PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION DECEMBER 2022
(Fourth Semester)

Branch – COMPUTER SCIENCE

COMPUTER GRAPHICS

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks   (10 x 1 = 10)

1. The operation of most video monitors is based on the standard _____ design
    (i) Vector   (ii) Random
    (iii) Raster   (iv) CRT

2. DDA stands for_____.
    (i) Digital Digital analyser   (ii) Digital delta analyzer
    (iii) Digital Difference amplitude (iv) Digital Differential Analyzer

3. The process of filling an area with a rectangular pattern is called _____
    (i) Tiling   (ii) Softfill
    (iii) Linear Softfill   (iv) Patterns

4. In 2D-translation, a point (x, y) can move to the new position (x', y') by using the equation
    (i) x'=x+tx and y'=y+tx   (ii) x'=x+tx and y'=y+ty
    (iii) X'=x+ty and Y'=y+tx   (iv) X'=x-tx and y'=y-ty

5. Liang–Barsky algorithm uses the _____ equations for a line and solves four inequalities.
    (i) Linear   (ii) Quadratic
    (iii) Cubic   (iv) Parametric

6. The 4-bit code of top-left region of the window is _____
    (i) 1001   (ii) 1100
    (ii) 0101   (iv) 1010

7. Scan lines are used to scan from
    (i) Top to bottom   (ii) Bottom to top
    (iii) Both a & b   (iv) None of these

8. In perspective projections, the lines of projection are not parallel, instead, they all converge at a single point called
    (i) Center of projection
    (ii) Projection reference point
    (iii) Center of projection or projection reference point
    (iv) Interaction point

9. Color model is also called
    (i) color system   (ii) color area
    (iii) color space   (iv) both a & b

10. _____ projection preserves relative proportions of objects.
    (i) Parallel   (ii) perspective
    (iii) orthographic   (iv) none of these

SECTION - B (25 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 5 = 25)

11. a) Describe about Random scan display processor.

OR

b) Write the DDA Algorithm.

12. a) How to Fill styles in a particular area?

OR

b) How the rotation of an object about the pivot point is performed?

13. a) Narrate the Window-To-Viewport Coordinate transformation.

OR

b) Describe about point clipping.

14. a) Classify the visible surface identification methods.

OR

b) Write short note on surface rendering.

15. a) Describe about perspective projection.

OR

b) Describe about RGB Color Model.

SECTION -C (40 Marks)
Answer ALL questions
ALL questions carry EQUAL Marks   (5 x 8 = 40)

16. a) Explain with neat diagram the working procedure of CRT.

OR

b) Describe about Circle generating Algorithm.

17. a) Narrate about Bundled Attributes in detail.

OR

b) Classify the composite transformations.

18. a) Explain in detail the Liang-Barsky line clipping algorithm.

OR

b) Describe the Sutherland hodgeman polygon clipping in detail.

19. a) Elucidate the Bezier curves.

OR

b) Discuss about the different types of projections.

20. a) Briefly describe the 3D Viewing model.

OR

b) Discuss about different color models.

Z-Z-Z   END