

ET602M4 - Open Elective-II : Mechatronics System

P. Pages : 1

Time : Three Hours



GUG/S/23/13935

Max. Marks : 80

- Notes :
1. All questions carry marks as indicated.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Explain key element of Mechatronics system. **8**
b) Explain the concept of Human Machine Interaction. **8**
OR
2. a) Explain Mechatronics system with one example. **8**
b) Explain Mechatronics design approach. **8**
3. a) Explain the static characteristic of transducer. **8**
b) Explain the principle and operation of Optical Encoder. **8**
OR
4. a) Explain the dynamic characteristic of Transducers. **8**
b) Write short note on: **8**
i) Thermistor
ii) Thermocouple
5. a) What is actuators? Explains different types of actuators. **10**
b) How is sequencing done in pneumatic system. **6**
OR
6. a) What is the purpose of using filter in hydraulic system? **6**
b) Compare hydraulic system and pneumatic system. **6**
c) Compare open loop and close loop control system. **4**
7. a) Explain characteristics of Embedded system. **8**
b) Differentiate general purpose computing system and embedded system. **8**
OR
8. a) Explain magnetostictive actuators static characteristics. **8**
b) Explain PLD in detail. **8**
9. a) Design a mechatronics system for an automatic camera system? **8**
b) Write short note on: **8**
i) Chemical Microsensor.
ii) Biochemical microsensor.
OR
10. a) Design a mechatronics system for an automatic room heating system. **8**
b) Explain micro – fabrication technique in LIGA process. **8**
