Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 08

M.Tech.(ME) (Sem.–2)
COMPUTER AIDED DESIGN
Subject Code : MME-506
M.Code : 38207

Time : 3 Hrs.   **Max. Marks : 100**

INSTRUCTION TO CANDIDATES :
1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Ql. Write short notes on :

     a) Wireframe models.   (5)

     b) Computer Integrated Design Process.   (5)

     c) Half spaces.   (5)

     d) IGES   (5)

Q2. Derive parametric equation of

     a) B-spline curve   (10)

     b) Hermite Bicubic Surface   (10)

Q3. 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)

Q4. Find the points on the Bezier surface at $u = 0$ and $v = 0.5$ with control points as (50,100), (100, 100), (150, 100), (50, 210), (100, 220), (150, 230), (60, 300), (120, 350) and (80,380).   (20)

Q5. Find the equation of a closed B-spline curve defined by four control points.   (20)

Q6. A rectangle has corner co-ordinates (10,20) (40,20), (40,40), (10,40). This rectangle is rotated by 30° anticlockwise about the point (40,20). Compute the new co-ordinates.   (20)

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

Q8. What additional information do we require in hidden line removal in wireframe model?(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.