

Roll No:

--	--	--	--	--	--	--	--	--	--

B.E / B.Tech (Full Time) END SEMESTER EXAMINATIONS - APRIL/MAY 2019

Common to Manufacturing and Mechanical Engineering Branches

VI – Semester

ME8653-Mechatronics

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the uses of mechatronics?
2. Define "Precision".
3. State the function of ALE pin.
4. What is addressing mode?
5. What is the need of data converters?
6. What is meant by interfacing?
7. Write down the advantages of PLC.
8. Devise NAND logic by using PLC.
9. Write down the design stages of mechatronics system.
10. Differentiate the windscreen wiper mechanism of traditional and mechatronics systems.



Part – B (5 x 16 = 80 Marks)
(Question No.11 is Compulsory)

11. Explain the construction and working principle of LVDT with suitable diagram.
12. a) Draw and explain the architecture of the 8085 microprocessor.
(OR)
b) Draw the timing diagram for the "IN" instruction.
13. a) Explain the microprocessor based temperature control system.
(OR)
b) Describe the microprocessor based stepper motor control with interfacing circuit.
14. a) Explain how a PLC can be used to count the boxes coming over a conveyor.
(OR)
b) Describe the I/O module of PLC with necessary circuits.
15. a) Explain the working principle of DC servomotor with a diagram.
(OR)
b) Describe the mechatronics involved in automatic car park barrier.