Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

FIFTH SEMESTER MCA DEGREE EXAMINATION, DECEMBER 2018

Course Code: RLMCA387

Course Name: COMPUTER GRAPHICS

Max. Marks: 60 Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks. Marks

1	List any three applications of computer graphics.	(3)
2	Write a short note on any two interactive graphic input devices.	(3)
3	Explain the two dimensional viewing pipeline.	(3)
4	Show that two successive two dimensional translations are additive.	(3)
5	What are the different three dimensional object representations?	(3)
6	What is a vanishing point? How do we determine the number of principal vanishing points in a projection?	(3)
7	What are splines?	(3)
8	What is meant by chromaticity of light?	(3)

PART B

Answer six questions, one full question from each module and carries 6 marks.

Module I

9	Compare raster scan and random scan displays with neat diagrams.	(6)

OR

10	With a suitable example explain Bresenham's line drawing algorithm.	(6)

Module II

11	Explain two dimensional translation and rotation with the proper matrix equations.	(6)

OR

12	How is window to viewport coordinate transformation performed? Explain the concept with equations.	(6)

Module III

13	Why are polygon tables used? Explain with a suitable example.	(6)

OR

14	Explain in detail any two quadric surfaces.	(6)

Module IV

15	What is known as parallel projection? What are the different types of parallel	(6)

projections?

OR

16 Explain some of the general considerations in structuring a user dialog. (6)

Module V

17 What are Bezier curves? What are the properties of Bezier curves? (6)

OR

18 How can we perform 3D scaling with respect to a selected fixed position (x_f,y_f,z_f)? Give the matrix representation for this transformation. (6)

Module VI

19 Explain in detail the z- buffer method with the help of an algorithm. (6)

OR

20 What is meant by ray- tracing? Explain the basic ray- tracing algorithm. (6)

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