JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.Tech II Semester Regular Examinations September 2010
AUTOMATION IN MANUFACTURING
(COMMON TO CAD / CAM, DESIGN FOR MANUFACTURING)
Time: 3hours   Max.Marks:60
Answer any five questions
All questions carry equal marks
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1. a) Explain three automation principles and applications.
   b) Briefly explain about automatic loading systems.   [12]

2.   What are the various strategies of automation? State the advantages of automation in manufacturing industry.   [12]

3. a) Give the overview of material handling equipment.
   b) What are the various considerations in material handling system design? Explain.   [12]

4. a) With neat sketches, explain various types of conveyor system?
   b) Explain the various measures for assessing the performance of storage system.
                                                                                    [12]

5. a) State and explain various factors and reasons for the use of manual assembly line.
   b) With a neat sketch, explain the various elements of assembly line.   [12]

6.   In sin slotted Geneva mechanism the driver rotates at 6 rpm. Determine the cycle time of the indexing machine.   [12]

7.   Discuss the following types of AGV's and their applications.
        i) AGV's towing vehicles.
        ii) AGV's unit load transporters.
        iii) AGV's pallet tracks
        iv) AGV's assembly line vehicles.   [12]

8. a) What is meant by AS/RS? How is it implemented in FMS?
   b) Describe the following types of storage and retrieval systems.
        i)   Unit load AS/RS.
        ii)   Mini load AS/RS.
        iii)   Deep lane AS/RS.
        iv)   Person on-board system.   [12]

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