

This question paper contains 4 printed pages.

3277

Your Roll No.

B.Tech. (M) / IV

J

Paper EME-404 : ELECTIVE – I— CAD / CAM

Time : 3 hours

Maximum Marks : 70

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Answer five questions, selecting at least two
from Part A and two from Part B.*

PART A

1. (a) Differentiate between:

(i) Point to point and continuous path CNC system

(ii) Absolute Programming and Incremental CNC system. 8

(b) Explain the following NC terms with examples:

(i) Preparatory function

(ii) Coordinate (x, y, z) words. 6

2. (a) Explain:

(i) Word address format

(ii) Tab sequential format

(iii) Fixed format

P. T. O.

with examples.

6

(b) With examples explain the following G and M codes:

(i) G00

(ii) G04

(iii) M01

(iv) M09.

8

3. (a) With neat diagram explain the functions of the following:

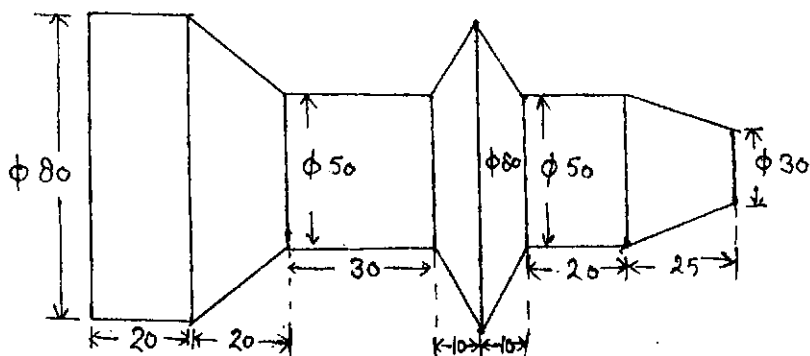
(i) CD

(ii) Hard disc drive.

6

(b) Using G and M code write Part program for the component shown in fig.

8



All dimensions are in mm.

4. (a) Explain with examples the functions of following APT language statements / functions:

(i) POINT

(ii) LINE

(iii) CIRCLE

(iv) GODLTA.

8

(b) With neat sketch explain:

(i) Pneumatic Tape reader

(ii) Magnetic Tape reader.

6

PART B

5. (a) Explain the following sweep techniques for 3-D models:

(i) Rotational sweep technique

(ii) Translational sweep technique.

8

(b) With respect to Autocad drafting explain with example:

(i) Snap

(ii) Ortho.

6

6. (a) Explain:

(i) CODE system

P. T. O.

- (ii) Optiz system
- (iii) MICLASS system of parts classification and coding used in group technology. 8

(b) Explain:

- (i) Open loop CNC system
- (ii) Closed loop CNC system. 6

7. (a) Switch and explain any *two* types of robots used as a part of material handling system. 8

- (b) Write a note on Constructive Solid Geometry (CSG). 6

8. Write short notes on:

(a) Flexible Manufacturing System (FMS)

(b) CIM

(c) Reverse Engineering

(d) Finite Element Method (FEM). 14