NOVEMBER/DECEMBER 2019

BECS54B — COMPUTER GRAPHICS

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are the two types of display devices?
2. Define aspect ratio.
3. Write any two line attributes.
4. Mention the purpose of inquiry functions.
5. Give the clipping operations.
6. What is exterior clipping?
7. What is projection?
8. Categorize the 3D object representations.
9. What is back face detection?
10. Write the principle of BSP Tree method.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Discuss briefly on random scan systems.

Or

(b) Explain :
(i) Hard Copy devices
(ii) Graphic Software.

12. (a) Write about homogeneous coordinates in matrix representation.

Or

(b) Explain the following basic two dimensional geometric transformations.
(i) Translation
(ii) Rotation.

13. (a) Brief about two dimensional viewing.

Or

(b) Discuss on logical classification of input device.

14. (a) List and explain the steps involved in 3D transformation.

Or

(b) Describe about 3D viewing pipeline and 3D clipping briefly.

15. (a) Brief the steps in Depth buffer method.

Or

(b) Brief the steps in Scan Line method.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain in detail about the Line drawing DDA scan conversion algorithm.

17. Discuss about gray scale level and area filling attributes.

18. Explain in detail the Sutherland-Hodgeman clipping algorithm with an example.

19. Differentiate parallel and perspective projections and derive their projection matrices.

20. Explain the steps in ray casting method for visible surface detection with its implementation issues

———————