B - Tech - sem - IV, (2014 course), IT
winter - 2018

B.Tech. SEM -IV Info. Tech. 2014 Course (CBCS) : WINTER - 2018

SUBJECT: COMPUTER GRAPHICS

Day: Saturday | **W-2018-2356** | Time: 02.30 PM TO 05.30 PM
Date: 17/11/2018 | Max Marks : 60

N.B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Assume suitable data, if necessary.
4) Draw neat and labeled diagrams wherever necessary.

Q.1 Explain the terms Frame buffer, OPEN GL in detail. **(10)**

OR

Q.1 Name various different Video Display devices? Explain (any two) its working in detail. **(10)**

Q.2 Mention drawbacks of DDA circle drawing algorithm. How to draw a circle using Bresenham's circle drawing algorithm. **(10)**

OR

Q.2 Describe how to clip given lines using Cyrus-Beck line clipping algorithm. Explain it with suitable example. **(10)**

Q.3 The reflection along the line Y=X is equivalent to the reflection along the X - axis followed by counter clockwise rotation by Ø degree. Find the values of Ø. **(10)**

OR

Q.3 Derive and explain 3D transformation matrix for Translation, Scaling and Rotation. **(10)**

Q.4 What is Projection normalization? Differentiate between Parallel and Perspective projections and derive their projection matrices. **(10)**

OR

Q.4 Writ a short note on : **(10)**

a) Stages in 3D viewing.
b) Canonical View Volume (CVV).

Q.5 State various different Hidden Surface removal algorithms and explain any two in detail. **(10)**

OR

Q.5 How do you create shaded objects and draw shadows? Differentiate between Flat and Smooth shading models. **(10)**

Q.6 Elaborate on generation process of Hilbert's curve. **(10)**

OR

Q.6 Briefly explain different types of Fractals with neat diagram; also explain how to construct fractals and uses of Fractals in computer graphics. **(10)**

* * * * *