

Roll No .....

## MMCM - 103

M.E./M. Tech., I Semester

Examination, June 2016

### Computer Integrated Manufacturing

Time : Three Hours

Maximum Marks : 70

**Note:** Attempt any five questions out of eight questions. Draw neat diagrams in support of your answers.

1. a) What is CIM? Describe the basic elements of CIM system with CIM wheel.  
b) Give implementation steps in CIM. What are the advantages of using CIM?
2. a) Discuss concept of 'Concurrent Engineering'. State its advantages.  
b) Define the terms : CAD, CAE, CAM, CAP, CATD, CAQ, PLC, and MRP.
3. a) State the need for *CAD data standardization*. Name CAD softwares commercially available.  
b) Compare *UCS* and *WCS* used in creation of models in CAD.
4. a) Compare *Linear Extrusion* and *Rotational Sweep*.  
b) Discuss basic transformation geometry like translation and 3d-scaling with examples.

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5. a) State the features of wireframe and solid models used in CAD with neat sketch.  
b) Write down steps to solve the design problem using FEA giving suitable examples.
6. a) Explain the working of (AS/RS) Automated Storage/ Retrieval Systems.  
b) State and discuss the *Nine Principles of CIM*.
7. a) Discuss the *features of modern CNC controllers*. State types of controllers.  
b) Discuss merits of converting zigzag process layout flow to smooth flow in Cellular Layout.
8. Write technical note on following (any two) :
  - a) Constructive Solid Geometry (CSG)
  - b) Concept of LAN/WAN/MAN
  - c) G and M codes used in CNC programming
  - d) Group Technology

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