

Code No: C0407

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]
