4 EC6.4 MECHATRONICS

Unit 1: Introduction to mechatronics systems and components. Definitions of mechatronics, the mechatronics design process.

Unit 2: Principles of basic electronics, microprocessors and their applications, integrated circuits, sensors, actuators and other electrical/electronic hardware in mechatronics systems.

Unit 3: Principles of electronic/system communication. Interfacing, DA and AD converters, software and hardware, principles and tools to build mechatronics systems, system models

Unit 4: Selection of mechatronics elements namely sensors like encoders and resolvers, stepper and servomotors, hall screws, solenoids like actuators and controllers with applications to CNC systems, robotics, consumer, electronic product etc..

Unit 5: Business drivers for mechatronics, organizational structure for mechatronics, implementing a mechatronics design process.