F.Y. B.Tech Electronics and Telecommunication Engineering

AY 2023-24   SEM-I

Course Outcomes:

Course 1: Linear Algebra and Differential Calculus (2300101A)

On completion of the course, students will be able to:

CO2300101A.1: Interpret the concepts of Jacobians, rank, quadratic form, canonical form, transformations, Eigen values, Eigen vectors and probability.

CO2300101A.2: Solve problems on linear algebra, partial derivatives and probability.

CO2300101A.3: Apply concepts of linear algebra, differential calculus and probability to engineering problems.

CO2300101A.4: Use computational tools for solving mathematical problems.

CO2300101A.5: Analyze the nature of quadratic forms, extreme values of the function, error and approximations.

Course 2: Applied Physics (2300103A)

On completion of the course, students will be able to:

CO2300103A.1: Describe basics of electromagnetics, advanced materials, wave optics, wave mechanics and environmental energy

CO2300103A.2: Classify advanced materials, refracting crystals and solar cell

CO2300103A.3: Explain properties of superconductors, nano-materials and matter waves

CO2300103A.4: Calculate characteristics of electromagnetic circuits and optical devices, conductivity, efficiency of solar and wind power unit.

CO2300103A.5: Use concepts of electromagnetic effect, semiconductors, wave optics and wave equations in real life problems

Course 3: Fundamentals of Electronics Engineering (2300107A)

On completion of the course, students will be able to:

CO2300107A.1: Describe the working of semiconductor diodes, transistors and OpAmp.

CO2300107A.2: Explain the basics of number systems, logic gates, Boolean algebra, electronic communication system, AM, FM, cellular concepts and GSM system

CO2300107A.3: Apply the knowledge of semiconductor diodes, transistors and OpAmp in realization of basic analog circuits

CO2300107A.4: Apply the knowledge of number systems, logic gates and Boolean algebra in realization of basic digital circuits.

CO2300107A.5: Analyze the basic analog and digital application circuits.

Course 4: Programming in C (2300108A)

On completion of the course, students will be able to:

CO2300108A.1: Illustrate algorithm, flowchart for a given problem

CO2300108A.2: Apply fundamentals of 'C' programming to solve a given problem

CO2300108A.3: Build a solution for a given problem using conditional and iterative algorithmic constructs

CO2300108A.4: Use arrays and functions in developing programs

CO2300108A.5: Develop program using structure

Course 5: Communication Skills (2300112A)

On completion of the course, students will be able to:

CO2300112A.1: Develop effective communication skills including Listening, Reading, Writing and Speaking

CO2300112A.2: Practice professional etiquette and present oneself confidently.

CO2300112A.3: Function effectively in heterogeneous teams through the knowledge of team work, Inter-personal relationships, conflict management and leadership quality.

CO2300112A.4: Evaluate oneself by performing SWOC Analysis to introspect about individual's goals and aspirations.

CO2300112A.5: Constructively participate in group discussion, meetings and prepare and deliver Presentations.

Course 6: Additive Manufacturing (2300111B)

On completion of the course, students will be able to:

CO2300111B.1: Construct different Geometrical figures using drawing Instruments

CO2300111B.2: Draw orthographic Projections giving proper dimensioning with title block using appropriate line type and scale

CO2300111B.3: Draw isometric projection from orthographic views (and vice-versa) and draw oblique projection from orthographic views

CO2300111B.4: Perform CAD application in 2D interface

CO2300111B.5: Create and plot assembly and detail views of simple geometrical solid with Dimension, Tolerance & Annotation in 3D Modeling

CO2300111B.6: Explain Additive Manufacturing (AM) Technology and emerging trends in Additive Manufacturing

Course 7: Sports, Yoga and Art (2300115A)

On completion of the course, students will be able to:

CO2300115A.1: Write critics about books & films and understand the problems of rural India.

CO2300115A.2: Present the knowledge gained by all coo curricular activities.

CO2300115A.3: Perform Yoga and play different sports of his own development.

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Course Outcomes:

Course 8: Differential Equations and Integral Calculus (2300102A)

On completion of the course, students will be able to:

CO2300102A.1: Explain types of differential equations, finite differences and multiple integrals.

CO2300102A.2: Solve problems on differential equations and multiple integrals.

CO2300102A.3: Apply concept of numerical methods, differential and multivariate calculus to engineering problems.

CO2300102A.4: Use computational tools for solving mathematical problems.

CO2300102A.5: Analyze the solution of differential equations, numerical differentiation & integration and multiple integrals.

Course 9: Applied Chemistry (2300104A)

On completion of the course, students will be able to:

CO2300104A.1: Describe different techniques used for chemical entities present in fluids, fuel, polymer, alloys

CO2300104A.2: Select appropriate technology involved in determination of purity and properties of material.

CO2300104A.3: Illustrate causes and preventive measures of ill effect of hard water and corrosion

CO2300104A.4: Analyse the fluids, fuels and selection of appropriate purification methods.

CO2300104A.5: Compare composition of fuels, purity of water and mitigation for corrosion control

Course 10: Programming in C++ (2300109A)

On completion of the course, students will be able to:

CO2300109A.1: Illustrate Object Oriented Programming concepts to solve various computing roblems using C++

CO2300109A.2: Apply the concept of Inheritance for reusability of a class

CO2300109A.3: Apply Polymorphism to build a solution

CO2300109A.4: Use template and e ception handling in a given problem

CO2300109A.5: Use files for developing a program

Course 11: Engineering Drawing (2300110A)

On completion of the course, students will be able to:

CO2300110A.1: Explain the need of engineering drawing and its standards.

CO2300110A.2: Interpret engineering drawing by visualization.

CO2300110A.3: Draw projections of 2D and 3D objects.

CO2300110A.4: Apply manual and computerized graphical tools to solve practical problems.

Course 12: Electrical Networks (2300118E)

On completion of the course, students will be able to:

CO2300118E.1: Apply Thevenin's and Norton's theorems to analyze and design for maximum power transfer

CO2300118E.2: Evaluate the performance of RL, RC, and RLC circuits by the application of Laplace transform

CO2300118E.3: Analyze the given network using different two port network parameters

Course 13: Indian Knowledge System (2300116A)

On completion of the course, students will be able to:

CO2300116A.1: Understand the term 'Indian Knowledge System' it's framework andkey components

CO2300116A.2: Appreciate the measurement techniques and mathematics in IKS

CO2300116A.3: Identify and elaborate the applications of IKS in engineering domain

Course 14: PCB Making (2300117D)

On completion of the course, students will be able to:

CO2300117D.1: Understand PCB designing basics

CO2300117D.2: Study different types of electronic components

CO2300117D.3: Study different PCB design tools

CO2300117D.4: Apply software used in PCB Design

CO2300117D.5: Fabricate PCB

Course 15: Engineering Exploration (2300115B)

On completion of the course, students will be able to:

CO2300115B.1: Apply principles from several disciplines.

CO2300115B.2: Demonstrate long-term retention of knowledge and skills acquired.

CO2300115B.3: Function effectively as a team to accomplish a desired goal.

CO2300115B.4: Explore an Engineering Product and prepare its Mind map

CO2300115B.5: Enhance their learning ability to solve practical problems.