



Kalyani Charitable Trust's

Late G. N. Sapkal College of Engineering

Kalyani Hills, Anjaneri, Trimbakeshwar Road,
Nashik – 422 213



Department of Mechanical Engineering

CO-PO mapping and attainment 2021-22 Sem-II

Program: - Mechanical Engineering		Class: - SE										Div.: - A	
Course Name: - Kinematics of Machinery		Course Code: - 202047										Course – 2019 PAT	
Subject Teacher: - Prof. J. R. MAHAJAN												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	2	--	--	--	--	--	--	--	--	--	
CO2	2	3	2	--	--	--	--	--	--	--	--	--	
CO3	2	2	3	--	--	--	--	--	--	--	--	--	
CO4	2	2	2	--	--	--	--	--	--	--	--	--	
CO5	2	2	2	--	--	--	--	--	--	--	--	--	
CO	2	2.2	2.2	--	--	--	--	--	--	--	--	--	

Program: - Mechanical Engineering		Class: - SE										Div.: - A	
Course Name: - Applied		Course Code: - 202048										Course – 2019 Pattern	
Subject Teacher: - Mr. Parag Dashrath Jadhav												A.Y.: - 2021-22	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	3	3								1		2	
CO2	1									1		1	
CO3	1									1		1	
CO4	3	2				1				1		1	
CO5	1									1		1	
CO6	3									1		1	
CO	2	2.5				1				1		1.17	



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Program: - Mechanical Engineering		Class: - SE										Div.: - A	
Course Name: - Fluid Mechanics		Course Code: - 202049										Course –SE 2019	
Subject Teacher: - Prof. M. V. Jadhav												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	03	02	-	-	-	-	-	-	-	-	-	-	
CO2	01	-	-	-	02	-	-	-	-	-	-	-	
CO3	-	03	-	-	-	-	-	-	-	-	-	-	
CO4	02	-	-	-	02	-	-	-	-	-	-	-	
CO5	-	02	-	-	-	-	-	-	-	-	-	-	
CO6	-	02	-	-	-	-	-	-	-	-	-	-	
CO	02	2.22	-	-	02	-	-	-	-	-	-	-	

Program: - Mechanical Engineering		Class: - S.E.										Div.: - A	
Course Name: - Manufacturing Processes		Course Code: - 202050										Course - 2019 Pat	
Subject Teacher: - Prof. R. R. Chaudhari												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	1	-	-	-	-	-	-	-	-	-	
CO2	2	2	2	2	-	-	-	1	-	-	1	-	
CO3	2	1	2	-	-	-	-	-	2	2	-	1	
CO4	2	2	-	2	1	-	1	-	1	-	1	-	
CO5	2	1	1	-	-	1	2	1	2	1	-	1	
CO6	1	2	-	-	1	-	1	-	-	-	-	1	
CO	1.83	1.66	1.5	1.5	1	1	1.33	1	1	1.5	1	1.5	



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Program: - Mechanical Engineering		Class: - S.E.										Div.: A	
Course Name: - Machine Shop		Course Code: - 202051										Course - 2019 Pat	
Subject Teacher: - Prof. K. W. Kale													
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	1	1	1	-	-	-	-	-	-	-	-	-
CO2	2	1	1	1	-	-	-	1	-	-	1	-	-
CO3	2	1	1	1	1	-	1	1	1	-	-	1	1
CO4	2	1	1	1	1	-	1	1	1	-	-	1	1
CO5	2	1	1	-	2	2	1	1	2	2	-	-	2
CO6	2	1	1	1	1	-	1	1	1	-	-	1	1
CO	2	1	1	1	1.25	2	1	1	1.25	2	1	1	1.25

Program: - Mechanical Engineering		Class: - S.E.										Div.: A	
Course Name: - Project Based Learning-II		Course Code: - 202052										Course - 2019 Pat	
Subject Teacher: - Prof. R. R. Chaudhari													
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	1	1	1	1	-	-	-	2	-	-	-
CO2	2	1	1	1	2	1	-	1	-	-	1	-	-
CO3	1	1	1	1	1	1	-	-	1	1	-	1	1
CO4	2	1	-	-	1	-	1	-	1	-	1	-	-
CO5	1	2	1	-	1	1	1	1	1	1	-	1	1
CO6	1	1	-	1	2	-	1	-	-	-	-	1	1
CO	1.5	1.33	1	1	1.33	1	1	1	1	1.33	1	1	1



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Program: - Mechanical Engineering		Class: - TE										Div.: - A	
Course Name: - Artificial Intelligence & Machine Learning		Course Code: - 302049										Course - 2019 Pat	
Subject Teacher: - Prof. K. W. Kale		A.Y.: - 2021-22 SEM-II											
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	-	-	-	-	1	-	-	-	1	2	
CO2	3	2	2	-	3	-	-	1	-	1	1	2	
CO3	3	2	2	2	3	-	-	-	-	-	-	2	
CO4	3	3	2	2	3	-	-	-	-	-	-	2	
CO5	3	3	2	2	3	-	-	-	-	-	-	1	
CO6	2	3	2	2	3	-	-	-	-	-	-	2	
CO	2.66	2.5	1.66	1.33	2.5	-	0.16	0.16	-	0.16	0.33	1.83	

Program: - Mechanical Engineering		Class: - TE										Div.: - A	
Course Name: - Computer Aided Engineering		Course Code: - 302050										Course -2019 Pat	
Subject Teacher: - Prof. P. R. Chakule		A.Y.: - 2021-22 SEM-II											
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	-	-	2	-	-	-	-	1	1	1	
CO2	3	3	2	2	2	-	-	-	2	2	1	1	
CO3	-	3	3	3	2	-	-	-	2	1	1	1	
CO4	-	-	3	2	2	-	-	-	1	1	1	1	
CO5	3	1	2	3	3	-	-	-	2	2	2	2	
CO6	2	2	1	2	2	-	-	-	-	-	1	-	
CO	2.5	2.2	2.2	2.4	2.16	-	-	-	1.75	1.4	1.66	1.2	



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Program: - Mechanical Engineering		Class: - TE										Div.: - B	
Course Name: - Design of Transmission Systems		Course - 2019 Pat										Course -2019 Pattern	
Subject Teacher: - Prof. S.S.Kushare												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	3	1					2		2	2	
CO2	2	2	3	1					2		2	2	
CO3	2	2	3	1					2		2	2	
CO4	2	2	3	1		2			3	2	2	3	
CO5	2	2	3	1		2			3	2	2	1	
CO6	1		3	2	2	2	3	2		3	2	3	
CO	2.00	2.00	3.00	1.17	2.00	2.00	3.00	2.00	2.40	2.33	2.00	2.17	

Program: - Mechanical Engineering		Class: - TE										Div.: - A , B	
Course Name: - Elective – II – Composite Materials		Course Code: -302052-A										Course -2019 Pat	
Subject Teacher: - Prof. F. U. Pathan												A.Y.: - 2021-22 SEM-II	
Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	3	3					2		2	0	1	2	
CO2	3	3				2	2		2	2		1	
CO3	3	3					2		2	2		1	
CO4	3	3					2		2	2		1	
CO5	2	2				2	2		2	2		2	
CO6	3	3					-		2	2	2	1	
CO	2.67	2.67				2	2		2	2	2	1.33	



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Program: - Mechanical Engineering		Class: - T.E.										Div.: -	
Course Name: - Measurement Laboratory		Course Code: - 302053										Course - 2019 Pat	
Subject Teacher: - Prof. R. R. Chaudhari												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	1	1	2	1	-	-	-	2	-	-	
CO2	2	2	1	1	2	1	-	1	-	-	1	-	
CO3	2	1	1	1	1	1	-	-	1	1	-	1	
CO4	2	1	-	-	1	-	1	-	1	-	1	-	
CO5	2	2	1	-	1	1	1	1	1	1	-	1	
CO6	1	1	-	1	2	-	1	-	-	-	-	1	
CO	1.83	1.5	1	1	1.5	1	1	1	1	1.33	1	1	

Program: - Mechanical Engineering		Class: - TE										Div.: - A	
Course Name: -		Course Code: - 302054										Course -2019 Pat	
Subject Teacher: - Prof. F. U. Pathan												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	3	3					2		2	2		2	
CO2	3	3				2	2		2	2		1	
CO3	3	3					2		2	2		1	
CO4	3	3					2		2	2		1	
CO	3	3				2	2		2	2		1.25	



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Program: - Mechanical Engineering		Class: - TE										Div.: - A	
Course Name: - Internship/Mini project		Course Code: - 302055										Course -2019 Pattern	
Subject Teacher: - Prof. M. V. Jadhav												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	-	3	-	-	-	-	-	-	2	-	-	-	
CO2	3	-	-	-	-	3	-	-	-	-	-	-	
CO3	-	2	-	-	3	-	-	-	-	-	-	-	
CO4	-	-	-	-	-	-	3	-	-	-	-	-	
CO5	-	-	-	-	-	-	-	-	3	-	-	2	
CO6	-	-	-	-	-	-	-	-	-	-	-	2	
CO	3	2.5	-	-	3	3	-	3	2.5	-	-	2	

Program: - Mechanical Engineering		Class: - BE										Div.: - A	
Course Name: - Energy Engineering		Course Code: - 402047										Course – 2015 Pattern	
Subject Teacher: - Mr. Parag Dashrath Jadhav												A.Y.: - 2021-22 SEM- II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	3	3					2		2	2		2	
CO2	3	3				2	2		2	2		1	
CO3	3	3					2		2	2		1	
CO4	3	3					2		2	2		1	
CO5	2	2				2	2		2	2		2	
CO6	3	3							2	2	2	1	
CO	2.83	2.83				2	2		2	2	2	1.33	



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Program: - Mechanical Engineering		Class: - BE										Div.: - A	
Course Name: - Mechanical System Design		Course Code: - 402048										Course -2015 Pat	
Subject Teacher: - Prof. C. P. Shinde												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	2	-	-	-	-	-	1	-	-	-	
CO2	3	2	3	1	-	2	-	1	1	-	1	1	
CO3	2	2	2	-	-	-	2	-	-	-	-	1	
CO4	2	1	1	-	1	-	1	-	2	1	-	1	
CO	2.25	1.75	2	1	1	2	1.5	1	1.33	1	1	1	

Program: - Mechanical Engineering		Class: - BE										Div.: - A	
Course Name: - Industrial Engineering (Elective – III)		Course Code: - 402049 B										Course -2015 Pattern	
Subject Teacher: - Mr. Mahesh Vitthalrao Jadhav												A.Y.: - 2021-22 SEM-II	
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	3	-	2	-	1	-	-	-	-	-	-	-	
CO2	1	3	2	2	-	-	-	-	-	-	-	-	
CO3	-	-	3	-	-	1	-	-	-	-	-	-	
CO4	-	-	-	-	-	2	-	-	-	-	3	-	
CO5	-	-	-	-	-	-	-	-	-	-	3	-	
CO	2	3	2.33	2	1	1.5	-	-	-	-	3	-	





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Program: - Mechanical Engineering		Class: - BE										Div.: - A	
Course Name: - Advanced Manufacturing Processes		Course Code: - 402050A										Course -2015 Pat	
Subject Teacher: - Prof. T. Y. Badgujar													
A.Y.: - 2021-22 SEM-II													
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	3	1	-	-	-	-	-	1	-	-	-	-
CO2	1	3	3	3	-	1	-	-	1	-	1	1	1
CO3	2	2	2	-	2	-	-	-	-	-	-	1	1
CO4	-	1	1	2	2	2	-	-	2	1	1	-	-
CO5	1						2	2	1	2	2	1	1
CO6	1	2	-	-	-	1	-	1	-	-	1	-	-
CO	1.4	2.2	1.8	2.5	2.0	1.3	2.0	1.5	1.3	1.5	1.3	1.3	1.0

Program: - Mechanical Engineering		Class: - BE										Div.: - A	
Course Name: - Project-II		Course Code: - 402051										Course -2015 Pat	
Subject Teacher: - Prof. C. P. Shinde													
A.Y.: - 2021-22 SEM-II													
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	
CO1	2	2	2	1	3	1	1	3	3	2	1	2	2
CO2	3	2	3	2	-	-	-	1	1	-	1	-	-
CO3	1	-	2	-	3	2	3	2	2	1	2	1	1
CO	2	2	2.3	1.5	3	1.5	2	2	2	1.5	1.3	1.5	1.5





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Table 1: Program level Course-PO matrix for all the courses

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C201	3	1	2	2	2	2	2	2	1	1	0	1
C202	2	2	2									
C203	2	3					1			1		1
C204	2	2			2							
C205	2	2	2	2	1	1	1	1	1	2	1	2
C206	2	1	1	1	1	2	1	1	1	2	1	1
C207	2	1	1	1	1	1	1	1	1	1	1	1
C301	3	2	2	2	2				2	1	2	1
C302	3	2	2	2	2				2	1	2	1
C303	2	3					1			1		1
C304	3	1	2		2	2	2	2	1	1	0	1
C305	2	2	1	1	2	1	1	1	1	1	1	1
C306	3	3				2	2		2	2		1
C307												
C401	3	3				2	2		2	2	2	1
C402	2	2	2	1	1	2	2	1	1	1	1	1
C403	2	3	2	2	1	2					3	
C404	1	2	2	3	2	1	2	2	1	2	1	1
C405	2	2	2	2	3	2	2	2	2	2	1	2
Target level overall POs	2	2	2	2	2	2	2	1	1	1	1	1

Table 2: Program level Course-PSO matrix for all the courses

Course	PSO1	PSO2
C201	2	2
C202	2	2
C203	2	1
C204	2	
C205	1	1
C206	2	2
C207	1	1
C301	2	2
C302	2	2
C303	2	1
C304	2	1
C305	1	1





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Indirect Assessment:

Course	Course Exit Survey (%)					
	CO1	CO2	CO3	CO4	CO5	CO6
C201	77	76	76	78	76	75
C202	77	75	76	78	76	NA
C203	95	97	91	95	95	95
C204	76	66	86	56	66	78
C205	77	76	76	77	76	75
C206	77	76	76	77	76	74
C207	77	76	76	77	76	74
C301	100	99	96	100	100	74
C302	100	99	96	100	100	74
C303	95	97	91	95	95	95
C304	100	97	95	100	100	74
C305	77	76	76	77	76	74
C306	97	97	96	100	NA	NA
C307	82	82	76	74	79	80
C401	97	97	94	97	99	97
C402	76	76	76	77	NA	NA
C403	76	66	86	56	66	NA
C404	76	76	76	77	75	73
C405	76	76	76	NA	NA	NA

Overall CO Attainment A.Y 2022-23

Course	Direct CO Attainment		Indirect CO Attainment	Overall CO Attainment
	External	Internal		
C201	3	3	3	3
C202	3	3	3	3
C203	3	3	3	3
C204	2	3	2	2
C205	3	3	3	3
C206	NA	3	3	3
C207	NA	3	3	3
C301	3	3	3	3
C302	3	3	3	3
C303	3	3	3	3
C304	3	3	3	3
C305	NA	3	3	3



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Table: 3 PO attainment values

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C201	3	1	2	2	2	2	2	2	1	1	0	1
C202	2	2	2									
C203	2	3					1			1		1
C204	2	2			2							
C205	2	2	2	2	1	1	1	1	1	2	1	2
C206	2	1	1	1	1	2	1	1	1	2	1	1
C207	2	1	1	1	1	1	1	1	1	1	1	1
C301	3	2	2	2	2				2	1	2	1
C302	3	2	2	2	2				2	1	2	1
C303	2	3					1			1		
C304	3	1	2	2	2	2	2	2	1	1	0	1
C305	2	2	1	1	2	1	1	1	1	1	1	1
C306	3	3				2	2	2	2	2	2	1
C307	3	3			3	3	3	3	3	3	2	2
C401	3	3				2	2	2	2	2	2	1
C402	2	2	2	1	1	2	2	1	1	1	1	1
C403	2	3	2	2	1	2					3	
C404	1	2	2	3	2	1	2	2	1	2	2	1
C405	2	2	2	2	3	2	2	2	2	2	1	2
Direct PO Attainment	2	2	2	2	2	2	2	2	1	1	1	1
Indirect PO Attainment	2	3	3	2	3	3	3	3	3	3	3	3
Overall PO Attainment	2	2	2	2	2	2	2	2	2	2	2	2

Table: 4 PSO attainment values

Course	PSO1	PSO2
C201	2.0	2.0
C202	2.0	2.2
C203	1.7	1.3
C204	2.0	
C205	1.3	1.0
C206	1.8	1.8
C207	1.2	1.0
C301	2.0	2.0
C302	2.0	2.0
C303	1.7	1.3
C304	1.5	1.0
C305	1.2	1.0
C306	2.4	2.7
C307	2.3	3.0
C401	2.8	2.0
C402	1.8	1.0
C403	3.0	2.5
C404	1.7	1.0

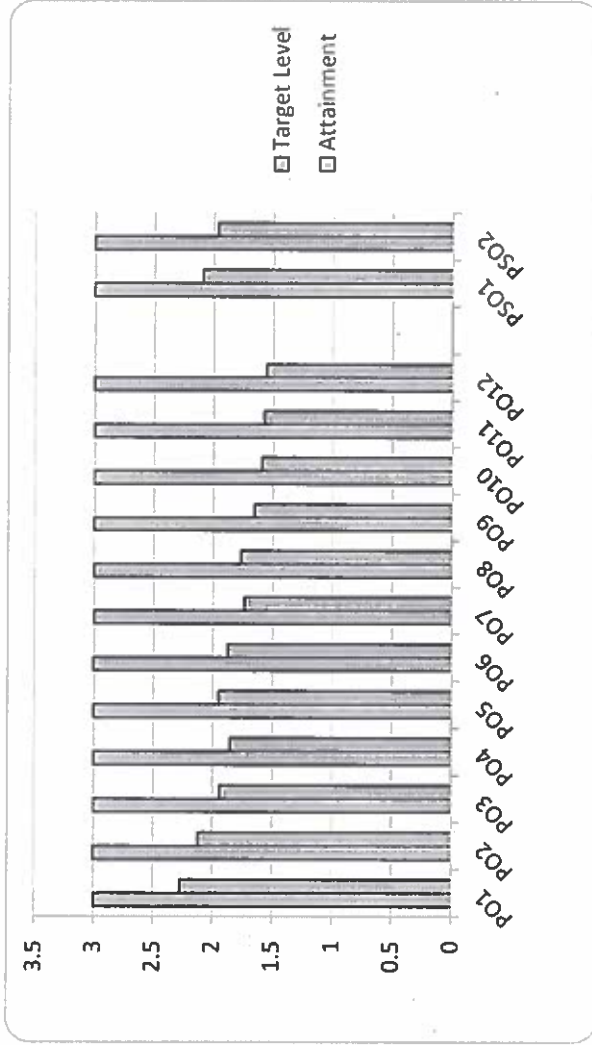




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Shinde

Prof. C. P. Shinde

Department Criteria Coordinator



Badgujar

Prof. T. Y. Badgujar

H.O.D., Mech, Department

Bagal

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