

CO&PO Evaluation Sheet

Department :Mechanical Engineering

CO-PO Mapping - Excel

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F12 402046

Siddhant College of Engineering, Sudumbare, Pune.															
Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University (Id-No.)															
COURSE FILE															
DEPARTMENT: MECHANICAL ENGINEERING															
Academic Year and Semester :-								2022-23 SEM 2							
Title of The Course:								Energy Engineering.							
Course Code:								402046							
Name of The Course Coordinator :-								Mr.Sagar Upendra Deshpande							

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	A	B	C	D	E	F	G	H	I	J
1	Energy Engineering.									
2	Scheme									
3	Lectures	Tutorials	Prcticals	Theory Marks	TermWork	Practical	Oral	Total		
4	4	-	2	100	-	25	-	150		
5	Course Code:		402046 Mandatory field to generate CO ID							
6	Course Outcomes:Describe what student should demonstrate upon the completion of a course.								Learning Level	Mapping with PO's
7	402046.1	ANALYZE & APPLY the modes of heat transfer equations for one dimensional thermal system.						Knowledge, Analysis	1,2,3,12	
8	402046.2	DESIGN a thermal system considering fins, thermal insulation and & Transient heat conduction.						Knowledge, Analysis	1,2,3,12	
9	402046.3	EVALUATE the heat transfer rate in natural and forced convection & validate with experimentation results.						Knowledge, Analysis	1,2,3,12	
10	402046.4	INTERPRET heat transfer by radiation between objects with simple geometries, for black and grey surfaces.						Knowledge, Analysis and Design	1,2,3,12	
11	402046.5	ABILITY to analyze the rate of mass transfer using Fick's Law of Diffusion and understands mass diffusion in different coordinate systems.						Knowledge, Analysis	1,2,3,12	
	402046.6	DESIGN & ANALYSIS of heat transfer equipments and investigation of its performance.						Knowledge, Analysis and	1,2,3,12	

Title PageIndexCourse Details with CO'sPEO's, PO, PSO'sCO-PO MappingUnit TestAnnexl ...

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Course Details With CO's

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DEPARTMENT: MECHANICAL ENGINEERING										K	L	M	N	O	P	Q	R	S	T	U	V	W
1	SR. NO.	PO's																				
2	1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.																				
3	2	Problem analysis: Identify, formulate, Review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering																				
4	3	Design/development of solutions: 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.																				
5	4	Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid																				
6	5	Modern tool usage: 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.																				
7	6	The engineer and society: 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.																				
8	7	Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.																				
9	8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.																				
10																						

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Title Page Index Course Details with CO's PEO's, PO, PSO's CO-PO Mapping Unit Test Annex ...

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Program Outcomes

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R8

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	
1	CO-PO mapping																						
2	Energy Engineering.																						
3																							
4	CO\PO	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PSO 1	PSO 2	PSO 3							
5	402046.1	3	3										3										
6	402046.2	3	3	3									3										
7	402046.3	3											3										
8	402046.4	3	3	2									3										
9	402046.5	2	3										2										
10	402046.6	3	3	3									2										
11	CO mapping	3	3	2									3										
12	CO SUM	17	15	8									16										
13																							
14		3	Substantial (High/Strong)																				
15		2	Moderate (Medium)																				
16		1	Slight (Low/Poor)																				
17																							
18	Justification of CO-PO Mapping																						
19																							
20	P01																						
21	P02																						
22	P03																						

Taskbar: Title Page | Index | Course Details with CO's | PEO's, PO, PSO's | **CO-PO Mapping** | Unit Test | Annex ...

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CO-PO mapping Sheet

CO-PO Mapping - Excel									
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E191 2									
Assignment Marks									
Energy Engineering.									
	Roll No.	Exam Seat No.	Name of Student	Assignment 1 CO-1	Assignment 2 CO-2				
70	66	72165806H	SHAHIL PAWAR	5	6				
71	67	72165778J	SHINDE GANESH BALASO	4	6				
72	68	72165807F	SHINKAR PRATIK VIJAY	3	5				
185	Average			4.58	5.80				
186	Round Average			5.0	6.0				
187	Students scored above average marks			38	45				
188	Total Students			68	68				
189	% of Students scored above average marks			56	66				
190	Attainment			2	3				
191	CO's			1	2				
192									
193									
194									
195									
196									
197									
198									
199									

Assignment Marks

CO-PO Mapping (1) - Microsoft Excel													
C5 f_x Abhishek kumar yadav													
A	B	C	D	E	F	G	H	I	J	K	M	N	O
1	Practical's Marks												
2	Energy Engineering.												
3	Name of Practicals/Experiments												
4	R.No	Exam Seat Number	Name of student	Practical 1	Practical 2	Practical 3	Practical 4	Practical 5	Practical 6	Practical 7	Practical 8		
69	65	72165776B	SATHE DHANANJAY DNYANESHWAR	7	7	6	8	7	9	7	9		
70	66	72165806H	SHAHIL PAWAR										
71	67	72165778J	SHINDE GANESH BALASO										
72	68	72165807F	SHINKAR PRATIK VIJAY										
185	Average			6.63235	6.6029	6.1323529	6.088235	6.4705882	6.63235	6.338235	7.75		
186	Round Average			7.0	7.0	6.0	6.0	6.0	7.0	6.0	8.0		
187	Students scored above average marks			49	47	56	55	57	45	60	43		
188	Total Students			68	68	68	68	68	68	68	68		
189	% of Students scored above average marks			72	69	82	81	84	66	88			
190	Attainment			3	3	3	3	3	3	3	3		
191	Average			3			3		2.5		3		
192	CO's			1			3		4		2		
193													
194													
195													
196													
197													
198													
199													
200													
201													
202													

Practical's Marks

CO-PO Mapping (1) - Microsoft Excel										
H93										
	A	B	C	D	E	F	G	H	I	J
58	54	72165809B	PANASKAR SAYALI BAJIRAO	17	32	36				
59	55	72165766E	PARASHRAM PANDURANG PATIL	20	37	39				
60	56	72165782G	PATIL JITENDRA VASANT	13	30	41				
61	57	72165799M	PATIL SHUBHAM RAJENDRA	6	43	40				
62	58	72165800J	PAWAR CHANDRAKANT KAILAS	15	44	40				
63	59	72165793B	PRIYANKA RAMESH SURYAWANSHI	18	48	39				
64	60	72165801G	ROHIT SANDEEP SAWANT	15	48	41				
65	61	72165803C	SAGAR SANJAY JADHAV	15	13	36				
66	62	72165789D	SAIPRASAD NANDKUMAR SHINDE	17	38	36				
67	63	72165804M	SANKET SANDEEP PATIL	13	42	39				
68	64	71826250G	SATALE AVINASH HARISHCHANDRA	14	43	41				
69	65	72165776B	SATHE DHANANJAY DNYANESHWAR	13	37	40				
70	66	72165806H	SHAHIL PAWAR	15	31	40				
71	67	72165778J	SHINDE GANESH BALASO	14		39				
72	68	72165807F	SHINKAR PRATIK VIJAY	13	30	41				
89	Average			12.47	32.51	37.19				
90	Round Average			12.0	33.0	37.0				
91	Students scored above average marks			41	33	29				
92	Total Students			68	68	68				
93	% of Students scored above average marks			60	49	43				
94	Attainment			3	2	2				
95										
96										
97										

SPPU Exam

CO-PO Mapping (1) - Microsoft Excel								
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B82 Have you can EXPLAIN the layout, component details of diesel engine plant, hydel and nuclear energy systems.								
Sr. No.	Question	Responses					Enter the level as per the set attainment levels of your course. 40 -50% Level-1. 51-60% Level-2.	
		Excellent (3)	Good (2)	Good (1)	Percentage	Level		
78								
79								
80	1 How well can you explain the power generation scenario, the layout components of thermal power plant and ANALYZE the improved Rankine cycle.	17	12	12	46.03	1		
81	2 Are you able to ANALYZE the performance of steam condensers, cooling tower system; RECOGNIZE an environmental impact of energy systems and methods to control the	16	14	14	47.62	1		
82	3 Have you can EXPLAIN the layout, component details of diesel engine plant, hydel and nuclear energy systems	20	10	10	47.62	1		
83	4 Can you ANALYZE gas and improved power	15	15	15	47.62	1		
	5 Have you can EXPLAIN basic principles of energy management, storage and economics of power generation	20	10	10	47.62	1		
Assignment Practical SPPU Exam Course Exit Survey form CES analysis PO Attainment Continuous Improvement								
Ready 87%								

CES Analysis

CO-PO Mapping - Excel

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G14

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
1	PO Attainment																	
2	Energy Engineering.																	
3	PO Attainment																	
4	CO\PO	CO Attainment	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PS02	PS03	
5	C01	1.945	5.835	5.835										5.835				
6	C02	1.945	5.835	5.835	5.835									5.835				
7	C03	1.945	5.835											5.835				
8	C04	1.8925	5.6775	5.6775	3.785									5.6775				
9	C05	1.63	3.26	4.89										3.26				
10	C06	1.63	4.89	4.89	4.89									3.26				
11	CO Sum	17	15	8										16				
12	PO Sum	31.333	27.128	14.51										29.703				
13	Overall Direct PO Attainment	1.8431	1.8085	1.8138										1.8564				
14																		
15																		
16																		
17																		
18																		
19																		
20																		

$$PO_i = \frac{\sum_{j=1}^n CO_j W_j}{\sum_{j=1}^n W_j}$$

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PO Attainment

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	A	B	C	D	E	F	G	H
1	Continuous Improvement							
2	Energy Engineering.							
3	Weakly attained COs from the course	Activities Planned to overcome the weak COs						
4	C01	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
5	C02	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
6	C03	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
7	C04	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
8	C04	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
9	C05	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
10	C06	1. Additional Assignments on Critical Topic. 2. Unitwise Solution of University Question Papers.						
11	Weakly attained POs	Identify the courses contributing to these weak PO						
12	P01	1. Students are encouraged to study with NPTEL Video Lectures. 2. To increase the cocurricular activities to enrich subject Knowledge and updating the technological development.						
		1. Students are encouraged to study with NPTEL Video						

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Continous Improvement