

**Code No: D1510****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****M.TECH II SEMESTER EXAMINATIONS, APRIL/MAY-2012****MECHATRONICS  
(MACHINE DESIGN)****Time: 3hours****Max. Marks: 60****Answer any five questions  
All questions carry equal marks**

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- 1.a) Discuss the scope and applications of Mechatronics in industries for increase in productivity.
- b) Differentiate between intelligent machine and automatic machine.
- 2.a) What are the advantages and limitations of Pneumatic actuators.
- b) Explain the control parameters and system objectives of Mechatronic systems.
- 3.a) Describe the Adoptive control system with an example.
- b) Explain the concept of Fuzzy control system.
4. Describe the architecture of a PLC with a block diagram.
5. What are the CAD/CAM databases used in manufacturing? Explain them in detail.
- 6.a) Discuss the features of digital transducer used in interfacing.
- b) Explain the procedure and methods used in creation and manipulation of data.
- 7.a) Describe Digital sensors used in motion measurement.
- b) Explain the features and pattern recognition methods in machine vision.
8. Write short notes on any three of the following.
  - a) Mechanical actuators
  - b) Feed forward control system
  - c) Human - Machine Interfacing devices
  - d) Analog sensors.

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