BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: B.Tech **SEMESTER : VII**
BRANCH: CSE **SESSION : MO/2025**

SUBJECT: CS431 COMPUTER GRAPHICS

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Explain the Raster Scan and Random Scan Systems.	[5]	1	2
Q.1(b)	Explain Boundary and flood fill algorithms.	[5]	2	1
Q.2(a)	Explain Bresenham's circle Generating Algorithm.	[5]	2	2
Q.2(b)	Explain RGB and YIQ color models and discuss Phong shading algorithms.	[5]	5	3
Q.3(a)	Explain Sutherland-Hodgeman Polygon Clipping with example.	[5]	2	4
Q.3(b)	Describe General Parallel-Projection Transformations and applications?	[5]	3	3
Q.4(a)	What is Back-Face Detection? Explain the Difference between Depth-Buffer and A-Buffer.	[5]	5	3
Q.4(b)	What do you understand by Bezier Curve ?A cubic curve is defined by points (1,1),(2,3), (4,4) and (6,1). Calculate the coordinates of parametric mid-point of this curve and verify its gradient is dy/dx=1/7 at this point.	[5]	2	5
Q.5(a)	What is Composite Transformations? Explain 3D composite Translation and Scaling.	[5]	4	2
Q.5(b)	The pyramid defined by the coordinates A(0,0,0),B(1,0,0), C(0,1,0) and D(0,0,1) is rotated 45 degree about the Z axis. Find the coordinates of rotated points	[5]	4	4.

:::::20/11/2025:::::M