UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 6th Semester Examination, 2021

CC14-COMPUTER SCIENCE (62)

COMPUTER GRAPHICS

Full Marks: 40

ASSIGNMENT

The figures in the margin indicate full marks.
All symbols are of usual significance.

Answer any *two* questions   20×2 = 40

1. (a)	Define pixel, resolution, dot pitch, color depth, pixel addressability and aspect ratio with example.	12
(b)	Discuss briefly any four areas of application of computer graphics. Write down the working principle of two input and two output devices related to computer graphics.	4+4
2. (a)	Define scan conversion. Differentiate raster and random scan display.	2+6
(b)	Discuss the working principle of CRT monitor display.	8
(c)	State the significance of homogeneous co-ordinate system.	4
3. (a)	Write down the DDA Line drawing algorithm. Use the same algorithm to rasterize a line from (0, 0) to (4, 6)	10
(b)	Derive the expression for decision parameter used in Bresenham's circle drawing algorithm.	10
4. (a)	Discuss various 2D geometric transformation operation in computer graphics.	10
(b)	A point (4, 3) is rotated counterclockwise by an angle 45°. Find the rotation matrix and the resultant point.	6
(c)	Explain the concept of perspective and parallel projection.	4

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