KUMARAGURU
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Register Number: …….

B.E DEGREE EXAMINATIONS: APRIL / MAY 2016

(Regulation 2013)

Sixth Semester

COMPUTER SCIENCE AND ENGINEERING

U13CST604 : Computer Graphics

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

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Identify impact printer from the following
   a) Drum Plotter b) Inkjet printer
   c) Electrostatic printer d) Dot-matrix printer
2. Aspect ratio is generally defined as the ratio of the _____ and _____.
3. Reflection of a point about x-axis, followed by a counter clockwise rotation of 90 degree is equivalent to reflection about the line?
   a) x = - y b) y = - x
   c) x = y d) x+y=1
4. _____ is not a rigid body transformation.
5. Oblique projection with an angle of 45 degree to the horizontal plane is called as
   a) Cabinet Projection b) Isometric projection
   c) Cavalier Projection d) Perspective Projection
6. A _____ data structure is used for graphical representation of 2D digital picture or object.
7. The region code 0000 represents the_____.
   a) viewing window b) Left clipping window
   c) right clipping window d) bottom clipping window
8. The object space in which the application model is defined is called as _____ coordinate system.
9. CMYK model is used for _____.
   a) Computer display b) Printing
   c) Painting d) Dynamic Programming
10. _____ is the first computer-animated film to win Oscar.

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. What do you mean by persistence?
12. What do you mean by “jaggies”?
13. Compare uniform scaling with differential scaling.
14. Define a window and viewport.
15. Write a short note on three dimensional graphics packages.
16. What is a Blobby Object?
17. Define three dimensional Shearing.
18. What do you mean by Viewing pipeline?
19. Summarize about additive and subtractive colour models.
20. Outline about raster animation.

PART C (5 x 14 = 70 Marks)
(Answer not more than 400 words)

Q.No. 21 is Compulsory

21. Explain Cohen – Sutherland line clipping Algorithm with suitable diagram.

22. (a) Outline the various raster scan systems with suitable block diagram.

(OR)

(b) Derive the decision parameters for midpoint circle drawing algorithm and also state the algorithm to draw a circle.

23. (a) Explain about various three-dimensional display methods.

(OR)

(b) Explain about the following three- dimensional object representations

(i) Polygon surfaces (7)

(ii) Spline representation (7)

24. (a) Discuss about general three dimensional rotations with suitable examples

(OR)

(b) What do you mean by Projection in Computer Graphics? Explain about the various types of projections.

25. (a) Explain about the following colour models with suitable diagrams

(i) RGB Colour Model (7)

(ii) HSV Colour Model (7)

(OR)

(b) (i) What is a Key-frame System? Explain about how Animations are created using it. (10)

(ii) Explain about languages used for Computer Animation. (04)

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