Computer Graphics
Subject Code:-NCS-404

Q1. Attempt all the questions. (2 X 5 = 10 Marks)

a) Show vertical retrace with the help of a diagram.
b) Describe digital differential analyzer algorithm for drawing a line between viewport?
c) What do you mean by display modes?

Q2. Attempt all the questions. (2 X 5 = 10 Marks)

a) Discuss about refresh rates and resolution of different computer system.
b) What is raster scanning system in a display device?
c) Show diagrammatic view of the raster scanning procedure.

Q3. Attempt all the questions. (2 X 5 = 10 Marks)

a) Write the various applications of computer graphics?
b) Describe different applications of computer graphics in brief.
c) How do you print a line between (20, 10) and (30, 18) within viewport.

Q4. Attempt all the questions. (3 X 5 = 10 Marks) Describe some graphics devices helping us computer graphics in a better way.

a) What do you mean by computer graphics?
b) How cathode ray tube helps to draw a picture into CRT monitor screen?

Q5. Attempt all the questions. (3 X 5 = 10 Marks)

What is bresenham's line algorithm?

a) How do you think about resolution provided by devices?
b) State the differences between graphics and animation?

Q6: Attempt any two questions (2X5=10 Marks)

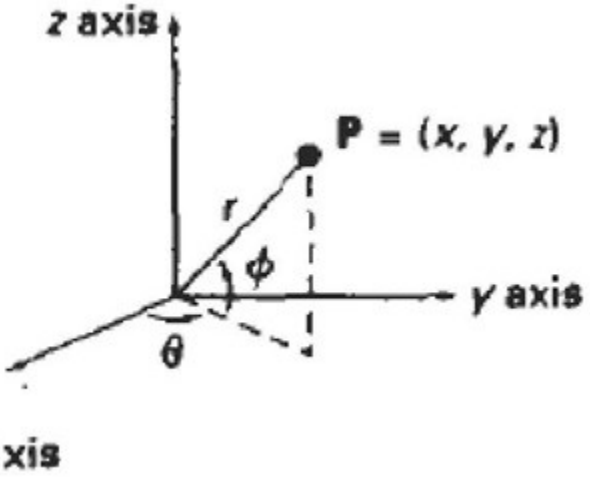
a) What do you mean by Liang Barsky Algorithm? Why this algorithm is used?
b) What are the ways out of clipping using Sutherland Hodgeman polygon clipping algorithm.
c) What is depth queuing? Define depth queuing with the help of a proper example.

Q7: Attempt any two questions (2X5=10 Marks)

a) What is 3D Graphics? Discuss briefly about different three dimensional display methods.
b) What are isometric, dimetric and trimetric view? Describe each of them with proper diagram.
c) What is 2D transformation? Name five different types of 2D transformation with the help of proper mathematical or diagrammatic view.

Q8: Attempt any two questions (2X5=10 Marks)

a) How do you make differences between parallel and perspective projection?
b) How blobby objects can be defined with the help of a proper example?
c) Parametric coordinate position (r, *0,* 9) on the surface of a sphere with radius r is described below, What are the representation for x,y,z in a three dimensional plane?



Q9: Attempt any two questions (2X5=10 Marks)

a) What are the properties of Bezier curves?
b) Draw a diagram for viewing pipeline and discuss as necessary.

c) How binary region codes assigned to line endpoints according to relative position with respect to the clipping rectangle?

Q10: Attempt any two questions (2X5=10 Marks)

a) Describe briefly Cohen-Sutherland line clipping algorithm for clipping a line larger than viewport.
b) What do you mean by B-Spline curve?
c) How do you differentiate parallel and perspective projection?