

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2016

B.Tech VI Semester

COURSE CODE: 11B1WCI611

MAX. MARKS: 15

COURSE NAME: Computer Graphics

COURSE CREDITS: 4

MAX. TIME: 1 HR

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

Q1

- I. Explain the following terms: [1.5 marks]
 - a. Vertical & Horizontal retracing.
 - b. Scan Conversion & rasterization.
 - c. Random Scan & Raster Scan Displays.
- II. Explain the working of CRT in detail? [2 marks]

Q2

- I. Justify the use of special purpose of Graphics Processors? [1 marks]
- II. Find the Refresh Rate of a 512*512 frame buffer if the access time for each pixel is 200 nanoseconds? Find the amount of memory required by an 8 plane frame buffer each of red, green & blue, having 1024*768 resolutions? [1.5 marks]
- III. Consider a raster system with the resolution of 1024 x 768 pixels and the color palette calls for 65,536 colors. What is the minimum amount of video RAM that the computer must have to support the above-mentioned resolution and number of color? [2 marks]
- IV. Explain Scan line polygon filling algorithm? [2 marks]

Q3

- I. Derive algorithm for Circle drawing using Mid-Point Method. [2 marks]
- II. Given input ellipse parameters $r_x=7$, $r_y=5$, illustrate the steps involved in mid point ellipse algorithm. [3 marks]