Roll No……

BCA/D-13 **894**

COMPUTER GRAPHICS

Paper BCA—355

Time: Three Hours] [Maximum Marks: 80

Note: Attempt five questions in all, selecting at least one question from each unit. Question No. 1 is compulsory. All questions carry equal marks.

(Compulsory Question)

1. (a) What is use of Frame Buffer ? 3
   (b) Define aspect ratio. 2
   (c) Differentiate between CRT and LCD. 3
   (d) What is Composite Transformation? 2
   (e) What is the difference between Parallel and Perspective projection? 2
   (f) Define WCS, NDCS and PDCS. 4

UNIT—I

2. (a) Explain the RGB and CMY color Model. What is relation between them?

   (b) Explain the image representation using Look up table. 10,6

3. Explain the working of CRT. How flicker is controlled in CRT? 16

UNIT—II

4. Explain Bresenham's Circle Algorithm for Scan converting a circle. 16
5. What are Aliasing effects of scan conversion '.7 How they are reduced? I6

UNIT—III

6. (a) Derive the Geometric transformations for Translation, Rotation Scaling and Mirror reflection.
   (b) What is Shearing transformation? 12,4

7. (a) Explain the various coordinate transformations.
   (b) Rotate a square A(1, 1), B(3, 1), C(3, 3) and D(l, 3) about origin by an angle of 45°. What are the new coordinates? 8,8

UNIT—IV

8. What is Clipping ? Explain the Cohen Sutherland Line clipping Algorithm. 16

9. (a) What is Projection ? Explain its various types.
   (b) Give transformation Equations for orthographic Parallel and Oblique Parallel Projections. 8,8