

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- MAY 2018

B.Tech VI Semester

COURSE CODE: 11B1WCI611

MAX. MARKS: 35

COURSE NAME: Computer Graphics

COURSE CREDITS: 04

MAX. TIME: 2Hrs

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

1. Discuss the role of the viewing pipeline in computer graphics. How the 2-D viewing pipeline is different from the 3-D one? [2+2]
2. Differentiate between the three standard conic curves: Parabola, Hyperbola and ellipse. [3]
3. Elaborate in detail the symmetric perspective projection. Also derive the method to find out the projection point for the same. [2+2]
4. Explain how will you rotate an object in 3-D? Elaborate the method to rotate an object in 3-D, when the rotation axis is neither parallel to any rotation axis nor it passes through origin. [4]
5. Write short notes on: [2*5]
 - a) Vanishing point
 - b) Oblique parallel projection
 - c) Image formats and their usage
 - d) 3-D shears
 - e) Octrees
6. Compute the Bresenham's Line for the points (1, 2) and (7, 8). Explain the aliasing effect in the same (if any). Clip the same line with the rectangular window of diagonal points (2, 2) and (5, 5). Now fill the clipping window with grey color (Keeping the color of line is black). Finally order these steps according to the viewing pipeline. [3+2+3+2]