

# Computer graphics and visualization

## Ete Paper # Lpu Guide # <https://lpuguide.com>

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### Part A (2 marks)

1.

- a) Difference between random scan and raster scan?
- b) Define the term Aspect ratio and persistence.
- c) What is the use of glutInit Window Size() function?
- d) What is the use of glutMainLoop() function?
- e) Explain the syntax of glRotatef() function.
- f) What is point Clipping?
- g) What is the significance of using glLoadIdentity() function in OpenGL?
- h) 3d translation? Give its matrix representation?
- i) What do you understand by term texture? Discuss.
- j) Discuss the concept of Recursive Ray tracing.

### Part B

2.

- a) Discuss any five applications of computer graphics.
- b) 1) Explain shadow masking?  
2) What is beam penetration?

3.

- a) How is index color Model different from RGB color Model?
- b) Discuss display list in detail.

4.

- a) Discuss the concept of Cohen–Sutherland line clipping algorithm in detail with the help of an example.

- b)1) Discuss the concept of window to ViewPort transformation in detail.
- 2) Discuss the concept of Weiler Artherton algorithm used in polygon clipping.
- 5)
  - a) Discuss the various types of projection in details?
  - b)
    - 1) What is difference between isometric, Diometric and Trimetric views?
    - 2) What is the concept of classical 3-dimensional viewing?
- 6)
  - a) what is scan line algorithm? Explain with an example.
  - b) 1) write a short note on Back Face detection algorithm.
  - 2) Explain briefly the Phong shading for polygons.

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