

DEPARTMENT OF B.SC. COMPUTER SCIENCE AND MACHINE LEARNING

PROGRAM OUTCOMES

PO1. Scientific Knowledge: Apply the knowledge of Science, Mathematics, Engineering & Technology fundamentals to solve the complex problems.

PO2. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO3. Problem analysis: Identify, formulate, research literature, and analyze complex scientific problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO4. Modern tool usage: Create, select and apply appropriate techniques, resources, modern technology and IT tools to complex science and technological activities.

PO5. Environment and sustainability: Understand the impact of professional science and technological solutions in societal and environmental contexts and for sustainable development.

PO6. Individual and team work: Function objectively as an individual and as a member in diverse teams.

PO7. Communication: Communicate effectively on complex science & technology activities with society at large and able to write effective reports and documentation.

PO8. Life-long learning: Recognize the need and ability to engage in independent and lifelong learning in the context of technological change.

PROGRAM SPECIFIC OUTCOMES

PSO1: Appreciate the underlying mathematical relationships within and across Machine Learning algorithms and the paradigms of supervised and unsupervised learning.

PSO2: Be able to design and implement various machine learning algorithms in a range of real – world applications.

PSO3: implement problem solving skills in the broad area of programming concepts and manage different projects in interdisciplinary field. Ability to understand and adapt to the contemporary trends and best practices of industry and research standards.

PSO4: Ability to design and implement ethical sustainable solutions with a cutting-edge combination of Artificial Intelligence, Machine Learning, Natural Language Processing etc.

COURSE OUTCOMES

GENERAL ENGLISH -I

CO1: To distinguish between words which are either spelt or pronounced alike, yet render distinct meanings; imparting a sound clarity on everyday usage of language, and for developing the art of parallel listening and writing.

CO2: To construct vocabulary and to gain understanding on the tense component, a pivotal constituent for language structuring and vocabulary building.

CO3: To identify with economical word constructions, paying specific attention in constructing sound writing skills.

CO4: To interpret functional grammar, the basic part involved in sentence constructing to improve linguistic skills.

CO5: To develop communication skills to provide a platform for language efficiency for effective language deliver

VALUE EDUCATION & PERSONALITY DEVELOPMENT

CO1: Students will be able to Differentiate Accepted norms and Counter values and be able to identify the various Dimensions of Human Development.

CO2: Students will be able to Demonstrate Love and Experience of God and identify the Basic Issues of Life and Happiness as a life goal.

CO3: They will able to Understand the importance of Concern for others and critique the various problems that deter the growth of the society.

CO4: The students will be able to Recognize the traits of a good personality and practice Self-exploration.

CO5: Students will be able to Interpret the Purpose of Life and Goal Setting and demonstrate Self-management.

FUNDAMENTALS OF IT AND DATA VISUALISATIONS

CO1: Understand basic computer terminology and number systems.

CO2: Learn about operating systems, and its types.

CO3: Learn about the applications of IT and Data Visualizations

CO4: Use of Data Visualizations.

CO5: Use of modern means of communications, types of networks and topologies.

DIFFERENTIAL EQUATIONS & MATRICES

CO1: Classify the differential equations with respect to their order and linearity. Solve differential equations of first order using numerical and analytical methods such as Integrating Factors.

CO2: Analyze and Solve basic application problems described by first order differential equations such as orthogonal trajectories.

CO3: Solve second order Homogeneous Equations with Constant Coefficients. Obtain exact and numerical solutions using differential equations technology.

CO4: Understand to find the rank and formulate the solution of set of a system of linear equations.

CO5: Determine the eigen values and eigen vectors.

PROBLEM SOLVING AND PROGRAMMING IN 'C'

CO1: Explain the basic introduction of computer and programming languages.

CO2: Categorize different data types, operators and data input /output functions in 'C'.

CO3: Develop programs using 'C' control structures, arrays and string concept.

CO4: Analyze larger problems into smaller ones using 'C' functions.

CO5: Create programs using the concept of structures, union and file handling in 'C'.

BASIC ELECTRONICS & CIRCUITS

CO1: Able to Understand what is electronics and terms related to it?

CO2: Understanding the passive components and their connections, sources & laws

CO3: Understanding the fundamentals of alternating current and terminology

CO4: Analyze semiconductors and understand the working of a diode and its applications.

CO5: Able to understand the construction and working of transistor, power supply.

GENERAL ENGLISH -II

CO1: To identify a sound understanding on the formation of words and to demonstrate the functional grammatical component in the sentence.

CO2: To paraphrase ideas and thoughts in a coherent, neat and organized manner in order to utilize the writing skills for sound writing propagandas.

CO3: To create an understanding on Indian Literature, alongside to develop and chisel their communication skills.

CO4: To recognize the moral element which underlies in the short story; an exposure to informal language.

CO5: To develop listening and speaking skills through effective sentence constructions and efficient delivery.

INDIAN HERITAGE AND CULTURE

CO1: Student will have knowledge about Indian Customs and Traditions.

CO2: Student can make use of the subject knowledge to attempt all kinds of competitive especially civil services.

CO3: the Subject helps the student community to have knowledge of historical and contemporary social, religious and political issues of the nation.

PROBABILITY & STATISTICS FOR ML

CO1: Understand the importance of descriptive statistics and use the probability theory in case of uncertain situations.

CO2: Employ the principle of linear regression with an understanding of correlation between two or more than two variables.

CO3: Use discrete and continuous probability distribution, including the requirements and making decisions.

CO4: Knowledge about formulating and testing of hypothesis, using critical values to draw conclusions and determine the probability of making errors in hypothesis test for large sample tests.

CO5: Understand and analyze various small sample tests.

VECTOR CALCULUS & NUMBER THEORY

CO1: Understand the derivatives and partial derivatives to apply on vector functions.

CO2: Use the Gradient operator to find the directional derivative of scalar functions.

CO3: Understand the various integration theorems relating to line, surface, and volume integrals.

CO4: Enhance the domain knowledge of number theory and acquire the ability to apply number theory algorithms and procedures to basic problems.

CO5: Get acquainted with the linear Congruences and significant theorems in Number theory.

FUNDAMENTALS OF DATA STRUCTURES USING ‘C’

CO1: Choose appropriate data structures to represent data items in real world problems

CO2: Illustrate non-linear data structures like linked list

CO3: Organize the data using sorting in various linear data structures and determine time complexity

CO4: Construct data with nonlinear data structure using trees.

CO5: Explain the concept of graphs and b trees.

PYTHON PROGRAMMING

CO1: Explain the basics of Python Programming constructs.

CO2: Sub divides larger problems into smaller ones using functions

CO3: Apply various data structures problem-solving

CO4: Construct Python programs as a set of objects.

CO5: Select an appropriate exception handling depending on application and design file operations and Concurrent programming using Python standard library.