JE – 326

V Semester B.Tech. (CSE/ISE) Degree Examination, February 2021
(CBCS Scheme)
18CIPC504 : COMPUTER GRAPHICS

Time : 3 Hours Max. Marks : 100

Instructions : *1) Q. No. **1** is **compulsory**.*
*2) Q. No. **2** and Q. No. **3** are **compulsory**.*
*3) Answer Q. No. **4** or Q. No. **5**, Q. No. **6** or Q. No. **7**, Q. No. **8** or Q. No. **9**.*

1. Answer **all** the following **15** questions. **Each** question carries **one** mark.
   1) Any CRT Based display must be refreshing at least _____ times a second.
   2) Interlaced refresh procedure is allowed in
   3) Bresenham's circle algorithm uses the approach of
   4) In Bresenham's line algorithm, if the distances d1 < d2 then decision parameter Pk is
   5) A dashed line could be displayed by generating
   6) The translation distances (dx, dy) is called as
   7) The four-bit code of bottom-right region of the window is
   8) The scale factor of viewport transformation for x co-ordinate is
   9) A RGB true color model has _____ color depth.
   10) Which surface algorithm is based on perspective depth ?
   11) The Projection in which the projection plane is allowed to intersect the x, y and z axis at equal distances is
   12) A Bezier curve is a polynomial of degree _____ the number of control points used.
   13) The algorithm used for filling the interior of a polygon is called
   14) Lower persistence phosphorous is used in
   15) A _____ is a system which uses one or more numbers, or coordinates, to uniquely determine the position of a point.

P.T.O.

2. a) Differentiate between Raster Scan display and Flat Panel displays with the help of a neat diagram. 7

   b) Write Bresenham's circle algorithm and trace the algorithm with an example. 10

3. a) List the OpenGL raster transformation functions with suitable examples. 10

   b) Explain the mapping of world co-ordinate window to viewport co-ordinate with the help of a neat diagram. 7

4. a) Explain Sutherland Hodgeman polygon clipping algorithm with an example. 10

   b) Explain Homogeneous coordinates and matrix representations with examples. 7

OR

5. a) Explain Cohen-Sutherland Line clipping algorithm in detail. 8

   b) Explain 3D geometric transformations in detail with examples. 5

   c) Specular and Phong model in detail. 4

6. a) Explain different types of projections in graphic system. 5

   b) Explain depth buffer method algorithm and visibility algorithm. 12

OR

7. a) What is hidden surface removal ? Discuss its importance in detail. 7

   b) Explain OpenGL 3D Viewing functions and visibility detection functions. 10

8. a) Write a short note on : (5×2=10)

   1) Curved surfaces
   2) Client and server
   3) Quadric surfaces
   4) Cubic Surface Function
   5) Programming Event Driven Input

   b) Write a simple interactive program to draw a animate flag. 7

OR

9. a) Explain in detail about Bezier spline curves and surfaces. 10

   b) Write short notes on Input devices and Display list. 7
