



**Avinashilingam Institute for Home Science and Higher Education for Women**  
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)  
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B  
Coimbatore - 641 043, Tamil Nadu, India

**Bachelor's Degree Examination – January 2021**  
**V Semester**

**Class : III UG**  
**Major : Information Technology**

**Time : 3 Hours**  
**Max. Marks: 100**

**18BITC23 Computer Graphics**

**PART A**

**10 x 1 = 10**

**Choose the Correct Answer**

1. The maximum number of points that can be displayed without overlap on a CRT is referred as
  - a. Aspect ratio
  - b. Resolution
  - c. Persistence
  - d. Vertical retrace
2. \_\_\_\_\_ is used to select screen positions by detecting the light coming from points on the screen
  - a. Light Pen
  - b. Mouse
  - c. Joystick
  - d. Digitizers
3. Which algorithm is a faster method for calculating pixel position?
  - a. Bresenham's line algorithm
  - b. DDA line algorithm
  - c. Parallel line algorithm
  - d. Midpoint algorithm
4. \_\_\_\_\_ algorithm is used to recolor an area that is not defined within a single color boundary
  - a. Boundary fill
  - b. Parallel curve
  - c. Flood fill
  - d. Fill area
5. The basic attributes of a straight line segment are
  - a. Type
  - b. Width
  - c. Color
  - d. All the above
6. The distortion of information due to low frequency sampling is known as
  - a. Sampling
  - b. Aliasing
  - c. Inquire
  - d. Anti-aliasing
7. \_\_\_\_\_ is a transformation that moves objects without deformation
  - a. Rotation
  - b. Scaling
  - c. Translation
  - d. All the above
8. What is the rectangle in the world defining the region that is to be displayed?
  - a. World-coordinate
  - b. Screen coordinate
  - c. World-to-window coordinate
  - d. View port
9. A three dimensional graphics has
  - a. 2 axes
  - b. 3 axes
  - c. Both a & b
  - d. None of the above
10. Which of the following color models are defined with three primary colors
  - a. RGB & HSV model
  - b. CMY & HSV model
  - c. HSV & HLS model
  - d. RGB & CMY model

**Part B**

**5 x 6 = 30**

**Answer ALL questions**

**Each answer should not exceed 400 words or two pages**

- 11.a. Briefly explain about Random scan and Raster scan displays.  
(or)
- 11.b. Describe about PHIGS workstations.
- 12.a. Explain the concept of Loading the Frame Buffer.  
(or)
- 12.b. Discuss about character generation. Explain character generation commands.
- 13.a. Explain various color and gray scale codes used in graphics.  
(or)
- 13.b. Briefly discuss about boundary fill algorithm.
- 14.a. Explain the matrix representation of transformations.  
(or)
- 14.b. Discuss about text clipping methods.
- 15.a. Explain about three dimensional graphics package.  
(or)
- 15.b. Discuss three dimensional rotation about an arbitrary axis.

**Part C**

**5 x 12 = 60**

**Answer ALL questions**

**Each answer should not exceed 800 words or four pages**

- 16.a. Explain about the operations of CRT with neat diagram.  
(or)
- 16.b. Explain any six input devices and their functions.
- 17.a. Explain in detail about DDA line drawing algorithm.  
(or)
- 17.b. Explain about circle generating algorithm.
- 18.a. Explain about various line attributes.  
(or)
- 18.b. Explain in detail about bundled attributes.
- 19.a. Explain basic transformations performed in computer graphics.  
(or)
- 19.b. Explain in detail about cohen-sutherland line clipping algorithm.
- 20.a. Explain about Augmentation and Virtual Reality.  
(or)
- 20.b. Explain the various types of color models.

**\*\*\*\*\***