JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech I Semester Examinations, March/April 2011
MECHATRONICS
(CAD/CAM)

Time: 3hours   Max. Marks: 60

Answer any five questions
All questions carry equal marks
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1. Discuss briefly the following mechatronic systems
   a. Engine management system
   b. Automatic camera
   c. Automatic washing machine   [12]

2. a) What are the advantages and limitations of hydraulic actuators?
   b) What are the special features which pneumatic actuators should process? [12]

3. a) What is an automatic control system? What are its advantages and limitations?
   b) Explain the concept of fuzzy control applied to mechatronic system.   [12]

4. a) Explain the use of microprocessors in mechatronic system.
   b) State the advantages and uses of programmable logic controllers.   [12]

5. What are the different data bases used in manufacturing? Explain them in detail.
                                                                                  [12]

6. Explain in detail about various motion control aspects to be considered in design
   of mechatronic system.   [12]

7. a) Discuss the features of the digital transducers used for interfacing.
   b) Explain the application of machine vision in mechatronics.   [12]

8. Write short note on any three of the following.
   a) Intelligent machine Vs. Automatic machine.
   b) Adaptive control
   c) System design classification.
   d) Human machine.   [12]

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