

### III Year

#### MANAGERIAL ECONOMICS AND FINANCIAL ANALYSIS

**Course Outcomes:**At the end of the course,the student should be able to

- CO 1:Capable of analyzing fundamentals of economics such as demand, production, price, supply concepts etc., which helps in effective business administration.
- CO 2:Analyze economies of scale and the Break-Even Point.
- CO 3:Able to determine the Price-Output Relationship in different market Structures.
- CO 4:Analyze how to invest adequate amount of capital in order to get maximum return from selected business activity.
- CO 5:Analyze accounting statements like income & expenditure statement, balance sheet to understand financial performance of the business and to initiate the appropriate decisions to run the business profitably.

#### ELECTRONIC INSTRUMENTATION

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1:Develop skills in analyzing in advanced instrumentation application areas.
- CO 2 : Design instrumentation circuits for several applications.
- CO 3 : Improve their knowledge in Instrumentation associated with Several Industries.

#### SIGNAL CONDITIONING CIRCUITS

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Understand the importance of Transducers.
- CO 2 : Design the signal conditioning circuits for different instruments.
- CO 3 : Acquire analyze and automate the data.
- CO 4 : Implement the acquisition of real time variable in electrical format.

#### DIGITAL SIGNAL PROCESSING

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Understand the various operations on discrete time signals & systems.
- CO 2 : Apply DFT and FFT on Discrete time signals.
- CO 3 : Analyze and design an IIR digital filters.
- CO 4 : Analyze and design FIR digital filters.
- CO 5 : Understand the concept of multirate signal processing and its applications.

## ADVANCED ENGLISH COMMUNICATION & SOFT SKILLS LAB

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Evolve as effective communicators.
- CO 2 : Emerge as decision makers, time managers and good negotiators.
- CO 3 : Develop holistic soft skills.
- CO 4 : Develop critical and analytical skills.
- CO 5 : Present their skills confidently in the job market.
- CO 6 : Gather ideas and information, and organize them relevantly and coherently.
- CO 7 : Develop leadership and team building skills.

## INDUSTRIAL INSTRUMENTATION LAB

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Understand the control operation in the industry.
- CO 2 : Perform PLC programming to monitor and control the physical process.
- CO 3 : Gain knowledge in identifying the various instruments used to measure physical Parameters.

## LINEAR AND DIGITAL IC APPLICATIONS LAB

**Course Outcomes:**At the end of the course, student should be able to

- CO 1 : Design practical op-amp applications.
- CO 2 : Acquire confidence in designing all filters.
- CO 3 : Develop different applications of 555 timer practically.
- CO 4 : Design digital blocks using digital IC's.
- CO 5 : Analyze and design A/D and D/A convertors.

## EFFECTIVE TECHNICAL COMMUNICATION LAB

**Course Outcomes:**At the end of the course, student should be able to

- CO 1 : Attain proficiency in Technical Writing.
- CO 2 : Use English language appropriately to write effective reports, notes and summaries.
- CO 3 : Write Emails suitable for Professional Communication.
- CO 4 : Develop Analytical and Critical Thinking Skills.

## ANALYTICAL INSTRUMENTATION

**Course Outcomes:**At the end of the course, student should be able to

- CO 1 : Improve their knowledge in Instrumentation associated with several Industries like pharmaceutical, chemical etc.
- CO 2 : Gain knowledge in radioactive methods of analysis.
- CO 3 : Understand the basics of methods of component separation using analytical methods.

## MICROPROCESSOR AND MICROCONTROLLERS

**Course Outcomes:** At the end of the course, the student should be able to

- CO 1 : Write assembly level language programs for different application using assembler
- CO 2 : Interface the processor with different peripheral devices
- CO 3 : Understand the architectural difference between the processor and controllers
- CO 4 : Describe the instruction set and addressing modes of 8086 and 8051
- CO 5 : Understand the real time applications of timers and serial communication of 8051

## PROCESS CONTROL INSTRUMENTATION

**Course Outcomes:**At the end of the course, student should be able to

- CO 1 : Learn about automation concepts.
- CO 2 : Acquire confidence in designing a process control instrumentation system.
- CO 3 : Understand different functional elements in PCI system.
- CO 4 : Develop concepts in applying PID controllers for different control applications.

## TELEMETRY AND TELECONTROL

**Course Outcomes:** At the end of the course, student should be able to

- CO 1 : Appreciate the application of different telemetry systems and control to any process.
- CO : Get concept of multiplexing the signals for communication

## DIGITAL SYSTEM DESIGN

**Course Outcomes:** At the end of the course, student should be able to

- CO 1 : Understand design of digital systems using PLDs.
- CO 2 : Acquire confidence in designing complex sequential circuits.
- CO 3 : Get knowledge about fault detection and diagnosis in digital systems.
- CO 4 : Understand different types of test algorithms.

## PC BASED INSTRUMENTATION

**Course Outcomes:**At the end of the course, student should be able to

- CO 1 : Understand the importance of PC in the field of Instrumentation.
- CO 2 : Develop concepts of programming of Allen- Bradely PLCs and design a project.
- CO 3 : Design a project on control by using PLC as a controller.

## RELIABILITY ENGINEERING

**Course Outcomes:**At the end of the course, student should be able to

- CO 1 : Understand essentially what is meant by reliability and distinguish it from quality.
- CO 2 : Calculate reliability of the system knowing reliability of components.
- CO 3 : Calculate reliability of systems connected in series and parallel and combination thereof.
- CO 4 : Improve reliability and manage reliability of instruments and system.

## ARTIFICIAL NEURAL NETWORKS

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Understand the basics of Neural Networks and its functioning.
- CO 2 : Identify the various types of networks and its special features.
- CO 3 : Implement the Neural Networks using several softwares in different applications.

## COMPUTER NETWORKS (Professional Elective-II)

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Understand the basics of Network models and its architectures.
- CO 2 : Identify the various types of network layers and its applications.
- CO 3 : Implement the Networks using several softwares in different applications.

## MICROPROCESSOR AND MICROCONTROLLERS LAB

**Course Outcomes:**At the end of the lab course, the student should be able to

- CO 1 : Execute different programs for 8086 microprocessor in assembly level language using assembler.
- CO 2 : Interface various I/O Devices like stepper motor, Key board, ADC, DAC etc. with 8086 microprocessor.
- CO 3 : Set up communication between two microprocessors.

- CO 4 : Execute different programs for 8051 microcontroller using integrated development environment (IDE).
- CO 5 : Develop real time applications by interfacing 8051 with peripheral devices.

## PROCESS CONTROL INSTRUMENTATION LAB

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Get knowledge about automation.
- CO 2 : Understand real time applications in the industry functioning.
- CO 3 : Analyze interfacing between analog and digital devices.

## QUANTITATIVE ABILITY LAB

**Course Outcomes:**At the end of the course, the student should be able to

- CO 1 : Solve the problems using arithmetic, mensuration, geometry, averages & clocks & calendars questions.
- CO 2 : Practice general problems in Placement, CAT and GRE etc. tests.