(Pages : 4) **P – 3094**

Reg. No. : .....

Name : .....

Fifth Semester B.Sc. Degree Examination, December 2022

Career Related First Degree Programme Under CBCSS

Group 2(b) – COMPUTER SCIENCE

Core Course

CS 1541 – COMPUTER GRAPHICS

(2018 Admission Onwards)

Time : 3 Hours Max. Marks : 80

SECTION – A [Very Short Answer type]

One word to maximum of one sentence, Answer **all** questions.

1. Expand PHIGS.
2. What is horizontal retrace?
3. What is aspect ratio?
4. Define pixmap.
5. What is VGA?
6. What is scan conversion?
7. Name any four input devices.
8. What is Transformation?

P.T.O.

9. What is window port?

10. Define a frame buffer.

(10 × 1 = 10 Marks)

SECTION – B [Short Answer]

Not exceeding one paragraph answer **any eight** questions. Each question carries **two** marks.

11. What do you mean by a Color Lookup Table?

12. What is translation?

13. What do you mean by 3D modelling in computer graphics?

14. What is a 24-Bit color image?

15. Distinguish between uniform scaling and differential scaling.

16. What is meant by point clipping?

17. What are the different ways of specifying spline curve?

18. What you mean by parallel projection?

19. What is tweening?

20. How surface rendering realism can be attained?

21. What do you mean by zooming an image?

22. What are output primitives?

23. What are the steps involved to perform scaling in 2D?

24. What do you mean by composite transformation?

25. Write down the matrix for homogeneous co-ordinate rotation (clockwise) and (anticlockwise)

26. Explain the working of LED displays.

(8 × 2 = 16 Marks)

SECTION – C [Short Essay]

Not exceeding **120** words, answer **any six** questions. Each question carries **four** marks.

27. Explain the line attributes.

28. Explain pivot point rotation with an example.

29. Briefly explain warping in computer graphics.

30. Write short notes on plasma panels.

31. Briefly explain z-buffer algorithm.

32. Write short notes on animations.

33. Explain shearing with an example.

34. Explain principles of illumination.

35. Explain DDA line drawing algorithm.

36. Explain random scan displays with its advantages and disadvantages.

37. Explain the concept of scan Converting a straight line.

38. Explain the flood fill algorithm for polygon filling.

(6 × 4 = 24 Marks)

SECTION – D [Long Essay]

Answer **any two** questions. **Each** question carries **15** marks.

39. Explain the working of CRT with a diagram.

40. Explain the 3D transformation in detail.

41. Explain in detail RGB, HSV and CYMK color models.

42. Briefly explain Cohen Sutherland line clipping algorithm with example.

43. Explain the various shading methods.

44. Explain in detail the Bresenham's circle drawing algorithm.

($2 \times 15 = 30$ Marks)

———————