

Department of Mechanical Engineering

Academic Year: 2020 - 21				Term - I			
		Class: BE		Division: A			
Course :		Dynamics of Machinery		Course Code: 402043		Course Teacher: Dr. C S Dharankar	
Course Outcomes:-		At the End of the course, students will be able to					
CO402043.1	Describe the fundamentals of vibration and compute the natural frequency of SDOF system.						
CO402043.2	Understand the fundamentals of forced vibration under application of harmonic force with parameters like magnification factor, force and motion transmissibility.						
CO402043.3	Calculate natural frequency and mode shapes for Undamped two degree of freedom systems.						
CO402043.4	Analyze the balancing problem and understand the balancing techniques for rotating and reciprocating unbalance in machines.						
CO402043.5	Select suitable vibration measuring instruments for practical applications along with suitable vibration control methods.						
CO402043.6	Analyze the noise, it's measurements and apply noise reduction techniques for solving noise problems.						
Program Outcomes (PO)							
PO1: Engineering Knowledge		PO5: Modern tool usage			PO9: Individual and team work		
PO2: Problem Analysis		PO6: The engineer and society			PO10: Communication		
PO3: Design/development of solutions		PO7: Environment and sustainability			PO11: Project management and finance		
PO4: Conduct investigations of complex Problems		PO8: Ethics			PO12: Life-long learning		
Program Specific Outcomes (PSO)							
PSO1	Our graduates will have competencies in usage of modern tools to optimally design, develop and manufacture product and/or process.						
PSO2	Our graduates will have incremental skills to enhance employability in the automotive and thermal engineering fields.						

CO Attainment Calculations

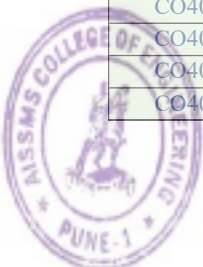
Target Values		Attainment Levels					CO Target			
Internal Tools	60	Level 1	20	to <	60	% Students	CO1	1.50	CO4	1.50
External Tools	60	Level 2	60	to <	70	% Students	CO2	1.50	CO5	1.50
		Level 3	70	to <	100	% Students	CO3	1.50	CO6	1.50

Mapping of Assessment Tools with COs

		Internal										External							
		Weightage 20										80							
		For Mapping - Write "Yes"																End Sem with weightage	
Course Outcomes (CO)	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6	Assi-1	Assi-2	Assi-3			In-Sem	TW	OR			End Sem	Marks	
CO402043.1	Yes	--	--				Yes					Yes	Yes	Yes			Yes	7	
CO402043.2	--	Yes	--				Yes					Yes	Yes	Yes			Yes	7	
CO402043.3	--	--	Yes					Yes				Yes	Yes	Yes			Yes	6	
CO402043.4	--	--	--	Yes	--			Yes					Yes	Yes			Yes	16	
CO402043.5	--	--	--		Yes				Yes				Yes	Yes			Yes	16	
CO402043.6	--	--	--			Yes			Yes				Yes	Yes			Yes	18	
Total 70																			

Course Articulation Matrix

Course Outcomes	Program Outcomes												Program Specific Outcomes			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2		
CO402043.1	3	3	2	2					2				2	2		
CO402043.2	3	3	2	3					2				1	2		
CO402043.3	3	2	2	2					2				1	2		
CO402043.4	3	2	2	2					2							
CO402043.5	3	2	2	2	3		2		2			2				
CO402043.6	3	2	2	2	3		2		2			2	2	2		



ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY'S
 COLLEGE OF ENGINEERING
 KENNEDY ROAD, PUNE-411 001

Internal Assessment Tools - Marks distribution for COs										
Tools	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6	Assi.-1	Assi-2	Assi-3	Total
CO / Marks	20	20	20	20	20	20	10	10	10	
CO-1	20.00						5.00			25.00
CO-2		20.00					5.00			25.00
CO-3			20.00					5.00		25.00
CO-4				20.00				5.00		25.00
CO-5					20.00				5.00	25.00
CO-6						20.00			5.00	25.00
Weightage = Marks / Total Marks										
Tools	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6	Assi.-1	Assi-2	Assi-3	Total
CO-1	0.80						0.20			1.00
CO-2		0.80					0.20			1.00
CO-3			0.80					0.20		1.00
CO-4				0.80				0.20		1.00
CO-5					0.80				0.20	1.00
CO-6						0.80			0.20	1.00
Tool Attainment --> CO Attainment										
Tools	Test-1	Test-2	Test-3	Test-4	Test-5	Test-6	Assi.-1	Assi-2	Assi-3	Total
Attainment	3	3	3	3		1	3	3	3	
CO-1	2.40						0.60			3.00
CO-2		2.40					0.60			3.00
CO-3			2.40					0.60		3.00
CO-4				2.40				0.60		3.00
CO-5									0.60	0.60
CO-6						0.80			0.60	1.40
External Assessment Tools - Marks and Mapping										
Tools	In-Sem	TW	OR			End Sem	Mapping			Total
Marks	30	25	25			70	X			150
CO-1	10.00	4.17	4.17			7.00				25.33
CO-2	10.00	4.17	4.17			7.00				25.33
CO-3	10.00	4.17	4.17			6.00				24.33
CO-4		4.17	4.17			16.00				24.33
CO-5		4.17	4.17			16.00				24.33
CO-6		4.17	4.17			18.00				26.33
Weightage = Marks / Total Marks										
Tools	In-Sem	TW	OR			End Sem	Mapping			Total
CO-1	0.39	0.16	0.16			0.28	X			1
CO-2	0.39	0.16	0.16			0.28				1
CO-3	0.41	0.17	0.17			0.25				1
CO-4		0.17	0.17			0.66				1
CO-5		0.17	0.17			0.66				1
CO-6		0.16	0.16			0.68				1
Tool Attainment --> CO Attainment										
Tools	In-Sem	TW	OR			End Sem	Mapping			Total
Attainment	3	3	3			3	X			Total
CO-1	1.18	0.49	0.49			0.83				3.00
CO-2	1.18	0.49	0.49			0.83				3.00
CO-3	1.23	0.51	0.51			0.74				3.00
CO-4		0.51	0.51			1.97				3.00
CO-5		0.51	0.51			1.97				3.00
CO-6		0.47	0.47			2.05				3.00



CO Attainment By Direct Tools			
Course Outcome	Int Asse Tools (20% Weightage)	Ext Asse Tools (80% Weightage)	CO Attainment
CO402043.1	3.00	3.00	3.00
CO402043.2	3.00	3.00	3.00
CO402043.3	3.00	3.00	3.00
CO402043.4	3.00	3.00	3.00
CO402043.5	0.60	3.00	2.52
CO402043.6	1.40	3.00	2.68

CO Attainment for Course			
Course Outcome	Direct Asse Tools (80% Weightage)	Indirect Asse Tools (20% Weightage)	CO Attainment
CO402043.1	3.00	2.53	2.91
CO402043.2	3.00	2.60	2.92
CO402043.3	3.00	2.43	2.89
CO402043.4	3.00	2.30	2.86
CO402043.5	2.52	2.63	2.54
CO402043.6	2.68	2.30	2.60

Course outcome	CO1	CO2	CO3	CO4	CO5	CO6
Target Value	3	3	3	3	3	3
Attainment Values	2.91	2.92	2.89	2.86	2.54	2.60
Gap	0.09	0.08	0.11	0.14	0.46	0.40
Attained (Y/N)	N	N	N	N	N	N

CO1 - CO not attained
CO2 - CO not attained
CO3 - CO not attained

CO4 - CO not attained
CO5 - CO not attained
CO6 - CO not attained

PO Attainment

PO Attainment = CO Attainment X CO - PO/PSO Mapping / 3																	
CO	Attainment	PROGRAM OUTCOMES												Program Specific Outcomes			
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO402043.1	2.91	2.91	2.91	1.94	1.94					1.94				1.94	1.94		
CO402043.2	2.92	2.92	2.92	1.95	2.92					1.95				0.97	1.95		
CO402043.3	2.89	2.89	1.92	1.92	1.92					1.92				0.96	1.92		
CO402043.4	2.86	2.86	1.91	1.91	1.91					1.91							
CO402043.5	2.54	2.54	1.69	1.69	1.69	2.54		1.69		1.69			1.69				
CO402043.6	2.60	2.60	1.74	1.74	1.74	2.60		1.74		1.74			1.74		1.74		
Avg PO Attainment		2.79	2.18	1.86	2.02	2.57		1.72		1.86			1.72	1.29	1.89		



[Handwritten Signature]

PRINCIPAL
 ALL INDIA SHRI SHWAJI MEMORIAL SOCIETY'S
 COLLEGE OF ENGINEERING
 KENNEDY ROAD, PUNE-411 001