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**PRESIDENCY UNIVERSITY
BENGALURU**

**SCHOOL OF ENGINEERING
MID TERM EXAMINATION - OCT 2023**

Semester : Semester III - 2022

Course Code : CSE2066

Course Name : Sem III - CSE2066 - Computer Graphics

Program : B. TECH

Date : 2-NOV-2023

Time : 9:30AM - 11:00AM

Max Marks : 50

Weightage : 25%

Instructions:

- (i) Read all questions carefully and answer accordingly.
- (ii) Question paper consists of 3 parts.
- (iii) Scientific and non-programmable calculator are permitted.
- (iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS

(5 X 2 = 10M)

1. DDA is a line drawing algorithm but why it is not an efficient line drawing algorithm?
(CO1) [Knowledge]
2. List the drawbacks of Beam penetration method
(CO1) [Knowledge]
3. List the input devices which can be used for selection in computer graphics
(CO1) [Knowledge]
4. Which of the following algorithm will not round the values while plotting the points
(CO1) [Knowledge]
5. How the Bresenham's line drawing algorithm overcomes the drawbacks of DDA?
(CO1) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS

(4 X 5 = 20M)

6. Given a line segment with starting point as (0, 0) and ending point as (4, 4). Apply 30 degree rotation clockwise direction on the line segment and find out the new coordinates of the line.
(CO1) [Comprehension]
7. Given a square object with coordinate points A (0, 3), B (3, 3), C (3, 0), D (0, 0). Apply the scaling parameter 2 towards X axis and 3 towards Y axis and obtain the new coordinates of the object.
(CO1) [Comprehension]
8. Differentiate between Raster Scan System and Random Scan System used in CRT display.
(CO1) [Comprehension]

9. Briefly differentiate between Interactive and Non-Interactive Computer Graphics with suitable examples.

(CO2) [Comprehension]

PART C

ANSWER THE FOLLOWING QUESTION

(1 X 20 = 20M)

10. Answer the following questions:

A) Illustrate DDA line drawing algorithm. To illustrate the algorithm, Digitize the line with endpoints (5, 6), (13, 10) and draw the line.

B) Illustrate Bresenham's Circle drawing algorithm. Given the center point coordinates (10, 10) and radius as 8, generate all the points to form a circle.

(CO2) [Application]