



## **MANAV SCHOOL OF ENGINEERING & TECHNOLOGY**

Approved by AICTE New Delhi, Affiliated to SGBAU (DTE Code : 1276)

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### **5ME01 Heat Transfer**

After successfully completing the course, students will be able to:

- 1 Analyze the thermal systems by applying the fundamental concept of conduction, convection and radiation.
- 2 Apply the laws of radiations to heat transfer systems
- 3 Evaluate the heat transfer coefficients for forced and free convection.
- 4 Analyze the performance of heat exchangers

### **5ME02 Metrology and Quality Control**

After successfully completing the course, students will be able to:

- 1 Understand the concept of inspection, quality control and its importance to industry.
- 2 Demonstrate the skills of controlling various out of control processes using statistical quality control tools.
- 3 Understand the importance of improving production and productivity using Various Non Destructive Testing approach.
- 4 Apply the knowledge of various measurement standards and techniques in the industry to measure various parameters related to metrology.

### **5ME03 Kinematics of Machines**

After successfully completing the course, students will be able to:

- 1 Explain the concept of link, kinematic mechanisms, machines, inversions and their applications.
- 2 Analyze the mechanisms and machines on the basis of velocity and acceleration.

- 3 Apply the graphical and analytical methods for analysis and synthesis of mechanisms for the input-output coordination.
- 4 Explain the working principle and applications of different types of brakes, clutches, dynamometers and gear trains.

#### **5ME04 Measurement Systems**

After successfully completing the course, students will be able to:

- 1 Identify types, functional elements of Measurement system and types of input to the measurement system.
- 2 Use the concepts of general performance characteristics for choosing measuring instrument.
- 3 Demonstrate process of calibration of instruments.
- 4 Select and use instrument for various physical quantities.

#### **5ME05 Industrial Robotics and Applications**

After successfully completing the course, students will be able to:

- 1 Illustrate Robot's anatomy, joints types, wrist construction, robot standard configurations and their work space.
- 2 Explain the construction and working of different types of End Effectors.
- 3 Explain various robot drives, robot motion control and its levels.
- 4 Explain various methods of teaching and programming the robots.
- 5 Explain principle of working and applications of different types of robot sensors.
- 6 Identify a particular type of robot depending on the its application in manufacturing.