Register No: …………………   Name: ....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)
(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)
EIGHTH SEMESTER INTEGRATED MCA DEGREE EXAMINATION(R), MAY 2024
(2020 SCHEME)

Course Code	:	**20IMCAT434**
Course Name	:	**Computer Graphics**
Max. Marks	:	**60**

Duration:3 Hours

PART A
(Answer all questions. Each question carries 3 marks)

1. Describe the purpose of line clipping in computer graphics.

2. In what ways are computer graphics used in advertising and marketing?

3. How can the plane equation be used to test whether a given point lies on the plane?

4. Describe the process of transforming points from one coordinate system to another using translation, rotation, scaling and shearing.

5. Explain the concept of the view volume in 3D viewing. What is its significance? How is it used to determine the objects which are visible from the camera's viewpoint?

6. Define parallel and perspective projections in computer graphics.

7. List the advantages of B-spline over Bezier Curve.

8. What is the difference between implicit curve and explicit curve? Explain.

9. What is ray tracing?

10. Outline the primary differences between diffused and specular shading in computer graphics.

PART B
(Answer one full question from each module, each question carries 6 marks)
MODULE I

11. Explain the two dimensional viewing pipeline.   6

OR

12. List and explain any two display methods used in computer graphics.   6

MODULE II

13. Write the different tables used for representing polygon surfaces. Illustrate with an example.   6

OR

14. Explain two dimensional rotation with the proper matrix equations.   6

MODULE III

15. Briefly explain the steps involved in clipping a line using mid point subdivision algorithm.   6

OR

16. How can we perform 3D scaling with respect to a selected fixed position (xf,yf,zf)? Give the matrix representation for this transformation.   6

MODULE IV

17. Differentiate linear sweep and rotational sweep operations in surface modeling.   6

OR

18. Compare and contrast constructive solid geometry with boundary representation.   6

MODULE V

19. Discuss the advantages and disadvantages of Gouraud shading and Phong shading techniques in computer graphics.   6

OR

20. Illustrate depth-buffer algorithm.   6

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