TEACHER LEVEL ATTAINMENT REPORT/COURSE INFORMATION SHEET

Program: - Computer Engineering	Class: - S. E	Div.: - NA
Course Name: - Computer Graphics	Course Code: - 210244	Course -2019 Pattern
Subject Teacher: - Prof. K. S. Mali		A.Y.: - 23-24 SEM-III

Teaching Scheme			Examination Scheme			
Theory	Practical	Tutorial	In-sem	End-sem	Practical	Term Work
3 hrs/week	NA	NA	30	70	NA	NA

Delivery Method				
Chalk & Talk	ICT Tools	Group Discussion	Industrial Visit	Expert Talk
✓	----	-----	---	----

(* Kindly Tick the Methods conducted for this course; you may add any additional delivery method conducted in above column)

Program Outcomes:

PO1	Apply the knowledge of mathematics, science, Engineering fundamentals, and an Engineering specialization to the solution of complex Engineering problems.
PO2	Identify, formulate, review research literature and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.
PO3	Design solutions for complex Engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and Environmental considerations.
PO4	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions
PO5	Create, select, and apply appropriate techniques, resources, and modern Engineering and IT tools including prediction and modeling to complex Engineering activities with an understanding of the limitations.
PO6	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	Understand the impact of the professional Engineering solutions in societal and Environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	Apply ethical principles and commit to professional ethics and responsibilities and norms of Engineering practice.
PO9	Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	Communicate effectively on complex Engineering activities with the Engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	Demonstrate knowledge and understanding of Engineering and management principles and

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	apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary Environments
PO12	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PSOs:

PSO1	**Professional Skills-**The ability to understand, analyze and develop computer programs in the areas related to algorithms, system software, multimedia, web design, big data analytics, and networking for efficient design of computer-based systems of varying complexities.
PSO2	**Problem-Solving Skills-** The ability to apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success.
PSO3	**Successful Career and Entrepreneurship-** The ability to employ modern computer languages, environments and platforms in creating innovative career paths to be an entrepreneur and to have a zest for higher studies.

After completion of course, student will be able to

CO1	Identify the basic terminologies of Computer Graphics and interpret the mathematical foundation of the concepts of computer graphics.
CO2	Apply mathematics to develop Computer programs for elementary graphic operations.
CO3	Illustrate the concepts of windowing and clipping and apply various algorithms to fill and clip polygons.
CO4	Understand and apply the core concepts of computer graphics, including transformation in two and three dimensions, viewing and projection.
CO5	Understand the concepts of color models, lighting, shading models and hidden surface elimination.
CO6	Create effective programs using concepts of curves, fractals, animation and gaming.

Mapping of CO with POs:

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1	1	-	-	-	-	-	-	-	-	-
CO2	3	-	1	1	-	-	-	-	-	-	-	-
CO3	1	2	-	1	-	-	-	-	-	-	-	-
CO4	2	1	1	1	-	-	-	-	-	-	-	-
CO5	1	-	1	-	-	-	-	-	-	-	-	-
CO6	-	2	2	1	-	-	-	-	-	-	-	-
CO	1.8	1.5	1.2	1	-	-	-	-	-	-	-	-

Mapping of COs with PSOs:

Course Outcomes	PSO1	PSO2	PSO3
CO1	2	-	-
CO2	2	2	-
CO3	-	-	-
CO4	-	-	-
CO5	-	-	-
CO6	-	2	2
CO	**2**	**2**	**2**

Note:- Enter correlation levels 1,2 or 3 as defined:

1: Slight(Low)   2: Moderate(Medium) 3: Substantial(High)

A) **Direct Assessment (90%):**
a) **External Assessment (80%): -**
   Attainment level Vs Target value

Attainment Level	Description
1	40% students scoring more than University Average marks or target value
2	50% students scoring more than University Average marks or target value
3	60% students scoring more than University Average marks or target value

Set Target Value		
Theory	Practical	Term Work
40	NA	NA

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b) **Internal Assessment (20%): -**
   Attainment level Vs Target value

Attainment Level	Description
1	60% students scoring more than 60% of maximum marks
2	70% students scoring more than 60% of maximum marks
3	80% students scoring more than 60% of maximum marks

Set Target Value	
Unit Test	Term Work
12	NA

Course Outcome Attainment:

External Assessment:

Theory (%)							Oral / Practical (%)						
CO1	CO2	CO3	CO4	CO5	CO6	--	CO1	CO2	CO3	CO4	CO5	CO6	--
100	100	100	100	100	100	--	NA	NA	NA	NA	NA	NA	--

Term work(%)						
CO1	CO2	CO3	CO4	CO5	CO6	--
NA	NA	NA	NA	NA	NA	--

Internal Assessment:

Unit Test (%)						Practical/Term Work (%)						
CO1	CO2	CO3	CO4	CO5	CO6	CO1	CO2	CO3	CO4	CO5	CO6	--
94.67	98.67	93.33	97.33	96	96	NA	NA	NA	NA	NA	NA	--

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Indirect Assessment:

Course Exit Survey (%)					
CO1	CO2	CO3	CO4	CO5	CO6
99	97	97	97	96	93

CO attainment by External assessment

External assessment tool	CO Attainment
TH exam	3
OR/PR exam	NA
TW exam	NA
Average	3

CO attainment by Internal assessment

Internal assessment tool	CO Attainment
Unit test	3
PR/Term work	NA
Average	3

Direct CO attainment is then computed as
$$= 0.8 \times CO \text{ attainment level in university examination}$$
$$+0.2 \times CO \text{ attainment level in Internal assessment}$$

$$= 0.8 \times 3 + 0.2 \times 3$$
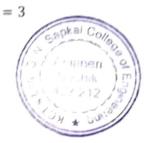
$$= 3$$

CO attainment by course exit survey

Indirect assessment tool	CO Attainment
Course exit survey	3

Overall CO attainment is then computed as
$$= 0.9 \times Direct \text{ } CO \text{ attainment}$$
$$+0.1 \times Indirect \text{ } CO \text{ attainment}$$

$$= 0.9 \times 3 + 0.1 \times 3$$

$$= 3$$

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Result of Evaluation of PO's:

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO	1.8	1.5	1.2	1	-	-	-	-	-	-	-	-

Result of Evaluation of PSO's:

Course	PSO1	PSO2	PSO3
CO	2	2	2

Remark:

Target is achieved.

Observation:

Higher target value needs to be set.

Action Plan:

More practice is to be needed for writing theory paper.

More practice is to be needed for solving critical numerical.

Target Set for A.Y. 2024-25

Target Value		
Theory	Oral /Practical	Term Work
42	NA	NA

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