

K. S. Institute of Technology
DEPARTMENT OF SCIENCE AND HUMANITIES
COURSE OUTCOMES 2019-23 BATCH
I SEMESTER

Course code 18MAT11	Course: CALCULUS AND LINEAR ALGEBRA
18MAT11.1	Make use of matrix theory for solving system of linear equations and compute Eigen values and Eigen vectors required for matrix diagonalization process.
18MAT11.2	Establish the notation of partial differentiation to calculate rates of change of multivariate functions and solve problems related to composite functions and Jacobians.
18MAT11.3	Apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bending of a curve.
18MAT11.4	Solve first order linear/nonlinear differential equations analytically using standard methods.
18MAT11.5	Utilize the concept of change of order of integration and variables to evaluate multiple integrals and their usage in computing the area and volumes.

Course code 18CHE12	Course: ENGINEERING CHEMISTRY
18CHE12.1	Make use of Electrochemical energy systems, battery by using the principles of electrochemistry and study its applications.
18CHE12.2	Identify the concepts of corrosion & apply their knowledge for protection of metals from using different method.
18CHE12.3	Solve energy crisis, knocking in IC engine and emission of toxic pollutants using alternate energy sources (Solar energy, biodiesel and power alcohol).
18CHE12.4	Utilize of sewage treatment, desalination of sea water and control of environmental pollution.
18CHE12.5	Build the knowledge of instrumental methods of analysis and applications of nano materials.

Course code 18CPS13	Course: C PROGRAMMING FOR PROBLEM SOLVING
18CPS13.1	Illustrate simple algorithms from the different domains such as mathematics and physics.
18CPS13.2	Construct a programming solution to the given problem using C.
18CPS13.3	Construct C programs by using arrays, strings and develop modular programs using basic algorithms.
18CPS13.4	Make use of functions and recursion concepts, develop and implement C programming.
18CPS13.5	Construct the C programs by using structures and pointer concepts.

Course code 18ELN14	Course: BASIC ELECTRONICS
18ELN14.1	understand the characteristics and operation of Semiconductor Devices
18ELN14.2	Design electronic circuits for different applications
18ELN14.3	Design analog circuits using operational amplifiers
18ELN14.4	Design Combinational and Sequential circuits using digital electronic fundamentals
18ELN14.5	Illustrate the principles of communication system

Course code 18ME15	Course: ELEMENTS OF MECHANICAL ENGINEERING
18ME15.1	Demonstrate different types of sources of energy; environmental issues like global warming, Ozone depletion, Basic concepts of thermodynamics and steam.
18ME15.2	Illustrate the Boilers and its accessories; principle of operation of different types Turbines and pumps; types of IC engines, Refrigeration and air conditioning and its working principle.
18ME15.3	Explain the Properties, composition and application of engineering metals; Joining processes, belt drive and gear drives; Machining process like Lathe and milling process; Advanced machining processes like CNC and Robots.
18ME15.4	Calculate the internal energy, entropy and enthalpy of thermodynamic system; thermodynamic properties of steam; the efficiency, power and other related working parameters of IC engines.
18ME15.5	Derive the length of the belt in open and cross belt drive and solve the related problems of Belt drive and gear drives.

Course code 18CHEL16	Course: ENGINEERING CHEMISTRY LAB
18CHEL16.1	Estimate the amount of analytic present in the solution using the principles of electro analytical techniques (pH Meter, Conducometer, Potentiometer, Flame Photometry and Photoelectric Colorimeter)
18CHEL16.2	Determine the viscosity coefficient of liquid using Ostwald's Viscometer
18CHEL16.3	Estimate the amount of Cao in cement and Total Hardness of water by complex metric Titration
18CHEL16.4	Estimate the % of copper in brass by Iodometric Titration
18CHEL16.5	Estimate the amount of iron in hematite ore and COD in waste water by Redox Titration & Estimate the % of chlorine in bleaching powder by Iodometric Titration.

Course code 18CPL17	Course: C PROGRAMMING LAB
18CPL17.1	Illustrate the knowledge on various parts of a computer.
18CPL17.2	Develop flow charts and write algorithms for every C programs.
18CPL17.3	Develop C problem solving skills.
18CPL17.4	Develop modular programming skills
18CPL17.5	Analyze the tracing and debugging of a program

Course code 18EGH18	Course: TECHNICAL ENGLISH - I
18EGH18.1	Make use of grammatical english and essentials of language skills and identify nuances of phonetics and intonation and flawless pronunciation.
18EGH18.2	Construct english vocabulary at command and language proficiency.
18EGH18.3	Identify common errors in spoken and written communication.
18EGH18.4	Apply and improve the non verbal communication and kinesics.
18EGH18.5	Build in campus recruitment, engineering and all other general competitive examinations

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Course code 18MAT21	Course: ADVANCED CALCULUS AND NUMERICAL METHODS
18MAT21.1	Apply the knowledge of numerical methods in the modeling of various physical and engineering phenomena
18MAT21.2	Demonstrate various physical models through higher order differential equations and solve such linear ordinary differential equations.
18MAT21.3	Construct a variety of partial differential equations and solution by method of separation of variables.
18MAT21.4	Illustrate the applications of multivariate calculus to understand the solenoid and irrational vectors and also exhibit the inner dependence of line, surface and volume integrals.
18MAT21.5	Explain the application of infinite series and obtain series solutions of ordinary differential equations

Course code 18PHY22	Course: ENGINEERING PHYSICS
18PHY22.1	Obtain the knowledge of Quantum Mechanics; compute Eigen values, Eigen function, momentum of atomic and subatomic particles. Apprehend theoretical background of laser, construction and working of different types of lasers and its application in different fields.
18PHY22.2	Make use of different theoretical models to study the electrical and thermal properties of materials like conductors, semiconductors and dielectrics to understand its use in engineering applications.
18PHY22.3	Build the concept of shock waves; discover the role of shock waves in various fields. Understand the various types of oscillations and their implications.
18PHY22.4	Identify the elastic properties of materials; impart the knowledge to understand its engineering applications.
18PHY22.5	Establish the interrelation between time varying electric and magnetic field, transverse nature of electromagnetic waves and realize their role in optical fiber communication.

Course code 18ELE23	Course: BASIC ELECTRICAL ENGINEERING
18ELE23.1	Make use of Ohms law & Kirchoff's laws to study the behavior of electrical circuits with DC sources.
18ELE23.2	Establish relationship between different quantities of electrical circuits powered by single phase and three phase AC sources.
18ELE23.3	Identify the operation of single phase transformers and the concepts of electrical wiring.
18ELE23.4	Identify the performance characteristics of three AC generators and motors.
18ELE23.5	Estimate the performance of DC generators and DC motors.

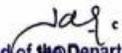
Course code 18CIV24	Course: ELEMENTS OF CIVIL ENGINEERING & MECHANICS
18CIV24.1	Outline the Role of Civil Engineer in different fields of civil engineering & Infrastructure development of the country and explain free body diagrams, types of force systems and its theorems.
18CIV24.2	Explain the Newton's law of motion, Kinetics, Kinematics, projectiles, Trusses, Wedge and ladder friction
18CIV24.3	Solve for resultant force in the system and also for friction in bodies viz; Wedge and ladder friction
18CIV24.4	Make use of centroid to analyze geometrical figures and solve for support reactions for various beams
18CIV24.5	Solve for moment of inertia and identify the parameter required for Kinematics, Kinetics & Projectiles

Course code 18EGDL25	Course: ENGINEERING GRAPHICS
18EGDL25.1	Explain the standards and conventions followed in preparation of Engineering Drawings
18EGDL25.2	Demonstrate projections of Points, Lines and Plane surfaces on Horizontal and Vertical Planes
18EGDL25.3	Construct the orthographic view of Solids at different positions
18EGDL25.4	Develop the lateral surface of various solids
18EGDL25.5	Build isometric projections which will be helpful in representing the objects in three dimensional appearances

Course code 18PHYL26	Course: ENGG PHYSICS LAB
18PHYL26.1	Analysis the concepts of quantum mechanics to verify the Stefan's law and understand Fermi energy in metals.
18PHYL26.2	Examine the characteristics of Zener diode, photo diode, transistor by utilizing the concepts of semiconductors physics.
18PHYL26.3	Discover the ability to use various passive electrical components, determine Dielectric constant and electrical resonance.
18PHYL26.4	Analysis the concepts of diffraction and interference of light by using diffraction grating and Newton's ring.
18PHYL26.5	Inspect the modulus of elasticity for various rigid bodies by setting up torsional pendulum and uniform bending.

Course code 18EEL27	Course: BASIC ELECTRICAL ENGINEERING LAB
18EEL27.1	Analyse the effect of open circuit and short circuit in DC circuits using KCL, KVL.
18EEL27.2	Compare the power factor for different types of lamps
18EEL27.3	Measure the parameters of choke coil and earth resistance
18EEL27.4	Measure current and the power consumed in three phase load.
18EEL27.5	Examine the truth table for two-way and three-way control of lamps.

Course code 18EGH28	Course: TECHNICAL ENGLISH -II
18EGH28.1	Identify the common errors in spoken and written communication.
18EGH28.2	Get familiarized with English vocabulary and language proficiency.
18EGH28.3	Improve nature and style of sensible writing and acquire employment and work place communication skills.
18EGH28.4	Improve the technical communication skills through technical reading and writing practices.
18EGH28.5	Perform well in campus recruitment, engineering and all other general competitive examinations.


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