

# **Department of Information Technology** **IEST, Shibpur Howrah-3**

## **Computer Graphics Lab**

### **Assignment 3: Plotting points**

1] Study the following functions of OpenGL:

- a) glutInit( )
- b) glutInitDisplayMode( )
- c) glutInitWindowSize( )
- d) glutInitWindowPosition( )
- e) glutCreateWindow( )
- f) gluOrtho2D( )
- g) glClearColor( )
- h) glColor3f( )

2] Run and study the following program.

```
#include void myInIt(void)
{
    glClearColor(1.0,1.0,1.0,0.0);
    glColor3f(0.0f,0.0f,0.0f);
    glPointSize(4.0);
    glMatrixMode(GL_PROJECTION);
    glLoadIdentity();
    gluOrtho2D(0.0,640.0,0.0,480.0);
}

void myDisplay(void)
{
    glClear(GL_COLOR_BUFFER_BIT);
    glBegin(GL_POINTS); glVertex2i(100, 50);
    glVertex2i(100, 130);
    glVertex2i(150, 130);
    glEnd();
    glFlush();
}

void main(int argc, char** argv)
{
    glutInit(&argc, argv);
    glutInitDisplayMode(GLUT_SINGLE | GLUT_RGB);
    glutInitWindowSize(640, 480);
    glutInitWindowPosition(100, 150);
    glutCreateWindow("My first program");
```

```
glutDisplayFunc(myDisplay);  
myInit(); glutMainLoop();  
}
```

3. Modify the above program to locate the origin (0, 0) of the created window, and also the origin (0, 0) of your screen.
4. Write a program to create a window, in which origin is at middle position.
5. Write a program to plot points, whose coordinates are given by the user through Mouse.
6. Write a program to draw a grid of square cells. Each cell of the grid should be uniquely addressable.