

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(MID SEMESTER EXAMINATION SP/2023)

CLASS: BTECH  
BRANCH: CSE/IT

SEMESTER : VI  
SESSION : SP/2023

SUBJECT: CS327 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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Q.1(a)	If we use direct coding of RGB values with 10 bits per primary color, how many possible colors do we have for each pixel.	[2] 1	1
Q.1(b)	What are Raster Images? Discuss the working principles of Raster Display with diagrams.	[3] 1	1
Q.2(a)	Define Refresh rate. Write what is the minimum refresh rate of a raster scan display device.	[2] 2	2
Q.2(b)	Can you avoid the aliasing effect? Justify your answer.	[3] 2	2
Q.3(a)	Write at least two recursively defined drawings and explain with the diagrams.	[2] 3	3
Q.3(b)	Write the Bresenham's Line drawing algorithm and explain with an example.	[3] 3	2
Q.4(a)	An object is defined with respect to a coordinate system whose units are measured in feet. If an observer's coordinate system uses inches as the basic unit, what is the coordinate transformation used to describe object coordinates in the observer's coordinate system?	[2] 4	3
Q.4(b)	Write an algorithm for even and odd method for polygon inside test. Explain with an example.	[3] 4	2
Q.5(a)	Is there any difference between Geometric transformations and Coordinate Transformations? Justify your answer.	[2] 5	3
Q.5(b)	Explain the Logical functioning of Graphics Input-Output devices.	[3] 5	2

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