CBCS SCHEME

USN | | | | | | | | | | |

BCG402

Fourth Semester B.E./B.Tech. Degree Examination, June/July 2024
Computer Graphics and Visualization

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	What is computer graphics? Explain applications of computer graphics with examples.	10	L2	CO1
	b.	Explain in detail graphics pipeline architecture.	10	L2	CO1
		OR			
Q.2	a.	With necessary steps explain Bresenham's line drawing algorithm. Consider the line from (6, 6) to (12, 8). Use the algorithm to rasterize the line.	10	L3	CO1
	b.	Explain the various graphics functions with example.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain 2D geometric transformations in detail.	10	L2	CO2
	b.	Develop openGL program to create and rotate a triangle about the origin and fixed point.	10	L3	CO2
		OR			
Q.4	a.	Explain homogeneous co-ordinate representation.	10	L2	CO2
	b.	Develop openGL program to create and rotate cube.	10	L3	CO2
		Module – 3			
Q.5	a.	Explain in detail various logical devices.	10	L2	CO3
	b.	Explain traditional animation technique in detail with example.	10	L2	CO3
		OR			
Q.6	a.	Explain input modes in detail with neat diagram.	10	L2	CO3
	b.	Explain character animation and periodic motions in detail.	10	L2	CO3
		Module – 4			
Q.7	a.	Explain Cohen-Sutherland algorithm with example and neat diagram.	10	L3	CO4
	b.	Explain in detail, The Phong Lighting model.	10	L2	CO4
		OR			
Q.8	a.	Explain color models.	10	L2	CO4
	b.	Write a short note on, (i) Normalization and View port transformation. (ii) 2D point clipping.	06 04	L4	CO3
		Module – 5			
Q.9	a.	Explain the concept of hidden surface removal.	10	L2	CO5
	b.	Explain perspective projection with neat diagram.	10	L2	CO5
		OR			
Q.10	a.	Develop openGL program to draw a polygon and allow user to move the camera suitably to experiment with perspective viewing.	10	L3	CO5
	b.	Explain orthographic and axonometric projection. Bring out the differences.	10	L2	CO5

* * * * *