CBCS SCHEME

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15ME753

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022
Mechatronics

Time: 3 hrs. Max. Marks: 80

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Define mechatronics and explain the design of mechtronics in brief. **(08 Marks)**
b. Explain the mechatronics as multidisciplinary scenario with neat sketch. **(08 Marks)**

OR

2 a. Explain Eddy current proximity sensor with neat sketch. **(08 Marks)**
b. Explain hall effect sensor with neat sketch. **(08 Marks)**

Module-2

3 a. Define microprocessor and explain µp 8085 A architecture with block diagram. **(10 Marks)**
b. Differentiate microprocessor and microcontroller. **(06 Marks)**

OR

4 a. Explain the different registers used in microprocessor 8085 A in brief. **(08 Marks)**
b. Explain Micro controller with block diagram. **(08 Marks)**

Module-3

5 a. Explain the programming and basic concept of ladder diagram. **(08 Marks)**
b. Define robot and explain the parts of robot in brief. **(08 Marks)**

OR

6 a. Explain the concept of PLC with neat block diagram. **(08 Marks)**
b. Explain the latching concept of PLC in brief. **(08 Marks)**

Module-4

7 a. Explain any one mechanical actuations system with neat sketches. **(06 Marks)**
b. Write a note on : i) Servo motor ii) AC motor. **(10 Marks)**

OR

8 a. Explain Solenoids and Relays in brief. **(08 Marks)**
b. Explain mechanical switches in brief. **(08 Marks)**

Module-5

9 a. Write a note on : i) Pressure relief valve ii) Pressure reducing valve. **(10 Marks)**
b. Explain double acting hydraulic cylinder with neat sketch. **(06 Marks)**

OR

10 a. Explain meter in hydraulic circuit with neat sketch. **(08 Marks)**
b. Explain cylinder sequencing circuit with neat diagram. **(08 Marks)**

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