

Roll No. ....

**E-788**

**M. Sc. (Third Semester)  
EXAMINATION, Dec.-Jan., 2020-21**

COMPUTER SCIENCE

Paper Fourth

**(Computer Graphics)**

*Time : Three Hours ]*

*[ Maximum Marks : 100*

*[ Minimum Pass Marks : 40*

**Note :** Attempt all Sections as directed.

**Section—A**

1 each

**(Objective/Multiple Choice Questions)**

**Note :** Attempt all questions.

Choose the correct answer :

1. Smallest size object that can be displayed on a monitor is called ..... .
  - (a) Picture element
  - (b) Point
  - (c) Dot Pitch
  - (d) Aspect ratio
2. The purpose of flood gun in DVST is ..... .
  - (a) To store the picture pattern
  - (b) To slow down the flood electrons
  - (c) To enable color pixels
  - (d) To focus the electron beam

**P. T. O.**

3. On a color monitor, the refresh buffer is also called ..... .
  - (a) Frame buffer
  - (b) Pixmap
  - (c) Bitmap
  - (d) Display file
4. Video devices with reduced volume, weight and power consumption are collectively known as ..... .
  - (a) Light weight monitors
  - (b) Flat-panel displays
  - (c) CRT
  - (d) Portable display
5. Pick out the odd one out :
  - (a) LED
  - (b) LCD
  - (c) Gas Discharge tube
  - (d) Plasma Panel
6. Match the following :

**Part A****Part B**

- |                                    |                       |
|------------------------------------|-----------------------|
| (A) Plasma panel                   | (i) Polarizer         |
| (B) DVST                           | (ii) Zinc sulfide     |
| (C) LCD                            | (iii) Dielectric mesh |
| (D) Thin film electroluminescent   | (iv) Neon gas         |
| (a) A-(ii), B-(iv), C-(i), D-(iii) |                       |
| (b) A-(ii), B-(iii), C-(iv), D-(i) |                       |
| (c) A-(iv), B-(iii), C-(i), D-(ii) |                       |
| (d) A-(i), B-(iv), C-(ii), D-(iii) |                       |

7. .... is responsible for accessing the frame buffer to refresh the screen.
- (a) Graphics package
  - (b) Video controller
  - (c) CPU
  - (d) Monitor
8. Digitizing a picture definition into a set of intensity values is known as ..... .
- (a) Digitization
  - (b) Scan conversion
  - (c) Refreshing
  - (d) Scanning
9. .... will free the CPU from graphics chores.
- (a) Display processor
  - (b) Monitor
  - (c) ALU
  - (d) Video controller
10. Write an example for non-emissive displays :
- (a) LED
  - (b) LCD
  - (c) Gas Discharge tube
  - (d) Plasma Panel

11. Identify impact printer from the following :

- (a) Drum plotter
- (b) Inkjet printer
- (c) Electrostatic printer
- (d) Dot-matrix printer

12. Refreshing is not needed in DVST because of the presence of ..... .

- (a) Primary gun
- (b) Flood gun
- (c) Focusing a node
- (d) Control grid

13. Write an example for non-impact printer :

- (a) Drum plotter
- (b) Electrostatic printer
- (c) Laser printer
- (d) All of the above

14. Identify the odd one out :

- (a) Mouse
- (b) Keyboard
- (c) Trackball
- (d) Space ball

15. GIF stands for ..... .
- (a) Global Image Format
  - (b) Graphics Interchange Format
  - (c) Graphics Image Format
  - (d) None of the above
16. The simply reads each successive byte of data from the frame buffer :
- (a) Digital Controller
  - (b) Data Controller
  - (c) Display Controller
  - (d) All of the above
17. The refresh rate below which a picture flicker is ..... .
- (a) 25
  - (b) 30
  - (c) 35
  - (d) 60
18. .... used to regulate the flow of elections in CRT.
- (a) Electron gun
  - (b) Focusing a node
  - (c) Control grid
  - (d) All of the above

19. Graphics and image processing technique used to produce a transformation of one object into another is called :
- (a) Animation
  - (b) Morphing
  - (c) Half toning
  - (d) None of the above
20. The simplest output primitive is ..... .
- (a) Straight line
  - (b) Straight line segment
  - (c) Point
  - (d) Circle

**Section—B**

2 each

**(Very Short Answer Type Questions)**

**Note :** Attempt all questions. Write answer in 2-3 sentences.

1. Write the properties of video display devices.
2. Write the essential application of computer graphic.
3. Write the difference between vector and raster graphics.
4. What are the advantages and disadvantages of direct view storage tubes ?
5. What is viewing transformation ?
6. Define Clipping and Clip window.
7. What is the need for space partitioning representation ?

8. What is the quadric surfaces ?
9. What is critical fusion frequency ?
10. Difference between CMY and HSV color models.

**Section—C**

3 each

**(Short Answer Type Questions)**

**Note :** Attempt all questions. Answer precisely using < 75 words.

1. List out the various properties that describe the characteristics of light.
2. What is a Turtle Graphics Program ?
3. List the attributes of turtle in graphics.
4. Differentiate Mandelbrot sets and Julia sets.
5. What is a Scripting system ?
6. Distinguish between window port and viewport.
7. What is the advantages of B spline over Bezier curve ?
8. How will you represent a curve in graphics ?
9. What are the advantages of Laser printers ?
10. List some 3D viewing devices.

**Section—D**

6 each

**(Long Answer Type Questions)**

**Note :** Attempt any *five* questions. Answer precisely using 150 words.

1. Differentiate between Raster and Vector Graphics in detail.

2. Difference between DDA and Bresenham's line drawing algorithm.
3. Explain Midpoint Circle Algorithm with example.
4. Explain the merits and demerits of Plasma panel display.
5. Describe in brief Z-buffer method and its advantage.
6. Explain the three-dimensional display methods.