Roll No .....

MMIP - 103

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

Examination, June 2016

CAD/CAM/CIM

Time : Three Hours

Maximum Marks : 70

Note : Attempt any five questions out of eight questions given. Draw neat diagrams in support of your answers. Assume suitable data, if any missing.

1. a) Define CIM. Discuss CIM hardware and software.
   b) Compare wireframe, surface and solid models used in CAD with neat sketch.

2. a) Define the terms : Spline, Bezier, b-spline, and NURBS.
   b) Compare parametric and variational modelling.

3. a) What do you mean by the term "online and offline CAM"? Discuss fields of CAM.
   b) Draw CIM wheel. Discuss nine principles of CIM.

4. a) Discuss the *features of modern CNC controllers*.
   b) Compare incremental and absolute programming in CNC giving suitable example.

5. a) Write G and M codes used in CNC programming.
   b) Define PFA. State the concept of *Part Families* and *Machine Cells* in GT.

6. a) Explain the functioning of (AS/RS) Automated Storage/ Retrieval Systems with neat sketch.
   b) Discuss *canned cycles* used in CNC milling.

7. a) Define *robot*. Discuss its programming modes.
   b) Define AGVs. State its working principle and types.

8. Write short note on following (any two) :
   a) OPITZ Coding
   b) CAM Software
   c) Product Data Exchange Formats
   d) FMS Scheduling

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