

Total No. of Questions : 8 | Total No. of Printed Pages : 3

Paper Code : 21321

F-421

**B.C.A. (Fifth Semester) Examination, 2021
(New Course)**

Paper-BCA-501-N

COMPUTER GRAPHICS AND ANIMATION

Time : Three Hours] [Maximum Marks : 70

Note : Attempt any five questions. All questions carry equal marks. Symbols used have their usual meanings.

1. (a) What is computer Graphics? Write the important applications of Computer Graphics? 7

(1)

P.T.O.

- (b) Define Random and Raster scan? 7
2. (a) Explain color display techniques, with diagram. 7
- (b) Differentiate between: 7
- (i) Image and graphics
- (ii) Video and animation
3. (a) What is Frame Buffer? Discuss the role of frame buffer in controlling intensity and color of display devices? 7
- (b) Explain the limitation of DDA algorithm for line generation. Expand the abbreviation DDA. 7
4. What is 2D Transformation? Explain types of 2D transformations. 14
5. (a) What is Aliasing? Define Anti-aliasing techniques. 7
- (b) What are Bezier curves? State the mathematical expression of Bezier curve, explaining the terms involved. 7

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(2)

6. What is animation? What are two types of animation? Explain both. 14

7. A homogenous co-ordinate point $P(3,2,1)$ is translated in x, y and z directions by -2, -2 and -2 unit respectively followed by successive rotation 60 degree about x-axis. Find the final position of homogenous co-ordinate. 14

8. Explain the following: 14

- (i) Tweaking
- (ii) Morphing
- (iii) Clipping
- (iv) Mid-point circle drawing algorithm

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