

**RAJIV GANDHI INSTITUTE OF TECHNOLOGY, MUMBAI
DEPARTMENT OF MECHANICAL ENGINEERING**

Program level CO-PO matrix of all courses INCLUDING first year courses


Course Code	Course Name	Program Outcomes													
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
FEC101	Engineering Mathematics-I	1.50	1.00	1.00	1.00	1.00	-	-	-	-	-	-	1.17	-	-
FEC102	Engineering Physics-I	2.33	1.67	1.00	-	-	-	-	-	-	-	-	1.50	-	-
FEC103	Engineering Chemistry-I	2.17	1.17	1.00	3.00	1.00	2.50	2.00	-	-	-	-	1.00	-	-
FEC104	Engineering Mechanics	3.00	1.00	-	-	-	-	-	-	-	1.00	-	-	1.00	1.00
FEC105	Basic Electrical Engineering	2.00	2.00	-	-	-	-	-	-	-	-	-	-	-	-
FEL101	Engineering Physics-I	3.00	1.00	-	-	-	-	-	-	-	1.00	-	-		
FEL102	Engineering Chemistry-I	2.00	2.00	-	-	-	-	-	1.00	3.00	-	-	-		
FEL103	Engineering Mechanics	2.29	1.57	1.00	-	2.00	2.00	-	1.00	-	2.00	-	1.43	1.00	1.00
FEL104	Basic Electrical Engineering	2.17	1.00	1.00	1.00	1.00	-	-	-	-	-	-	1.00	-	-
FEL105	Basic Workshop practice-I	1.83	1.33	-	-	-	-	-	-	2.00	-	-	1.17	-	1.00
FEC201	Engineering Mathematics-II	2.50	1.17	-	-	-	1.67	1.67	-	-	-	1.67	1.50	-	-
FEC202	Engineering Physics-II	2.00	1.00	-	-	-	-	-	-	-	2.00	-	-	-	-
FEC203	Engineering Chemistry-II	2.33	1.67	1.00	2.17	1.83	-	-	-	-	-	-	1.40	-	-
FEC204	Engineering Graphics	-	-	-	-	-	-	-	-	1.00	1.00	-	1.00	1.00	1.00
FEC205	C programming	2.00	1.00	-	-	2.00	-	-	-	-	2.00	-	-	1.00	1.00
FEC206	Professional Communication and Ethics-I	2.29	2.00	1.00	-	-	-	-	-	-	2.00	-	1.00	-	1.00
FEL201	Engineering Physics-II	1.50	1.00	1.00	1.00	1.00	-	-	-	-	-	-	1.17		
FEL202	Engineering Chemistry-II	2.33	1.67	1.00	-	-	-	-	-	-	-	-	1.50		
FEL203	Engineering Graphics	2.17	1.17	1.00	3.00	1.00	2.50	2.00	-	-	-	-	1.00	1.00	1.00
FEL204	C programming	3.00	1.00	-	-	-	-	-	-	-	1.00	-	-	1.00	1.00
FEL205	Professional Communication and Ethics-I	2.00	2.00	-	-	-	-	-	-	-	-	-	-	-	1.00
FEL206	Basic Workshop practice-II	3.00	1.00	-	-	-	-	-	-	-	1.00	-	-	-	1.00
MEC301	Engineering Mathematics-III	2.30	1.00	1.00	--	1.00	--	--	--	-	-	--	1.00	--	--
MEC302	Strength of Materials	2.83	1.00	1.00	1.00	--	--	--	--	--	--	--	--	--	1.00
MEC303	Production Processes	2.30	1.70	2.00	1.00	1.50	2.00	1.00	2.00	-	1.00	-	1.29	1.00	1.00
MEC304	Materials and Metallurgy	2.17	1.50	1.17	1.00	--	--	1.00	1.00	-	1.00	--	2.50	1.00	1.00
MEC305	Thermodynamics	3.00	2.67	1.67	1.83	1.00	2.33	2.33	1.00	-	1.33	2.00	2.00	1.00	2.00
MEL301	Materials Testing	2.83	1.83	1.00	1.00	-	-	-	-	-	2.00	-	1.00	1.00	1.00

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MEL302	Machine Shop Practice	2.33	2.00	1.50	1.50	-	2.33	-	1.00	-	1.00	-	0.83	1.33	2.00
MESBL301	CAD –Modeling	2.00	2.83	1.00	1.00	1.67	3.00	--	--	--	1.80	--	--	1.80	2.00
MEPBL301	Mini Project – 1A	2.60	2.80	2.50	2.71	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.75	2.00
MEC401	Engineering Mathematics-IV	2.70	1.00	1.00	1.67	1.00	--	--	--	-	-	--	1.00	--	--
MEC402	Fluid Mechanics	3.00	2.50	1.33	1.50	1.00	--	--	--	--	1.00	--	1.00	1.00	1.67
MEC403	Kinematics of Machinery	2.50	1.50	1.00	--	--	--	--	--	--	1.00	--	--	--	1.00
MEC404	CAD/CAM	2.83	2.33	2.17	2.00	2.00	2.00	3.00	3.00	-	1.00	3.00	1.50	2.00	3.00
MEC405	Industrial Electronics	1.60	1.00	1.00	-	1.00	-	1.00	-	-	1.00	1.00	1.00	1.17	1.83
MEL401	Industrial Electronics	1.67	1.00	1.00	-	1.00	-	-	-	-	-	-	1.00	1.00	1.83
MEL402	Kinematics of Machinery	3.00	1.33	1.00	--	--	--	--	--	--	1.00	--	--	--	1.00
MEL403	Python Programming	2.00	2.33	--	1.00	2.00	2.00	--	--	--	1.40	--	--	1.00	1.17
MESBL401	CNC and 3-D Printing	2.33	2.00	1.50	3.00	2.33	3.00	3.00	3.00	-	-	1.75	3.00	1.00	1.00
MEPBL401	Mini Project – 1B	2.60	2.80	2.50	2.71	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.75	2.00
MEC501	Mechanical Measurements and Controls	2.50	2.67	3.00	2.00	--	--	--	--	--	--	--	3.00	1.00	1.00
MEC502	Thermal Engineering	2.00	2.17	1.83	2.33	2.00	2.00	1.33	1.50	--	--	1.80	1.83	1.67	2.33
MEC503	Dynamics of Machinery	2.66	1.50	1.00	--	--	--	--	--	--	--	--	--	--	1.00
MEC504	Finite Element Analysis	2.67	2.33	2.17	2.20	2.20	2.00	1.25	1.67	-	-	1.80	1.50	1.00	1.00
MEDLO5012	Design of experiment	2.00	2.00	--	2.00	-	-	-	-	-	-	-	3.00	1.00	1.00
MEDLO5011	Optimization Techniques	2.00	2.00	-	3.00	-	-	-	-	-	-	-	3.00	1.00	1.00
MEDLO5012	Statistical Technique	2.00	2.00	-	3.00	-	-	-	-	-	-	-	3.00	1.67	1.00
MEDLO5013	Computational Methods	2.17	1.33	1.00	1.50	--	--	--	--	--	--	--	--	--	--
MEL501	Thermal Engineering	3.00	1.17	1.00	2.00	1.00	3.00	3.00	3.00	-	-	-	2.00	2.00	-
MEL502	Dynamics of Machinery	2.66	1.50	1.00	--	--	--	--	--	--	--	--	--	--	1.00
MEL503	Finite Element Analysis	3.00	2.00	3.00	3.00	2.00	2.00	1.25	1.67	-	-	1.80	1.50	1.00	1.00
MESBL501	Professional Communication and Ethics –II	--	--	--	--	--	--	--	3.00	1.75	1.75	--	1.00	--	1.00
MEPBL501	Mini Project – 2 A	2.60	2.80	2.50	2.71	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.75	2.00
MEC601	Machine Design	2.67	1.17	1.17	-	-	2.00	1.00	-	-	1.00	-	1.00	1.00	1.00
MEC602	Turbo Machinery	3.00	2.67	1.67	1.20	-	2.75	-	-	-	1.00	-	1.00	1.33	1.25
MEC603	Heating, Ventilation, Air conditioning and Refrigeration	3.00	2.60	1.50	2.60	2.00	2.33	2.00	--	--	1.67	--	1.67	1.60	1.67
MEC604	Automation and Artificial Intelligence	2.67	2.33	2.17	2.20	2.20	2.00	1.25	1.67	-	-	1.80	2.00	3.00	3.00

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MEDLO6021	Press Tool Design	2.50	2.50	2.17	1.33	1.33	-	-	-	-	1.00	2.00	1.00	1.17	1.00
MEDLO6023	Metal Forming Technology	2.00	2.17	1.83	2.33	2.00	2.00	1.33	1.50	-	-	1.80	1.83	1.00	1.00
MEL601	Machine Design	2.50	1.20	1.17	-	-	2.00	1.00	-	-	1.33	-	1.00	1.00	1.00
MEL602	Turbo Machinery	3.00	1.80	1.83	2.25	2.00	2.00	3.00	2.33	--	--	--	2.00	1.67	1.00
MEL603	Heating, Ventilation, Air conditioning and Refrigeration	3.00	1.80	1.83	2.25	2.00	2.00	3.00	2.33	--	--	--	2.00	1.67	1.00
MESBL601	Measurements and Automation	3.00	1.83	1.00	0.00	3.00	3.00	3.00	0.00	0.00	2.00	0.00	1.00	1.33	2.00
MEPBL601	Mini Project – 2 B	2.60	2.80	2.50	2.71	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	1.75	2.00
MEC701	Design of Mechanical System	2.83	2.83	1.33	-	-	-	-	-	-	-	-	-	1.00	1.00
MEC702	Logistics and Supply Chain Management	2.00	2.50	2.00	2.33	2.33	3.00	2.80	3.00	3.00	--	2.00	1.75	1.50	1.00
MEDLO7031	Automotive Power Systems	2.00	1.50	1.83	1.40	-	3.00	2.33	1.67	1.00	1.00	2.50	1.75	1.75	1.00
MEDLO7032	Renewable Energy Sources	2.33	1.83	1.83	2.17	2.00	2.67	2.00	1.60	-	-	-	2.00	1.67	2.33
MEDLO7041	Machinery Diagnostics	1.50	1.50	1.00	2.20	1.67	2.00	1.00	-	-	-	2.00	1.50	1.00	1.60
ILO7011	Product Life Cycle Management	2.00	3.00	3.00	-	3.00	3.00	3.00	3.00	-	-	2.00	3.00	2.00	1.00
ILO7013	Management Information System	2.20	2.00	2.00	1.80	2.20	2.00	1.60	2.00	2.00	2.00	2.00	2.00	3.00	2.00
ILO7015	Operations Research	3.00	3.00	1.00	2.00	2.25	-	-	-	-	-	2.00	3.00	1.00	1.25
ILO7017	Disaster Management and Mitigation Measures	2.00	1.20	1.33	--	--	3.00	2.67	3.00	1.00	3.00	2.25	1.50	1.17	1.00
ILO7018	Energy Audit and Management	1.60	2.00	2.20	2.20	3.00	2.67	3.00	--	3.00	3.00	3.00	3.00	1.25	2.00
ILO7019	Development Engineering														
MEL701	Design of Mechanical System	2.83	2.83	1.67	-	2.00	-	-	-	3.00	2.17	-	-	1.17	1.33
MEL702	Maintenance Engineering	2.33	2.67	1.00	2.67	1.67	2.00	1.00	-	-	-	2.00	1.80	1.60	1.60
MEL703	Industrial Skills	2.00	1.67	--	1.50	2.33	--	--	3.00	3.00	2.17	2.00	1.00	1.00	1.00
MEP701	Major Project I	2.60	2.50	2.17	2.20	3.00	3.00	3.00	3.00	3.00	2.00	2.50	3.00	1.50	1.67
MEC801	Operations Planning and Control	2.00	1.67	1.00	3.00	2.00	--	--	--	--	1.67	2.00	2.00	1.00	1.00
MEDLO8051	Composite Materials	2.33	1.83	1.50	1.00	2.00	--	1.00	--	--	--	--	--	--	1.00
MEDLO8052	Smart Materials	2.83	2.33	2.33	2.80	3.00	--	2.83	2.00	--	1.00	1.00	3.00	1.33	2.00
MEDLO8053	Micro Electro Mechanical Systems (MEMS)	2.00	1.00	1.00	1.00	1.00	--	1.00	--	1.00	1.00	1.00	1.00	1.00	--
MEDLO8061	Product Design and Development	1.83	2.33	2.17	2.17	2.00	2.00	1.83	2.00	2.67	2.00	2.00	2.25	1.75	1.80
MEDLO8063	Total Quality Management	2.83	2.33	2.33	2.80	3.00	--	2.83	2.00	--	1.00	1.00	3.00	1.33	2.00
ILO8021	Project Management	1.17	1.83	2.17	2.33	1.40	0.60	1.83	1.00	1.83	1.60	1.60	0.83	2.00	2.17
ILO8026	Research Methodology	2.83	2.83	2.50	2.50	3.00	2.00	2.00	2.00	2.00	2.33	2.50	3.00	2.50	2.50


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ILO 8028	Digital Business Management	1.75	2.50	1.75	1.75	2.00	3.00	2.00	2.00	3.00	2.00	2.00	1.00	1.00	2.00
ILO8029	Environmental Management	1.50	1.00	--	--	--	--	3.00	3.00	--	3.00	--	3.00	2.00	1.00
MEL801	Product Design and Development	1.83	2.33	2.17	2.17	2.00	2.00	1.83	2.00	2.67	2.00	2.00	2.25	1.75	1.80
MEL802	Laboratory based on IoT	2.00	1.00	1.00	1.33	1.17	--	1.00	2.00	--	1.00	--	1.00	1.00	2.83
MEP801	Major Project II	3.00	2.25	1.60	1.00	3.00	3.00	3.00	3.00	1.00	2.33	2.33	3.00	2.17	1.33
TARGET VLAUE		2.36	1.88	1.59	1.95	1.98	2.39	2.09	2.12	2.21	1.71	2.00	1.83	1.40	1.44