BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2024)

CLASS: BCA **SEMESTER : V**
BRANCH: BCA **SESSION : MO/2024**

SUBJECT: CA305 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**

			CO	BL
Q.1(a)	Define the term (i) Aspect Ratio (ii) Persistence	[2]	1	2
Q.1(b)	Discuss the working principles of Cathode Ray Tube (CRT) with diagrams.	[3]	1	1
Q.2(a)	What is the role of a video controller	[2]	1	1
Q.2(b)	Describe Beam Penetration method for producing color display using CRT	[3]	1	1
Q.3(a)	Consider a line from (0,0) to (6,7). Use DDA line Algorithm to rasterize the line. Find all the points lies in between the two given points above.	[2]	2	3
Q.3(b)	Derive the expression for the Decision Parameter in the mid-point circle algorithm.	[3]	1	4
Q.4(a)	Write the boundary fill algorithm for filling a polygon using four connected approach.	[2]	1	1
Q.4(b)	Describe scan-line polygon fill algorithm.	[3]	1	2
Q.5(a)	Explain basic 2 D transformation.	[2]	2	2
Q.5(b)	Consider the quadrilateral defined by the points (3,2), (3,5), (6,3), (6,7). Perform the following 2D transformations (i) Translate quadrilateral by factors 2 along x axis and 1 along y axis. (ii) Scale quadrilateral by factors 2 along x axis and 3 along y axis .	[3]	3	3

::::::18/09/2024::::::M