K. J. Somaiya Institute of Engineering and Information Technology, Sion, Mumbai-22

(Autonomous College Affiliated to University of Mumbai) End Semester Exam Supplementary Gram

May -June 2023

B.Tech. (Artificial Intelligence and Data Science)

August 2023

Course Code: 10AIC305

Course Name: Computer Graphics

Duration: 🔁 Hours Max. Marks: 60

Instructions:

2.30

(1) All questions are compulsory.

(2)Draw neat diagrams wherever applicable.

(3) Assume suitable data, if necessary.

ii List steps of DDA. iii Show that the composition of two rotations is additive. iv What is Normalization Transformation? iv Write short Note on Pixel vi State merits and demerits of boundry fill algorithm List decision parameter expressions for Bresenham's line drawing algorithm what is projection? Why projection is necessary? Q.2 Solve any FOUR questions iv Mention the steps for Bresenham's Line drawing Algorithm iv Write short note on perspective projection iv Explain Eight way symmetry of circle vi Compare Raster scan with Random scan vi List limitations of Bezier curves Q.3 Solve any TWO questions iv What is Fractals? What different types of Fractals. iv Explain Cohen-Sutherland line clipping algorithm. iv Using midpoint circle drawing algorithm, plot the circle whose radius is 10. Q.4 Solve any TWO questions iv Translate the square ABCD whose coordinates are A (0, 0), B (4, 0), C (4, 4), D (0, 4) by 3 units both direction and then scale it 2 units in x direction and 1.5 unit in y direction. Write a line clipping algorithm which uses parametric form of equation. Test it for line P ₁ P ₂ where P ₁ = (8, 8) and P ₂ (25, 15) against the window with (Xwmin, Ywmin) = (10, 10) and (Xwmax, Ywmax) = (15, 15).	Q. No.	Question	Max. Marks	СО	BT Level
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134,3301 1 3	İ	What is meant by parallel and perspective projections? Derive matrix for perspective projections.	8	CO 5	AP