

Code: 9D04205

M.Tech II Semester Supplementary Examinations January/February 2017

MECHATRONICS

(CAD/CAM)

Time: 3 hours

Max. Marks: 60

Answer any FIVE questions
All questions carry equal marks

- 1 (a) What are the various electrical actuators? Explain the working principle of any one electrical actuator.
(b) What are the various linear slides used in the mechatronic systems?
- 2 (a) Differentiate between intelligent machine and automatic machine.
(b) Explain the concept of S-curve with one example.
- 3 (a) Define and state the differences between adaptive control and fuzzy control.
(b) Explain with an example the fuzzy compensatory control.
- 4 (a) Explain the role of programmable logic control in present automation industries.
(b) Explain the use of timers and counters in programmable logic control.
- 5 (a) Explain the principle of operation of inductive sensor and capacitive sensor.
(b) Explain the working principle of potentiometer and accelerometer.
- 6 (a) What is machine vision? Explain the important components used in a machine vision system.
(b) Explain the concept of pattern recognition in machine vision in decision making.
- 7 (a) Explain CAD/CAM database management system.
(b) Explain the procedure of data manipulation manufacturing database management system.
- 8 Write short notes on the following:
 - (a) Object oriented concepts in CAD database system.
 - (b) Concept of perception and cognition.
 - (c) Analog sensors for motion measurement.
