| Seat | |
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| No. | |

[4657]-588

S.E. (Information Technology)

(Second Semester) EXAMINATION, 2014

COMPUTER GRAPHICS

(2012 **PATTERN**)

Time : Two Hours

Maximum Marks : 50

- N.B. :- (i) Answer Q. No. 1 or Q. No. 2, Q. No. 3 or Q. No. 4, Q. No. 5 or Q. No. 6, Q. No. 7 or Q. No. 8.
 - (*ii*) Neat diagrams must be drawn wherever necessary.
 - (iii) Figures to the right indicate full marks.
 - (*iv*) Assume suitable data, if necessary.
- 1. (a) Differentiate between random scan and raster scan display. [6]
 - (b) What is Homogeneous Coordinate System ? Compare homogeneous and normalized co-ordinates. [6]

Or

(a) Write steps for filling polygon using scan line method. [6]
(b) Rasterize a line from (0, 0) to (8, 4) using DDA algorithm. [6]

3. (a) What is segment ? Explain segment creation operation. [6]
(b) Obtain the 3D Transformation matrix for rotation about any arbitrary axis. [6]

Or

- 4. (a) In 2D clipping how are line grouped into visible, invisible and partially visible categories ? [6]
 - (b) Explain ways of projecting 3D objects onto 2D screen in detail. [6]
- 5. (a) Explain CIE chromaticity diagram; also explain how RGB toCMY conversion is done. [6]
 - (b) What are the different steps in animation sequence ? Explain each step in brief.

Or

- 6. (a) Explain pseudo C algorithm for Gourand shading. [6]
 (b) What are the different ways in which motions of the objects can be specified ? Explain each in brief. [7]
- 7. (a) What are the properties of Bezier curve ? Describe the procedure to generate Bezier curve. [6]

[4657]-588

 $\mathbf{2}$

(b) What is interpolation ? Explain the process of curve approximationby Lagrange interpolation method. [7]

Or

- 8. (a) Explain Hilbert curve in detail. [6]
 - (b) Give the set of equations of Bezier curve. Write the algorithmfor drawing a Bezier curve section using four points. [7]