

**B. N. BANDODKAR COLLEGE OF SCIENCE, THANE**  
S.Y.B.SC. (INFORMATION TECHNOLOGY) SEMESTER – III EXAMINATION; OCTOBER  
2014  
COURSE CODE– USIT302

**Duration: 2½ Hrs**

**Marks: 75**

**Total**

**N.B. 1. All questions are compulsory.**

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|-------------|---|-----------|
| <b>Q. 1</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> Differentiate between Raster Scan Display And Vector Scan Display.                   |           |
|             | <b>b</b> Explain Bresenham's line drawing algorithm.  |           |
|             | <b>c</b> Explain Input Devices in Details.  |           |
|             | <b>d</b> Write Short note on Application of Computer Graphics.                                |           |
| <b>Q. 2</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What are the steps involved in rotating an object about an arbitrary point?          |           |
|             | <b>b</b> Explain 2D-Transformations Using Homogeneous Coordinates.                            |           |
|             | <b>c</b> What is Transformation? What is the need of Transformation matrix?                   |           |
|             | <b>d</b> Explain 2-Dimensional Shearing Transformations.                                      |           |
| <b>Q. 3</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> Explain window to view port Transformation.  |           |
|             | <b>b</b> Explain world coordinate system.   |           |
|             | <b>c</b> Write note on Reflection in 3D-Transformation.                                       |           |
|             | <b>d</b> Explain Transformation Matrix for Translation, Rotation & Scaling in 3D.             |           |
| <b>Q. 4</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What is Viewing & Viewing Transformation?  |           |
|             | <b>b</b> Explain Seed Fill Algorithm in detail.   |           |
|             | <b>c</b> What is Polygon Clipping? Explain Sutherland-Hodgeman polygon clipping.              |           |
|             | <b>d</b> Briefly discuss the 3-dimensional viewing Transformations.                           |           |
| <b>Q. 5</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> Explain Curve Continuity in detail.  |           |
|             | <b>b</b> What are Fractals? Discuss its application.  |           |
|             | <b>c</b> Explain Coherence for visibility? Explain its types.                                 |           |
|             | <b>d</b> Explain Spine Curve Representation.  |           |
| <b>Q. 6</b> | <b>Answer any two out of following</b>  | <b>10</b> |
|             | <b>a</b> What is Shading? Explain any two types of Shading.                                   |           |
|             | <b>b</b> What is Computer Animation? Explain steps required in design of animation sequences. |           |
|             | <b>c</b> Write Note on: Morphing.   |           |
|             | <b>d</b> Explain Procedural Animation.  |           |

**Q.7**

**Answer any three out of following**

**15**

- a** Explain Raster scan display architecture.
- b** What is Reflection in 2D-Transformations? Explain with an example.
- c** Explain display method of 3D-Transformation.
- d** Explain Text Clipping in detail.
- e** Explain the properties of B-Spline Curves.
- f** Write note on Object Rendering.

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