Roll No .....

ME - 804

B.E. VIII Semester

Examination, June 2014

CAD / CAM / CIM

Time : Three Hours

Maximum Marks : 70

Note: (i) Attempt any five questions. (ii) All questions carry equal marks. (iii) Support your answer with diagrams.

1. a) Define Production Activity Control (PAC). Discuss production processes on volume variety axes.
   b) Define CIM. Draw and discuss CIM wheel.

OR

2. a) Discuss and compare product design in conventional and CIM environment. Also, focus on product life cycle.
   b) State feasibility of implementation of CIM. Also, discuss advantages and problems in implementing CIM.

3. a) Discuss various types of coordinate systems used in CAD. Also, discuss MCS, UCS, WCS.
   b) Discuss various drawing data exchange formats like GKS, PHIGS, CORE, IGES, DXF, etc.

OR

4. a) Explain with examples, the following geometry transformations:
   i) Translation ii) Scaling
   iii) Rotation iv) Mirror

b) Discuss various types of database for graphic modeling like PDM, PIM, EDM.

5. a) Define and discuss following geometric modeling terms;
   i) Surface and volume models.
   ii) Linear extrusion and rotational sweep.
   b) Discuss basics of boundary presentation like spline, Bezier, b-spline and NURBS.

OR

6. a) Define constraint based parametric modeling like wire-frame modeling.
   b) Discuss in short on following
   i) Rapid prototyping
   ii) Polynomial curve

7. a) Define "part programming". State G and M codes used in CNC programming with functions. Also state a sample program for two step CNC turning.
   b) Define "Zero offsetting" in CNC. Discuss about cutter radius and length compensation.

OR

8. a) Discuss ISO codes for turning tools and holders. Draw a sketch of ATC.
   b) Define adaptive control. State its applications and working principle.

9. a) Discuss about Production Flow Analysis (PFA).
   b) Define FMS. Draw its component diagram and discuss function of each element.

OR

10. Write short technical note on following (any two)
   i) Computer Aided Process Planning (CAPP).
   ii) Agile manufacturing.
   iii) OPITZ system of coding

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