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M.Tech.(CAD/CAM) (Sem.-2)**COMPUTER INTEGRATED MANUFACTURING SYSTEM****Subject Code : ME-506****M.Code : 23510****Time : 3 Hrs.****Max. Marks : 100****INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1.
 - a) Describe the various types of production systems. Make an assessment of the extent of computer control possible in each type of production system.
 - b) Write a note on the evolution of CIM. List down the various elements of a CIM system and briefly explain their roles.
2.
 - a) What is meant by process planning? What is the difference between manual process planning and computer aided process planning?
 - b) What is a part family? Describe any one part classification and coding system with the help of a suitable example.
3.
 - a) Discuss the significant advantages of using a robot in a computer integrated manufacturing system.
 - b) What are the two basic categories of automated storage systems? Identify three application areas of automated storage/retrieval systems.
4.
 - a) What do you understand by additive rapid prototyping processes? Give examples. Why are cleaning and finishing operations necessary for rapid prototyping operations?
 - b) What is concurrent engineering? Name the essential elements of concurrent engineering and explain any two of them in detail.
5.
 - a) Describe the different ways in which pallet changers help integration of a machining centre with pallet shuttles and pallet stores.
 - b) What is a shop floor data collection system? Differentiate between on-line and off-line shop floor data collection systems.





6.
 - a) What is materials requirement planning? What are the various inputs of MRP? Explain the difference between independent demand and dependent demand.
 - b) What is a control chart? What are the two basic types of control charts?
7.
 - a) What are the capabilities that a manufacturing system must possess in order to be classified as flexible? Name some production situations in which FMS technology may be applied.
 - b) Explain the three basic network topologies. What do you understand by manufacturing automation protocol?
8. Explain the following terms :
 - a) Factories of the future
 - b) Computer aided plant layout
 - c) Machining Cell
 - d) SPC

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

