

## Lesson Plan

**Name of the Faculty** : Dr. Gayatri  
**Discipline** : MCA  
**Semester** : 4<sup>th</sup> sem  
**Subject** : Computer Graphics ( MCA-502)&MCA-522  
**Lesson Plan Duration** : 15 weeks(from January, 2018 to April, 2018)  
**Work Load (Lecture/Practical) per week(in hours):** Lecture:3 , Practical:2

Week	Theory		Practical	
	Lecture Day	Topic(including Assignment/Test)	Practical Day	Topic
1 <sup>st</sup>	1 <sup>st</sup>	What is Computer Graphics, Computer Graphics Applications	1 <sup>st</sup>	PROGRAMMING IN C Graphics
	2 <sup>nd</sup>	ComputerGraphics Hardware and software	2 <sup>nd</sup>	PROGRAMMING IN C Graphics
	3 <sup>rd</sup>	ComputerGraphics Hardware and software		
2 <sup>nd</sup>	4 <sup>th</sup>	ComputerGraphics Hardware and software,	3 <sup>rd</sup>	PROGRAMMING IN C Graphics
	5 <sup>th</sup>	DDA	4 <sup>th</sup>	DDA IN C
	6 <sup>th</sup>	Line drawingalgorithms:Bresenham		
3 <sup>rd</sup>	7 <sup>th</sup>	Line drawingalgorithms:Bresenham	5 <sup>th</sup>	drawingalgorithms:Bresenham IN C
	8 <sup>th</sup>	Circle drawing algorithms: Using polar coordinates	6 <sup>th</sup>	drawingalgorithms:Bresenham IN C
	9 <sup>th</sup>	Bresenham's circle drawing		
4 <sup>th</sup>	10 <sup>th</sup>	mid point circle drawing algorithm;	7 <sup>th</sup>	Bresenham's circle drawing IN C
	11 <sup>th</sup>	Filled area algorithms: Scanline	8 <sup>th</sup>	mid point circle IN C
	12 <sup>th</sup>	Polygon filling algorithm,		
5 <sup>th</sup>	13 <sup>th</sup>	boundary filledalgorithm.	9 <sup>th</sup>	mid point circle IN C
	14 <sup>th</sup>	The 2-D viewing pipeline	10 <sup>th</sup>	
	15 <sup>th</sup>	windows, viewports,		

		window to view portmapping;		
6th	16 <sup>th</sup>	Clipping: point, clipping line (algorithms):- 4 bit code algorithm,	11 <sup>th</sup>	window to view portmapping IN C
	17 <sup>th</sup>	Sutherland-cohen algorithm,	12 <sup>th</sup>	Sutherland-cohen algorithm IN C
	18 <sup>th</sup>	parametric line clipping algorithm (Cyrus Beck		
7th	19 <sup>th</sup>	Sutherland-Hodgeman polygon clipping algorithm.	13 <sup>th</sup>	Cyrus Beck IN C
	20 <sup>th</sup>	Two dimensionaltransformations: transformations, translation, scaling, rotation, reflection, composite transformation.	14 <sup>th</sup>	2d IN C
	21 <sup>st</sup>	Two dimensionaltransformations:		
8th	22 <sup>nd</sup>	Two dimensionaltransformations:	15 <sup>th</sup>	2d IN C
	23 <sup>rd</sup>	Two dimensionaltransformations:	16 <sup>th</sup>	2d IN C
	24 <sup>th</sup>	Two dimensionaltransformations:		
9th	25 <sup>th</sup>	Three dimensional graphics concept	17 <sup>th</sup>	2d IN C
	26 <sup>th</sup>	Matrix representation of 3-DTransformations	18 <sup>th</sup>	3d IN C
	27 <sup>th</sup>	Composition of 3-D transformation		
10th	28 <sup>th</sup>	Projections, types of projections,	19 <sup>th</sup>	3d IN C
	29 <sup>th</sup>	Projections, types of projections	20 <sup>th</sup>	3d IN C
	30 <sup>th</sup>	The mathematics of planner geometric projections, coordinatesystems.		
11th	31 <sup>st</sup>	Introduction to hidden surface removal .Z- buffer algorithm	21 <sup>st</sup>	Colouring IN C
	32 <sup>nd</sup>	scanline algorithm, areasub-division algorithm.	22 <sup>nd</sup>	Colouring IN C
	33 <sup>rd</sup>	Parametric representation of curves:		
12th	34 <sup>th</sup>	Bezier curves	23 <sup>rd</sup>	Animation IN C

	35 <sup>th</sup>	Bezier curves	24 <sup>th</sup>	Animation IN C
	36 <sup>th</sup>	B-Spline curves.		
13th	37 <sup>th</sup>	Parametric representation of surfaces;	25 <sup>th</sup>	Animation IN C
	38 <sup>th</sup>	Interpolation method.	26 <sup>th</sup>	Animation IN C
	39 <sup>th</sup>	Illumination models,		
14th	40 <sup>th</sup>	Illumination models,	27 <sup>th</sup>	Animation IN C
	41 <sup>st</sup>	shading models for polygons,	28 <sup>th</sup>	Animation IN C
	42 <sup>nd</sup>	shading models for polygons,		
15th	43 <sup>rd</sup>	shadows,transparency.	29 <sup>th</sup>	Animation IN C
	44 <sup>th</sup>	What is an image? Filtering	30 <sup>th</sup>	Animation IN C
	45 <sup>th</sup>	image processing, geometric transformation of images.		

### IMPORTANT DATES (KEY DATES)

\* 14 to 16 February, 2018 (Wednesday -Friday)----- SESSIONAL I

\*4 - 6 April, 2018 (Wednesday - Friday) ----- SESSIONAL II

\*27 April, 2018 (Friday) ----- LAST DAY OF SESSION

\*1 May to 8 May, 2018 (Tuesday-Tuesday)----- PRACTICAL EXAMINATION

Start of End semester examinations (Even Semester)-----11 May, 2018 (Friday ) to 10 June, 2018 (Sunday)