Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

B.Tech (CSE) (Sem.–5)

COMPUTER GRAPHICS

Subject Code : BTCS-515-18

M.Code : 78325

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

Write briefly :

1) What is aspect ratio of display devices? What is its importance?

2) What is the Phong's shading?

3) What are the limitations of Z-buffer algorithm for hidden surface removal?

4) Why are transformations required?

5) What is importance of homogeneous co-ordinates?

6) What do you mean by viewing?

7) What are Cartesian and homogeneous coordinate systems?

8) What is meant by the image resolution and image's aspect ratio?

9) What do you mean by clipping?

10) Why homogeneous co-ordinates are used in the graphics transformations?

SECTION-B

11) What is the basic architecture of Cathode ray tube? Discuss in detail the random and raster scan displays.

12) Write Bresenham's circle drawing algorithm with example.

13) Write the Cohen-Sutherland outcode algorithm.

14) What are properties of light? Explain intuitive color and chromaticity concepts.

15) What are fractals? How are they represented? What are their applications? Explain.

SECTION-C

16) Derive the transformation matrices for the following transformations :

a) Reflection about X-axis.

b) Reflection about Y-axis.

c) Reflection about origin.

d) Reflection about line Y = X.

e) Reflection about line Y = –X.

17) Explain Z-buffer algorithm in detail.

18) How the 3D images are represented on 2D plane in computer graphics? Explain.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.