RAAJDHANI ENGINEERING COLLEGE
Course Outcome

Subject(Code):Mathematics-I(C101) **Year/Semester of Study:1st yr/1st sem**

COs	CO Statements
C101.1	Apply the concept of definite integral to evaluate length of curves, areas of surfaces and volumes of surfaces of revolution
C101.2	Understand indefinite integral, Gamma function and Beta function.
C101.3	Understand the Single-Variable calculus and Power series.
C101.4	Apply the multi-variable calculus and method of Lagrange multipliers.
C101.5	Understand the basic of Linear algebra such as Vector space and matrix to solve system of linear equation.
C101.6	Understand the matrix and it's characteristics.

Subject(Code): Physics(C102) **Year and Semester of Study:1st /1st sem**

COs	CO Statements
C102.1	The students will be able to understand the basic concepts of the oscillatory motion, their applications, and can use the concept to solve the problem.
C102.2	The students will be able to understand the fundamentals of wave motion, their applications, and can solve the numericals.
C102.3	The students will be able to analyze the principle of wave optics, and their use to real-world problems.
C102.4	The students will able to learn the fundamentals of electromagnetism and can use different mathematical tools to understand different laws
C102.5	The students will able to understand the importance of quantum physics, the structure and behaviour of matter at the microscopic level and can able to solve numericals.
C102.6	The students will able to understand the characteristics of LASER, working principle of LASER, and its applications.

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Subject(Code): Basic Electrical Engineering (103) **Year/Semester of Study: 1st/1st**

COs	CO Statements
C103.1	Implement principles of DC network, theorems and transients.
C103.2	Analyze the concept of Single phase AC circuits.
C103.3	Analyze the concept of Three phase AC circuits.
C103.4	Analyze the concept of magnetic circuit and DC machines.
C103.5	Apply basic principles of AC machines and their working.
C103.6	Demonstrate basic principles of power system

Subject(Code): Programming in C and Data Structure(C104) Year/Semester of Study:1st/1st

COs	CO Statements
C104.1	Demonstrate a comprehensive understanding of C programming fundamentals,
C104.2	Design and implement functions, leveraging recursion, and demonstrate advanced manipulation skills
C104.3	Demonstrate proficiency in pointer manipulation, dynamic memory allocation, and related concepts in C programming
C104.4	Apply their understanding of pointer manipulation, dynamic memory allocation, and related concepts in C programming
C104.5	Evaluate the design and implementation of core data structures—linear linked lists, stacks, and queues
C104.6	Design and implement advanced data structures, including binary trees and binary search trees, and sorting algorithms

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Subject(Code): Basic Civil Engineering (105) **Year/Semester of Study: 1st/1st**

COs	CO Statements
C105.1	Analyse grasping the essentials of both construction and civil engineering
C105.2	Understand the forms and functions of several foundational systems and characteristics of soil
C105.3	Understand concise synopsis of the main aspects of construction materials and their properties
C105.4	Develop a basic understanding of planning and different modes of transportation
C105.5	Understand fundamental knowledge of water treatment plants and drinking water requirements.
C105.6	Describe basic understanding of irrigation network systems

Subject(Code): Universal Human Values(C106) **Year/Semester of Study:1st/1st**

COs	CO Statements
C106.1	Understand and analyse the essentials of human values and skills, self-exploration, happiness and prosperity.
C106.2	Evaluate coexistence of the "I" with the body.
C106.3	Identify and evaluate the role of harmony in family, society and universal order.
C106.4	Develop appropriate technologies and management patterns to create harmony in professional and personal lives.
C106.5	Understand and Associate the holistic perception of harmony at all tevls of existence
C106.6	Understand about awareness in professional ethics.

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Subject(Code): Physics Lab.(C107) Year/Semester of Study:1st /1st

COs	CO Statements
C107.1	Students will be able to express the idea of calculation of acceleration due to gravity at any place using the concept of oscillatory system and simple harmonic motion.
C107.2	Students will be able to understand the properties of light and principle of interference and diffraction also to develop skills in laboratory techniques, data analysis and error analysis.
C107.3	Students will be able to demonstrate the working and operational technique to calculate the mechanical properties of fluid and other materials.
C107.4	Student will be able to evaluate the voltage, current, power and characteristics behaviour of the electronic devices.
C107.5	Student will be able to understand the rigidity concept of solid materials.
C107.6	Students will be able to analyze the electrical and magnetic field measurements and their applications.

Subject(Code): Basic Electrical Engineering Lab (C108) Year/Semester of Study:1st/1st

COs	CO Statements
C108.1	Know the safety rules as per ISS and symbols of different electrical components and the use of various electrical instruments in the laboratory.
C108.2	Measure armature and field resistance of DC machines, earth resistance and insulation resistance and demonstrate the internal structure of different machines.
C108.3	Demonstrate the working and operational characteristics of dc motor and dc generator.
C108.4	Evaluate the voltage, current, power and power factor of choke coil and study BH curve of a ferromagnetic core.
C108.5	Analyze the connection and calibration of single phase energy meter
C108.6	Apply Thevenin and Norton’s theorem to dc circuits

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Subject(Code): Programming Lab.(C109) **Year/Semester of Study: 1st/1st**

COs	CO Statements
C109.1	Apply programming fundamentals through practical exercises,
C109.2	Apply programming logic and problem-solving skills, as evidenced by their ability to develop programs
C109.3	Demonstrate proficiency in programming logic and problem-solving by designing programs in C.
C109.4	Demonstrate their competence by utilizing programming concepts such as functions, recursion, and structures in practical programming scenarios.
C109.5	Demonstrate proficiency in pointer usage, dynamic memory allocation, and linked lists.
C109.6	Apply data structures and algorithms, implementing stack, queue, sorting, and search operations in C.

Subject(Code): Engineering Graphic and Design Lab (C110) **Year/Semester of Study: 1st/1st**

COs	CO Statements
C110.1	The students will be able to understand the basics of AutoCAD and perform simple drawing using commands.
C110.2	The students will be able to perform free hand sketching of basic geometrical constructions and multiple views of objects using the various types of scales.
C110.3	The students will be able to different geometrical figures and engineering curves using physical instruments and Autocad.
C110.4	The students will be able draw the projections of points, straight lines and plane surfaces in given quadrant.
C110.5	The students will be able to draw projections and solids and can develop geometrical surfaces.
C110.6	The students will be able prepare isometric and perspective sections of simple solids.