



Mechatronics (1070)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answer sheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Attempt **any two** questions from each unit.
5. Figures to the right indicate full marks.
6. Assume suitable data, if necessary.
7. Neat diagram must be drawn whenever necessary.

UNIT – I

1. a) Draw the mechatronics system component and explain each component. **10**
b) Which type of transducer used for measuring rotary or linear position and explain it. **10**
c) Write short note on piezoelectric accelerometer. **10**

UNIT – II

2. a) What is the function of signal conditioning in mechatronics system. **10**
b) Write short notes on grounding and electrical interference. **10**
c) Explain the logarithmic amplifier used in conditioning the output of transducer. **10**

UNIT – III

3. a) Explain pneumatic system component used in mechatronics system. **10**
b) Draw and explain permanent magnet DC motor. **10**
c) Write a note on Geneva wheel. **10**

UNIT – IV

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|-------|---|----|
| 4. a) | Draw the block diagram of PLC and explain each block. | 10 |
| b) | Explain logical function AND OR. | 10 |
| c) | Explain PLC with common input circuit. | 10 |

UNIT – V

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| 5. a) | What is interfacing concept and explain it. | 10 |
| b) | Describe the digital IC output configuration. | 10 |
| c) | Explain interfacing of microcontroller to seven segment display. | 10 |
