**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

**NITK-Surathkal**

**VI Semester B.Tech, 2016-2017 (EVEN SEMESTER)**

**1. Course code:** CO352

**2. Course Title:** Computer Graphics

**3. L-T-P:** (1-0-2)

**4. Credits:** 2

**5. Course Instructors**:

Dr. Shashidhar Koolagudi

Ms. Mariet Susanna Furtado

**6. Teaching Department:** Computer Science & Engineering

**7. Course Contents:**

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| **Week** | **Assignment to be completed** |
| 1 | Write a C program to draw the national flag by using DDA line drawing algorithm and Polar circle drawing algorithm. |
| 2 | Write a C program to draw a stick man using Bresenham’s line drawing and mid-point circle drawing algorithm. |
| 3 | Write a C program to draw a stick man riding a cycle using basic 2D transformations such as translation, rotation and scaling.  Write a C program to perform basic 2D transformations for a pentagon. |
| 4 | Write a C program to draw a house and perform 3D transformations such as reflection and shear. |
| 5 | Write a C program for clipping a given line against a given rectangular window using Cohen Sutherland method, Liang Barsky method. |
| 6 | Write a C program to clip a given polygon (Star) using Sutherland Hodgeman algorithm.  Write a C program to clip a portion of a character. |
| 7 | Write a C program to transform a 2D image of a house from world co-ordinate system to view point screen co-ordinate system. |
| 8 | Write a C program to generate a curve through N+1 control points using Bezier or B Spline Curve. |
| 9 | Write a C program to render a 2D image of two boxes. Use scan line or z buffer algorithm to remove the hidden lines from the image. Display the image after removal of hidden lines. |
| 10 | Write a C program to demonstrate anti aliasing technique using pre-filtering and post filtering on a 2D object. Display both aliased and anti aliased image. |