

FACULTY OF ENGINEERING

B.E. (III/IV Year) (M/P) II Semester (Main) Examination, June 2010

CAD / CAM

Time : 3 Hours]

[Max. Marks : 75

Answer **all** questions from Part A.
Answer any **five** Question from Part B.

**Part A** – (Marks : 25)

1. What are the benefits of computer aided design over conventional design process.
2. Write the characteristics of Bezier curves.
3. List any four surface entities
4. Explain how mass property of a model is evaluated ?
5. Explain IGES & PDES CAD exchange formats
6. How the cutter radius compensation is included in the program?
7. Differentiate NC and CNC
8. Explain three basic categories of robot programming languages.
9. Give basic processes involved in any rapid prototyping technique.
10. What is meant by turnkey systems?

Part B – (Marks : 5 × 10 = 50)

11. (a) What are the advantages of parametric representation entities. 5
- (b) How NURBS are represented ? Give its advantages in geometric modelling. 5
12. Explain C-rep and B-rep approaches in solid modelling with suitable example. 10
13. (a) Explain CAD data-base types with an example . 5
- (b) Explain canned cycles with examples. 5

14. (a) Differentiate CNC and DNC control systems. 5
- (b) What are the factors involved in robot application planning. 5
15. (a) Explain MICLASS coding system in GT. 5
- (b) What are the instrumentation required for computer aided inspection? 5
16. (a) Write the 3-D transformation matrices for rotation, scaling, translation & mirroring in homogeneous coordinates. 5
- (b) Explain FMS taking one example. 5
17. Write short note on the following:
- (a) CAD/CAM Integration
- (b) Reverse engineering
- (c) NURBS curves.
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