

Code No: 57049

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, December - 2014

COMPUTER GRAPHICS

(Computer Science and Engineering)

Time: 3 Hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Discuss the two basic techniques that are used to produce color displays with a CRT.
- b) Explain the operating characteristics of Flat panel displays.
- 2.a) Write about mid-point circle generating algorithm.
- b) Explain how to fill a 4-connected area of a polygon by using Boundary-fill algorithm.
- 3.a) Discuss the basic 2D transformations along with their matrix representation and homogeneous coordinates.
- b) Explain how to transform the objects from one coordinate system to another in 2D viewing.
- 4.a) Mention all two-dimensional viewing functions along with examples.
- b) What is the need of clipping? Explain the procedure of clipping a polygon using Sutherland-Hodgeman polygon clipping algorithm.
- 5.a) Determine the blending functions for uniform, periodic B-spline curves for $d=5$.
- b) What is Specular Reflection? Discuss the model that is used to calculate the specular reflection range.
- 6.a) Explain the process of specifying the "View plane" for viewing a scene.
- b) Discuss briefly about General parallel and perspective projection transformations.
- 7.a) Explain the visible-surface detection algorithm that uses both image-space and object-space operations.
- b) Discuss in detail about Scan-line method.
8. Write an elaborate note on Key frame systems.

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