B.Tech. SEM -IV Info. Tech. 2014 Course (CBCS): SUMMER - 2019 SUBJECT: COMPUTER GRAPHICS

Day: Sarurday Sarurd		SUB	DECT. COMI OTER GRATI		
1) All questions are COMPULSORY. 2) Figures to the right indicate FULL marks. 3) Assume satiable data, if necessary. 4) Draw neat and labeled diagrams wherever necessary. Q.1 With a neat block diagrams, explain working of raster display. Differentiate between Random scan and Raster scan display? Q.1 What do you mean by display files? Explain display file structure with examples. Q.2 List various line drawing algorithms, digitized a line from (10,12) to (15,15) (10) on a raster screen using Bresenham's line drawing algorithms. Q.2 State and explain various Polygons filling algorithms with its advantages and disadvantages. Q.3 Apply following transformation on Polygon A(20,20), B(20,50), C(40,20), (10) D(30,60) and E(40,50) a) Translation 12, 16 units along X and Y direction. b) Rotate 45 degrees about the origin. c) Scale with Scaling factor X=6, Y=5. Q.8 Derive the 3D transformation matrix for Rotation about a) An arbitrary axis. b) An arbitrary plane. Q.4 Define the Parallel and Perspective projections. Explain concepts of (10) Orthographic projection in detail. Q.4 Elaborate following terms: a) Arbitrary 3D View. b) Viewing Pyramid. Q.5 Describe concepts of Depth buffer? Explain the steps of Z-buffer algorithm. (10) State its advantages and disadvantages. Q.6 Explain the following Illumination models with suitable diagrams. a) Ambient light b) Diffuse reflection. Q.6 Illustrate important properties of Bezier curves. Compare Bezier curve and B-Spline curve. OR Q.6 Write a short note on: a) Fractals surfaces b) Self squaring fractals.	Date:	-	S-2019-2621		.00 PM
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