SCA–380(A)

B.C.A. Part-III (Supplementary) Examination, 2022

COMPUTER GRAPHICS

Paper – BCA-305

Time : 1½ Hours]   [*Maximum Marks :* **50**

Note :–   Attempt *five* questions in all, selecting *one* question from each Unit. All questions carry equal marks.

Unit–I

1. (a)   Explain the working of Cathode Ray Tubes with diagram.   5

    (b)   Explain raster scan display system with diagram. Differentiate between Raster system with Random system.   5

Or

2.   Explain the various color models and differentiate them.   10

Unit–II

3.   Scan convert a straight line whose end points are (5, 10) and (15, 35) using simple DDA algorithm.   10

Or

4.   Explain scan line Polygon fill Algorithm with example.   10

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Unit–III

5. Prove the following :

    (a) 2 Translations are additive.

    (b) 2 Rotations are additive. 5×2=10

<p align="center">*Or*</p>

6. Generate Transformation Matrix for all possible 2D Reflection. 10

Unit–IV

7. What is Projection ? Explain Parallel and Perspective Projection in detail. 10

<p align="center">*Or*</p>

8. Differentiate between B-Spline and Bezier Curves. 10

Unit–V

9. Explain Sutherland-Hodgman Polygon Clipping algorithm in detail. 10

<p align="center">*Or*</p>

10. Explain Depth-Buffer method for visible surface detection. How is it different from scan line method of visible surface detection ? 10