47

D4BCA2103

Reg.No..............................

Name: ....

FOURTH SEMESTER UG DEGREE EXAMINATION, APRIL 2023

(Regular/Improvement/Supplementary)

BCA

GBCA4C08T: COMPUTER GRAPHICS

Time: 2 Hours   **Maximum Marks: 60**

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 20 Marks)

1. What is beam penetration method?
2. Differentiate between emissive and non-emissive displays.
3. Why refreshing is needed in CRT?
4. What is YIQ Colour model?
5. What is reflection? Give the matrix for reflection about x-axis.
6. Write the homogeneous representation of 2D transformation.
7. What is uniform scaling? Which type of scaling is used to transform a square into a rectangle?
8. Give the matrix representation of 2D rotation.
9. What is translation?
10. Mention the use of region code in clipping.
11. What is Color Look up table?
12. Comment on additive color model.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30 Marks)

13. Explain the working of CRT with a neat diagram.
14. Construct the line segment AB with end points A (2, 3) and B (12, 8) using DDA line drawing algorithm.
15. Explain general fixed point scaling.
16. Discuss about shear transformation.
17. Elaborate on windowing.
18. Explain RGB and CMY color models? How RGB is converted to CMY?
19. Briefly explain the differences between magic wand and select by color in GIMP?

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. What is clipping? Explain Cohen-Sutherland line clipping.
21. Explain Bresenham's circle drawing algorithm. Generate a circle with radius = 10 using the algorithm.

$$(1 \times 10 = 10 \text{ Marks})$$