GUJARAT UNIVERSITY

K. S. SCHOOL OF BUSINESS MANAGEMENT
[Five Years' (Full-time) Integrated Degree Course]

Semester-5 [M.Sc. (CA & IT)]

Subject Code: - KS_C_CC_356
Subject Name: - Implementation of Computer Graphics
(Practical on KS_C_FC-354)
Course Credit: - 3

Objective:
Implementing algorithms and programs for 2D graphics, Knowledge of 2D and 3D geometry, basics of computer programming and data structures

Unit No.	Course Content	Weight-age (%)
1	Make familiar with the inbuilt functions of graphics.h file. Implementation of line drawing using DDA algorithm. Implementation of line drawing using Brenham's algorithm Implementation of line drawing algorithms to draw different styles, colors and thickness of lines. Implementation of Mid-point circle drawing Algorithm	**(20%)**
2	Drawing characters using Bitmap and Stroke method. Using primitive operations drawing different objects. Using primitive operation for characters draw different styles of text.	**(20%)**
3	Draw polygons using absolute and relative commands. Solid filling of polygons using scan line method. Filling patterns inside polygon	**(20%)**
4	Implement the following transformation techniques Translation, Rotation, Scaling, Reflection, Shearing	**(20%)**
5	Implementation of line clipping by Cohen Sutherland algorithm and Liang Barsky algorithm Implementation of polygon clipping by Sutherland Hodgeman algorithm.	**(20%)**

Recommended Practical Scheme: 3 hrs of supervised lab per week

Assignment: Minimum five assignments should be given.

Main Reference Books:

1. Computer Graphics 'C' Version
   By Donald Hearn, M. Pauline Baker, Pearson Education, Second Edition.
2. Computer Graphics: A programming approach
   By Steven Harrington, McGraw -Hill, 1987,Second Edition

Reference Books:

1. Computer Graphics: Principles and Practice
   By J. Foley, A.van Dam, S. Feiner, and J. Hughes, Addison-Wesley, 1990.
2. Principles of Interactive Computer Graphics
   By W. Newman and R. Sproull, McGraw-Hill Second Edition.
3. Theory and Problems of Computer Graphics
   By R. Plastock and G. Kalley, McGraw-Hill International Edition, 1986.