

# **M.Tech (Robotics and Automation)**

## **SYLLABUS FOR ENTRANCE TEST**

### **1. Engineering Mathematics**

Linear Algebra, Calculus, Probability and Statistics

### **2. Digital Logic**

Boolean algebra, Combinational and sequential circuits.

### **3. Manufacturing Technology**

Machining: Tools, Machining parameters and material removal rate; tool materials, Tool wear and tool life.

Machine Tools: Lathe, milling, drilling and shaping machines - principles, applications, and design.

Computer Integrated Manufacturing: Basic concepts of CAD and CAM, Geometric modelling, CNC; Automation in Manufacturing; Industrial Robots – configurations, drives and controls.

### **4. Basic Electrical Circuits and its Applications**

Ohm law, Kirchhoff's laws, Introduction to AC circuits, waveforms and RMS value, power and power factor, Single phase and three phase balanced circuits, energy meters, single phase transformer.

### **5. Electrical Machines**

Construction, Principle of operation, Types of motors used in industry (Induction motor, Servo Motor, DC Motor, Stepper motor), basic operation of motors.