reading and Writing practices.
CO5	Perform well in campus recruitment, engineering and all other general competitive examinations

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	2	1	1	2	2	0	0	2	2	2	2	0	0	0
C02	0	2	1	3	2	2	1	0	1	2	1	1	0	0	0
C03	2	1	1	0	2	2	1	0	0	1	1	0	0	0	0
C04	1	1	2	2	2	2	1	0	1	1	2	2	0	0	0
C05	2	2	1	2	0	2	1	0	0	1	2	2	0	0	0
C06	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CO-PO ATTAINMENT															
Average	1.16	1.16	0.87	1.16	1.16	1.44	0.58	0	0.58	1.01	1.16	1.01	0	0	0

100103P-CHEMISTRY LAB

LIST OF COURSE OUTCOMES

CO1	Explain various methods of volumetric analysis i.e. Redox, Iodometric, complexometric , Neutralization etc. and use of conductivity meter for measurement of conductance of water sample.
CO2	Apply the use of internal and external indicators and their comparison for redox titrations and mechanisms of iodometric titrations and use of double indicator method in a single titration.
CO3	Estimate the % values of moisture, volatile matter, ash and carbon of fuel by Proximate analysis and instrument handling.
CO4	Analyse the properties of lubricants viz. Flash & fire point, viscosity, cloud & pour point and their significance.
CO5	Explain synthetic technique of drug like Aspirin, Paracetamol etc.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	0	0	0	0	0	0	0	0	1	3	3	3	3
C02	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3
C03	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3
C04	3	3	3	0	2	0	0	0	0	0	3	3	3	1	3
C05	3	3	0	0	0	0	0	0	0	0	3	3	3	1	2

CO-PO ATTAINMENT															
Average	2.17	1.88	1.3	0	0.87	0	0	0	0	0	1.88	2.17	2.17	1.59	2.02

100104P-PROGRAMMING FOR PROBLEM SOLVING LAB

LIST OF COURSE OUTCOMES

CO 1	Students will be able to develop C programs for simple applications making use of basic constructs
CO 2	Students will be able to develop C programs for simple applications using Arrays and Strings
CO 3	Students will be able to develop C programs involving Functions, Recursion, and Pointers.
CO 4	Students will be able to develop C programs involving Structures
CO 5	Students will be able to design applications using sequential and random access file processing.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	0	1	1	0	2	0	0	0	0	2	0	0	0	0
C02	0	0	1	1	0	2	0	0	0	0	2	0	0	0	0
C03	0	0	1	1	0	2	1	0	0	1	2	0	0	0	0
C04	0	0	1	1	0	2	1	0	0	1	2	0	0	0	0
C05	0	0	1	1	0	2	1	0	0	1	2	0	0	0	0

CO-PO ATTAINMENT

Average	0.29	0	0.72	0.72	0	1.44	0.43	0	0	0.43	1.44	0	0	0	0

SEMESTER-02

105201-Physics (Semiconductor Physics and Introduction to Quantum Mechanics)

LIST OF COURSE OUTCOMES

CO1	Learn the concept of formation of energy bands and to classify solids on its basis.
CO2	Study of material properties and their applications is the prime role to understand and use in engineering applications.
CO3	To undersatnd the concept, properties of LED, LASERs, photodetectors and their applications
CO4	Explain fundamentals of quantum mechanics and to understand the difference in particle and wave nature with explanation of Schrodinger wave equation
CO5	Study of material properties and their applications and also understand solids on the basis of band theory.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	2	1	2	0	1	0	0	1	0	0	0	0	0
C02	2	2	2	2	2	0	1	0	0	1	0	0	0	0	0

C03	2	2	2	1	2	0	1	0	0	1	0	0	0	0	0
C04	3	2	2	2	2	0	1	0	0	1	0	0	0	0	0
C05	3	3	3	2	2	0	1	0	0	1	0	0	0	0	0

CO-PO Attainment															
Average	1.88	1.44	1.59	1.16	1.44	0	0.72	0	0	0.72	0	0	0	0	0

105202-Mathematics - II (Probability and Statistics)

LIST OF COURSE OUTCOMES

CO1	Learn about the probability spaces, conditional and independent probabilities,; Poisson approximation; Bernoulli trials their expectations
CO2	Study continuous random variable; Normal, Exponential and Gamma Densities
CO3	Analyse Bivariate distributions and their properties.
CO4	Describe measure of Central tendency: Moments, Skewness, kurtosis, Correlation and regression.
CO5	Discuss curve fitting by the method of least squares; Fitting of straight lines, Parabolas and general curves; test for single mean, difference of

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03

C01	2	3	1	2	1	0	1	0	0	1	2	0	0	0	0
C02	3	3	1	3	2	0	0	0	0	1	0	0	0	0	0
C03	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0
C04	3	3	2	2	2	3	1	0	0	0	2	0	0	0	0
C05	3	3	1	2	2	0	2	0	0	0	2	0	0	0	0

CO-PO Attainment															
Average	0.16	0.14	0.06	0.1	0.08	0.03	0.04	0	0	0.02	0.07	0	0	0	0

100202-ENGINEERING GRAPHICS & DESIGN

LIST OF COURSE OUTCOMES

CO1	Apply the concept of drawing in practical applications
CO2	Draw the projection of points, lines and planes
CO3	Classify solids and projection of solids at different positions
CO4	Show sectioned view of solids and development of surfaces
CO5	Discuss about conics and orthographic views , isometric view of engineering components.
CO6	Understand the basic AUTOCAD commands and other emerging designing tools.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	1	0	2	1	0	1	1	0	2	1	0	0
C02	1	1	1	1	2	0	0	0	1	1	0	0	2	0	0
C03	0	1	1	1	1	0	0	0	0	1	0	0	0	2	0
C04	0	1	1	1	0	0	0	0	1	1	0	0	0	2	0
C05	0	0	1	1	1	0	1	0	1	1	2	1	0	1	0

CO-PO Attainment															
Average	0.43	0.58	0.72	0.87	1.01	0.29	0.29	0.29	0.58	0.87	0.29	0.58	0.43	0.72	0

100201-BASIC ELECTRICAL ENGINEERING

LIST OF COURSE OUTCOMES

CO1	Students are able to examine and execute the basic concepts of AC and DC electric circuit and its behaviour.
CO2	Students are capable of analysing the fundamental ideas behind magnetic circuits, including their definition, magnetic hysteresis phenomena, B-H curve,
CO3	Students are capable of applying the essential ideas and definitions of AC circuits, including single-phase, three-phase, RC and RLC circuits, and star and
CO4	To identify the different kinds of single-phase transformers and to compute efficiency, losses, and regulations
CO5	To analyze the performance characteristics of DC and AC electrical machines.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	1	2	0	2	2	0	0	1	0	1	0	0	0
C02	2	2	1	3	0	2	2	0	0	1	1	1	0	0	0
C03	3	3	1	0	0	2	3	0	0	1	1	1	0	0	0
C04	3	3	2	3	0	2	3	0	0	1	2	3	0	0	0
C05	3	3	1	2	0	2	3	0	0	1	2	3	0	0	0

CO-PO Attainment															
Average	2.02	2.02	0.87	1.44	0	1.44	1.88	0	0	0.72	0.87	1.3	0	0	0

100202(P)-ENGINEERING GRAPHICS & DESIGN(Practical)

LIST OF COURSE OUTCOMES

CO1	Get acquainted with the knowledge of various lines, geometrical constructions and construction of various kinds of scales, and Ellipse.
CO2	Improve their imagination skills by gaining knowledge about points, lines and planes.
CO3	Become proficient in drawing the projections of various solids.

CO4	Gain knowledge about orthographic and isometric projections.
CO5	Development of surface of different kind of solid.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	1	0	2	1	0	1	1	0	2	1	0	0
C02	1	1	1	1	2	0	0	0	1	1	0	0	2	0	0
C03	0	1	1	1	1	0	0	0	0	1	0	0	0	1	0
C04	0	1	1	1	0	0	0	0	1	1	0	0	0	2	0
C05	0	0	1	1	1	0	1	0	1	1	2	1	0	1	0

CO-PO Attainment															
Average	1.5	1	1	1	1.75	2	1	2	1	1	2	1.33	1.5	1.33	0

100201P-Basic Electrical Engineering lab

LIST OF COURSE OUTCOMES

CO1	Get an exposure to basic electrical laws.

CO2	Understand the response of different types of electrical circuits to different excitations.
CO3	Understand the measurement,calculation and relation between the basic electrical parameters.
CO4	Understand the the basic magnetic circuit.
CO5	Understand the the basic characteristics of transformer and electrical machines.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	1	2	0	2	0	0	0	1	0	1	0	0	0
C02	2	2	1	3	0	2	1	0	0	1	1	1	0	0	0
C03	3	3	1	0	0	2	1	0	0	1	1	1	0	0	0
C04	3	3	2	3	0	2	1	0	0	1	2	3	0	0	0
C05	0	0	1	2	0	2	1	0	0	1	2	3	0	0	0

CO-PO Attainment															
Average	1.83	1.83	1	1.67	0	1.67	0.67	0	0	0.83	1	1.5	0	0	0

105201P-Physics Lab (Semiconductor physics and Introduction to Quantum Mechanics)

LIST OF COURSE OUTCOMES

CO1	To observe the I-V characteristic of pn junction diode and calculate the dynamic resistance.
CO2	To determine the I-V characteristic of Zener diode and calculate the Zener voltage.
CO3	To determine the energy band gap of a given semiconductor material.
CO4	Students will understand how to find out threshold voltage and calculate Planck's constant using various LEDs.
CO5	Determine the frequency of alternating current using sonometer and they will be able to relate the tension of the wire, linear density of the

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	2	1	2	0	2	2	0	1	1	1	0	0	0	0
C02	2	2	1	2	0	2	2	0	1	1	1	0	0	0	0
C03	2	2	1	2	0	2	2	0	1	1	0	0	0	0	0
C04	2	2	1	2	0	2	2	0	1	1	0	0	0	0	0
C05	2	2	1	2	0	2	2	0	1	1	0	0	0	0	0

CO-PO Attainment															
Average	1.67	1.67	0.83	1.67	0	1.67	1.67	0	0.83	0.83	0.33	0	0	0	0

SEMESTER-03

100313-OOPs using C++

LIST OF COURSE OUTCOMES

C01	Understand the concept the class, object, inheritance and polymorphism.
C02	Apply overload operators in C++.
C03	Understand the difference between function overloading and function over riding.
C04	Incorporate exception handling in object oriented programs.
C05	Able to use template classes.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	1	0	0	0	0	0	0	1	2	2	3	2
C02	2	1	0	1	0	0	0	0	0	0	1	2	2	3	2
C03	2	1	0	1	0	0	0	0	0	0	1	2	2	3	2
C04	2	1	1	1	3	0	0	0	0	0	1	2	2	3	3
C05	2	1	1	1	3	0	0	0	0	0	1	2	2	3	3

CO-PO Attainment

Average	1.44	0.72	0.43	0.72	0.87	0	0	0	0	0	0.72	1.44	1.44	2.17	1.73

100304-DATA STRUCTURE

LIST OF COURSE OUTCOMES

CO1	Students will be able to Implement abstract data types for linear data structures.
CO2	Students will be able to Analyze various Stack and queue operations.
CO3	Students will be able to Execute different linear data structures methods trees to problem solutions.
CO4	Students will be able to Apply the different non-linear data structures Graphs to problem solutions.
CO5	Students will be able to Critically analyze the various sorting and hashing algorithms.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	0	0	0	0	0	0	0	2	2	3	3	3
C02	3	3	1	0	0	0	0	0	0	0	2	2	3	3	3
C03	3	3	1	0	0	0	0	0	0	0	2	2	3	3	3
C04	3	3	1	0	0	0	0	0	0	0	2	2	3	3	3
C05	3	3	1	0	0	0	0	0	0	0	2	2	3	3	3

CO-PO Attainment															
Average	2.17	2.17	1.01	0	0	0	0	0	0	0	1.44	1.44	2.17	2.17	2.17

100314-TECHNICAL WRITING

LIST OF COURSE OUTCOMES

CO1	Students will be able to Read and evaluate different text genres
CO2	Students will be able to Develop critical thinking inclined with the text
CO3	Students will be able to Write different types of essays.
CO4	Students will be able to Adapt technical writing skills.
CO5	Students will be able to Enhance the qualities of advanced writing.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	0	1	1	2	0	2	1	0	3	3	1	2	2	1	0
C02	0	2	1	1	0	0	2	2	3	3	1	3	3	1	0
C03	0	1	1	1	0	2	1	0	3	3	0	3	2	1	0
C04	0	2	1	2	0	0	2	3	3	3	1	2	3	1	0
C05	0	3	1	2	0	2	0	3	3	3	1	3	2	1	0

CO-PO Attainment															
Average	0	1.3	0.72	1.16	0	0.87	0.87	1.16	2.17	2.17	0.58	1.88	1.73	0.72	0

100311-MATHEMATICS -III (Calculus and Linear Algebra)

LIST OF COURSE OUTCOMES

CO1	Apply the concept of sucssisive differentiation and Leibnitz theorem, limit continuity and Differentiability of function
CO2	Discuss partial differentiation and apply Eulers Theorem for homogeneous function .
CO3	Study linear and non-linear partial differential equations of first and higher order.
CO4	Solution of integration of vector functions using green, gauss and stokes theorem.
CO5	Understand the applications of power series solution, legender polynomials and Bessel's Function.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	3	1	2	1	0	1	0	0	1	2	0	0	0	0
C02	3	3	1	3	2	0	0	0	0	1	1	0	0	0	0
C03	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
C04	3	3	2	2	2	3	1	0	0	0	1	0	0	0	0

C05	3	3	1	2	2	0	2	0	0	0	2	0	0	0	0

CO-PO Attainment															
Average	1.88	1.73	0.72	1.3	1.01	0.43	0.58	0	0	0.29	0.87	0	0	0	0

110302-Analog Electronics Circuits

LIST OF COURSE OUTCOMES

CO1	Study the fundamentals of analog electronics circuits.
CO2	Analyze input and output characteristics of transistors.
CO3	To study the various differential amplifiers and their frequency response and applications.
CO4	To study equivalent circuit models of diodes and transistors
CO5	Study linear and nonlinear applications of op-amp.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	0	0	0	0	0	0	0	0	2	0	0	0
C02	2	2	1	0	1	0	0	0	0	1	0	2	0	0	0
C03	2	2	1	0	1	0	0	0	0	1	0	2	0	0	0
C04	2	2	1	0	0	0	0	0	0	1	0	2	0	0	0

C05	2	1	1	0	2	0	0	0	0	1	0	2	0	0	0

CO-PO Attainment															
Average	1.73	1.39	0.87	0	0.69	0	0	0	0	0.69	0	1.73	0	0	0

100302P-Analog Electronics Circuits Lab

LIST OF COURSE OUTCOMES

CO1	Analyze the characteristics of semiconductor devices.
CO2	Analyze the frequency response of BJT.
CO3	implement adder and scalar circuits using Operational amplifier.
CO4	Practice different types of wiring and instruments connections keeping in mind technical, Economical, safety issues.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	2	0	3	2	0	1	0	0	1	1	3	0	0	0
C02	2	2	0	3	2	0	1	0	0	1	1	3	0	0	0
C03	2	2	0	3	2	0	1	0	0	1	1	3	0	0	0
C04	2	1	1	1	2	2	1	0	1	1	1	2	0	0	0

C05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

CO-PO Attainment															
Average	1.33	1.17	0.17	1.67	1.33	0.33	0.67	0	0.17	0.67	0.67	1.83	0	0	0

100304P-DATA STRUCTURE LAB

LIST OF COURSE OUTCOMES

CO1	Students will be able to Enumerate functions to implement linear and non-linear data structure operations,
CO2	Students will be able to Design and develop appropriate linear / non-linear data structure operations for solving a given problem
CO3	Students will be able to Design new solutions for programming problems or improve existing code using learned algorithms and data structures
CO4	Students will be able to Apply the linear / non-linear data structure operations for a given problem based on the user needs
CO5	Students will be able to Use appropriate hash functions that result in a collision free scenario for data storage and retrieval

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	0	0	0	0	0	0	0	0	1	3	3	3	3
C02	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3
C03	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3
C04	3	3	3	0	2	0	0	0	0	0	3	3	3	1	3

C05	3	3	0	0	0	0	0	0	0	0	3	3	3	1	2

CO-PO Attainment															
Average	2.5	2.17	1.5	0	1	0	0	0	0	0	2.17	2.5	2.5	1.83	2.33

100313P-OOPS USING C++ LAB

LIST OF COURSE OUTCOMES

CO1	Creating simple programs using classes and objects in C++.
CO2	Implement Object Oriented Programming Concepts in C++
CO3	Develop applications using stream I/O and file I/O.
CO4	Implement simple graphical user interfaces.
CO5	Implement Object Oriented Programs using templates and exceptional handling concepts.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	0	0	0	0	0	0	0	0	1	3	3	3	3
C02	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3
C03	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3

C04	3	3	3	0	2	0	0	0	0	0	3	3	3	1	3
C05	3	3	0	0	0	0	0	0	0	0	3	3	3	1	2

CO-PO Attainment															
Average	2.17	1.88	1.3	0	0.87	0	0	0	0	0	1.88	2.17	2.17	1.59	2.02

100510P-ENTERPRENEURSHIP

LIST OF COURSE OUTCOMES

CO1	~~Students will be able to identify and present the objective and~~ the work done during training
CO2	The students will be able to analyse a given engineering problem, identify an
CO3	The students will be able to apply prior acquired knowledge in problem solving.
CO4	The students will be able to take initiatives, communicate, work in a team and
CO5	Student is able to determine the challenges and future potential for his / her internship organization in particular and the sector in general.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	0	0	0	0	0	0	0	0	1	3	3	3	3
C02	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3

C03	3	3	3	0	2	0	0	0	0	0	3	3	3	3	3
C04	3	3	3	0	2	0	0	0	0	0	3	3	3	1	3
C05	3	3	0	0	0	0	0	0	0	0	3	3	3	1	2

CO-PO Attainment															
Average	2.5	2.17	1.5	0	1	0	0	0	0	0	2.17	2.5	2.5	1.83	2.33

SEMESTER-04

105403-OPERATING SYSTEM

LIST OF COURSE OUTCOMES

CO1	Students will be able to Gain knowledge about basic concepts and functions of operating system
CO2	Students will be able to Analyse various scheduling algorithms and understand deadlock prevention and avoidance algorithm
CO3	Students will be able to Compare and contrast various memory management schemes
CO4	Students will be able to Understand the functionality of file systems
CO5	Students will be able to Perform administrative tasks on linux servers and compare ios and android operating systems

CO –PO-PSO MAPPING

Mapping

	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	2	0	0	0	0	0	0	0	0	0	1	3	3	3
C02	3	3	2	0	0	0	0	0	0	0	1	1	3	3	3
C03	2	3	1	0	0	0	0	0	0	0	0	1	3	3	3
C04	3	3	1	0	0	0	0	0	0	0	1	2	3	3	3
C05	3	3	2	0	0	0	0	0	0	0	1	2	3	3	3

CO-PO Attainment															
Average	2.02	2.02	0.87	0	0	0	0	0	0	0	0.43	1.01	2.17	2.17	2.17

100403-Digital Electronics

LIST OF COURSE OUTCOMES

CO1	Convert different type of codes and number systems which are used in digital communication and computer systems.
CO2	Employ the codes and number systems converting circuits and compare different types of logic families which are the basic unit of different types of logic gates in the domain of
CO3	Analyze different types of digital electronic circuit using various mapping and logical tools and know the techniques to prepare the most simplified circuit using various mapping and
CO4	Design different types of with and without memory element digital electronic circuits for particular operation, within the realm of economic, performance, efficiency, user friendly
CO5	To understand FPGA, PLA,PAL,CPLD

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	2	2	3	2	2	3	2	1	3	1	2	3
C02	3	1	1	0	2	2	2	0	2	1	1	3	2	2	3
C03	2	2	1	1	2	0	0	3	2	2	1	3	3	3	3
C04	3	3	3	2	2	3	1	2	1	2	1	3	3	2	3
C05	3	3	3	2	2	3	2	2	2	1	0	3	3	2	3

CO-PO Attainment															
Average	2.02	1.73	1.59	1.01	1.44	1.59	1.01	1.3	1.44	1.16	0.58	2.17	1.73	1.59	2.17

100404-DESCRETE MATHEMATICS

LIST OF COURSE OUTCOMES

CO1	For a given logic sentence express it in terms of predicates, quantifiers, and logical connectives.
CO2	For a given problem derive the solution using deductive logic and prove the solution based on logical interfence
CO3	For a given a mathematical problem classify its algebraic structure
CO4	Evalutate Boolean function and simplify expression using the properties of Boolean algebra
CO5	Develop the given problem as graph networks and solve with techniques of graph theor

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	3	1	2	2	0	2	0	0	1	2	0	0	0	0
C02	2	3	2	3	2	2	1	0	0	1	0	1	0	0	0
C03	3	1	1	0	2	0	0	0	0	1	1	0	0	0	0
C04	3	3	2	2	2	2	1	0	0	0	2	1	0	0	0
C05	3	3	1	2	2	0	1	0	0	0	2	0	0	0	0

CO-PO Attainment															
Average	1.88	1.88	1.01	1.3	1.44	0.58	0.72	0	0	0.43	1.01	0.29	0	0	0

105402-Design & Analysis of Algorithms

LIST OF COURSE OUTCOMES

CO1	Students will be able to Design algorithms for various computing problems.
CO2	Students will be able to Compare various Brute Force and Divide and Conquer method algorithms
CO3	Students will be able to Analyze the time and space complexity of algorithms.
CO4	Students will be able to Critically analyze the different algorithm design techniques for a given problem

CO5	Students will be able to Modify existing algorithms to improve efficiency

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	0	2	0	0	0	0	0	2	1	3	3	3
C02	3	3	3	0	0	0	0	0	0	0	1	1	3	2	2
C03	2	3	3	0	0	0	0	0	0	0	1	1	3	3	3
C04	2	3	3	0	0	0	0	0	0	0	1	1	3	3	3
C05	3	3	3	0	2	0	0	0	0	0	1	1	3	3	3

CO-PO Attainment															
Average	1.88	2.17	2.17	0	0.58	0	0	0	0	0	0.87	0.72	2.17	2.02	2.02

100407-Human Resource Development & organizational Behavior

LIST OF COURSE OUTCOMES

CO1	To undersatnd the key functions in management as applied in practice.
CO2	To understand more specific management related areas from planning till controlling.
CO3	To understand about the authority , responsibility and different organisational structures.

CO4	To understand about the role of leadership, motivation and communication in an organisation.
CO5	To understand the importance of globalisation and diversity in modern organisations .

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	2	2	3	2	2	3	2	1	3	1	2	3
C02	3	1	1	0	2	2	2	0	2	1	1	3	2	2	3
C03	2	2	1	1	2	0	0	3	2	2	1	3	3	3	3
C04	3	3	3	2	2	3	1	2	1	2	1	3	3	2	3
C05	3	3	3	1	2	3	2	2	2	1	0	3	3	2	3

CO-PO Attainment															
Average	2.02	1.73	1.59	0.87	1.44	1.59	1.01	1.3	1.44	1.16	0.58	2.17	1.73	1.59	2.17

105401Computer Organisation and Architecture

LIST OF COURSE OUTCOMES

CO1	Study the fundamental principles of computer systems.
CO2	Illustrate the complete execution of instruction and explain design of control unit.

CO3	To study the memory system design and various levels of memory in CPU.
CO4	To provide the knowledge of parallel processing and pipelining concept.
CO5	Illustrate how I/O devices are accessed and its principles.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	1	0	0	0	0	0	1	0	2	0	0	0
C02	2	2	2	2	1	0	0	0	0	1	2	3	0	0	0
C03	2	2	2	2	1	0	0	0	0	1	2	2	0	0	0
C04	2	2	2	2	0	0	0	0	0	1	2	2	0	0	0
C05	2	1	2	2	2	0	0	0	0	2	2	3	0	0	0

CO-PO Attainment															
Average	1.73	1.39	1.56	1.56	0.69	0	0	0	0	1.04	1.39	2.08	0	0	0

105401P -Computer Organisation and Architecture Lab

LIST OF COURSE OUTCOMES

CO1	Understand the basics of instruction sets and their impact on processor design.

CO2	Illustrate to perform number system conversions using assembly language programming.
CO3	Understand and apply the fundamentals of assembly level programming of microprocessors.
CO4	Work with standard microprocessor real time interfaces such as DMA for data transfer.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	2	1	2	2	0	0	0	0	2	1	3	0	0	0
C02	2	2	1	2	2	0	0	0	0	2	1	3	0	0	0
C03	2	2	1	2	2	0	0	0	0	2	1	3	0	0	0
C04	2	2	2	2	2	0	0	0	0	2	1	3	0	0	0

CO-PO Attainment															
Average	1.33	1.33	0.83	1.33	1.33	0	0	0	0	1.33	0.67	2	0	0	0

104403P-Digital Circuits Lab

LIST OF COURSE OUTCOMES

CO1	Describe the knowledge of basic logic gates and their design using universal gates.
CO2	Demonstrate the working of combinational and sequential circuits.

CO3	Appraise combinational/ sequential circuits and memories.
CO4	Integrate and experiment with controlled digital circuits and digital to analog converter.
CO5	Schematize, simulate, and implement combinational and sequential circuits to solve real world problems using VHDL systems.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	1	2	1	2	2	2	0	0	0	2	1	3	0	0	0
C02	2	2	1	3	3	2	0	0	0	2	1	2	0	0	0
C03	2	3	1	2	3	2	0	0	0	2	1	2	0	0	0
C04	2	3	1	3	2	2	0	0	0	2	1	2	0	0	0
C05	2	2	1	3	3	2	0	0	0	2	1	2	0	0	0

CO-PO Attainment															
Average	1.5	2	0.83	2.17	2.17	1.67	0	0	0	1.67	0.83	1.83	0	0	0

105403P-OPERATING SYSTEM LAB

LIST OF COURSE OUTCOMES

CO1	Students will be able to Compare the performance of various CPU Scheduling Algorithms

CO2	Students will be able to Implement Deadlock avoidance and Detection Algorithms
CO3	Students will be able to Implement Semaphore, Create processes and implement IPC
CO4	Students will be able to Analyze the performance of the various Page Replacement Algorithms
CO5	Students will be able to Implement File Organization and File Allocation Strategies

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	0	1	2	0	0	0	0	0	2	2	2	2	3
C02	3	3	1	2	2	0	0	0	0	0	2	2	2	2	3
C03	3	3	1	2	2	0	0	0	0	0	2	2	2	2	3
C04	3	1	0	1	2	0	0	0	0	0	1	2	2	2	3
C05	3	3	1	2	2	0	0	0	0	0	2	3	2	2	3

CO-PO Attainment															
Average	2.17	1.59	0.43	1.16	1.44	0	0	0	0	0	1.3	1.59	1.44	1.44	2.17

105402P-Design & Analysis of Algorithms

LIST OF COURSE OUTCOMES

CO1	Analyze randomized algorithms. Employ indicator random variables and linearity of expectation to perform the analyses. Recite analyses of algorithms that employ this method of analysis.
CO2	Explain what amortized running time is and what it is good for. Describe the different methods of amortized analysis (aggregate analysis, accounting, potential method). Perform amortized
CO3	Explain what competitive analysis is and to which situations it applies. Perform competitive analysis.
CO4	Compare between different data structures. Pick an appropriate data structure for a design situation.
CO5	Analyze worst-case running times of algorithms using asymptotic analysis.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	1	2	1	2	2	2	0	0	0	2	1	3	0	0	0
C02	2	2	1	3	3	2	0	0	0	2	1	2	0	0	0
C03	2	3	1	2	3	2	0	0	0	2	1	2	0	0	0
C04	2	3	1	3	2	2	0	0	0	2	1	2	0	0	0
C05	2	2	1	3	3	2	0	0	0	2	1	2	0	0	0

CO-PO Attainment															
Average	1.3	1.73	0.72	1.88	1.88	1.44	0	0	0	1.44	0.72	1.59	0	0	0

CO – PO – PSO MAPPING

100508 PROFESSIONAL SKILL DEVELOPMENT

LIST OF COURSE OUTCOMES

CO1	Graduates will master various comunication strategies, including written, verbal, and digital communication, fostering clarity and professionalism in interaction with colleagues..
CO2	Participants will develop robust critical thinking skills, enabling them to analyze complex situation, make informed decision and solve problem strategically within the professional context.
CO3	Through practical exercises and tools, students will learn to prioritize tasks, set realistic goals, and manage their time efficiently, ensuring increased productivity and reduced stress in professional settings.
CO4	The course will cultivate the ability to work effectively in diverse teams, fostering collaboration, conflict resolution, and collective achievement in the workplace.
CO5	Graduates will embrace a mindset of adaptability and continuous learning, acquiring the agility to navigate evolving professional landscapes and stay abreast of industry trends and advancements.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	0	1	1	1	2	2	2	3	3	2	1	3	0	0	0
C02	0	1	1	1	2	3	3	3	2	2	2	3	0	0	0
C03	0	1	1	1	1	2	2	3	3	2	2	3	0	0	0
C04	0	1	1	1	2	2	1	2	2	3	2	2	0	0	0
C05	0	1	1	2	2	2	3	3	3	2	2	2	0	0	0

CO-PO Attainment

Average	0.00	0.72	0.72	0.87	1.30	1.59	1.59	2.02	1.877778	1.59	1.30	1.88	0.00	0.00	0

105501 ARTIFICIAL INTELLIGENCE

LIST OF COURSE OUTCOMES

CO1	Students will be able to Use Appropriate search algorithms for any AI problem
CO2	Students will be able to Represent a problem using first order and predicate logic
CO3	Students will be able to Provide the apt agent Strategy to solve a problem
CO4	Students will be able to Design software agents to solve a problem
CO5	Students will be able to Design Applications for NLP that use Artificial Intelligence

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	3	1	1	0	0	0	0	0	0	1	3	2	3	2
CO2	3	3	1	1	0	0	0	0	0	0	1	3	2	3	2
CO3	3	3	1	1	0	0	0	0	0	0	1	3	2	3	2
CO4	3	3	3	1	3	0	0	0	0	0	1	3	2	3	3
CO5	3	3	3	1	3	0	0	0	0	0	1	3	2	3	3

CO-PO Attainment															
Average	2.50	2.50	1.50	0.83	1.00	0.00	0.00	0.00	0	0.00	0.83	2.50	1.67	2.50	2

105502 DATABASE MANAGEMENT SYSTEM

LIST OF COURSE OUTCOMES

CO1	Students will be able to Discuss the fundamental concepts of relational database and SQL
CO2	Students will be able to Use ER model for Relational model mapping to perform database design effectively
CO3	Students will be able to Summarize the properties of transactions and concurrency control mechanisms
CO4	Students will be able to Outline the various storage and optimization techniques
CO5	Students will be able to Compare and contrast various indexing strategies in different database systems and to explain the different advanced database

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	0	0	0	0	0	0	0	0	0	1	1	3	3	3
CO2	3	3	3	0	0	0	0	0	0	0	1	3	3	3	3
CO3	3	0	0	0	0	0	0	0	0	0	1	1	3	3	3
CO4	3	0	0	0	0	0	0	0	0	0	1	1	3	3	3
CO5	3	0	0	0	0	0	0	0	0	0	1	1	3	3	3

CO-PO Attainment															
Average	2.17	0.43	0.43	0.00	0.00	0.00	0.00	0.00	0	0.00	0.72	1.01	2.17	2.17	2.166667

105504 SOFTWARE ENGINEERING

LIST OF COURSE OUTCOMES

CO1	Students will be able to Identify the key activities in managing a software project.
CO2	Students will be able to Compare different process models
CO3	Students will be able to Concepts of requirements engineering and Analysis Modeling.
CO4	Students will be able to Apply systematic procedure for software design and deployment.
CO5	Students will be able to Compare and contrast the various testing and maintenance and Manage project schedule, estimate project cost and effort required.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PS01	PS02	PS03
C01	3	2	0	0	0	0	0	0	0	0	1	1	2	3	3
C02	3	1	0	0	0	0	0	0	0	0	1	1	2	3	3
C03	3	0	0	0	0	0	0	0	0	0	1	1	2	3	3
C04	3	1	0	0	0	0	0	0	0	0	1	1	2	3	3
C05	3	3	0	0	0	0	0	0	0	0	1	1	2	3	3

CO-PO Attainment

Average	2.17	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.72	0.72	1.44	2.17	2.166667

100510P SUMMER ENTERPRENEURSHIP-II

CO1	Students will be able to identify and present the objective and the work done during training
CO2	Students will be able to apply the learned concept through design, analysis and development of mini project
CO3	Students will be able to design and implementation of mini project during their training.
CO4	Students will be able to discuss the result/output and prep

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	2	0	0	1	1	1	1	1	1	1
CO2	2	2	1	1	1	2	0	0	1	2	1	2	1	1	1
CO3	3	3	3	2	2	2	0	0	1	1	3	2	1	2	1
CO4	1	2	1	2	1	2	0	0	1	2	1	1	1	2	1

CO-PO Attainment															
Average	1.17	1.33	1.00	1.00	0.83	1.33	0.00	0.00	0.666667	1.00	1.00	1.00	0.67	1.00	0.666667

105502P DATABASE MANAGEMENT SYSTEMS LABORATORY

LIST OF COURSE OUTCOMES

CO1	Students will be able to Use typical data definitions and manipulation commands.
CO2	Students will be able to Design applications to test Nested and Join Queries
CO3	Students will be able to Implement simple applications that use Views
CO4	Students will be able to Implement applications that require a Front-end Tool
CO5	Students will be able to Critically analyze the use of Tables, Views, Functions and Procedures

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	1	1	0	0	0	0	0	0	0	0	2	3	1	1
CO2	3	3	3	0	0	0	0	0	0	0	1	2	3	1	1
CO3	3	2	3	0	0	0	0	0	0	0	1	3	3	1	1
CO4	3	2	3	0	0	0	0	0	0	0	1	2	3	1	1
CO5	3	2	2	0	0	0	0	0	0	0	1	2	3	1	2

CO-PO Attainment															
Average	2.17	1.44	1.73	0.00	0.00	0.00	0.00	0.00	0	0.00	0.58	1.59	2.17	0.72	0.866667

105503 FORMAL LANGUAGE & AUTOMATA THEORY

LIST OF COURSE OUTCOMES

C01	Write a formal notation for strings, languages and machines.
C02	Design finite automata to accept a set of strings of a language.
C03	For a given language,determine weather the given language is regular or not.
C04	Design context free grammars to generate strings of context free language.
C05	Determine equivalence of languages accepted by pushdown automata and languages generated by context free grammars

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
C01	2	1	1	0	0	0	0	0	0	0	2	2	2	3	3
C02	2	1	1	0	0	0	0	0	0	0	1	2	2	3	3
C03	2	1	1	1	0	0	0	0	0	0	2	2	2	3	3
C04	2	1	1	0	0	0	0	0	0	0	1	0	2	3	3
C05	2	1	1	1	0	0	0	0	0	0	1	1	2	3	3

CO-PO Attainment															
Average	1.44	0.72	0.72	0.29	0.00	0.00	0.00	0.00	0	0.00	1.01	1.01	1.44	2.17	2.166667

100602 COMPUTER NETWORKS

LIST OF COURSE OUTCOMES

CO1	Students will be able to Identify various layers of network and discuss the functions of physical layer
CO2	Students will be able to Discuss how data flows from one node to another node with regard to data link layer
CO3	Students will be able to Explain the different services of network layer
CO4	Students will be able to Compare the different transport layer protocols and their applicability based on user requirements
CO5	Students will be able to Describe the working of various application layer protocols and evaluate the performance of network and analyze routing algorithms.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	2	0	0	0	0	0	0	0	0	0	2	1	1	3
C02	3	2	0	0	0	0	0	0	0	0	0	2	1	1	3
C03	3	2	0	0	0	0	0	0	0	0	0	2	1	1	3
C04	3	2	0	0	0	0	0	0	0	0	0	2	2	1	3
C05	3	2	0	0	0	0	0	0	0	0	0	2	2	2	3

CO-PO Attainment															
Average	2.17	1.44	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	1.44	1.01	0.87	2.166667

105601 COMPILER DESIGN

LIST OF COURSE OUTCOMES

CO1	Student will be able to Understand the different phases and Design a lexical analyzer for a sample language
CO2	Student will be able to Apply different parsing algorithms to develop the parsers for a given grammar.
CO3	Student will be able to Understand and Design syntax-directed translation and run-time environment using yarn.
CO4	Student will be able to Learn to implement code optimization techniques and a simple code generator.
CO5	Student will be able to Design and implement a scanner and a parser using LEX and YACC tools.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	3	3	0	0	0	0	0	0	0	2	2	2	3	3
CO2	3	3	3	0	0	0	0	0	0	0	1	2	2	3	3
CO3	3	3	3	0	0	0	0	0	0	0	2	2	2	3	3
CO4	3	3	3	0	0	0	0	0	0	0	1	2	2	3	3
CO5	3	3	3	0	0	0	0	0	0	0	1	2	2	3	3

CO-PO Attainment															
Average	2.17	2.17	2.17	0.00	0.00	0.00	0.00	0.00	0	0.00	1.01	1.44	1.44	2.17	2.166667

105602 MACHINE LEARNING

LIST OF COURSE OUTCOMES

CO 1	Acquire strong foundation in machine learning concepts and techniques for data analysis and model optimization
CO 2	Gain knowledge in statistical learning, regression, and dimensionality reduction for advanced machine learning skills.
CO 3	Develop expertise in classification algorithms, enabling data-driven decision making and predictive modeling in ML.
CO 4	Understanding clustering techniques for pattern recognition and model enhancement in machine learning
CO 5	Acquire knowledge in advanced applications in machine learning like probabilistic modeling, clustering, reinforcement learning basics, and graphical models in machine learning.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	3	1	2	2	0	0	0	0	1	1	3	3	3	3
C02	3	3	2	2	2	3	0	0	0	1	0	2	3	3	3
C03	3	3	2	2	3	0	1	0	0	1	1	2	3	3	3
C04	3	3	2	2	3	0	1	0	0	1	0	2	3	3	3
C05	3	3	1	3	2	0	1	3	0	0	1	2	3	3	3

CO-PO Attainment															
Average	2.02	2.17	1.16	1.59	1.73	0.43	0.43	0.43	0	0.58	0.43	1.59	2.17	2.17	2.166667

105505 SEMINAR

LIST OF COURSE OUTCOMES

CO1	Identify recent technical topics from interested domains.
CO2	Analyze the applicability of modern software tools and technology.
CO3	Develop Presentation and Communication skills.
CO4	Develop Technical report preparation.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	1	3	0	0	0	0	0	0	0	1	0	2	0	0	0
C02	1	3	0	0	2	0	0	0	0	0	0	2	2	1	2
C03	1	0	0	1	0	0	0	0	0	2	0	2	0	0	0
C04	1	0	0	0	0	0	0	0	0	2	0	2	0	0	0

CO-PO Attainment

Average	0.40	0.60	0.00	0.10	0.20	0.00	0.00	0.00	0	0.50	0.00	0.80	0.20	0.10	0.2

105606 INTRODUCTION TO JAVA PROGRAMMING LANGUAGE

LIST OF COURSE OUTCOMES

CO1	Students will be able to Interpret Java programs using Object Oriented Programming principles
CO2	Students will be able to Explain Java programs with the concepts inheritance and interfaces
CO3	Students will be able to Relate Java applications with threads and generics classes
CO4	Students will be able to Develop Java applications with threads and generics classes
CO5	Students will be able to Develop interactive Java programs using swings, Demonstrate simple Graphical user interface

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	0	0	0	0	0	0	0	1	3	0	0	0
C02	3	1	0	0	0	0	0	0	0	0	1	3	0	0	0
C03	3	1	0	0	0	0	0	0	0	0	1	3	0	0	0
C04	3	3	3	0	0	0	0	0	0	0	1	3	0	0	0
C05	3	3	3	0	0	0	0	0	0	0	0	3	0	0	0

CO-PO Attainment															
Average	2.17	1.59	1.30	0.00	0.00	0.00	0.00	0.00	0	0.00	0.58	2.17	0.00	0.00	0

105616 CRYPTOGRAPHY AND NETWORK SECURITY

LIST OF COURSE OUTCOMES

CO1	Students will be able to Understand the fundamentals of networks security, security architecture, threats and vulnerabilities.
CO2	Students will be able to Apply the different cryptographic operations of symmetric cryptographic algorithms.
CO3	Students will be able to Apply the different cryptographic operations of public key cryptography.
CO4	Students will be able to Apply the various Authentication schemes to simulate different applications.
CO5	Students will be able to Understand various Security practices and System security standards

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	1	3	0	0	0	0	0	0	0	0	0	1	1	3
CO2	3	3	0	0	0	0	0	0	0	0	1	1	2	2	3
CO3	3	3	0	0	0	0	0	0	0	0	1	1	2	2	3
CO4	3	3	0	0	0	0	0	0	0	0	1	1	2	2	3
CO5	3	1	0	0	0	0	0	0	0	0	0	1	1	1	3

CO – PO – PSO MAPPING

CO-PO Attainment															
Average	2.17	1.59	0.43	0.00	0.00	0.00	0.00	0.00	0	0.00	0.43	0.58	1.16	1.16	2.166667

100602P COMPUTER NETWORK LAB

LIST OF COURSE OUTCOMES

CO1	Students will be able to Understand and evaluate the basic layers and its functions in computer networks
CO2	Students will be able to Understand the basics of how data flows from one node to another.
CO3	Students will be able to Analyze and design routing algorithms
CO4	Students will be able to Design protocols for various functions in the network
CO5	Students will be able to Understand the working of various application layer protocols

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	2	2	2	2	0	0	0	0	0	2	1	3	3	3
CO2	3	2	2	2	2	0	0	0	0	0	2	1	3	3	3
CO3	3	2	2	2	2	0	0	0	0	3	2	2	3	3	3
CO4	3	2	2	2	2	0	0	0	0	3	2	3	3	3	3
CO5	3	2	2	2	2	0	0	0	0	0	2	1	2	3	3

CO-PO Attainment															
Average	2.17	1.44	1.44	1.44	1.44	0.00	0.00	0.00	0	0.87	1.44	1.16	2.02	2.17	2.166667

105601P COMPILER DESIGN LAB

LIST OF COURSE OUTCOMES

CO1	Students will be able to Understand and evaluate the basic layers and its functions in computer networks
CO2	Students will be able to Understand the basics of how data flows from one node to another.
CO3	Students will be able to Analyze and design routing algorithms
CO4	Students will be able to Design protocols for various functions in the network
CO5	Students will be able to Understand the working of various application layer protocols

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	3	3	0	0	0	0	0	0	0	2	2	2	3	3
CO2	3	3	3	0	0	0	0	0	0	0	1	2	2	3	3
CO3	2	3	3	0	0	0	0	0	0	0	2	2	2	3	3
CO4	3	3	3	0	0	0	0	0	0	0	1	2	2	3	3
CO5	3	3	3	0	0	0	0	0	0	0	0	2	2	3	3

CO-PO Attainment															
Average	0.16	0.17	0.17	0.00	0.00	0.00	0.00	0.00	0	0.00	0.07	0.11	0.11	0.17	0.166667

105620P PYTHON PROGRAMMING LAB

LIST OF COURSE OUTCOMES

CO1	Students will be able to write, test and debug simple Python programs
CO2	Students will be able to implement Python programs with conditionals and loops
CO3	Students will be able to develop Python programs step-wise by defining functions and calling them
CO4	Students will be able to use Python lists, tuples, dictionary for representing compound data
CO5	Students will be able to read and write data from/to files in Python.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C02	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C03	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C04	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C05	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2

CO-PO Attainment															
Average	2.50	2.50	2.50	2.50	2.50	1.67	0.83	0.00	1.666667	1.67	2.50	0.00	2.50	2.50	1.666667

100713 SOFT SKILL AND INTERPERSONAL COMMUNICATION

LIST OF COURSE OUTCOMES

CO1	Humanities develop critical thinking skills, ability to analyze dense texts and understand arguments.
CO2	Apply reasoning informed by the contextual knowledge to assess societal health, safety ,legal and cultural issues to the professional engineering practice.
CO3	Recognition of the need for lifelong learning and to access information as well as development in science and technology.
CO4	Keen communication and writing skills and to enhance capacity for creative expression.
CO5	Ability to identify, define, formulate and solve complex engineering problems as well as electing and applying appropriate analysis and modeling methods for wide purpose.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	2	1	1	1	2	0	2	3	1	1	2	2	2	3	2
CO2	2	1	1	1	2	0	0	0	0	1	1	1	2	3	2
CO3	0	1	1	0	2	0	0	0	1	1	1	0	2	3	2
CO4	1	1	1	1	2	0	2	0	0	1	1	2	2	3	3
CO5	2	1	1	1	2	0	0	0	1	0	2	2	2	3	3

CO-PO Attainment															
Average	1.01	0.72	0.72	0.58	1.44	0.00	0.58	0.43	0.433333	0.58	1.01	1.01	1.44	2.17	1.733333

100708 BIOLOGY FOR ENGINEERS

LIST OF COURSE OUTCOMES

CO1	Describe how biological observations of 18th Century that lead discoveries.
CO2	Convey that classification per sees not biology is all about highlight the underlying criteria such as morphological, biochemical, and ecological.
CO3	Highlight the concepts of excessiveness and dominance during the passage of genetic material from parents to offspring's.
CO4	Convey that all forms of life have the same building blocks and yet the manifestations are as diverse as one can imagine.
CO5	Identify DNA as a genetic material in the molecular basis of information transfer.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	1	0	1	1	1	0	0	3	0	1	0	1	2	3	2
C02	2	1	1	1	1	0	1	3	1	1	0	1	2	3	2
C03	1	1	0	1	0	0	0	0	0	0	1	0	2	3	2
C04	2	1	1	1	0	3	0	3	0	1	1	0	2	3	3
C05	0	1	0	1	2	0	0	0	0	1	0	0	2	3	3

CO-PO Attainment															
Average	0.87	0.58	0.43	0.72	0.58	0.43	0.14	1.30	0.144444	0.58	0.29	0.29	1.44	2.17	1.733333

105701DATA SCIENCE

LIST OF COURSE OUTCOMES

CO 1	Study basic of data science and its scope
CO 2	Describe basic of data science process and recognize common tools used for data science application development
CO 3	Explore functions of python libraries and packages
CO 4	Apply data science concepts and method to find solution to real-world problems and will communicate these solution effectively.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	1	2	0	0	0	0	0	2	0	3	3	3
C02	2	1	1	1	2	0	0	0	0	0	2	0	3	3	3
C03	2	1	1	1	2	0	0	0	0	0	2	0	3	3	3
C04	2	1	1	1	2	0	0	0	0	0	2	0	3	3	3

CO-PO Attainment															
Average	1.16	0.58	0.58	0.58	1.16	0.00	0.00	0.00	0	0.00	1.16	0.00	2.17	2.17	2.166667

105713 CYBER SECURITY

LIST OF COURSE OUTCOMES

C01	Understand, appreciate, employ, design and implement appropriate security technologies and policies to protect computers and digital information
C02	Identify & Evaluate Information Security threats and vulnerabilities in Information Systems and apply security measures to real time scenarios
C03	Identify common trade-offs and compromises that are made in the design and development process of Information Systems
C04	Demonstrate the use of standards and cyber laws to enhance information security in the development process and infrastructure protection.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	1	0	0	0	0	0	0	1	2	2	3	2
C02	2	1	0	1	0	0	0	0	0	0	1	2	2	3	2
C03	2	1	0	1	0	0	0	0	0	0	1	2	2	3	2
C04	2	1	1	1	3	0	0	0	0	0	1	2	2	3	3
C05	2	1	1	1	3	0	0	0	0	0	1	2	2	3	3

CO-PO Attainment															
Average	1.44	0.72	0.43	0.72	0.87	0.00	0.00	0.00	0	0.00	0.72	1.44	1.44	2.17	1.733333

100707P SUMMER ENTERPRENEURSHIP-III

LIST OF COURSE OUTCOMES

CO1	Students will be able to identify and present the objective and the work done during training
CO2	Students will be able to apply the learned concept through design, analysis and development of mini project
CO3	Students will be able to design and implementation of mini project during their training.
CO4	Students will be able to discuss the result/output and prep

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	1	1	1	1	1	2	0	0	1	1	1	1	1	1	1
CO2	2	2	1	1	1	2	0	0	1	2	1	2	1	1	1
CO3	3	3	3	2	2	2	0	0	1	1	3	2	1	2	1
CO4	1	2	1	2	1	2	0	0	1	2	1	1	1	2	1

CO-PO Attainment

Average	0.86	0.98	0.73	0.73	0.61	0.98	0.00	0.00	0.488889	0.73	0.73	0.73	0.49	0.73	0.488889

100709P PROJECT I

LIST OF COURSE OUTCOMES

CO1	Students will be able to Choose problem with technical Importance social Contribution
CO2	Students will be able to Identify and survey the relevant literature for getting exposed to related solutions
CO3	Students will be able to Analyse, design and develop adaptable and reusable solutions
CO4	Students will be able to Implement, build and test solutions based upon the user feasible requirements
CO5	Students will be able to Deploy the solutions for better manageability and provide scope for improvability

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	2	1	1	1	0	0	0	0	1	1	3	1	1	2
CO2	3	2	1	1	1	0	0	0	0	0	1	3	1	1	2
CO3	3	3	3	0	1	0	0	0	0	1	3	3	3	3	2
CO4	3	3	3	0	2	0	0	0	0	0	3	3	2	3	2
CO5	3	3	3	0	2	0	0	0	0	1	3	3	2	3	2

CO-PO Attainment															
Average	1.50	1.30	1.10	0.20	0.70	0.00	0.00	0.00	0	0.30	1.10	1.50	0.90	1.10	1

100719P PYTHON AS TOOL FOR MACHINE LEARNING

LIST OF COURSE OUTCOMES

CO1	Students will be able to write, test and debug simple Python programs
CO2	Students will be able to implement Python programs with conditionals and loops
CO3	Students will be able to develop Python programs step-wise by defining functions and calling them
CO4	Students will be able to use Python lists, tuples, dictionary for representing compound data
CO5	Students will be able to read and write data from/to files in Python.

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C02	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C03	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C04	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2
C05	3	3	3	3	3	2	1	0	2	2	3	0	3	3	2

CO-PO Attainment															
Average	2.50	2.50	2.50	2.50	2.50	1.67	0.83	0.00	1.666667	1.67	2.50	0.00	2.50	2.50	1.666667

100815 DIGITAL IMAGE PROCESSING

LIST OF COURSE OUTCOMES

CO1	Describe discrete-time signals and systems and represent them in the frequency domain
CO2	Compute DFT using FFT algorithms and derive DFT properties
CO3	Design IIR digital filters using various techniques
CO4	Design FIR digital filters using various techniques
CO5	Analyse multi-rate signal processing techniques

CO – PO – PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	3	2	3	1	0	1	0	0	1	1	2	0	0	0
C02	3	3	2	3	2	2	2	0	0	1	2	3	0	0	0
C03	3	3	2	3	2	2	2	0	0	1	2	3	0	0	0
C04	3	3	2	3	2	2	2	0	0	1	2	3	0	0	0
C05	3	3	2	3	1	0	1	0	0	1	1	2	0	0	0

CO-PO Attainment															
Average	3.00	3.00	2.00	3.00	1.60	1.20	1.60	0.00	0	1.00	1.60	2.60	0.00	0.00	0

100817 CLOUD COMPUTING

LIST OF COURSE OUTCOMES

CO1	Students will be able to Articulate the main concepts, key technologies, strengths and limitations of cloud computing.
CO2	Students will be able to Learn the key and enabling technologies that help in the development of cloud.
CO3	Students will be able to Develop the ability to understand and use the architecture of compute and storage cloud, service and delivery models.
CO4	Students will be able to Explain the core issues of cloud computing such as resource management and security
CO5	Students will be able to Be able to install and use current cloud technologies. Evaluate and choose the appropriate technologies, algorithms and approaches for implementation and use of cloud.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	P11	P12	PSO1	PSO2	PSO3
CO1	3	1	0	0	0	0	0	0	0	0	0	1	3	1	3
CO2	3	2	2	0	0	0	0	0	0	0	1	2	2	3	3
CO3	3	2	3	0	0	0	0	0	0	0	1	1	3	3	3
CO4	3	2	1	0	0	0	0	0	0	0	1	0	1	1	3
CO5	3	3	1	0	0	0	0	0	0	0	0	1	3	3	3

CO-PO Attainment															
Average	2.17	1.44	1.01	0.00	0.00	0.00	0.00	0.00	0	0.00	0.43	0.72	1.73	1.59	2.166667

105819 AD HOC AND SENSOR NETWORK

LIST OF COURSE OUTCOMES

CO1	Identify different issues in wireless ad hoc and sensor network
CO2	Analyze protocol developed for ad hoc and sensor network
CO3	Identify and understand security issues in ad hoc and sensor network
CO4	Capable of model building ,new protocol design and strategies simulation of the systems that include the above.
CO5	Understanding of data transmission technologies of the Adhoc and sensor devices with focus on channel access routing and security.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	1	1	0	0	0	0	0	0	0	0	0	2	3	2
C02	3	2	2	0	0	0	0	0	0	0	1	1	2	3	2
C03	3	1	1	0	0	0	0	0	0	0	1	1	2	3	2
C04	3	1	1	0	0	0	0	0	0	0	1	1	2	3	3
C05	3	1	1	0	0	0	0	0	0	0	0	1	2	3	3

CO-PO Attainment

Average	2.17	0.87	0.87	0.00	0.00	0.00	0.00	0.00	0	0.00	0.43	0.58	1.44	2.17	1.733333

100816 BITCOIN AND CRYPTO CURRENCIES

LIST OF COURSE OUTCOMES

C01	Demonstrate the technical knowledge to identify problems in the field of Information Technology and its allied areas.
C02	Use literature to identify the objective, scope and the concept of the work.
C03	Analyze and formulate technical projects with a comprehensive and systematic approach.
C04	Identify the modern tools to implement technical projects.
C05	Design engineering solutions for solving complex engineering problems.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	2	1	1	0	0	0	0	0	2	1	2	2	2	3	3
C02	2	1	1	1	1	0	0	0	2	1	2	2	2	3	3
C03	1	1	1	1	1	0	0	0	2	1	2	2	2	3	3
C04	2	1	1	1	2	0	0	0	2	1	2	2	2	3	3
C05	2	1	1	1	2	0	0	0	2	1	2	2	2	3	3

CO-PO Attainment															
Average	1.30	0.72	0.72	0.58	0.87	0.00	0.00	0.00	1.444444	0.72	1.44	1.44	1.44	2.17	2.166667

100801P PROJECT II

LIST OF COURSE OUTCOMES

CO1	Students will be able to identify the problem by applying acquired knowledge, Plan and build the project team with assigned responsibilities
CO2	Students will be able to Analyse, design, and develop adaptable and reusable solutions of minimal complexity by using modern tool
CO3	Students will be able to Implement and test solutions to trace against the user requirements
CO4	Students will be able to Combine all the modules through effective team work after efficient testing.
CO5	Students will be able to Elaborate the completed task and compile the project report.

CO –PO-PSO MAPPING

Mapping															
	PO												PSO		
	P01	PO2	P03	P04	P05	P06	P07	P08	P09	P10	P11	P12	PS01	PS02	PS03
C01	3	2	1	1	1	0	0	0	0	1	1	3	1	1	2
C02	3	2	1	1	1	0	0	0	0	0	1	3	1	1	2
C03	3	3	3	0	1	0	0	0	0	1	3	3	3	3	2
C04	3	3	3	0	2	0	0	0	0	0	3	3	2	3	2
C05	3	3	3	0	2	0	0	0	0	1	3	3	2	3	2

CO-PO Attainment															
Average	1.50	1.30	1.10	0.20	0.70	0.00	0.00	0.00	0	0.30	1.10	1.50	0.90	1.10	1