



Cambridge Institute of Technology

First year : Common to all branches

Course outcomes of 2017 scheme

| Course Code | Course Name | Course Outcomes-On completion of this course the students will be able to |
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| 17MAT11 | Engineering Mathematics-I | <p>CO1: Use partial derivatives to calculate rates of change of multivariate functions.</p> <p>CO2: Analyze position, velocity, and acceleration in two or three dimensions using the calculus of vector valued functions.</p> <p>CO3: Recognize and solve first-order ordinary differential equations, Newton's law of cooling</p> <p>CO4: Use matrices techniques for solving systems of linear equations in the different areas of Linear Algebra.</p> |
| 17MAT21 | ENGINEERING MATHEMATICS-II | <p>CO1: solve differential equations of electrical circuits, forced oscillation of mass spring and elementary heat transfer.</p> <p>CO2: solve partial differential equations fluid mechanics, electromagnetic theory and heat transfer.</p> <p>CO3: Evaluate double and triple integrals to find area , volume, mass and moment of inertia of plane and solid region.</p> <p>CO4: Use curl and divergence of a vector valued functions in various applications of electricity, magnetism and fluid flows.</p> <p>CO5: Use Laplace transforms to determine general or complete solutions to linear ODE</p> |

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| 17CHE12 | ENGINEERING CHEMISTRY | <p>CO1: Electrochemical and concentration cells. Classical & modern batteries and fuel cells.</p> <p>CO2: Causes & effects of corrosion of metals and control of corrosion. Modification of surface properties of metals to develop resistance to corrosion, wear, tear, impact etc. by electroplating and electro less plating.</p> <p>CO3: Production & consumption of energy for industrialization of country and living standards of people. Utilization of solar energy for different useful forms of energy.</p> <p>CO4: Replacement of conventional materials by polymers for various applications.</p> <p>CO5: Boiler troubles; sewage treatment and desalination of sea water.</p> <p>CO6: Over viewing of synthesis, properties and applications of nanomaterials.</p> |
| 17PHY12 | ENGINEERING PHYSICS | <p>CO1: Learn and understand more about basic principles and to develop problem solving skills and implementation in technology.</p> <p>CO2: Gain Knowledge about Modern physics and quantum mechanics will update the basic concepts to implement the skills.</p> <p>CO3: Study of material properties and their applications is the prime role to understand and use in engineering applications and studies.</p> <p>CO4: Study Lasers and Optical fibers and its applications are to import knowledge and to develop skills and to use modern instruments in the engineering applications.</p> <p>CO5: Understand Crystal structure and applications are to boost the technical skills and its applications. CO6: Expose shock waves concept and its applications will bring latest technology to the students at the first year level to develop research orientation programs at higher semester level.</p> <p>CO7: Understand basic concepts of nano science and technology.</p> |

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| 17CIV13 | ELEMENTS OF CIVIL ENGINEERING AND MECHANICS | <p>CO1: Know basics of Civil Engineering, its scope of study, knowledge about Roads, Bridges and Dams</p> <p>CO2: Comprehend the action of Forces, Moments and other loads on systems of rigid bodies.</p> <p>CO3: Compute the reactive forces and the effects that develop as a result of the external loads.</p> <p>CO4: Locate the Centroid and compute the Moment of Inertia of regular crosssections.</p> <p>CO5: Express the relationship between the motion of bodies and 6. Equipped to pursue studies in allied courses in Mechanics.</p> |
| 17EME14 | ELEMENTS OF MECHANICAL ENGINEERING | <p>CO1: Various Energy sources, Boilers, Prime movers such as turbines and IC engines, refrigeration and air-conditioning systems .</p> <p>CO2: Metal removal process using Lathe, drilling, Milling Robotics and Automation.</p> <p>CO3: Fair understanding of application and usage of various engineering materials.</p> |
| 17ELE15 | BASIC ELECTRICAL ENGINEERING | <p>CO1: To predict the behaviour of electrical and magnetic circuits. CO2: Select the type of generator / motor required for a particular application.</p> <p>CO3: Realize the requirement of transformers in transmission and distribution of electric power and other applications.</p> <p>CO4: Practice Electrical Safety Rules & standards.</p> <p>CO5: To function on multi-disciplinary teams.</p> |
| 17WSL16 | WORKSHOP PRACTICE | <p>CO1: Demonstrate and produce different types of fitting models.</p> <p>CO2: Gain knowledge of development of sheet metal models with an understanding of their applications. CO3: Perform soldering and welding of different sheet metal & welded joints.</p> <p>CO4: Understand the Basics of Workshop practices.</p> |

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| 17PHYL17 | ENGINEERING PHYSICS LAB | <p>CO1: Develop skills to impart practical knowledge in real time solution.</p> <p>CO2: Understand principle, concept, working and application of new technology and comparison of results with theoretical calculations.</p> <p>CO3: Design new instruments with practical knowledge.</p> <p>CO4: Gain knowledge of new concept in the solution of practical oriented problems and to understand more deep knowledge about the solution to theoretical problems.</p> <p>CO5: Understand measurement technology, usage of new instruments and real time applications in engineering studies.</p> |
| 17CPH39 | CONSTITUTION OF INDIA, PROFESSIONAL ETHICS & HUMAN RIGHTS | <p>CO1: Have general knowledge and legal literacy about Indian Constitution and there by it helps to take up competitive examinations & to manage/face complex societal issues in society.</p> <p>CO2: Understand state and central policies(Union and State Executive), fundamental Rights & their duties. CO3: Understand Electoral Process, Amendments and special provisions in Constitution.</p> <p>CO4: Understand powers and functions of Municipalities, Panchayats and Co-operative Societies, with Human Rights and NHRC.</p> <p>CO5: Understand Engineering & Professional ethics and responsibilities of Engineers</p> |
| 17PCD13 | PROGRAMMING IN C AND DATA STRUCTURES | <p>CO1: Achieve Knowledge of design and development of C problem solving skills.</p> <p>CO2: Understand the basic principles of Programming in C language</p> <p>CO3: Design and develop modular programming skills.</p> <p>CO4: Effective utilization of memory using pointer technology</p> <p>CO5: Understands the basic concepts of pointers and data structures.</p> |

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| 17CED14 | COMPUTER AIDED ENGINEERING DRAWING | <p>CO1: Students will be able to demonstrate the usage of CAD software.</p> <p>CO2: Students will be able to visualize and draw Orthographic projections, Sections of solids and Isometric views of solids.</p> <p>CO3 Students are evaluated for their ability in applying various concepts to solve practical problems related to engineering drawing.</p> |
| 17ELN15 | BASIC ELECTRONICS | <p>CO1: Appreciate the significance of electronics in different applications.</p> <p>CO2: Understand the applications of diode in rectifiers, filter circuits and wave shaping.</p> <p>CO3: Apply the concept of diode in rectifiers, filters circuits</p> <p>CO4: Design simple circuits like amplifiers (inverting and non-inverting), comparators, adders, integrator and differentiator using OPAMPS.</p> <p>CO5: Compile the different building blocks in digital electronics using logic gates and implement simple logic function using basic universal gates.</p> <p>CO6: Understand the functioning of a communication system, and different modulation technologies.</p> <p>CO7: Understand the basic principles of different types of Transducers.</p> |
| 17CPL 16 | COMPUTER PROGRAMMING LABORATORY | <p>CO1: Gaining Knowledge on various parts of a computer.</p> <p>CO2: Able to draw flowcharts and write algorithms</p> <p>CO3: Able design and development of C problem solving skills. CO4: Able design and develop modular programming skills.</p> <p>CO4: Able to trace and debug a program.</p> |

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| 17CHEL17 | ENGINEERING CHEMISTRY LABORATORY | <p>CO1: Handling different types of instruments for analysis of materials using small quantities of materials involved for quick and accurate results.</p> <p>CO2: Carrying out different types of titrations for estimation of concerned in materials using comparatively more quantities of materials involved for good results</p> |
| 17CIV18 | ENVIRONMENTAL STUDIES | <p>CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale.</p> <p>CO2: Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.</p> <p>CO3: Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components CO4: Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues</p> |



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