BTS–V(S)–11.20–0654 Reg. No. | | | | | | | | |

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B.Tech. Degree V Semester Supplementary Examination November 2020

CS 15-1506 COMPUTER GRAPHICS

(*2015 Scheme*)

Time: 3 Hours Maximum Marks: 60

PART A

(Answer *ALL* questions)

(10 × 2 = 20)

I. (a) Compare raster scan and random scan system.

(b) Explain boundary fill algorithm.

(c) Explain the logical classification of input devices

(d) Explain homogeneous coordinates. What are the advantages of using it?

(e) Explain reflection about the line $y = x$.

(f) Explain Cohen Sutherland line clipping.

(g) Compare object space and image space approach.

(h) Explain Z Buffer algorithm.

(i) Explain constant intensity shading.

(j) Explain RGB color system.

PART B

(4 × 10 = 40)

II. Derive the decision parameters and explain Bresenhams line drawing algorithm. Generate the line whose end points are (20, 10) and (30, 18).

OR

III. Derive the decision parameters and explain midpoint circle drawing algorithm. Generate the circle whose centre is at (0,3) and whose radius is 3.

IV. Prove that successive translations are additive.

OR

V. Explain the two dimensional transformations and their matrix representations.

VI. Explain three dimensional rotation about an arbitrary axis in space.

OR

VII. Explain painters algorithm. How can we rectify cyclic overlapping in painters algorithm?

VIII. Explain Gouraud shading and Phong Shading.

OR

IX. Explain the steps involved in designing an animation sequence. Explain how the motions of objects can be specified in an animation system.

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