Code No. 6345 / N

FACULTY OF ENGINEERING

B.E. 3/4 (M/P) II-Semester (New) (Suppl.) Examination, December 2013

Subject : CAD / CAM

Time : 3 hours **Max. Marks : 75**

Note: Answer all questions from Part-A. Answer any FIVE questions from Part-B.

PART – A (25 Marks)

1. Briefly explain the implementation of CAM process in a CAD/CAM system.
2. Distinguish between analytical and synthetic curves.
3. What is meant by finite element analysis?
4. What is the importance of homogenous coordinates in the transformation of graphics?
5. What are canned cycles?
6. Write the 6-code for tool length compensations and cutter radius compensations.
7. Mention the characteristics of a machining centres.
8. List different types of applications of industrial robots.
9. Define the terms CIM and FMS.
10. Name different types of non-contact inspection methods.

PART – B (50 Marks)

11. A cubic Bezier curve is described by the four control points : (0, 0), (2, 1), (5, 2), (6, 1). Find the tangent to the curve at t = 0.25. 10

12 a) Briefly discuss about surface of revolutions and tabulated cylinder. 5
b) Reflect the polygon whose vertices are A(-1, 0), B(0, -2), C(1, 0) and D(0,2) about the lines i) horizontal line y = 2 and b) vertical line x = 3. 5

13 a) Briefly discuss about network and relational base data models used in CAD. 5
b) Discuss about motion and geometric commands used in APT language. 5

14 a) What is meant by machining centre? Explain the salient features of CNC turning centres. 5
b) Discuss about various types of robot programming methods. 5

15 a) Develop the optiz form code for the part shown in figure below. 5

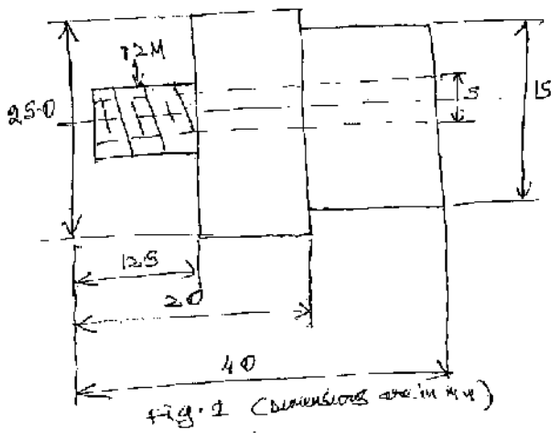

fig. 1 Dimensions are in mm

b) Discuss about various types of machine vision systems used for non-contact inspection. 5

16 a) What are NURBS? Mention their characteristics. 5
b) Explain the term rapid prototyping and mention its applications. 5

17 Write short notes on the following : 10
a) Mass property calculations
b) Canned cycles
c) Reverse Engineering

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