Reg. No. | | | | | | | | | | | | |

**Question Paper Code : 57256**

**B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2016**

**Fifth Semester**

**Computer Science and Engineering**

**CS 6504 – COMPUTER GRAPHICS**

**(Regulations 2013)**

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

**Answer ALL questions.**

**PART – A (10 × 2 = 20 Marks)**

1. Define refresh/frame buffer.
2. What are the merits and demerits of direct view storage tubes ?
3. Define Shear.
4. Define Window.
5. Differentiate parallel projection from perspective projection.
6. What is the need for space partitioning representations ?
7. What is the need for shading model ?
8. List out various properties that describe the characteristics of light ?
9. What is a scripting system ?
10. What is a turtle graphics program ?

**PART – B (5 × 16 = 80 Marks)**

11. (a) Explain in detail about the Line drawing DDA scan conversion algorithm with an example. **(16)**

**OR**

(b) Explain the following Video Displays Devices

(i) Refresh cathode ray tube **(4)**

(ii) Raster Scan Systems **(4)**

(iii) Random Scan Displays **(4)**

(iv) Colour CRT Monitors **(4)**

12. (a) Explain on the following 2D transformations

(i) General Pivot point rotation **(4)**

(ii) General Fixed Point Scaling **(4)**

(iii) Perform 45 degree rotation of a triangle A(90, 0), B(1, 1) and C(5, 3) about P(–1, –1) **(8)**

**OR**

(b) Explain in detail the Cohen-Sutherland line clipping algorithm with an example. **(16)**



13. (a) Write notes on :

(i) Quadric surfaces **(8)**

(ii) Polygon surfaces **(8)**

**OR**

(b) Explain a method to rotate an object about an axis that is not parallel to the coordinate axis with a neat block diagram and derive the transformation matrix for the same. **(16)**

14. (a) Explain in detail on RGB and HSV colour models. **(16)**

**OR**

(b) Write notes on Phong model and Warn model in detail. **(16)**

15. (a) (i) Define animation sequence. Explain the various steps involved in animation sequence. **(8)**

(ii) What is Koch Curve ? Explain in detail. **(8)**

**OR**

(b) (i) Explain Raster Animation. **(8)**

(ii) What is Fractal ? Explain in detail the various fractals. **(8)**