Seat
No.

[4857]-1079

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

COMPUTER GRAPHICS AND GAMING

(2012 PATTERN)

Time : Two Hours   **Maximum Marks : 50**

N.B. :— (*i*) Neat diagrams must be drawn wherever necessary.

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

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

1. (*a*) Explain the following :   [6]

    (*i*) Frame buffer

    (*ii*) Resolution

    (*iii*) Aspect ratio

   (*b*) Find out ponits for line segment having end points (0, 0) (– 8, – 4) using DDA line drawing algorithm.   [6]

Or

2. (*a*) What is error factor in Bresenham's circle drawing algorithm ? Write Bresenham's circle drawing algorithm.   [8]

   (*b*) Explain in brief :   [4]

    (*i*) Raster scan display

    (*ii*) TIFF file format

3. (*a*) Explain Even-odd inside test with example.   [3]

   (*b*) Write flood fill algorithm.   [3]

   (*c*) Explain rotation about arbitrary point. Generate transformation matrix for same.   [6]

4. (*a*) Explain parallel and perspective projection with example. [4]

(*b*) Write and explain Cohen-Sutherland line clipping algorithm. [8]

5. (*a*) Explain point source illumination. [3]

(*b*) Explain fractals with example. [3]

(*c*) Write painters algorithm. [3]

(*d*) Explain Bezier curve in detail. [4]

Or

6. (*a*) Explain diffused illumination. [3]

(*b*) Explain RGB color model. [4]

(*c*) Explain fractal lines with example. [3]

(*d*) Explain painter's algorithm. [3]

7. (*a*) Give any *four* basic guidelines for animation. [4]

(*b*) Explain need of NVIDIA workstation in gaming. [5]

(*c*) Write a short note on OpenGL ES. [4]

Or

8. (*a*) Explain role of Maya/equivalent open source tool in graphics design. [4]

(*b*) What is segment ? Explain segment table. [5]

(*c*) Explain architecture of any NVIDIA processor. [4]