Total No. of Questions—**12**] [Total No. of Printed Pages—**4**

Seat No.	

[4757]-199

S.E. (IT) (Second Semester) EXAMINATION, 2015

COMPUTER GRAPHICS

(2008 PATTERN)

Time : Three Hours **Maximum Marks : 100**

N.B. :— (*i*) Answer *three* questions from Section I and *three* questions from Section II.

(*ii*) Answers to the two sections should be written in separate answer-books.

(*iii*) Neat diagrams must be drawn wherever necessary.

(*iv*) Figures to the right indicate full marks.

(*v*) Assume suitable data, if necessary.

SECTION I

1. (*a*) What do you mean by Computer Graphics ? Give different applications of Computer Graphics. [4]

(*b*) Explain display file structure and role of display file interpreter. [6]

(*c*) Explain DDA circle drawing algorithm. [6]

P.T.O.

Or

2. (*a*) Explain DDA line drawing algorithm with suitable example. [10]

(*b*) Explain any *two* character generation methods. [6]

3. (*a*) Explain rotation of a triangle (A, B, C) about an arbitrary point P(x, y) in space. [8]

(*b*) Explain 3D rotation. How is it different than 2D rotation ? [8]

Or

4. (*a*) Explain boundary fill polygon filling method. State its limitations. [8]

(*b*) Explain the following : [8]

(*i*) Screen coordinates

(*ii*) World coordinates

(*iii*) Window

(*iv*) Viewport.

5. (*a*) Explain perspective projection and parallel projection. [8]

(*b*) Explain parametric cubic curves. [6]

(*c*) Explain concept of vanishing point. [4]

Or

6. Write short notes on : [18]

(*i*) Sweep representation

(*ii*) Polygon surfaces

(*iii*) B-spline Curve.

SECTION II

7. (*a*) Explain the following color model : [8]

(*i*) RGB color model

(*ii*) Color Mixing.

(*b*) Explain raster animations and double buffering. [8]

Or

8. (*a*) Explain need of computer animation and types of computer animation in detail. [10]

(*b*) Explain different steps used in design of animation sequence. [6]

9. (*a*) Explain Gaurand Shading model. State advantages and limitations of it. [8]

(*b*) Explain different components of local illumination model. Explain different basic light sources. [10]

Or

10. (*a*) Explain ray tracing algorithm. [6]

(*b*) Explain Diffuse reflection illumination model. [6]

(*c*) Explain local and global illumination. [6]

11. (*a*) Explain features of any Graphics tool that you have studied. [6]

(*b*) What do you mean by interactive computer graphics ? [4]

(*c*) Explain antialiasing with example. [6]

Or

12. Write short notes on : [16]

(*i*) Texture mapping

(*ii*) Bezier curves

(*iii*) Fractal lines and surfaces

(*iv*) Koch curve.