U.S.N

P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Seventh Semester, B.E. - Industrial and Production Engineering
Semester End Examination; Jan. / Feb. - 2021
Mechatronics

Time: 3 hrs   *Max. Marks: 100*

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

UNIT - I

1 a.	Discuss on evaluation of Mechatronics.	8
b.	With sketch, explain open and closed loop system.	12
2 a.	Illustrate the working principle of automated washing machines.	10
b.	Explain static and dynamic characteristics of transducers.	6
c.	With sketch, explain Hall effect sensors.	4

UNIT - II

3 a.	Explain briefly operational amplifiers.	8
b.	Discuss on multiplexer.	4
c.	Discuss data acquisition system and digital signal processing.	8
4 a.	Discuss on pulse modulations.	10
b.	Summarize on visual display unit with sketch.	10

UNIT - III

5 a.	Briefly discuss with neat diagram 8085A microprocessor architecture.	10
b.	Discuss the Role of buses in MP [Microprocessor].	10
6 a.	Write the differences between Microprocessors and Microcontrollers.	10
b.	Discuss any three logic gates with sketches.	10

UNIT - IV

7 a.	What is Relay? Explain with sketch.	8
b.	Discuss the following with neat sketches; i) MOSFETs ii) Diodes	12
8 a.	Explain the principle of the brushless permanent magnet DC Motor.	10
b.	Explain 3Phase induction motors.	10

UNIT - V

9 a.	What do you mean by Artificial intelligence? Explain the capabilities of such machine.	10
b.	With neat diagram, describe rule based reasoning.	10
10 a.	What is PLC? Draw the basic structure of PLC.	10
b.	Discuss on; i) Master and Jump control ii) Latching and Internal relays	10

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