PRATHYUSHA ENGINEERING COLLEGE
(An Autonomous Institution)

ESTD. 2001

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Outcomes

Regulation 2023

COURSE NAME	COURSE OUTCOMES
SEMESTER I	
MATRICES AND CALCULUS	CO1: Use the matrix algebra methods for solving practical problems. CO2: Apply differential calculus tools in solving various application problems. CO3: Able to use differential calculus ideas on several variable functions. CO4: Apply different methods of integration in solving practical problems. CO5: Apply multiple integral ideas in solving areas, volumes and other practical problems.
ENGINEERING PHYSICS	CO1: Understand the importance of mechanics. CO2: Express their knowledge in electromagnetic waves. CO3: Demonstrate a strong foundational knowledge in oscillations, optics and lasers. CO4: Understand the importance of quantum physics. CO5: Comprehend and apply quantum mechanical principles towards the formation of energy bands.
ENGINEERING CHEMISTRY	CO1: To infer the quality of water from quality parameter data and propose suitable treatment methodologies to treat water. CO2:To identify and apply basic concepts of nanoscience and nanotechnology in designing the synthesis of nanomaterials for engineering and technology applications. CO3:To apply the knowledge of phase rule and composites for material selection requirements. CO4:To recommend suitable fuels for engineering processes and applications. CO5:To recognize different forms of energy resources and apply them for suitable applications in energy sectors.
COURSE NAME	**COURSE OUTCOMES**

ENGINEERING GRAPHICS	CO1: Use BIS conventions and specifications for engineering drawing. CO2:Construct the conic curves and cycloid. CO3:Solve practical problems involving projection of lines. CO4:Draw the orthographic, isometric and perspective projections of simple solids. CO5:Draw the development of simple solids.
PHYSICS AND CHEMISTRY LABORATORY	**PHYSICS LABORATORY:** CO1: Understand the functioning of various physics laboratory equipment. CO2: Use graphical models to analyze laboratory data. CO3: Use mathematical models as a medium for quantitative reasoning and describing physical reality. CO4: Access, process and analyze scientific information. CO5: Solve problems individually and collaboratively. **CHEMISTRY LABORATORY:** CO1: To analyse the quality of water samples with respect to their acidity, alkalinity, hardness and DO. CO2: To determine the amount of metal ions through volumetric and spectroscopic techniques CO3: To analyse and determine the composition of alloys. CO4: To learn simple method of synthesis of nanoparticles CO5: To quantitatively analyse the impurities in solution by electro analytical techniques
COMMUNICATION SKILLS LABORATORY	CO1:Speak effectively in group discussions held in a formal/semi formal contexts. CO2:Discuss, analyse and present concepts and problems from various perspectives to arrive at suitable solutions CO3:Write emails, letters and effective job applications. CO4:Write critical reports to convey data and information with clarity and precision CO5:Give appropriate instructions and recommendations for safe execution of tasks
SEMESTER II	
PROFESSIONAL ENGLISH	CO1: To compare and contrast products and ideas in technical texts. CO2: To identify and report cause and effects in events, industrial processes through technical texts CO3: To analyse problems in order to arrive at feasible solutions and communicate them in the written format. CO4: To present their ideas and opinions in a planned and logical manner CO5: To draft effective resumes in the context of job search.
COURSE NAME	**COURSE OUTCOMES**
DIFFERENTIAL	CO1: Apply the concept of testing of hypothesis for small and large

EQUATIONS AND TRANSFORM TECHNIQUES	samples in real life problems. CO2: Apply the basic concepts of classifications of design of experiments in the field of agriculture. CO3: Appreciate the numerical techniques of interpolation in various intervals and apply the numerical techniques of differentiation and integration for engineering problems. CO4: Understand the knowledge of various techniques and methods for solving first and second order ordinary differential equations. CO5: Solve the partial and ordinary differential equations with initial and boundary conditions by using certain techniques with engineering applications.
BASIC ELECTRICAL AND ELECTRONICS ENGINEERING	CO1: Compute the electric circuit parameters for simple problems CO2: Explain the working principle and applications of electrical machines CO3: Analyze the characteristics of analog electronic devices CO4: Explain the basic concepts of digital electronics CO5: Explain the operating principles of measuring instruments
PROBLEM SOLVING USING C	CO1: Demonstrate knowledge on C Programming constructs CO2: Develop simple applications in C using basic constructs CO3: Design and implement applications using arrays and strings CO4: Develop and implement modular applications in C using functions. CO5: Develop applications in C using structures and pointers. CO6: Design applications using sequential and random access file processing.
ENGINEERING PRACTICES LABORATORY	CO1: Draw pipe line plan; lay and connect various pipe fittings used in common household plumbing work; Saw; plan; make joints in wood materials used in common household wood work. CO2: Wire various electrical joints in common household electrical wire work. CO3: Weld various joints in steel plates using arc welding work; Machine various simple processes like turning, drilling, tapping in parts; Assemble simple mechanical assembly of common household equipments; Make a tray out of metal sheet using sheet metal work. CO4: Solder and test simple electronic circuits; Assemble and test simple electronic components on PCB.
COURSE NAME	**COURSE OUTCOMES**
PROBLEM SOLVING USING C LABORATORY	CO1: Demonstrate knowledge on C programming constructs. CO2: Develop programs in C using basic constructs. CO3: Develop programs in C using arrays. CO4: Develop applications in C using strings, pointers, functions. CO5: Develop applications in C using structures.

	CO6: Develop applications in C using file processing.
SEMESTER III	
DISCRETE MATHEMATICS	CO1: Have knowledge of the concepts needed to test the logic of a program. CO2: Have an understanding in identifying structures on many levels. CO3: Be aware of a class of functions which transform a finite set into another finite set which relates to input and output functions in computer science. CO4: Be aware of the counting principles. CO5: Be exposed to concepts and properties of algebraic structures such as groups, rings and fields.
DATA SCIENCE USING PYTHON	CO1: Understand the fundamentals of python programming CO2: Use the Python Libraries for Data Manipulation. CO3: Define the data science process. CO4: understand different types of data description for data science process CO5: Gain knowledge on relationships between data
ARTIFICIAL INTELLIGENCE	CO1: Explain intelligent agent frameworks CO2: Apply problem solving techniques CO3: Apply game playing and CSP techniques CO4: Perform logical reasoning CO5: Perform probabilistic reasoning under uncertainty
DATA STRUCTURES	CO1: Define linear and non-linear data structures. CO2: Implement linear and non–linear data structure operations. CO3: Use appropriate linear/non–linear data structure operations for solving a given problem. CO4: Apply appropriate graph algorithms for graph applications. CO5: Analyze the various searching and sorting algorithms.
COURSE NAME	**COURSE OUTCOMES**
OBJECT ORIENTED PROGRAMMING	CO1:Apply the concepts of classes and objects to solve simple problems CO2:Develop programs using inheritance, packages and interfaces CO3:Make use of exception handling mechanisms and multithreaded model to solve real world problems CO4:Build Java applications with I/O packages, string classes, Collections and generics concepts CO5:Integrate the concepts of event handling and JavaFX components and controls for developing GUI based applications
DATA STRUCTURES LABORATORY	CO1: Implement Linear data structure algorithms. CO2: Implement applications using Stacks and Linked lists

	CO3: Implement Binary Search tree and AVL tree operations. CO4: Implement graph algorithms. CO5: Analyze the various searching and sorting algorithms.
OBJECT ORIENTED PROGRAMMING LABORATORY	CO1 : Design and develop java programs using object oriented programming concepts CO2 : Develop simple applications using object oriented concepts such as package, exceptions CO3: Implement multithreading, and generics concepts CO4 : Create GUIs and event driven programming applications for real world problems CO5: Implement and deploy web applications using Java
DATA SCIENCE USING PYTHON LABORATORY	CO1: Make use of the python libraries for data science CO2: Make use of the basic Statistical and Probability measures for data science. CO3: Perform descriptive analytics on the benchmark data sets. CO4: Perform correlation and regression analytics on standard data sets CO5: Present and interpret data using visualization packages in Python.