Roll No. .....

24253

B. Tech 5th Semester (CSE)

Examination – December, 2016

COMPUTER GRAPHICS

Paper : CSE-303-F

Time : Three Hours] *[Maximum Marks : 100*

Before answering 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 ***five*** questions. Question No. 1 is ***compulsory***. Select one question from each Unit.

1. (a) Define ambient, diffuse reflection and specular reflection.

   (b) What is the difference between random scan and raster scan display ?

   (c) Explain the following with example: Scaling, reflection.

   (d) What is the importance of removal of 'Hidden Surface ?

   (e) Explain view port and clipping.

UNIT – I

2. (a) In what way interactive graphics differ from passive graphic ? Enumerate some application area of interactive graphics system.

   (b) Explain midpoint circle drawing algorithm.

3. (a) Write and explain the boundary fill algorithms.

   (b) Explain Bresenham's line drawing algorithm.

UNIT – II

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) Explain Cyrus Beck line clipping algorithm.

   (b) Write and explain Sutherland-Cohen algorithms for polygon clipping ?

UNIT – III

6. (a) Explain Z-buffer algorithm.

   (b) Describe scale line algorithms for hidden surface removal.

7. (a) Explain the following with example: Translation, scaling, Rotation and composite transformation.

   (b) What do you mean by projection ? Explain different types of projection.

UNIT – IV

8. (a) Differentiate between uniform B-Spline and non uniform B-Spline with suitable examples.

   (b) what is Bezier curve ? describe various property of Bezier curve.

9. (a) What is an image ? How quality of an image can be improved with filtering ?

   (b) Define the term shading ? Differentiate between Gouraud Shading model and phong shading model.
