

Enrollment No: \_\_\_\_\_

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech Mid Semester Exam**

Semester: 6  
Subject Code: 203113365  
Subject Name: Computer Aided Design & Analysis

Date: 31.01.2024  
Time: (1hr: 30min)  
Total Marks: 40

Sr. No.		Marks
Q.1	(A) Five One line Questions	05
(1)	Define : Control points	
(2)	Write down the full form of CADA	
(3)	Define Local and Global Control points	
(4)	Write down the rotation matrix of transformation	
(5)	Define : Curve	
(B)	Explain the product life cycle with flow chart in details.	05
Q.2	Attempt any four(Short Questions)	12
(1)	Explain the DDA algorithm for line.	
(2)	A polygon A (0,0) , B (1, 1), C (1, 1) and D (0, 1) by shearing vector $Sh_x=2$ , Determine the new coordinates.	
(3)	Explain translation and translate a polygone A(2, 7), B(7, 10), C(10, 2) by 3 units in X direction and 4 units in Y direction.	
(4)	What do you mean by reflection in CAD and write down the reflection metrix with diagram for (1) X axis (2) Origin and (3) $y = x$ line	
(5)	Explain the Bresenhans algorithm for line.	
Q.3	Attempt any two questions	08
(1)	Find an intermediate points between two points A (20, 10) and B(10, 18) by using a DDA line algorithm.	
(2)	Magnifying the polygone with vertices (0, 0), (1, 1), (5,2) to twice its size while keeping (5, 2) is fixed.	
(3)	Find an intermediate points between two points A (9, 18) and B(14, 22) by using a Bresenhans line algorithm.	
Q.4(A)	Make a list of various software used for CAD and also write down the application of CADA.	05
(B)	Find out all the coordinates of circle C (0,0) and radius is 8 units by using Bresenhans circle algorithm.	05
OR		
(B)	Find out all the coordinates of circle C (5,5) and radius is 3 units by using Bresenhans circle algorithm.	05