Code No: 57049 **R09**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year I Semester Examinations, November - 2015**

**COMPUTER GRAPHICS**

**(Computer Science and Engineering)**

**Time: 3 Hours** **Max. Marks: 75**

**Answer any Five Questions**

**All Questions Carry Equal Marks**

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1.a) Explain in brief about the construction of plasma panel display.

b) Consider a raster display system with resolution of 800 by 400. How many pixels could be accessed per second by a display controller that refreshes the screen at the rate of 60 frames per second? [7+8]

2.a) What is the principle followed in Flood fill algorithm? Explain the steps in the Algorithm.

b) Derive the necessary equations required to generate circle algorithm. [8+7]

3.a) Give the transformation matrix for the following:
i) To shift left by 2 units and due to rotate by $45^0$ clockwise.
ii)To reflect with respect to y = -x axis

b) Derive the transformation matrices for rotation and translation in 2-D Cartesian co-ordinate system. [8+7]

4.a) Give a brief note about viewing pipe line with illustrations.

b) Explain the steps involved in Sutherland-Hodgeman algorithm. [8+7]

5.a) Discuss the necessary factors contributing to intensity calculations. Give Basic Illumination model?

b) State the Blending function for Bezier curve. What are the properties of Bezier curve? [8+7]

6.a) Explain how the issues involved in rotation and reflection are different in 3-D from 2-D. Give a detailed note.

b) Derive the transformation matrix for perspective transformation. [8+7]

7.a) Explain in brief about advantages and disadvantages of Depth buffer algorithm?

b) Discuss in brief about BSP Tree methods. [8+7]

8.a) What are key frames? Write about morping.

b) Explain about the general computer animation functions. [7+8]

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