

End Semester Examinations - 2015-16 Even Semester - May 2016

14ME3005 Computer Integrated Manufacturing Systems

Set A

Time : 3 hrs
Total Marks: 100

1. 1) a) Analyze fixed, programmable and flexible automaton (10)
b) Illustrate the ten strategies for automation and production systems (10)

OR

2. 2) a) Discuss the need for automation in CIM environment (10)
b) Evaluate the information processing cycle in a typical manufacturing firm (10)
3. 3) a) Differentiate the hierarchical structure and chain type structure of coding system (8)
b) Evaluate the OPTIZ classification system with suitable example (12)

OR

4. 4) Organize the following part-machine incidence matrix into GT cell by rank order clustering technique (20)

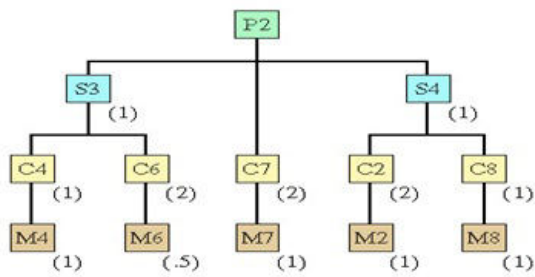
Parts (A –I)

Machines(1-7)

	A	B	C	D	E	F	G	H	I
1				1				1	
2					1				1
3			1		1				1
4		1				1			
5	1							1	
6			1						1
7		1				1	1		

5. 5) Describe the structure of MRP system with suitable block diagram and also list out its outputs and benefits (10)

b) 50 units of P2 has to be manufactured from the product structure given below compute how many S3, S4, C4, C6, C7, C2, C8, M4, M6, M7, M2 and M8 are to be manufactured for the same (10)



OR

6. 6 a) Illustrate the three phases in a shop floor control system with suitable diagram (12)

b) Two orders received by a company for the products P and Q , P requires process time 5 days Q requires process time 10 days, both have the due time 15 days, which has to be processed first based on least slack time and critical ratio (8)

7. 7 a) Discuss the salient features of Artificial Intelligence and Expert system (10)

b) How RP is different from traditional manufacturing, and also explain the stereolithography method in detail (10)

OR

8. 8 a) Distinguish the contact and non contact inspection methods with suitable diagrams (10)

b) Illustrate the computer aided testing and also describe the integration of CAQC and CIM (10)

9. 9) Explain the various constructional and functional details of coordinate measuring machines with neat diagrams(20)

Wishing you All the Best
