

complete a polygon table entry for the split off polygon and attaches it to the root polygon. 6

(b) Explain the concept of geometrical sorting. 7

OR

10. (a) Explain the painter algorithm. 6

(b) What is Z buffers ? What is the need of I - buffers ? Explain in detail. 7

11. (a) Explain Point - Source Illumination in detail. 7

(b) What is transparency ? Explain in detail. 6

OR

12. (a) Write an algorithm ARCDAA (XO, YO, A, X, Y, INTENSITY) for counter - clockwise circular arc generation. 7

(b) Explain the concept of Ray Tracing. 6

Third Semester M. Sc. (Part-II) (CBCS Scheme)
Examination

COMPUTER SCIENCE

Computer Graphics

3 MCS 2

P. Pages : 4

Time : Three Hours]

[Max. Marks : 80

Note : (1) All questions are compulsory.
(2) Use suitable data wherever necessary.
(3) Illustrate your answer with the help of neat sketches wherever necessary.

1. (a) Explain the following display devices :—

(a) Raster display.

(b) Plotter.

(c) DVST.

(d) Plasma panel.

(e) Liquid crystal display.

(f) Vector Refresh display. 12

(b) For the following pairs of lines, state whether or not they intersect. If they do give the

co - ordinates of the point of intersection

(a) $y = x$ and $y = 2x + 6$

(b) $y = x + 4$ and $y = 2x + 6$. 3

OR

2. (a) Write and explain DDA algorithm of generation of line segment. 8

(b) Explain the Display-file interpreter in detail. What is the need of display file interpreter ? 7

3. (a) Derive and explain the rotation transformation matrix of the object about origin. 8

(b) What is inside test ? Explain even - odd method in detail. 5

OR

4. (a) Write an algorithm FILL - POLYGON (INDEY) to fill the polygon using scan - line method. 8

(b) Explain in detail Homogeneous co - ordinates system and translation. 5

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5. (a) What is segment ? Explain the concept of Segment Table. 6

(b) Derive and explain viewing transformation matrix. 7

OR

6. (a) Explain in detail the Cohen - Sutherland out code algorithm for clipping lines. 7

(b) Write an algorithm CREATE_SEGMENT (SEGMENT - NAME) to create a named segment. 6

7. What is Perspective projection in 3D ? Derive the Perspective projection matrix in 3D. 13

OR

8. (a) Explain parallel projection in detail in 3D. 6

(b) What is Event Handling ? Write the algorithm EVENT for the processing of an input - device interrupt. 7

9. (a) Write the algorithm SET - UP - SPLIT - POLY (ROOT, TEST, SPLIT - V, STEST) for

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P.T.O.