

**SUBJECT:** Engineering Mathematics-I

**Subject Code:** 1FY2-01

**Year/Sem:** B.Tech I Year/ I Sem

## **Course Outcomes**

At the end of the course

- CO 1:** Students will be able to **Define** Improper Integrals, Sequence and Series, Fourier Series, Multivariable Calculus.
- CO 2:** Students will be able to **understand** the concept of improper integrals, maxima & minima of two or more variables, Multiple Integration , Convergence of Sequence and Series, Vector differentiation and Integration.
- CO 3:** Students will be able to **Apply** Beta and Gamma function in integration to calculate area, volume for the regions, Test for convergence of sequence and Series.
- CO 4:** Students will be able to **Differentiate** Ordinary and partial differentiation and Examine the convergence of series'.
- CO 5:** Student will be able to **Evaluate** Improper integrals using Beta & gamma Functions, Double and Triple integration, Volume and Surface area of solids of revolution, Fourier series.

**SUBJECT:** Engineering Mathematics-II

**Subject Code:** 2FY2-01

**Year/Sem:** B.Tech I Year/ II Sem

### **Course Outcomes**

At the end of the course

**CO 1:** Students will be able to **Define** Matrix, Ordinary and Partial differential equations.

**CO 2:** Students will be able to **understand** the concept of Matrix, Solution of First and higher order Ordinary and Partial differential equations.

**CO 3:** Students will be able to **Solve** Matrix, Ordinary and Partial differential equations.

**CO 4:** Students will be able to Differentiate between Ordinary and Partial differential equations.

**CO 5:** Student will be able to **Evaluate** Rank, Inverse of Matrix, and Solution of linear equations by Matrix.

**Subject Name:** Engineering Physics      **Subject Code:** 1FY2-02/ 2FY2-02

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

After completion of course the student will able to

**CO 1: Define** phenomenon of light, coherence, optical fiber and semiconductor.

**CO 2: Understand** wave optics, Laser, material science and quantum mechanics.

**CO 3: Apply** the knowledge of Interference, diffraction, Laser and optical fiber.

**CO 4: Analyze** various applications of light, material science and quantum mechanics.

**CO 5: Evaluate** problems based on light, Schrodinger equations and electrodynamics.

**Subject Name:** Engineering Physics Lab      **Subject Code:** 1FY2-20/2FY2-20

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

After completion of course the student will able to

**CO 1:** Analyze the intensity of light due to interference and diffraction.

**CO 2:** Apply fundamental of physics in engineering application.

**CO 3:** Learn about the characteristics of LASER.

**Subject Name:** Engineering Chemistry      **Subject Code:** 1FY2-03/2FY2-03

**Year/Sem:**            B.Tech I Year/ I/II Sem

### **Course Outcomes**

After completion of course the student will be able to-

**CO 1: Define** the hardness of water, organic fuel, corrosion, cement, glass and lubricant

**CO 2: Describe** the chemical process to determine hardness, manufacturing of fuel, cement, glass and drugs

**CO 3: Apply** the knowledge for the removal of hardness, to remove boiler troubles and protection of different metals from corrosion

**CO 4: Analyze** the quality of water, fuel, cement and lubricant

**CO 5: Recommend** major chemical reactions that are used in the synthesis of petrol, cement, glass and drugs

**SUBJECT:** Engineering Chemistry Lab      **SUBJECT Code:** 1FY2-21/2FY2-21

**Year/Sem:**            B.Tech I Year/ I/II Sem

### **Course Outcomes**

**CO 1:** Learn the quantitative analysis methods of the unknown samples of solutions.

**CO 2:** Perform accurate analysis of the hardness of water.

**CO 3:** Understand the significance of the physical properties of the lubricants.

**Subject:** Communication Skills

**Subject Code:** 1FY1-04/2FY1-04

**Year/Sem:** B.Tech I Year/ I/II Sem

## **Course Outcomes**

**After the completion of the program the students will be able to-**

- CO 1:** Identify the concepts of communication, rules of grammar, types of professional documents and literary works.
- CO 2:** Describe and explain the nuances of communication, formats of written communication in professional world and comprehend literature
- CO 3:** **Demonstrate** effective communication skills, draft professional documents, apply concepts of grammar in framing language in oral and written scripts.
- CO 4:** **Analyze** the importance of effective communication in oral and written form and critically examine literary works for better comprehension.
- CO 5:** **Illustrate** communication skills in oral and written form and enhance the ability to comprehend with a wide perspective.

**Subject:** - Language Lab

**Subject Code-**1FY1-22/2FY1-22

**Year/Sem:** B.Tech I Year/ I/II Sem

## **Course Outcomes**

**After the completion of the program the students will be able to-**

- CO 1:** Develop fluency in English language and improve accent.
- CO 2:** Apply the knowledge of communication for effective performance in GDs, extempore etc.
- CO 3:** Comprehend the language to give appropriate response to ensure success in professional life.

**Subject: Human Values**

**Subject code: 1FY1-05/2FY1-05**

**Year/Sem: B.Tech I Year/ I/II Sem**

### **Course Outcomes**

**After the completion of the program the students will be able to-**

- CO 1: Identify** the meaning of value education and its importance in different levels of existence.
- CO 2: Describe the** relationship between self and body, human beings and explore the self for evolving as a responsible human being in society and nature.
- CO 3: Demonstrate** the principles of value education in managing the self, body, relationships, environment and professional life
- CO 4: Analyze** the concept of harmony at all levels of living to create universal human order.
- CO 5: Illustrate and apply** the learning of value education to create right understanding in all aspects of living leading to ethical human conduct

**Subject: Human Values Activity Lab**

**Subject Code: 1FY1-23/2FY1-23**

**Year/Sem: B.Tech I Year/ I/II Sem**

### **Course Outcomes**

**After the completion of the program the students will be able to-**

- CO 1:** Develop the understanding values and their importance in life.
- CO 2:** Analyse the concept of Self and Body in relation to the entire existence.
- CO 3:** Create harmony at all levels of existence for attaining Universal Human Order.

**Subject Name:** Basic Mechanical Engineering **Subject Code:** 1FY3-07 /2FY3-07

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**CO 1:** To understand basic fundamentals and explore the concepts of mechanical, industrial, thermal engineering with boilers, turbines and power plants.

**CO 2:** Demonstration of the working, application and classification of various pumps and IC engines.

**CO 3:** Analyze fundamental concepts on different modes of power transmission and refrigeration air-conditioning system.

**CO 4:** To enhance the industrial production aspects by introducing basic primary manufacturing processes such as casting, forming, joining etc.

**CO 5:** Identify various engineering materials with their properties and understand fundamental concepts of heat treatment of steel.

**Subject Name: COMPUTER AIDED ENGINEERING GRAPHICS**

**Subject Code: 1FY3-28 /2FY3-28**

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**Student will be able to**

**CO 1:** Learn about the legible writing letters, numbers, basic sketching techniques and instrumental drawing will be improved.

**CO 2:** Present the scale drawings of the visualized objects will be increased.

**CO 3:** Become familiar with practice and standards in technical drawing.

**Subject Name:** Computer Aided Machine Drawing

**Subject Code:** 1FY3-29/ 2FY3-29

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**Student will be able to**

**CO 1:** Learn about the legible writing letters and numbers will be improved.

**CO 2:** Perform basic sketching techniques and instrumental drawing will be improved.

**CO 3:** Draw orthographic projections of different objects irrespective of number of dimensions and to develop pictorial views.

**Subject Name :** Manufacturing Practice Workshop

**Subject Code :** 1FY3-25/2FY3-25

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**Student will be able to**

**CO 1:** Learn about the various marking, measuring & cutting devices and to know about the importance of manufacturing through practice in various shops.

**CO 2:** Learn the basic manufacturing processes of fitting, carpentry, Casting, Joining and machining through hands on experience and use of hand tools.

**CO 3:** Get familiarized with the properties of different materials- metals and non metals.



**Subject Name:** Programming for Problem Solving **Subject Code:** 1FY3-06/2FY3-06

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**CO 1:** Remember the computer architecture and stored programs.

**CO 2:** Understand the fundamentals of basic terminology in C programming.

**CO 3:** Develop algorithmic solutions to simple computational problems.

**CO 4:** Apply basic structure of C programming that includes data types, operators, variables and I/O functions.

**CO 5:** Analyze the program and able to implement it using control statements with conditional and iterative statements, arrays and strings.

**Subject Name:** Computer Programming Lab **Subject Code:** 1FY3-24/2FY3-24

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**CO 1:** Have knowledge related to the concept of programming and their applications.

**CO 2:** Understand the characteristics of programming tools.

**CO 3:** Demonstrate the skill to develop programming related projects.

**Subject Name:** Basic Civil Engineering **Subject Code:** 1FY3-09/2FY3-09

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

- CO 1:** To discuss about civil engineering and its role & scope aspects, surveying & its principles
- CO 2:** To illustrate about building materials & components of building and instrument knowledge using for linear measurement and angular measurement.
- CO 3:** To analyze the role of environmental engineering and control on water, air and noise pollutions.
- CO 4:** To distinguish about leveling and its procedure & can be determine that why leveling is important in civil engineering
- CO 5:** To articulate about the modes of transportation engineering & also know about road traffic signs and road safety measures, and the methods using the instrument for leveling

**Subject Name:** Basic Civil Engineering Lab **Subject Code:** FY3-27/2FY3-27

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

- CO 1:** To learn about different methods using instruments such as chain, compass, leveling instruments and EDM.
- CO 2:** To perform accurate analysis of the hardness, PH and turbidity of water
- CO 3:** To understand about the network for water supply and sewage disposal effectively.

**Subject Name:** Basic Electrical Engineering **Subject Code:** 1FY3-08/2FY3-08

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**CO 1:** Students will be able to acquire fundamental **knowledge** of Electrical circuits and can solve circuit related problems.

**CO 2:** Students will be able to **explain** the fundamentals of AC circuits.

**CO 3:** Students will be able to **understand** the Power Converters

**CO 4:** Students will be able to **identify** and **differentiate** between various methods of Power measurement

**CO 5:** Students will be able to **analyze, justify** and **compare** the functioning of DC machines and transformers in different working conditions

**Subject Name:** Basic Electrical Engineering Lab **Subject Code:** 1FY3-26/2FY3-26

**Year/Sem:** B.Tech I Year/ I/II Sem

### **Course Outcomes**

**CO 1:** Student will be able to **understand** the basic fundamentals and explore the concepts of electrical and electronics engineering.

**CO 2:** Student will be able to **demonstrate** the machines, converters and switchgears.

**CO 3:** Student will be able to **use** the various types of concept of single phase transformer and three phase transformer.