SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

ROLL No: | | | | | | | | | | | | | **Total number of pages:[1]**

B.Tech. || CSE || 6th Sem

Computer Graphics

Subject Code: BTCS – 602A (RG)

Paper ID: M\18 (2015)

Time allowed: 3 Hrs **Max Marks: 60**

Important Instructions:

- **All questions are compulsory**
- **Assume any missing data**

PART A (10x 2marks)

Q. 1. Short-Answer Questions:

a) Differentiate between Random scan and Raster scan devices.
b) Define the term Clipping.
c) What do you mean by Antialiasing?
d) What is Viewing Pipeline?
e) What do you understand by the term Surface Rendering?
f) What is uniform and differential scaling?
g) What is a vanishing point?
h) Give matrix for Rotation transformation in 3D.
i) What is scan conversion?
j) What is Gourard shading?

PART B (5×8marks)

Q. 2. What is CRT? Explain its working. Is it a Random scan or Raster scan Device? CO 1

OR

Explain the working principle of a Multi-in-one Laser Printer? CO 1

Q. 3. How is a circle plotted with the help of a midpoint circle algorithm? CO 2

OR

Explain DDA Line Generation Algorithm with the help of an example. CO 2

Q. 4. Explain Translation and Rotation 3D transformations with examples. CO 3

OR

Explain the working of Cohen-Sutherland Line Clipping Algorithm. CO 4

Q. 5. Explain Scan line filling algorithm to fill a Polygon. CO 4

OR

Out of Boundary Fill, Flood Fill, Edge Fill and Fence Fill filling algorithms, which one is best and why? CO 4

Q. 6. Explain the z-buffer algorithm. What are the advantages and disadvantages of using a z-buffer algorithm? CO 5

OR

Explain Floating Horizon. Why is it used? CO 5