Branch - Computer - D.S.E 05/06/23

Paper / Subject Code: 50275 / Computer Graphics

(3 Hours) **Total Marks: 80**

N.B: 1) Question **number 1** is compulsory.
2) Attempt **any three** out of the remaining.
3) Assume suitable data if **necessary** and justify the assumptions.
4) Figures to the **right** indicate full marks.

Q 1

A	Explain image space and object space	**[5]**
B	What is computer graphics and explain its applications	**[5]**
C	What are homogeneous coordinates and discuss its use in computer graphics	**[5]**
D	Explain point clipping with suitable example	**[5]**

Q 2

A	Explain mid point ellipse drawing method for region I with suitable diagrams	**[10]**
B	Given a triangle ABC with coordinates A (10,10), B (100,10), C(10,100). Rotate the triangle by 90^0 Find the new coordinates of the triangle.	**[10]**

Q 3

A	Explain area subdivision method with suitable example.	**[10]**
B	Explain antialiasing techniques in detail	**[10]**

Q 4

A	Explain Liang Barsky line clipping method with suitable example	**[10]**
B	Explain and write matrices for 3D rotation about X, Y and Z axes	**[10]**

Q 5

A	Derive the 2D transformation matrix for rotation with respect to fix point.	**[10]**
B	Calculate all the points on the line from point A(8,10) to point B(16,14) using DDA line drawing method	**[10]**

Q 6

A	What is window and viewport. Derive the transformation matrix for a window-to-viewport transformation	**[10]**
B	Discuss traditional animation techniques	**[10]**

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