Course Code: 5.1	Course Name: Introduction to Computer Graphics	Credits			
		L: 2	T: 1	P: 0	Total:3

Objective:

The Course is design with an objective to:

- Discuss different graphics packages, demonstrate functionality of display devices.
- Explain all aspects of computer graphics including hardware, software and applications.
- Illustrate how an animation is created.
- Write program functions in C to implement different graphics primitives

Prerequisites:

- Basic knowledge of display devices

Learning outcome:

On completion of this course students will able to:

- Develop graphical algorithm to design different graphical pattern
- Design simple graphical pattern using C
- Resolve programming problem using graphics packages.

PART-A Theory (TH:5.1)

Total Marks: 100

(In semester evaluation 40 & End semester evaluation 60)

Unit I: Introduction **Marks: 15**

Overview of graphics system: Video display devices, input devices, hard copy devices, graphics software , color look - up tables, Pointing and positioning devices (cursor, light pen, digitizing tablet, the mouse , track balls)

Unit II: Output primitives **Marks: 15**

Points and lines, line drawing algorithms, circle and ellipse generating algorithms

Unit III: Geometrical transformations **Marks: 15**

Basic transformations, translations, rotation and scaling, viewing Clipping Operations: Point clipping, line clipping ,Text clipping.

Unit IV: Animation and Multimedia **Marks: 15**

Introduction to computer animation and virtual reality

Introduction to multimedia and its components, Basic concept of Image, Different multimedia components and file formats, Animation components, morphing and application, Graphics tools, image editing tools.

Text Books:

1. Hearn D and Baker M.P. ,"*Computer Graphics*" , PHI 2/e, 2011
2. Godse, A. P. "*Computer Graphics And Multimedia (English)",* Technical Publication ,1st Edition ,2011

Reference Books:

1. Chopra R," *Computer Graphics*", Kindle 2nd Edition ,2010
2. Harrington S,"*Computer Graphics*",Indian Edition,2014

PART-B Practical (PR:5.1)

Credit			
L:0	**T:0**	**P:2**	**Total:1**

(In semester evaluation 20 & End semester evaluation 30)

- Implement of the line ,circle drawing algorithm using "C"
- Implement of polygon and ellipse algorithms using "C"
- Implementation of clipping algorithm

Discussion:

- Functionality of Display devices
- Graphical algorithms
- 3-D and 2-D graphical representation