PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc EXAMINATION DECEMBER 2022
(Fifth Semester)

Branch – INFORMATION TECHNOLOGY

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 An RGB color system with _____bits of storage per pixel is generally referred to as a full color system or a true-color system.

(i) 24 (ii) 16 (iii) 32 (iv) 64

2 Refreshing on raster-scan displays is carried out at the rate of _____ frames per second.

(i) 30 to 60 (ii) 60 to 80 (iii) 70 to 80 (iv) 80 to 90

3 _____ polygon is used to describe a set of vertices that are collinear or that have repeated coordinate positions.

(i) interior angle (ii) convex (iii) concave (iv) degenerate

4 The odd-even rule is also called the _____rule.

(i) odd-parity (ii) exterior
(iii) interior (iv) nonzero winding-number

5 Slope-intercept equation for a straight line is_____.

(i) $\Delta x=\Delta y/m$ (ii) $\Delta y=m\Delta x$ (iii) $m=\Delta y/\Delta x$ (iv) $y=mx+b$

6 A_____ transformation alters the size of an object.

(i) Translation (ii) Scaling (iii) Rotation (iv) Shearing

7 One of the oldest and most popular line clipping procedure is_____.

(i) Liang-Barsky Line Clipping.
(ii) Nicholl-Lee-Nicholl Line Clipping.
(iii) Cohen-Sutherland Line Clipping.
(iv) Line Clipping using Nonrectangular Clip window

8 The area on a display device to which a window is mapped is called a _____.

(i) window. (ii) view port (iii) coordinate (iv) section

9 A_____model is a method for explaining the properties or behavior of color within some particular control.

(i) single color model (ii) light color
(iii) color (iv) spectral color

10 _____, is used to refer collectively to the two properties describing color characteristics: purity and dominant frequency.

(i) brightness (ii) saturation (iii) wave length (iv) chromaticity

Cont...

SECTION - B (25 Marks)

Answer **ALL** questions

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

11.a Explain the working principle of flat panel display.

OR

b Discuss about the random scan system.

12 a Describe OpenGL point functions.

OR

b Summarize picture partitioning.

13 a Sketch the DDA Algorithm with example.

OR

b How will you setting frame-buffer values?

14 a Describe about curve clipping.

OR

b Explain about perspective Projections

15 a Outline the design of animation sequences.

OR

b Summarize the YIQ color model.

SECTION -C (40 Marks)

Answer **ALL** questions

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

16 a Analyze the working principle of refresh CRT with neat diagram.

OR

b Enumerate various input devices

17 a Elucidate OpenGL display lists.

OR

b Highlight openGL Fill-Area attribute functions.

18 a Discuss about ellipse generating Algorithm.

OR

b Analyze composite two-dimensional translation , rotation and scaling.

19 a Elucidate about the clipping window.

OR

b Discuss Sutherland-Hodgeman polygon clipping.

20 a Elucidate about key-frame systems.

OR

b Summarise CMY and CMYK color models.

Z-Z-Z END