

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: B.Tech
BRANCH: CSE**

**SEMESTER : VII
SESSION : MO/2025**

SUBJECT: CS431 COMPUTER GRAPHICS

TIME:02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a)	Write a short note on working of raster scan display system and random scan display system.	[2] 1	1
Q.1(b)	Explain working of Video controller.	[3] 1	1
Q.2(a)	Explain 2D rotation and prove that two successive rotations are additive.	[2] 2	2
Q.2(b)	Perform a 45° rotation of objects A (2, 1), B(5, 1), C(5, 6) in clockwise direction and give the coordinates of the transformed objects.	[3] 2	2
Q.3(a)	Give the DDA line drawing algorithm. Explain with suitable example.	[2] 2	2
Q.3(b)	Explain the mid-point algorithm for drawing a circle with example.	[3] 2	2
Q.4(a)	Explain translation in 3D and prove that n successive translations are additive.	[2] 3	3
Q.4(b)	Explain Window to Viewport transformation.	[3] 1	2
Q.5(a)	List any four areas of applications of computer graphics.	[2] 1	1
Q.5(b)	Translate the polygon with co-ordinates A(2,5),B(7,10) and C(10,2) by 3 units in x direction and 4 units in y direction.	[3] 2	2

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