

Name:

Enrolment No:



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2020

Programme Name: B Tech (Mechanical)

Course Name : CAD/CAM

Course Code : MEPD 4001

Nos. of page(s) : 02

Semester : VII

Time : 03 hours

Max. Marks : 100

Instructions:

SECTION A

S. No.		Marks	CO
Q 1	Write the criteria for evaluation of the CAD system.	5	CO1
Q 2	Describe the computer graphics concept in brief.	5	CO1
Q 3	State the need of concatenation of transformations.	5	CO2
Q 4	Mention any 5 applications of rapid prototyping (RP).	5	CO3
Q 5	Explain agile manufacturing with its disadvantages.	5	CO3
Q 6	Briefly explain the relevance of cellular manufacturing in modern manufacturing scenario.	5	CO3

SECTION B

Q 7	Generate a circle using Mid Point circle algorithm.	10	CO1
Q 8	Four points of a Bezier polygon are $P_0(2, 2)$, $P_1(3, 4)$, $P_2(3, 5)$ and $P_3(5, 1)$. Develop a Bezier Curve with seven points.	10	CO2
Q 9	Mention the way to obtain the orthographic projections of a 3D geometric database?	10	CO2
Q 10	State the steps used in Rank Order Clustering (ROC) algorithm with a small example.	10	CO3
Q 11	Describe in brief the basic components of flexible manufacturing system (FMS). Also state FMS advantages over the conventional manufacturing system.	10	CO3

SECTION-C

Q 12	<p>(a) Show that a 2-D reflection through the x-axis, followed by a 2-D reflection through the line $Y = -X$, is equivalent to a pure rotation about the origin. (10)</p> <p>(b) Explain part families and describe in details the ways to identify the part families. (10)</p> <p style="text-align: center;">OR</p> <p>(a) Determine and plot the blending functions for B – Spline curve. Write the limitations. How can they be removed? (10)</p> <p>(b) Compare the various approaches available for computer aided process planning. (10)</p>	20	CO4
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