

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 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 maximum number of points that can be displayed without overlap on a CRT is _____
(i) Resolution (ii) Persistence
(iii) Acceleration (iv) Focussing
- 2 In the equation $y = m.x + b$, Slope is given by _____
(i) m (ii) y (iii) x (iv) b
- 3 The choice between a bundled or an unbundled specification is made by setting a switch called the _____ for each of these attributes
(i) Aspect Source flag (ii) Attribute pointer
(iii) Flag pointer (iv) Polymarker
- 4 Positive values for the rotation angle Θ defines
(i) Counter clockwise rotations about the end points
(ii) Counter clockwise translation about the pivot point
(iii) Counter clockwise rotations about the pivot point
(iv) Negative direction
- 5 When the line is parallel to the boundaries then what is the value of p_k ?
(i) $p_k < 0$ (ii) $p_k > 0$ (iii) $p_k = 0$ (iv) $p_k = 1$
- 6 ----- Vertex of the polygon is clipped first in polygon clipping
(i) top right (ii) bottom right (iii) bottom left (iv) top left
- 7 When the projection is obtained by projecting points along parallel lines that are not perpendicular to the projection plane is called
(i) Isometric projection (ii) Perspective projections
(iii) Oblique projection (iv) Cavalier projection
- 8 The array are used with scan line coherence algorithm are
(i) For intensity value (ii) For depth value
(iii) Both i & ii (iv) None of these
- 9 The method which is based on the principle of checking the visibility point at each pixel position on the projection plane are called
(i) Object-space method (ii) image-space method
(iii) Both i & ii (iv) None of these
- 10 Color transformation is processed between
(i) Single color model (ii) Dual color model
(iii) Tri color model (iv) Any color model

Cont...

SECTION - B (25 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 5 = 25)

- 11 a Bring a note on Raster scan displays.
(OR)
b Analyse the Midpoint circle generating algorithm.
- 12 a Describe about the types of Line Attributes.
(OR)
b Explain about the 2D translation.
- 13 a Explain Window-To-Viewport Coordinate transformation.
(OR)
b Describe the Cohen Sutherland line clipping algorithm.
- 14 a Explain about depth-buffer method.
(OR)
b What is depth cueing? Explain.
- 15 a Explain about parallel projection.
(OR)
b Describe about CMY Color model.

SECTION -C (40 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks (5 x 8 = 40)

- 16 a Explain about Flat Panel Displays with examples.
(OR)
b Describe the Bresenham's Algorithm in detail.
- 17 a Discuss the types of Character Attributes.
(OR)
b Prove the following
i) 2D Translations are additive
ii) 2D Rotations are additive
iii) 2D Scaling are multiplicative
- 18 a Describe the Sutherland Hodge man polygon clipping in detail.
(OR)
b Explain in detail the Cohen Sutherland line clipping algorithm.
- 19 a Explain in detail the 3D and Stereoscopic views.
(OR)
b Elucidate the B-Spline curve.
- 20 a Compare parallel projection with perspective projection.
(OR)
b Analyse the various properties of light.

Z-Z-Z

END