
**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING**  
 (AUTONOMOUS)  
 Accredited by NAAC & NBA | CSE, IT, ECE, EEE & ME under Tier - I  
 Approved by AICTE and Permanently Affiliated to JNTUK, Kakinada

**DEPARTMENT OF MECHANICAL ENGINEERING**  
**Attainment sheet**

Course Name & Code : Heat Transfer & 17ME 20  
 Program/Sem/Sec : B.Tech., ME., VI-Sem.,  
 A.Y : 2019-20

Continuous Internal Evaluation (CIE) Attainment				Question-CO Articulation Matrix				
		% Students Attempted	% Attainment	CO1	CO2	CO3	CO4	CO5
MID-I	Q1a	70	85.93	0.75				
	Q1b	65	76.99	1				
	Q1c	15	75.87	1				
	Q1d	25	63.27	1				
	Q2a	59	71.31		0.75			
	Q2b	71	73.92		1			
	Q2c	19	69.45		1			
	Q2d	22	69.05		1			
	Q3a	42	65.86	0.75				
	Q3b	46	58.89	1				
	Q3c	44	74.42		1			
	Q3d	28	81.82		1			

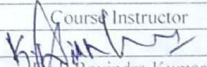


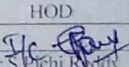
MID-II	Q1a	57	92.73			1			
	Q1b	55	74.77			1			
	Q1c	43	75.91			1			
	Q1d	41	80			0.75			
	Q2a	70	80				0.75		
	Q2b	65	76.99				1		
	Q2c	27	81.14				1		
	Q2d	21	73.18				0.75		
	Q3a	48	74.2					1	
	Q3b	47	61.54					1	
	Q3c	45	93.19					0.5	
	Q3d	47	55.44					0.75	
	<b>MID Attainment</b>				<b>64.82</b>	<b>70.4</b>	<b>75.86</b>	<b>68.26</b>	<b>55.98</b>
	Assignment	A1	100	92	1				
A2		100	90		1				
A3		100	83			1			
A4		100	83				1		
A5		100	95					1	
<b>Assignment Attainment</b>				<b>92</b>	<b>90</b>	<b>83</b>	<b>83</b>	<b>95</b>	
Quiz	Q1		89.24	1	1				
	Q2		86.39			1	1	1	
<b>Quiz Attainment</b>				<b>89.24</b>	<b>89.2</b>	<b>86.39</b>	<b>86.39</b>	<b>86.39</b>	

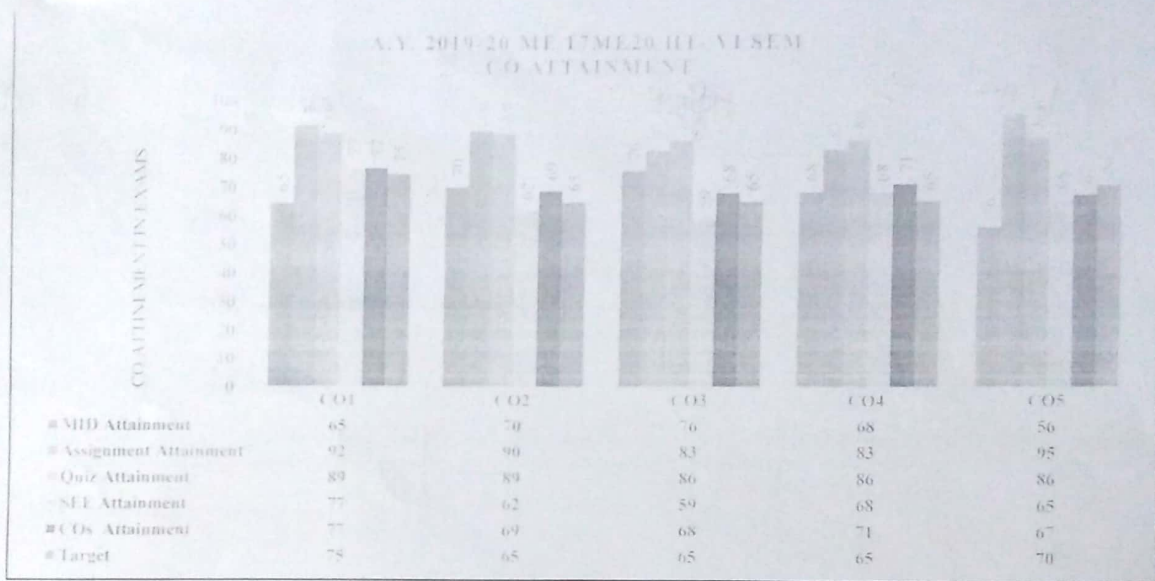
Q.No	SEE Attainment		Question-CO Articulation Matrix				
	% Students Attempted	Attainment (%)	CO1	CO2	CO3	CO4	CO5
Q1a	81	83.12	1				
Q2a	19	67.57	1				
Q2b	19	81.09	1				
Q3a	71	86.57		1			
Q3b	71	82.23		0.75			
Q4a	28	51.86		0.75			
Q4b	28	61.12		1			
Q5a	9	70.59			1		
Q5b	9	64.71			0.75		
Q6a	89	70.59			0.5		
Q6b	89	81.77			1		
Q7a	31	72.42				1	
Q7b	29	80.36				1	
Q8a	68	81.4				0.75	
Q8b	67	77.35				0.75	
Q9a	16	60					1
Q9b	16	80					0.75
Q10a	84	63.75					1
Q10b	84	76.73					1
SEE Attainment			77.26	62.07	59.05	67.97	65.12



COs Attainment					
Assessment Tool	CO1	CO2	CO3	CO4	CO5
MID Attainment	65	70	76	68	56
Assignment Attainment	92	90	83	83	95
Quiz Attainment	89	89	86	86	86
SEE Attainment	77	62	59	68	65
<b>COs Attainment</b>	<b>77</b>	<b>69</b>	<b>68</b>	<b>71</b>	<b>67</b>
Target	75	65	65	65	70

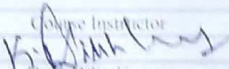



	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	2	1	2	-	1	-	-	-	-	-		3		-
CO2	-	3	2	3	-	1	-	-	-	-	-	2	3		-
CO3	1	3	1	2	-	-	-	-	-	-	-	1	3	1	-
CO4	3	3	1	2	-	1	-	-	-	-	-		3		-
CO5	-	1	3	1	-	2	-	-	-	-	-	3	3	1	-
	72.50	70.42	69.38	70.60	-	-	-	-	-	-	-	67.83	70.40	67.50	-

Course Instructor	Course Coordinator	Module Coordinator	HOD
 P. Ravindra Kumar	 Dr. P. Ravindra Kumar	 Dr. P. Vijay Kumar	 Dr. S. Pichi Reddy



**Observations and Action taken:**

1. CO5 is not reached and it is instructed to solve one design oriented problem from the R.C.Sachdeva and Younus Cengel Textbook.

Course Instructor  Dr. K. Dilip Kumar	Course Coordinator  Dr. P. R. Vindrakumar	Module Coordinator  Dr. P. Vinay Kumar	HOD  Dr. S. Pichu Reddy
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## DEPARTMENT OF MECHANICAL ENGINEERING

Faculty Name	Dr. P Vijay kumar/ Dr. K Dilip Kumar/ Dr. P Ravindra Kumar	A.Y.	2019-20
Course Name	Heat Transfer Lab		
Code	17ME 71	Semester	VI
Degree	III .B.Tech	Programme	ME

### **COURSE OUTCOMES:**

After the completion of the course, students should be able to

<b>17ME71</b>	<b>Heat Transfer Lab</b>
<b>CO 1</b>	Estimate the thermal conductivity of different materials and powders.
<b>CO2</b>	Experiment both free and forced convection to predict heat transfer coefficient.
<b>CO3</b>	Validate the Stefan Boltzmann Constant and estimate emissivity of Grey body.
<b>CO4</b>	Compare parallel and counter flow heat exchange performance characteristics.

### **Assessment of Course Outcomes:**

<b>CO1</b>	Estimate the thermal conductivity of different materials and powders.
Delivery/ Methods	Demonstration
Assessment Methods	Day to Day Assessment, Record
<b>CO2</b>	Experiment both free and forced convection to predict heat transfer coefficient.
Delivery/ Methods	Demonstration
Assessment Methods	Day to Day Assessment, Record
<b>CO3</b>	Validate the Stefan Boltzmann Constant and estimate emissivity of Grey body.
Delivery/Methods	Demonstration
Assessment Methods	Day to Day Assessment, Record
<b>CO4</b>	Compare parallel and counter flow heat exchange performance characteristics.
Delivery/ Methods	Demonstration
Assessment Methods	Day to Day Assessment, Record
Final Assessment	Internal Exam , External Exam



## Cumulative Internal Evaluation (CIE) Attainment

CIE Attainment				Question-CO Articulation Matrix			
	% Students Attempted	%Attainment	CO1	CO2	CO3	CO4	
Day to Day Performance	Exp-1	100	58.34	1			
	Exp-2	100	60.42	1			
	Exp-3	100	74.48	1			
	Exp-4	100	76.05	1			
	Exp-5	100	68.23		1		
	Exp-6	100	69.8		1		
	Exp-7	100	75		1		
	Exp-8	100	78.65			1	
	Exp-9	100	74.48	1			
	Exp-10	100	82.3				1
<b>Day to Day Performance Attainment</b>				<b>68.76</b>	<b>71.01</b>	<b>78.65</b>	<b>82.3</b>
Viva	Exp-1	100	94.8	1			
	Exp-2	100	63.55	1			
	Exp-3	100	82.3	1			
	Exp-4	100	94.8	1			
	Exp-5	100	63.55		1		
	Exp-6	100	84.38		1		
	Exp-7	100	61.46		1		
	Exp-8	100	84.38			1	
	Exp-9	100	93.75	1			
	Exp-10	100	93.75				1
<b>Viva-voice Attainment</b>				<b>85.84</b>	<b>69.8</b>	<b>84.38</b>	<b>93.75</b>
Lab Internal	Exp-1	14	69.24	1			
	Exp-2	9	77.78	1			
	Exp-3	11	90.48	1			
	Exp-4	14	77.78	1			
	Exp-5	15	75.87		1		
	Exp-6	11	90.48		1		
	Exp-7	9	94.12		1		
	Exp-8	8	81.25			1	
	Exp-9	5	90	1			
	Exp-10	4	71.43				1
<b>Lab Internal Attainment</b>				<b>81.06</b>	<b>86.83</b>	<b>81.25</b>	<b>71.43</b>



### Semester End Examination Attainment (SEE)

	SEE Attainment		Question-CO Articulation Matrix			
	% Students Attempted	%Attainment	CO1	CO2	CO3	CO4
Exp-1	15	60.72	1			
Exp-2	8	56.25	1			
Exp-3	9	66.67	1			
Exp-4	17	65.63	1			
Exp-5	18	52.95		1		
Exp-6	14	57.7		1		
Exp-7	8	40		1		
Exp-8	5	66.67			1	
Exp-9	2	33.34	1			
Exp-10	5	55.56				1
<b>SEE Attainment</b>			<b>56.53</b>	<b>50.22</b>	<b>66.67</b>	<b>55.56</b>

### CO Final Attainment

Assessment Tool	COs Attainment			
	CO1	CO2	CO3	CO4
Day to day	68.76	71.01	78.65	82.3
Viva-voce	85.84	69.8	84.38	93.75
Internal Exam	81.06	86.83	81.25	71.43
SEE Attainment	56.53	50.22	66.67	55.56
<b>COs Attainment</b>	<b>63.6</b>	<b>60.1</b>	<b>72.1</b>	<b>65.8</b>
Target	65	65	65	65

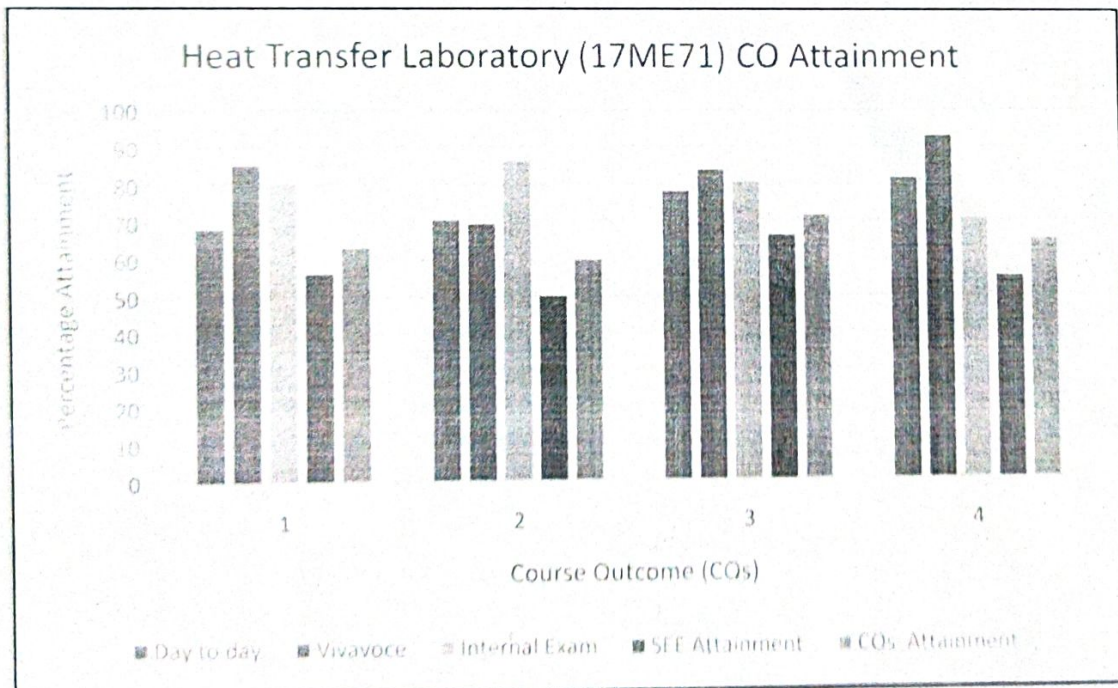

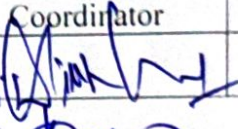


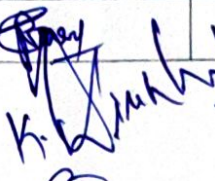



Figure : 1 Course Outcomes attainment of Heat transfer lab

**Observations and Action taken:**

1. It is found that CO1 and CO2 are not attained. In the conduction and convection mode of experiments, it is instructed to the lab in charge, that ask the students to explain the modelling calculations with formulae related to that experiment before they start the experiment in the laboratory.
2. Students have to come to the lab with some idea on pre-model calculations related to that experiment.

	Course Instructor	Course Coordinator	Module Coordinator	Head of the Department
Signature				



**LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING (AUTONOMOUS)**  
**L.B.Reddy Nagar, Mylavaram -521 230, Krishna Dist., A.P.**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

Attainment of Course outcomes, Program Outcomes and Program Specific Outcomes

Date: 25-01-2020

Faculty Name	B.Kamala Priya	Designation	Asst. professor
Course Name	Problem Assisted Learning	Academic Year	2019-20
Course Code	17PD01	Semester	III
Program & Admitted Year	B. Tech & 2018 Admitted Batch	Section	A,B & C

**COURSE OUTCOMES:**

After the completion of the course, the student should be able to,

17PD01.1	Define and solve a problem in their area of interest (Apply level).
17PD01.2	Design/Develop and Analyse a solution to the basic problems in the field of selected area using the analytical/hardware/software tools.
17PD01.3	Show the presentation skills and leadership qualities.
17PD01.4	Perform the work individually /team effectively with ethical values.
17PD01.5	Present the report effectively.

**Attainment of Course Outcomes through Internal Assessment:**

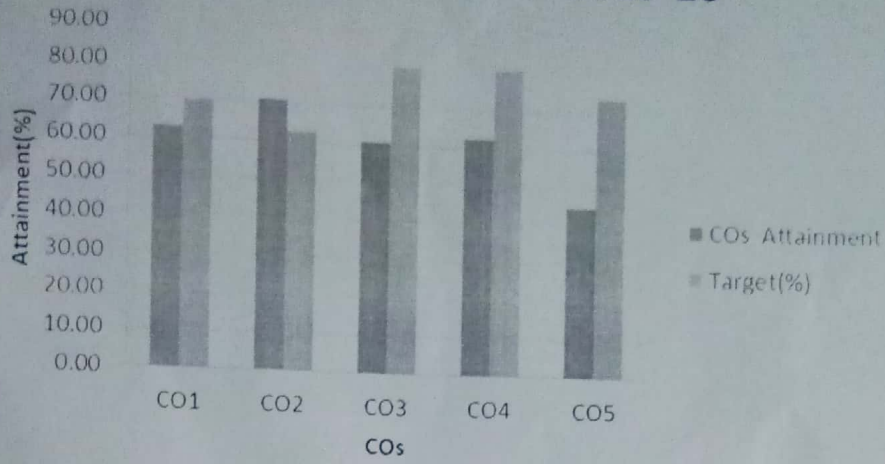
Internal Assessment – PAL 17PD01						
	Rubric	CO1	CO2	CO3	CO4	CO5-Report
Review-1	Problem Formulation	54.24				
	Quality of work	71.19				
	Presentation Skills			68.93		
	Interaction			63.85		
Review-2	Analysis & Design		88.71			
	Hardware or Software or Analytical (Modern tool Usage)		53.68			
	Presentation Skills			55.37		
	Interaction			55.37		
Individual/Teamwork					62.72	
Report						45.2
CO Attainment		62.80	71.20	60.90	62.72	45.20

Final CO Attainment Values – PAL-17PD01					
COs	CO1	CO2	CO3	CO4	CO5
Final COs Attainment (%)	62.80	71.20	60.90	62.72	45.20
Target (%)	60	60	70	60	60

**Observation and Action taken:**

It is observed that CO3 and CO5 is not attained. Conduct one student workshop on improvement of presentation and report writing skills.

### PAL CO Attainment - 2019-20



	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	2	2	-	-	-	-	2	-	-	1	-	3	3	3
CO2	1	3	3	2	2	-	-	2	-	2	2	-	2	2	2
CO3	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
CO4	-	-	-	-	-	-	2	2	3	-	2	-	-	-	-
CO5	-	-	-	2	-	-	3	3	-	2	3	-	-	-	-
Avg.	2.00	2.50	2.50	2.00	2.00	-	2.50	2.25	3.00	2.33	2.00	-	2.50	2.50	2.50
PO Attain. (%)	64.9	67.84	67.84	58.2	71.2	-	52.21	58.78	62.72	59.36	58.28	-	66.16	66.16	66.16

Course Instructors	Course Coordinator	Module Coordinator	HOD
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>



**LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING (AUTONOMOUS)**  
**L.B.Reddy Nagar, Mylavaram -521 230, Krishna Dist., A.P.**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

Attainment of Course outcomes, Program Outcomes and Program Specific Outcomes

Date: 08-02-2021

Faculty Name	K.V.Viswanadh	Designation	Sr. Asst. Professor
Course Name	Problem Based Learning (PBL)	Academic Year	2019-20
Course Code	17PD02	Semester	III
Program & Admitted Year	B. Tech & 2018 Admitted Batch	Section	A,B & C

**COURSE OUTCOMES:**

After the completion of the course, the student should be able to,

17PD01.1	Undertake a comprehensive study on an assigned problem area in his/ her technical domain (Understanding level).
17PD01.2	Design/Develop and Analyze a solution to the basic problems in the field of selected area using the analytical/hardware/software tools (Apply level).
17PD01.3	Present the report with good communication skills effectively (Apply level).
17PD01.4	Interact effectively with the panel members following norms of engineering practice (Apply level).
17PD01.5	Write the technical report based on specific practical/theoretical experiences (Understanding level).

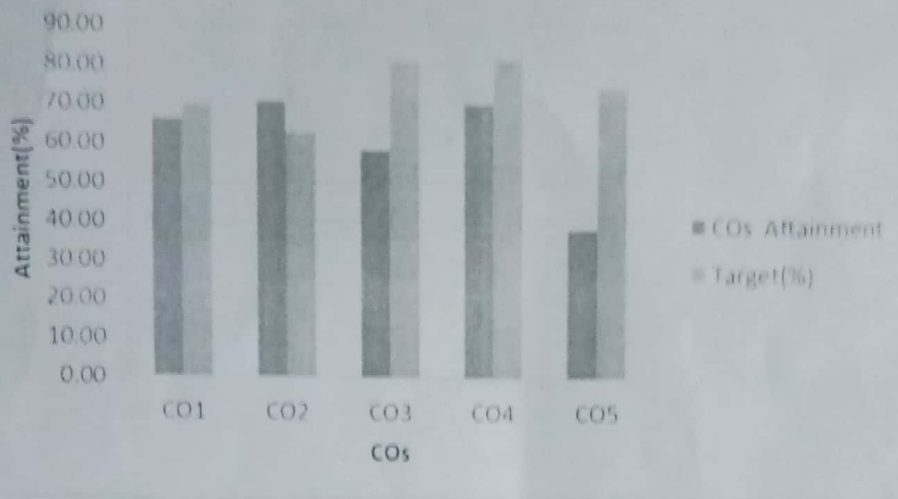
**Internal Assessment of Course Outcomes:**

Internal Assessment – PBL 17PD02						
Review-1	Rubric	CO1	CO2	CO3	CO4	CO5-Report
		Problem Formulation	78.66			
	Quality of work	54.5				
	Presentation Skills			54.5		
	Interaction			55.62		
Review-2	Analysis & Design		53.94			
	Hardware or Software or Analytical (Modern tool Usage)		88.21			
	Presentation Skills			62.93		
	Interaction			60.68		
Individual/Teamwork					69.67	
Report						38.21
CO Attainment		66.60	71.10	58.50	69.67	38.21

Final CO Attainment Values – PBL-17PD02					
COs	CO1	CO2	CO3	CO4	CO5
Final COs Attainment (%)	66.60	71.10	58.50	69.67	38.21
Target (%)	65	60	65	65	60

Observation and Action taken: It is observed that CO3 and CO5 are not attained. The reason is that students are not able to identify, how to present the problem. It is recommended that one or two problems on problem based learning concept is to be explained to the students for the next academic year.

### PBL CO Attainment - 2019-20



	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	-	-	-	-	-	-	-	-	3	1	1	1
CO2	1	3	3	3	-	-	-	-	-	2	-	3	3	3	3
CO3	2	-	-	3	-	-	-	-	3	3	-	3	-	-	-
CO4	-	-	-	-	-	-	-	3	3	2	-	3	-	-	-
CO5	-	-	-	-	-	-	-	-	-	3.00	-	-	-	-	-
Avg.	2.00	3.00	2.50	3.00	-	-	-	3.00	3.00	2.50	-	3.00	2.00	2.00	2.00
PO Attain. (%)	64.65	68.85	69.3	64.8	-	-	-	69.67	64.09	57.17	-	66.47	69.98	69.98	69.98

Course Instructors	Course Coordinator	Module Coordinator	HOD
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>





### LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

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L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

#### DEPARTMENT OF MECHANICAL ENGINEERING

Faculty Name : Mr.A.Naresh Kumar / Mr.R.P.K / Mr.D.Mallikarjuna  
Subject Name : Main Project  
Code : L157  
Regulation : R14  
A.Y. : 2019-20  
Semester : VIII  
Programme : Mechanical Engineering

#### COURSE OUTCOMES:

After the completion of the course, students should be able to

L157	Main Project	Target	Attain	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	Develop innovative prototype models and experimental setups with the knowledge of mathematics, science and engineering (Design level)	70	85	3	2	2	3	-	3	2	2	2	3	-	2	3	3	3
CO 2	Solve complex engineering problems relevant to society, industry and environment (Analysis level)	75	82	3	2	1	3	-	3	2	2	2	3	-	1	3	3	3


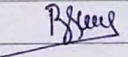
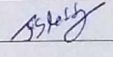
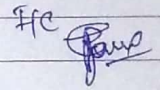
CO 3	Apply modern tools to solve the complex engineering problems (Apply level).	80	83	3	-	2	3	3	3	2	2	2	2	3	-	3	3	3	3
CO 4	Exhibit the individual and team work skills with professional and ethical values and communicate effectively with engineering society (Apply level).	80	82	3	-	3	3	-	3	2	2	2	2	3	-	2	3	3	3
CO 5	Apply the project management tools and describe the rationale for the continuing development (Apply level).	85	85	3	-	2	3	-	3	2	2	2	2	3	2	2	3	3	3
	Average CO value and rounded up to higher			3	2	2	3	3	3	2	2	2	2	3	2	2	3	3	3
	2016-20		%	83.40	83.50	83.40	83.40	83.00	83.40	83.40	83.40	83.40	83.40	83.40	85.00	83.50	83.40	83.40	83.40
	Scale			2.50	2.51	2.50	2.50	2.49	2.50	2.50	2.50	2.50	2.50	2.50	2.55	2.51	2.50	2.50	2.50



OVERALL ATTAINMENTS:

COs	Target	Attainment (CIE)	Attainment(SEE)	Final Attainment (40% CIE +60% SEE)
CO1	70%	87%	83%	85%
CO2	75%	80%	83%	82%
CO3	80%	84%	83%	83%
CO4	80%	80%	83%	82%
CO5	80%	88%	83%	85%

Table 1: Representation of Target and CO percentage in Examination

	Module Coordinator (Thermal stream)	Module Coordinator (Design Stream)	Module Coordinator (Production Stream)	HOD
Name	Dr.P.Vijay Kumar	Mr. B.Sudheer Kumar	Mr. J.Subba Reddy	
Signature				



**LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING (AUTONOMOUS)**  
**L.B.Reddy Nagar, Mylavaram -521 230, Krishna Dist., A.P.**  
**DEPARTMENT OF MECHANICAL ENGINEERING**

Attainment of Course outcomes, Program Outcomes and Program Specific Outcomes

Date: 12-07-2021

Faculty Name	D.Mallikarjuna Rao	Designation	Asst.Professor
Course Name	Seminar	Academic Year	2021-21
Course Code	17PD07	Semester	V
Program & Admitted Year	B. Tech & 2017 Admitted Batch	Section	A,B & C

**COURSE OUTCOMES:**

After the completion of the course, the student should be able to,

17PD04.1	:	Understand the concepts of mechanical engineering
17PD04.2	:	Exposed to communication environment, overcomes stage fear
17PD04.3	:	Understand the concepts by open forum seminars
17PD04.4	:	Improve the report writing skills.
17PD04.5	:	Present the report effectively.

**I. Attainment of Course Outcomes through Mid Examinations:**

Internal Assessment					
Rubric	CO1	CO2	CO3	CO4	CO5-Report
Literature Survey , Problem Formulation	87.37				
Analysis & Design		83.52			
Hardware or Software or Analytical (Modern tool Usage)			83.52		
Presentation Skills				63.19	
Interaction/Viva-Voce					65.39
Report					65.39

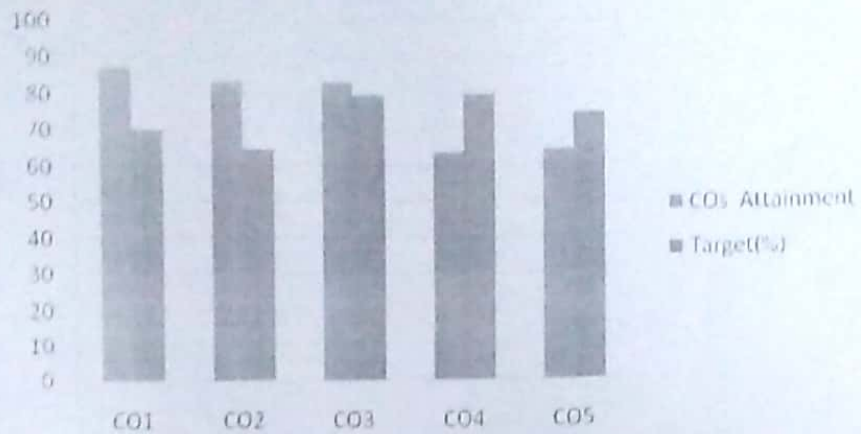
Final CO Attainment Values – Seminar-17PD07					
COs	CO1	CO2	CO3	CO4	CO5
Final COs Attainment (%)	87.4	83.6	83.6	63.86	64.736
Target (%)	70	65	80	80	75

**Observation and Action Taken :**

It is observed that CO4 and CO5 is not attained. One workshop on to improve the seminar report and power point presentation skills is to be conducted .



### Seminar CO Attainment - 2020-21



	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	2	2	1		2		1	3	2	1	2	2	2
CO2	1	2				1	1	1	1	3	2	2	2	2	2
CO3	2	2	1	1	1	1	1		1	2	1	2	1	1	1
CO4	2	2	1	1	1	1	1		3	3	2	2	2	2	2
CO5	3	3	2	2	1		2		1	3	2	1	2	2	2
Avg.	2.20	2.40	1.50	1.50	1.00	1.00	1.40	1.00	1.40	2.80	1.80	1.60	1.80	1.80	1.80
PO Attain. (%)	75.9	76.54	75.29	75.29	74.9	77.02	76.48	83.6	72.99	76.14	75.87	76.78	75.87	75.87	75.87

Course Instructors	Course Coordinator	Module Coordinator	HOD



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**Model Assessment of COURSE OUTCOMES in Internal Exams**

Faculty Name	K.V.VISWANADH.	Designation	ASST. PROFESSOR
Subject Name	INTERNSHIP	Code	17PD09
Year	IV(2020-21)	Semester	VII
Degree	B.Tech	Programme	M.E
Batch	: 2017-21		

**COURSE OUTCOMES:**

After the completion of the course, students should be able to,

CO 1	Apply the academic knowledge in Industry.
CO 2	Understand administrative functions and ethical principles of the organization.
CO 3	Analyze and develop the concepts by practical observation.
CO 4	Improve the report writing skills.

**Assessment of Course Outcomes**

CO1	Apply the academic knowledge in Industry.
Delivery Methods	Presentation by Student
Assessment Methods	Checking the technical content
CO2	Understand administrative functions and ethical principles of the organization.
Delivery Methods	Presentation by Student
Assessment Methods	Checking the quality of work & organization of presentation
CO3	Analyze and develop the concepts by practical observation.
Delivery Methods	Presentation by Student
Assessment Methods	Checking by queries
CO4	Improve the report writing skills.
Delivery Methods	Presentation by Student
Assessment Methods	Checking the Internship Report

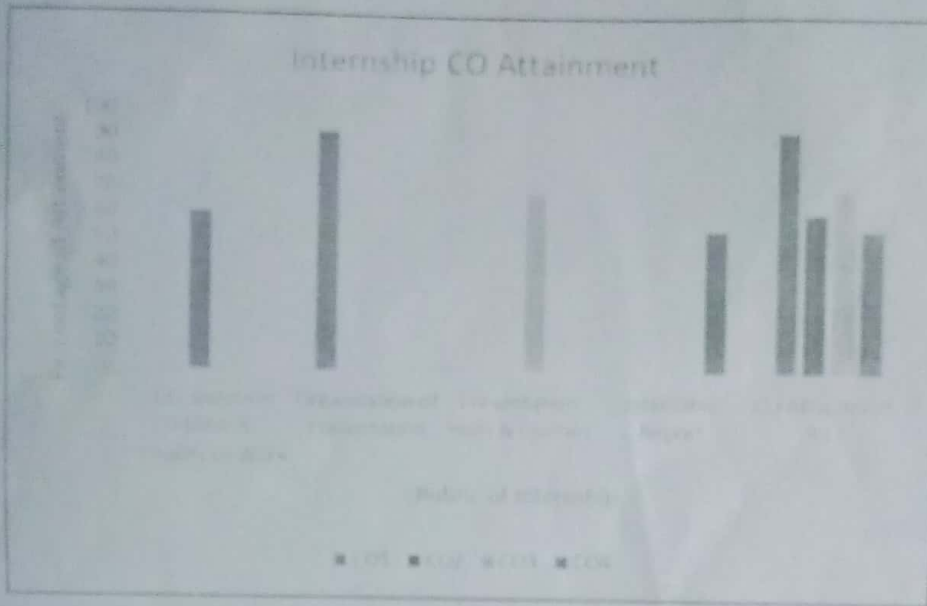
**ASSESSMENT OF INTERNSHIP VII-Sem 17PD09**

Rubric	CO1	CO2	CO3	CO4
Organization Profile & Quality of Work		60.42		
Organization of Presentation	92.71			
Presentation Skills & Queries			69.28	
Internship Report				54.69
CO Attainment-R17	93	61	70	55
Target	80	65	65	60



**Observations and Action taken:**

1. It is observed that CO2 is not attained because all the students have undergone the internship in online mode only.
2. CO4 is also not attained. It is recommended that one workshop is to be conducted to improve the report writing skills of the students.



**Mapping of Course Outcomes to the Program Outcomes:**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	1	2	1	1	1	3	2	1			1	2	2	2
CO2								3	2	1	2	2			
CO3	3	3	3	1	3		1	2				1	2	2	2
CO4		2		1				2		3		3			

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	62	31	62	31	31	31	93	62	31			31	62	62	62
CO2								61	41	21	41	41			
CO3	70	70	70	24	70		24	47				24	47	47	47
CO4		37		19				37		55		55			
Average	66	46	66	25	51	31	59	52	36	38	41	38	55	55	55

	Course Instructor	Course coordinator	Module coordinator	Programme Coordinator
Signature				



### LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

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L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

#### DEPARTMENT OF MECHANICAL ENGINEERING

Faculty Name : Mr.A.Naresh Kumar / Mr.R.P.K / Mr.D.Mallikarjuna  
Subject Name : Main Project  
Code : L157  
Regulation : R14  
A.Y. : 2019-20  
Semester : VIII  
Programme : Mechanical Engineering

#### COURSE OUTCOMES:

After the completion of the course, students should be able to

L157	Main Project	Target	Attain	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO 1	Develop innovative prototype models and experimental setups with the knowledge of mathematics, science and engineering (Design level)	70	85	3	2	2	3	-	3	2	2	2	3	-	2	3	3	3
CO 2	Solve complex engineering problems relevant to society, industry and environment (Analysis level)	75	82	3	2	1	3	-	3	2	2	2	3	-	1	3	3	3



CO 3	Apply modern tools to solve the complex engineering problems (Apply level).	80	83	3	-	2	3	3	3	2	2	2	3	-	3	3	3	3
CO 4	Exhibit the individual and team work skills with professional and ethical values and communicate effectively with engineering society (Apply level).	80	82	3	-	3	3	-	3	2	2	2	3	-	2	3	3	3
CO 5	Apply the project management tools and describe the rationale for the continuing development (Apply level).	85	85	3	-	2	3	-	3	2	2	2	3	2	2	3	3	3
	Average CO value and rounded up to higher			3	2	2	3	3	3	2	2	2	3	2	2	3	3	3
	2016-20		%	83.40	83.50	83.40	83.40	83.00	83.40	83.40	83.40	83.40	83.40	85.00	83.50	83.40	83.40	83.40
	Scale			2.50	2.51	2.50	2.50	2.49	2.50	2.50	2.50	2.50	2.50	2.55	2.51	2.50	2.50	2.50

OVERALL ATTAINMENTS:

COs	Target	Attainment (CIE)	Attainment(SEE)	Final Attainment (40% CIE +60% SEE)
CO1	70%	87%	83%	85%
CO2	75%	80%	83%	82%
CO3	80%	84%	83%	83%
CO4	80%	80%	83%	82%
CO5	80%	88%	83%	85%

Table 1: Representation of Target and CO percentage in Examination

	Module Coordinator (Thermal stream)	Module Coordinator (Design Stream)	Module Coordinator (Production Stream)	HOD
Name	Dr.P.Vijay Kumar	Mr. B.Sudheer Kumar	Mr. J.Subba Reddy	
Signature	