 Estd : 1984	KONGU ENGINEERING COLLEGE (Autonomous) PERUNDURAI ERODE - 638 060		Course Plan Revision-2.1 01-12-2018
	DEPARTMENT OF COMPUTER SCIENCE AND	ENGINEERING	IQAC

Name of the Faculty, Designation & Dept.	Dr.R.Manjula Devi, Assistant Professor (SrG) / CSE	Programme & Department of the Students	BE(CSE) , CSE
Course Code & Name	14CSC61 Graphics and Multimedia	Academic Year, Semester & Section	2018-19 , VI CSE 'D'
Type of Course	Theory cum Practical		

OUTCOME BASED EDUCATIONAL DETAILS - COURSE WISE

COURSE OUTCOMES:

On completion of the course, the students will be able to														BT Mapped (Highest Level)
CO1:	Teach the fundamental concepts of computer graphics along with the output primitives													K3
CO2:	Manipulate the 2D and 3D objects by applying the transformation, clipping and viewing from world to device coordinates													K3
CO3:	Elaborate the various methods for detecting visible surfaces and color in a 3D scene													K2
CO4:	Describe the theoretical foundation about the multimedia technology													K2
CO5:	Design a 2D animations using multimedia components													K3
CO6:	Make use of various graphics drawing algorithms for drawing 2D Primitives													K3
CO7:	Experiment with transformation and clipping methods for deformation of 2D objects													K3
CO8:	Design a multimedia Web site using basic multimedia elements													K3
Mapping of COs with POs, PSOs														
COs / POs&PSOs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	1	1	0									
CO2	3	3	2	2	1									
CO3	3	2	1	1	0									
CO4	2	1	0	0	0									
CO5	3	3	2	2	1									
CO6	3	2	1	1	0									
CO7	3	2	1	1	0									
CO8	3	2	1	1	0									
1 – Slight, 2 – Moderate, 3 – Substantial														

COURSE PLAN FOR THEORY COURSE / THEORY CUM PRACTICAL (THEORY COMPONENT):

S No	Intended learning Outcomes	CO(s) Mapped	Cognitive Level	Planned*		Actual*	
				Date	Period	Date	Period
1.	ILO 1.1: Define Computer Graphics. Identify the applications of graphics and its usage.	CO1	K2	12-12-18	2		
2.	ILO 1.2: Explain the operating characteristics of the various display technologies.	CO1	K2	12-12-18	5		
3.	ILO 1.3: Identify the various input devices that are used in graphics workstations. Explain how it is interacted.	CO1	K2	14-12-18	1		
4.	ILO 1.4: What is Output Primitive? List the output primitives used to construct the pictures.	CO1	K2	21-01-19	6		
5.	ILO 1.5: Demonstrate the concept behind DDA algorithm to draw line with an example.	CO1	K3	23-01-19	7		
6.	ILO 1.6: Demonstrate the line drawing using Bresenham's algorithm. Derive	CO1	K3	24-01-19	4		

Cognitive Process : K1 - Remembering K2 - Understanding K3 - Applying K4 - Analyzing K5 - Evaluating K6 - Creating
Knowledge Dimension : F - Factual C - Conceptual P - Procedural MC - Meta Cognitive
Psychomotor Domain : S1-Imitation S2-Manipulation S3-Precision S4-Articulation S5-Naturalization

	the decision parameters. Illustrate it with an example.					
7.	ILO 1.7: Apply the midpoint algorithm to generate circle. Illustrate it with an example.	CO1	K3	25-01-19	1	
8.	ILO 1.8: Apply the midpoint algorithm to generate ellipse. Illustrate it with an example.	CO1	K3	28-01-19	4	
9.	ILO 1.9: Determine the various attributes that control the appearance of displayed primitives.	CO1	K3	30-01-19	2	
10.	ILO 2.1: Discuss the basic mathematical principles of 2D Geometric Transformations and derive its matrix representations.	CO2	K2	30-01-19	5	
11.	ILO 2.2: Apply the Two Dimensional Geometric Transformations to an object.	CO2	K3	01-02-19	1	
12.	ILO 2.3: Carry out a multiple transformations into a Composite Transformation	CO2	K3	04-02-19	4	
13.	ILO 2.4: Indicate the steps carried out in 2D viewing transformation	CO2	K2	06-02-19	2	
14.	ILO 2.5: Illustrate the window-to-viewport mapping.	CO2	K2	06-02-19	5	
15.	ILO 2.6: Review the concept behind clipping – Definition, Types of Clipping and Algorithms used.	CO2	K2	08-02-19	1	
16.	ILO 2.7: Implement the procedure followed in Point and Line Clipping	CO2	K3	11-02-19	4	
17.	ILO 2.8: Demonstrate the various clipping algorithm used for Polygon Clipping	CO2	K3	13-02-19	2	
18.	ILO 2.9: Elaborate the techniques used in Curve, Text and Exterior Clipping.	CO2	K2	13-02-19	2	
19.	ILO 2.10: Discuss the methods used for modeling and organizing 2D pictures into structures.	CO2	K2	13-02-19	5	
20.	ILO 3.1: Learn the basic mathematical principles of 3D Geometric Transformations and derive its matrix representations	CO2	K2	15-02-19	1	
21.	ILO 3.2: Illustrate the Three Dimensional Geometric Transformations by applying it to an object.	CO2	K3	22-02-19	1	
22.	ILO 3.3: Infer about the Modeling and Coordinate Transformations with 3D objects.	CO2	K2	25-02-19	1	
23.	ILO 3.4: Outline about Visible Surface Detection Methods -Back-Face Detection, Depth-Buffer, A-Buffer	CO3	K2	27-02-19	2	
24.	ILO 3.5: Explain in detail about Visible Surface Detection Methods-Scan Line, Depth Sorting, BSP-Tree	CO3	K2	27-02-19	5	
25.	ILO 3.6: Describe the Visible Surface Detection Methods-Area subdivision, Octree and Ray Casting	CO3	K2	04-03-19	4	
26.	ILO 3.7: State the basic properties of lights and Color Models.	CO3	K2	06-03-19	2	
27.	ILO 3.8: Elaborate the concept of RGB, YIQ and CMY Color Model.	CO3	K2	06-03-19	5	
28.	ILO 3.9: Describe about the HSV and HLS Color Model.	CO3	K2	08-03-19	1	
29.	ILO 4.1: What is Multimedia? Identify its component and the technologies involved in it.	CO4	K1	11-03-19	4	
30.	ILO 4.2: Describe the building blocks of Multimedia. Tell how it helps in human-computer interaction.	CO4	K2	11-03-19	4	
31.	ILO 4.3: Define the taxonomy of multimedia information systems.	CO4	K1	13-03-19	2	
32.	ILO 4.4: List and briefly explain the important classes of multimedia applications	CO4	K1	13-03-19	2	
33.	ILO 4.5: Recall the Human- Computer Interaction (HCI) Model.	CO4	K1	13-03-19	5	
34.	ILO 4.6: Indicate the features of input, output and storage devices and technologies in relation to the HCI Model.	CO4	K2	13-03-19	5	
35.	ILO 4.7: Discuss the various Communication and Network technologies that enable multimedia to do better.	CO4	K2	15-03-19	1	
36.	ILO 4.8: Show how text is represented in the digital domain and how it is used effectively in the context of multimedia	CO4	K2	18-03-19	4	
37.	ILO 4.9: Elaborate the basic and formatting aspects of written texts.	CO4	K2	20-03-19	2	
38.	ILO 4.10: Define and describe hypertext and hypermedia.	CO4	K1	20-03-19	5	
39.	ILO 4.11: Explain the different types of images and they are represented in the digital form.	CO4	K2	20-03-19	5	
40.	ILO 4.12: Elaborate how the images are captured, acquired, processed and stored in computers.	CO4	K2	22-03-19	1	
41.	ILO 4.13: Show JPEG image compression process.	CO4	K2	25-03-19	4	
42.	ILO 5.1: Provide the foundation concepts and theoretical background for the representation of digital audio for use in multimedia applications.	CO5	K2	27-03-19	2	
43.	ILO 5.2: Elaborate the process of producing digital audio	CO5	K2	27-03-19	5	
44.	ILO 5.3: State the principle of psychoacoustics and its applications.	CO5	K2	29-03-19	1	
45.	ILO 5.4: Demonstrate the basic audio recording and editing process.	CO5	K3	29-03-19	1	
46.	ILO 5.5: Discuss the different formats of audio files and the advantage of each.	CO5	K2	01-04-19	4	
47.	ILO 5.6: Outline the overview of audio-visual media: video and animation.	CO5	K2	01-04-19	4	

48.	ILO 5.7: Compare and contrast analogue and digital video.	CO5	K2	03-04-19	2		
49.	ILO 5.8: State the principle of digital video compression.	CO5	K2	03-04-19	2		
50.	ILO 5.9: Identify different digital video and animation file formats.	CO5	K1	03-04-19	5		
51.	ILO 5.10: Illustrate the various MPEG standards and compare their characteristics.	CO5	K2	05-04-19	1		
52.	ILO 5.11: Describe the principle of compressing the MPEG video and create an animation video.	CO5	K2	05-04-19	1		
53.	ILO 5.12: Demonstrate the process of capturing and editing the digital video.	CO5	K2	08-04-19	4		
54.	ILO 5.13: Give the basic introduction to Adobe Flash development environment.	CO5	K2	10-04-19	2		
55.	ILO 5.14: Demonstrate the process of creating Tween-based and Frame-based animation.	CO5	K3	10-04-19	2		
56.	ILO 5.15: Design a simple animations using Flash	CO5	K3	10-04-19	5		
57.	ILO 5.16: Design an interactive multimedia applications using Action Script in Flash	CO5	K3	10-04-19	5		
58.	ILO 5.17: Describe the development phases of a typical multimedia project.	CO5	K2	12-04-19	1		
59.	ILO 5.18: Elaborate the tasks involved in the various development phases of a typical multimedia project.	CO5	K2	12-04-19	1		

Note: Content beyond syllabus if any may be included.

OUTCOME BASED EDUCATIONAL ACTIVITIES FOR THEORY / THEORY CUM PRACTICAL / PRACTICAL COURSE:

S. No.	Name of the Activity	CO(s) Mapped	Cognitive, Knowledge, Psychomotor Dimension	PO based Performance Indicators	Actual Date(s)	
					From	To
1	Project Based Learning – Develop Multimedia Application	CO5	K3, P, S3		03.04.19	

Activity Evaluation Methods: Presentation

RUBRICS FOR CONTINUOUS ASSESSMENT – THEORY CUM PRACTICAL / PRACTICAL / PROJECT:

Assessment Rubrics / Scaling Percentage	Outstanding (90-100)	Good (70-89)	Satisfactory (50-69)	Poor (< 50)
Record (5 Marks)	Good Presentation and completed on time with all possible cases	Fair Presentation and completed on time	Poor Presentation	Poor Presentation and Late Submission
Conduct of Experiment (5 Marks)	Output Verified and able to validate all the test cases	Output Verified for few test cases	Only Output Verified	No Output
Viva-voce (5 Marks)	Answered all the questions	Answered few questions	Subject Knowledge is Fair	Subject Knowledge is Poor

COGNITIVE PROCESS DISTRIBUTION IN PERCENTAGE : (Percentage of questions to be asked in each CATs)

Assessments / Cognitive	K1	K2	K3	K4	K5	K6
CAT - I	27%	30%	43%			
CAT - II	16%	44%	40%			

Note: Tolerance limit is $\pm 2\%$

QUESTION PAPER PATTERN:

Test	Section(s) & Type of Question	No. of Questions	No. of Choices	Maximum Marks / Question	Total marks in this section
CAT - I	Part – A (2 Marks)	10	-		20
	Part – B (10 Marks)	4	3/4		30
CAT - II	Part – A (2 Marks)	10	-		20

Cognitive Process : K1 – Remembering K2 – Understanding K3 – Applying K4 – Analyzing K5 – Evaluating K6 – Creating
Knowledge Dimension : F – Factual C – Conceptual P – Procedural MC – Meta Cognitive
Psychomotor Domain : S1 – Imitation S2 – Manipulation S3 – Precision S4 – Articulation S5 – Naturalization

	Part – B (10 Marks)	4	3/4		30
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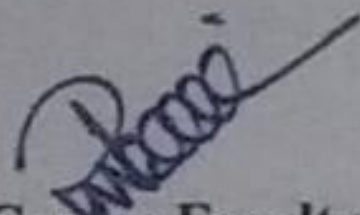
COURSE PLAN FOR THEORY CUM PRACTICAL (PRACTICAL COMPONENT) / PRACTICAL COURSE

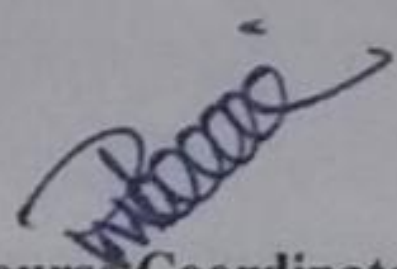
Number of students per batch*: 32			Number of batches/session*: 2		
Exp. No.	Name of the Experiment	CO(s) Mapped	Cognitive, Knowledge, Psychomotor Dimension	Planned*	Actual*
				Date & (Mon-5,6,7)	Date & Period
1.	Introduction to graphics interface.	CO6	S1	21-01-19	
2.	To implement DDA algorithm for drawing line	CO6	S2	28-01-19	
3.	To implement Bresenham's algorithms for drawing line	CO6	S2	04-02-19	
4.	To implement mid point circle drawing algorithm	CO6	S2	11-02-19	
5.	To implement mid point ellipse drawing algorithm	CO7	S2	25-02-19	
6.	To perform 2D Transformations such as translation, rotation, scaling, reflection and shearing	CO7	S2	04-03-19	
7.	To implement Cohen Sutherland 2D clipping and window viewport mapping	CO7	S2	11-03-19	
8.	To perform 2D animation using any Animation software	CO7	S3	18-03-19	
9.	To perform basic operations on image using any image editing software	CO8	S3	25-03-19	
10.	To develop a web page embedded with animation, audio and video using editing software	CO8	S3	01-04-19	
11.	Model exam			08-04-19	

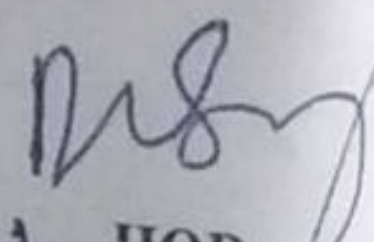
COURSE PLAN FOR OTHER ASSESSMENTS

S. No	Description	CO(s) Mapped	Cognitive, Knowledge, Psychomotor Dimension	Planned Date*	Actual Date*
Assessment 1: (Case study / Mini Project / Online Test / Industrial Training / Paper Presentation / Others)					
	Integrated –Lab Component				

* To be filled sectionwise


Course Faculty


Course Coordinator


HOD