IP/ME-804

B. E. (Eighth Semester) EXAMINATION, June, 2012

(Common **for** IP & ME Engg. Branch)

CAD/CAM/CIM

Time : Three Hours Maximum Marks : 100 Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks,

1. (a) Define "CIM". Explain main elements of CIM. 12

(b) Write the importance of batch and job shop production. 8

Or

2. Explain the following terms : 20

(i) MRP

(ii) MPS

(iii) CAPP

(iv) CAM

3. (a) Describe the following transformation of geometry : 10

(i) Translation

(ii) Scaling

(iii) Rotation

(b) Explain different co-ordinate system for modeling and display of an object. 10

Or

4. (a) What is 'EDM" ? Write the important features of EDM. 10

(b) Define the following drawing data exchange formats : 10

(i) GKS

(ii) IGES

5. (a).. What are the design techniques using Bezier curve ?

Draw the Bezier curve with the following control points : 10

(1,2), (3,4), (6, -6), (10,8)

(b) Define the following : 10

(i) NURBS

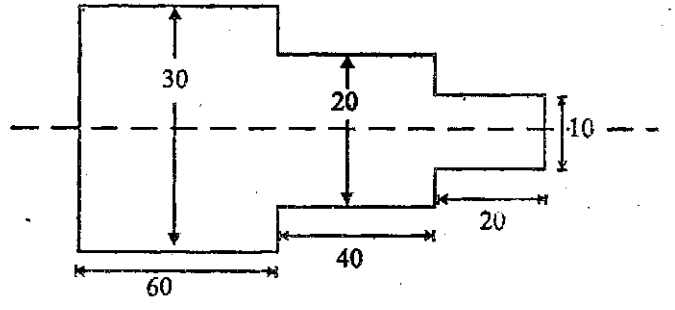
(ii) Wire-frame model

Or

6. (a) Define rapid prototyping. State its advantages and limitations. 10

(b) Explain in details the Constructive Solid Geometry (CSG) approach for the creation of solid models. 10

7. (a) Write the NC part programming using G, M and N codes for the following turning operation : Work material = aluminium, blank length = 125 mm, dia. = 32 mm and depth of cut = 0 - 5 mm. 10



(All dimensions are in mm)

(b) Define NC, CNC and DNC. Write the classification of CNC machine. 10

Or

8. (a) Define manual part programming.Write its limitations. Also write the preparatory codes (G) for the following : 10

(i) Dwell
(ii) Co-ordinate
(iii) Cutter compensation

(b) Define adaptive control system. Discuss its types and advantages. 10

9. (a) What are the different material handling systems used in industry ? Discuss in details. 10 (b) Define the following : 10

(i) FMS
(ii) AGV
(iii) OPITZ coding

Or

10. (a) What is Group Technology ? Explain part classification and write various coding system. Why is group technology developed ? 10

(b) What is "Robot" ? Discuss applications of robots in industry. What are the various robot programming methods ? 10