

# Computer Graphics & Gaming

## CLASS ASSIGNMENT NO. 01

**Que. 01. Define**

- a) **Computer Graphics**
- b) **Pixel**
- c) **Resolution (image resolution, screen resolution)**
- d) **Frame (or Refresh) Buffer**
- e) **Bit plane**
- f) **Aliasing**
- g) **Antialiasing**
- h) **Bit map and Pixel map and Apixmap**
- i) **Pixel phasing**
- j) **Interlacing**
- k) **Dot pitch**
- l) **Bit Depth (or Color Depth)**
- m) **Display Area**
- n) **Refresh Rate**
- o) **Overscan**
- p) **Scan Conversion**
- q) **Aspect Ratio**
- r) **Persistence**

**Que. 02 . Explain Applications of Computer Graphics.**

**Que. 03. Explain all types of input and output devices in detail. (with neat digrams).**

**Que. 04 . Write short notes on TIFF.**

**Que. 05. Explain GTK+ in detail.**

**Que. 06. Explain in detail Raster Scan system & Random Scan Syatem.**

**Que. 07. Suppose an RGB raster system is to be designed using an 8 inch x 10 inch screen with resolution of 100 pixels per inch in each direction. If we want to store 6 bits per pixel in the frame buffer, how much storage in bytes do we need for the frame buffer? Also find out Aspect ratio of the raster system.**

**Que. 08. Consider three different raster systems with resolution of**

- a) **640x480**
- b) **1280 x 1024**
- c) **2560 x 2048**

**What size of frame buffer (in bytes) is needed for each of the systems to store 12 bits/pixel? How much storage is required for each system if 12 bits per pixel are to be stored?**

**Que. 09. Consider a raster system with a resolution of 1024 x 1024 what is the size of raster (in bytes ) needed to store 4 bits per pixel? How much storage is required if 8 bits per pixel are to be stored?**

**Que. 10. Solve Example 1.4.1 to Example 1.4.13 (form text book -Technical Publication).**

**Que. 11. Explain line & line Segment.**

**Que. 12. Explain DDA line Drawing Algorithm with its Advantages & Disadvantages**

**Que. 13. Consider a line from (0,0) to (6,7) , using simple DDA algorithm, Rasterize this line.**

**Que. 14 . Explain Bresenham's line Drawing Algorithm with its Advantages & Disadvantages**

**Que. 15. Explain Basic concept in Circle Drawing**

**[ i) Polynomial Method ii) Trigonometric method ]**

**Que. 16. Explain circle Drawing Algorithm (DDA, Bresenham's, Midpoint Circle Drawing)**

**Que 17. Differentiate DDA vs Bresenham's Line drawing algorithm.**

**Que. 18. Explain line styles : Dotted, Dashed & thick Line.**

**Que. 19. Explain Antialiasing and Antialiasing Techniques.**

**Que. 20 Explain Character Generating Methods .**

**Que. 21. Explain Multilingual Character Standards.**