

Total No. of Questions : 09]

[Total No. of Pages : 02

B. Tech. (Sem. - 5th)
COMPUTER GRAPHICS
SUBJECT CODE : CS - 309
Paper ID : [A0468]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is Compulsory.**
- 2) Attempt any Four questions from Section - B.**
- 3) Attempt any Two questions from Section - C.**

Section - A

(10 × 2 = 20)

- a) What is the advantage of interlaced refresh procedure in the raster scan displays?
- b) What is the use of data gloves and digitizers in computer graphics applications?
- c) What is the basic principle of Bresenham's line drawing algorithm and what are its advantages over DDA line drawing algorithm?
- d) What is the difference between boundary fill and flood fill area filling algorithms?
- e) What are the homogeneous coordinates and how these are useful for geometric transformations?
- f) What are the diffuse and specular reflections?
- g) What are the principle vanishing points in projections?
- h) What is Ray Tracing method for surface rendering?
- i) Define resolution and aspect ratio of a display device.
- j) What are the viewing transformations?

Section - B

(4 × 5 = 20)

- Q2)** What is the difference between raster and random scan displays? Discuss the different display devices used for computer graphics applications.
- Q3)** Discuss the Mid-Point circle generation algorithm in detail. Compare this with other circle generation algorithms.
- Q4)** Discuss the scan line method for visible surface detection.
- Q5)** What is the difference between parallel and perspective projections? Discuss each in detail.
- Q6)** Write short note on B-Spline curves.

Section - C

(2 × 10 = 20)

- Q7)** What are the geometric transformations and how these are useful in computer graphics applications? Discuss the different geometric transformations in detail.
- Q8)** Explain the Cohen-Sutherland algorithm for line clipping in detail.
- Q9)** What do you mean by polygon surface rendering? Discuss the different surface rendering methods used in computer graphics.

