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Total No. of Pages : 01

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**M.Tech.(CAD/CAM) (Sem.-1)**  
**COMPUTER AIDED DESIGN**

Subject Code : ME-501

M.Code : 23505

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTION TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Q1. Write short notes on :

- a) Geometric modelling. (5)
- b) Surface of revolution. (5)
- c) Half-spaces. (5)
- d) Data exchange formats. (5)

Q2. a) Discuss the benefits of CAD/CAM to engineering design as compared to conventional methods. (5)

b) Explain various types of coordinate systems needed to display geometry and graphics. (5)

c) Describe various characteristics of Bezier curve, B-spline curve and Hermite curve. (10)

Q3. Find the radius and the center of the circle that is tangent to two known lines with a given radius. (20)

Q4. Find the cubics B-spline curve defined by the points (2, 2), (2, 3), (3, 3) and (3, 2). (20)

Q5. Derive a method by which you can force a Bezier curve to pass through a given point in addition to the starting and ending points of its polygon. (20)

Q6. Derive parametric equation of : (20)

- a) Ruled surface
- b) Hermite Bicubic Surface

Q7. What is sweep representation? Discuss the basic elements and operations used in sweep representation to construct solid object as an example. (20)

Q8. Describe the IGES methodology. Compare various testing methods of IGES processors. Which test is the most comprehensive and why? (20)

**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.**