# 24253

**B.Tech. 5th Semester (CSE) Examination,**

**December–2015**

**COMPUTER GRAPHICS**

**Paper–CSE–303–F**

*Time allowed : 3 hours ]* *[ Maximum marks : 100*

*Before ensuring the question, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after examination.*

***Note :*** *Attempt any **five** questions. **Q. No. 1 is compulsory.** Select **one** question from each unit.*

**1.** (a) What is the difference between random scan and raster scan display.

(b) Explain view port and clipping.

(c) Explain the following with example : Translation, scaling.

(d) What are the various operations that can be applied on image.

(e) Differentiate between uniform B-Spline and non uniform B-Spline.

## Unit–A

2. (a) What is computer graphics ? Indicate the importance and application area of computer graphics.

   (b) Explain DDA Line drawing algorithm.

3. (a) How Bresenhman's algorithms can be used for generating circle ? Explain.

   (b) Write and explain boundary filled algorithm.

## Unit–B

4. Describe the transformation used in magnification and reduction with respect to origin. Find the new coordinates of the triangle A (0, 0), B (1, 1), C (5, 2) after it has been
   (a) magnified to twice its size and
   (b) reduce to half its size

5. (a) Write and explain Sutherland-Cohen algorithms for polygon clipping ?

   (b) Perform a 45 degree rotation of a triangle A (0, 0), B (1, 1), C (5, 2) About origin.





## Unit–C

6. What do you mean by projection ? Describe different types of projection with examples. What are the various projection anomalies ?

7. (a) What is the importance of removal of 'Hidden Surface' ? Define Z-buffer algorithm for same.

   (b) Describe area sub division algorithms for hidden surface removal.

## Unit–D

8. Where has the term "spline" originated from ? Compare B-spline curve and Bezier curve. Obtain expression for Bezier curve and B-spline curve.

9. Explain Gouraud Shading model and Phong shading model.