

Lesson plan

Name if the faculty : Mr. Himanshu Kaushik

Discipline : Computer Science Engineering

Semester : 5th

Subject : Computer Graphics

Lesson Plan Duration : 15 weeks (From August, 2018 to November 2018)

Work Load (Lecture/ Practical) per week (in hours): Lecture-04, Practical-02

Week	Theory		Practical	
	Lecture day	Topic(Including assignment/test)	Practical Day	Topic
1 st	1 st	Introduction to Computer Graphics	1 st	Write a program for 2D line drawing as Raster Graphics Display
	2 nd	What is Computer Graphics		
	3 rd	Computer Graphics Applications		
	4 th	Computer Graphics Hardware and software		
2 nd	1 st	Two dimensional Graphics Primitives	2 nd	Write a program for circle drawing as Raster Graphics Display
	2 nd	Points and Lines		
	3 rd	Line drawing algorithms		
	4 th	DDA		
3 rd	1 st	Bresenham's	3 rd	Write a program for circle drawing as Raster Graphics Display
	2 nd	Circle drawing algorithms		
	3 rd	Using polar coordinates		
	4 th	Bresenham's circle drawing		
4 th	1 st	mid point circle drawing algorithm	4 th	Write a program for polygon filling as Raster Graphics Display
	2 nd	Filled area algorithms		
	3 rd	Scanline		
	4 th	Polygon filling algorithm		
5 th	1 st	boundary filled algorithm	5 th	Write a program for polygon filling as Raster Graphics Display
	2 nd	Revision of 1st unit with test		
	3 rd	Two/Three Dimensional Viewing		
	4 th	The 2-D viewing pipeline		
6 th	1 st	windows, viewports	6 th	Write a program for line clipping.
	2 nd	window to view port mapping		
	3 rd			

		Clipping: point, clipping line (algorithms)		
	4 th	4 bit code algorithm		
7 th	1 st	Sutherland-cohen algorithm	7 th	Write a program for polygon clipping
	2 nd	parametric line clipping algorithm (Cyrus Beck)		
	3 rd	Polygon clipping algorithm		
	4 th	Sutherland-Hodgeman polygon clipping algorithm		
8 th	1 st	Two dimensional transformations	8 th	Write a program for displaying 3D objects as 2D display using perspective transformation
	2 nd	transformations		
	3 rd	translation		
	4 th	scaling		
9 th	1 st	rotation, reflection	9 th	Write a program for displaying 3D objects as 2D display using perspective transformation
	2 nd	composite transformation		
	3 rd	Revision of 2nd unit with test		
	4 th	Three-dimensional transformations		
10 th	1 st	Three dimensional graphics concept	10 th	Write a program for displaying 3D objects as 2D display using perspective transformation
	2 nd	Matrix representation of 3-D Transformations		
	3 rd	Composition of 3-D transformation		
	4 th	Projections		
11 th	1 st	types of projections	11 th	Write a program for rotation of a 3D object about arbitrary axis
	2 nd	the mathematics of planner geometric projections		
	3 rd	coordinate systems		
	4 th	Introduction to hidden surface removal		
12 th	1 st	The Z- buffer algorithm	12 th	Write a program for rotation of a 3D object about
	2 nd			

		scanline algorithm		arbitrary axis
	3 rd	area sub-division algorithm		
	4 th	Revision of 3rd unit with test		
13 th	1 st	Parametric representation of curves	13 th	Write a program for Hidden surface removal from a 3D object
	2 nd	Bezier curves		
	3 rd	B-Spline curves		
	4 th	Parametric representation of surfaces		
14 th	1 st	shading, image manipulation	14 th	Write a program for Hidden surface removal from a 3D object
	2 nd	Illumination models, shading models for polygons		
	3 rd	shadows, transparency. What is an image? Filtering, image processing, geometric transformation of images.		
	4 th	Revision of 4th unit with test		