

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2021

Programme Name: B Tech (ADE)

Course Name : CAD/CAM

Course Code : MEPD 4001

Nos. of page(s) : 02

Semester : VIII

Time : 03 hrs

Max. Marks : 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Discuss reasons for implementation of CAD in industry.	5	CO1
Q 2	What are the different phases of product development?	5	CO1
Q 3	Explain the need of concatenation.	5	CO2
Q 4	Explain scaling and rotation of graphic entities.	5	CO2
Q 5	Describe the different advantages and disadvantages of NC manufacturing.	5	CO4
Q 6	Discuss future trends in manufacturing.	5	CO4

SECTION B

Q 7	Plot the pixel values from Bresenham's algorithm of a circle of radius 30 units.	10	CO1
Q 8	A triangle having vertices (5, 5), (10, 5), (7, 9) is translated by 5 units in x-direction, then it is rotated by 30° in clockwise direction and then it is scaled by 3 units in y-direction. Determine the final position of the triangle.	10	CO2
Q 9	Specify the three principal classifications of the geometric modeling system and Write in brief about each of them.	10	CO3
Q 10	Differentiate Point to point, straight cut and Contouring Operations in NC/CNC system.	10	CO4
Q 11	Explain features of adaptive Control system for CNC machines and justify their use in CNC systems giving their advantages.	10	CO4

SECTION-C

Q 12	<p>(1) Describe the method of defining Bezier curve. (5)</p> <p>(2) Draw Bezier curve with following control points (1, 2), (3, 4), (6, -6) and (10, 8). Take steps as 0, 0.2, 0.4, 0.6, 0.8, and 1.0. (15)</p> <p style="text-align: center;">OR</p> <p>Why do you prefer Bezier form of cubic curves to the Hermite form for interactive computer graphics? Using the Bezier polynomial function, find the cubic Bezier point function in the matrix form and plot the blending function.</p>	20	CO3
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