

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme	Bachelor of Technology				Branch/Spec.	Information Technology			
Semester	VI				Version	2.0.0.0			
Effective from Academic Year	2016-17				Effective for the batch Admitted in	July 2014			
Subject code	2IT608		Subject Name		Computer Graphics				
Teaching scheme					Examination scheme (Marks)				
(Per week)	Lecture(DT)		Practical(Lab.)		Total	CE	SEE	Total	
	L	TU	P	TW					
Credit	3	0	1	-	4	Theory	40	60	100
Hours	3	0	2	-	5	Practical	30	20	50
Pre-requisites:									
Computer Programming									
Learning Outcome:									
After successful completion of this course, student will be able to									
<ul style="list-style-type: none"> know application of Computer Graphics in various fields. use the underlying algorithms, mathematical concepts, supporting computer graphics and fill the color inside the object. explain about how picture is display and produce color picture on the display device. able to apply 2D – 3D alteration on the objects and perform clipping on object. 									
Theory syllabus									
Unit	Content							Hrs	
1	Introduction: What is Computer Graphics? Application of Computer Graphics							01	
2	Overview of Graphics System: Video Display Devices, Raster Scan System, Random Scan System							03	
3	Output Primitives: Points and Lines, DDA Algorithm, Bresenham's Line Algorithm, Midpoint Circle Algorithm, Midpoint Ellipse Algorithm, Boundary fill algorithm, Flood fill algorithm							07	
4	2 D Geometric Transformations: Basic Transformations, Matrix Representation and Homogeneous Coordinates, Composite Transformation, Reflection, Shear, Transformation between Coordinate System, Raster Methods for Transformation							08	
5	D Viewing: Window-to-View port Coordinate Transformation, Line Clipping Algorithms, Curve Clipping Text Clipping, Exterior Clipping							05	
6	3 D Concepts: Parallel Projection, Perspective Projection, Depth Cueing, Surface Rendering, Three-Dimensional and Stereoscopic Views							01	
7	3 D Geometric Transformation: Translation, Rotation, Scaling, Reflection, Shears, Composite Transformations							05	
8	Color models: Properties of light, XYZ, RGB, YIQ and CMY Color models, Conversion between color models							04	
9	Advanced topics: Antialiasing, Visible surface detection concepts, back-face detection, depth buffer method illumination methods (ambient, diffuse reflection, specular reflection), Computer Animation							08	
Practical content									
Experiments/Practicals/Simulations would be carried out based on syllabus									

Text Books	
1	Computer Graphics C version By Donald Hearn and M.Pauline Baker
Reference Books	
1	Computer Graphics By Zhigang Xizng and Roy Plastock
2	Graphics: Principles And Practice. By J.Foley, A. Van Dam, S. Feiner, and J. Hughes