



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

BCA 6th Semester Examination 2022

COMPUTER GRAPHICS

PAPER-3203

Full Marks : 70

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer Q. No. 1 and any *four* from the rest.

1. Answer any *five* questions :

5×2

- (a) What do you mean by Resolution ?
- (b) What is Aspect ratio ?
- (c) Define clipping.
- (d) What is shearing ?
- (e) Briefly describe 3D rotation.

- (f) Define Light pen.
- (g) What is Digitizer ?
- (h) What is Reflection ?
- 2.** (a) Write down application of Computer Graphics.
- (b) Illustrate, DDA line drawing algorithm. Draw a line from (0, 0) to (6, 6) using DDA line drawing algorithm. 5+(5+5)
- 3.** (a) Write down differences between Raster Scan and Random Scan.
- (b) Discuss shadow mask method for producing colour displays with a CRT.
- (c) Find the transformation matrix for Rotation about the origin. 5+5+5
- 4.** (a) What is clipping ? Write down Cohen-Sutherland line clipping algorithm.
- (b) Derive the transformation matrix for window to viewport transformation. What is the difference between window and viewport ? (2+6)+7
- 5.** (a) What is scaling ? Scale the square ABCD, A(0, 0), B (4, 0), C (4, 4), D (0, 4) two units in X-direction and two units in Y-direction with respect to origin.
- (b) Write down applications of multimedia. (2+6)+7
- 6.** (a) Describe Mid-point circle drawing algorithm.
- (b) Plot a circle using mid-point circle drawing algorithm, where radius = 10 units and center at (0, 0). 8+7

7. (a) Describe Bezier curve with 4 control points.

(b) Compare two technology LCD & LED.

8+7

8. Write short notes on (any *five*) :

(i) JPEG (Joint photographic expert group) ;

(ii) BMP (Bitmap format) ;

(iii) GIF (Graphics interchange format) ;

(iv) MIX (Microsoft image extension) ;

(v) PNG (Portable network graphics) ;

(vi) TIF (Tagged image file).