Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2012 Onwards) (Sem.–5)

COMPUTER AIDED DESIGN AND MANUFACTURING

Subject Code : BTME-502

M.Code : 70603

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

(a) Explain the following terms: concatenation and ruled surface.

(b) Distinguish between flexible manufacturing systems and computer integrated manufacturing system.

(c) Differentiate between Scaling and Zooming.

(d) Name **any two** cursor control devices.

(e) Explain the concept of hidden-line removal in CAD.

(f) List various Design and Manufacturing attributes in Group Technology.

(g) What is the difference between Numerical Control and Adaptive Control?

(h) Illustrate IGES.

(i) Define "Flexibility" in Flexible Manufacturing System.

(j) Define Absolute and Relative Positioning.

SECTION-B

2. What do you mean by NC? Explain in detail DNC, CNC and Distributed NC.

3. Describe FMS Components with neat diagrams.

4. Explain Part & Assembly modeling, Manufacturing Simulation & Kinematic analysis as functions of Graphics Package.

5. What are the recent advancements in FEM? Write principles of FEA software.

6. Explain in detail Machinability and data selection system in CAPP.

SECTION-C

7. List down the benefits of FMS. What are the different types of data associated with FMS? Discuss the relevance of FMS from the point of view of work centre utilization.

8. (a) What is meant by canned cycles in CNC?

   (b) Compare the splines for the same control points created by B-spline and Bezier techniques.

9. (a) What is rendering? What are the different stages of rendering an image?

   (b) Describe each Transformation with a 3-D example :

   i) Translation

   ii) Reflection

   iii) Scaling

   iv) Rotation

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.