22·12·2022(E)

SOMAIYA VIDYAVIHAR UNIVERSITY

Semester: August 2022 – December 2022		
Maximum Marks: **Examination: ESE Examination**		**Duration:** 3 hrs
Programme code: 03 **Programme: B Tech Computer Engineering**	**Class:** TY	**Semester:** V **(SVU 2020)**
Name of the Constituent College: **K. J. Somaiya College of Engineering**	**Name of the department:** COMP	
Course Code: 116U01E511	**Name of the Course:** Computer Graphics	
Instructions: 1)Draw neat diagrams 2)Assume suitable data if necessary		

Question No.		Max. Marks
Q1 (a)	Explain application of Computer Graphics in Health Care.	05
Q1 (b)	Compare Random Scan and Raster scan display.	05
Q1 (c)	Write an algorithm to draw line using Bresenham's algorithm. OR Explain the OpenGL Line Functions citing examples with pseudo code.	10
Q2 (a)	Find the transformation matrix that transforms a square ABCD to half of its size with the center remaining at same position. The co-ordinates of the square are A(1,1),B(3,1),C(3,3),D(1,3)and center at (2,2).Also find the resultant co-ordinates of the square.	10
Q2 (b)	Discuss the fixed point 2-D scaling with an example. OR Describe the 3D viewing pipeline.	10
Q3 (a)	Use the Cohen Sutherland line clipping algorithm to clip two lines P1P2 and P3P4. Given data: P1(40,15)-P2(75,45) and P3(70,20) - P4(100,10) against a window A(50,10), B(80,10), C(80,40), D(50,40).	10
Q3 (b)	Explain 3 D rotation w.r.t all 3 co-ordinate axis. OR Explain Sutherland Hodgeman Polygon clipping with appropriate example.	10
Q4 (a)	Write in brief about Projections with diagram.	10
Q4 (b)	Discuss the OpenGL visibility detection functions. and give pseudo code. OR Write a short note on Depth Buffer Method with diagram.	10
Q5 (a)	Discuss Computer Animation and stages of Designing of Animation Sequences	10
Q5 (b)	Attempt any two : State the Bezier Spline Curves Properties. (5) Write short note on Color Models. (5) Explain the OpenGL curve functions. (5)	10

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