

**Indus University, Ahmedabad**

**Mechanical Engineering Department**

**B. Tech Mechanical Engineering Teaching Scheme 2021-2025 (Batch SEM I to VIII)**

**B. Tech Semester-I**

Subject Details			Teaching Scheme					Evaluation Scheme					
Sr. No.	Subject Type	Subject Code	Subject Name	L	T	P	Credits	Hours	Theory		Practical		Total Marks
									CIE	ESE	CIE	ESE	
1	HS		Technical Communication	1	0	2	2	3	60	40	60	40	200
2	BS		Calculus	3	1	0	4	4	60	40	0	0	100
3	BS		Engineering Physics	3	0	2	4	5	60	40	60	40	200
4	ES	ME0111	Elements of Mechanical Engineering	3	0	2	4	5	60	40	60	40	200
5	ES	ME0112	Workshop Practice	0	0	4	2	4	0	0	60	40	100
6	OE-1	ME0113	Open Elective-1 (Basics Mechanical Engineering)	2	0	2	3	4	60	40	60	40	200
7	VAC		Value Added Course (Indian Knowledge System)	3	0	0	3	3	100	0	0	0	100
<b>Total</b>				<b>15</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>28</b>	<b>400</b>	<b>200</b>	<b>300</b>	<b>200</b>	<b>1100</b>

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B. Tech Semester-II

Subject Details			Teaching Scheme						Evaluation Scheme				
Sr. No.	Subject Type	Subject Code	Subject Name	L	T	P	Credits	Hours	Theory		Practical		Total Marks
									CIE	ESE	CIE	ESE	
1	HS		Business Communication & Presentation Skills	1	0	2	2	3	60	40	60	40	200
2	BS		Differential Equations and Linear Algebra	3	1	0	4	4	60	40	0	0	100
3	ES	ME0211	Engineering Graphics (For all branches-suggested)	1	0	4	3	5	60	40	60	40	200
4	ES		Environmental Science	2	0	0	2	2	60	40	0	0	100
5	BS		Engineering Chemistry	3	0	2	4	5	60	40	60	40	200
6	OE-2	ME0003	Open Elective-2 (Design Thinking)	2	0	2	3	4	60	40	60	40	200
7	OE-3	ME0212	Open Elective-3 (Introduction to Smart Material)	2	0	2	3	4	60	40	60	40	200
8	VAC	IST0001	Value Added Course (Indian Science and Technology)	1	0	0	1	1	100	0	0	0	100
<b>Total</b>				<b>15</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>28</b>	<b>520</b>	<b>280</b>	<b>300</b>	<b>200</b>	<b>1300</b>

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**B. Tech Semester-III**

Sr. No.	Subject Type	Subject Code	Subject Name	Teaching Scheme						Evaluation Scheme			
				L	T	P	Credits	Hours	Theory		Practical		Total
									CIE	ESE	CIE	ESE	
1	HS	SS0301	Human Values and Professional Ethics	2	0	0	2	2	100	00	0	0	100
2	BS		Numerical Methods	3	1	0	4	4	60	40	0	0	100
3	ES	ME0311	Basic Manufacturing Practice	3	0	2	4	5	60	40	60	40	200
4	ES	ME0312	Design Innovation for IP Thinking	2	0	2	3	4	60	40	60	40	200
5	PCC	ME0313	Kinematics of Machines	2	1	0	3	3	60	40	0	0	100
6	PCC	ME0314	Fluid Mechanics	2	0	2	3	4	60	40	60	40	200
7	PCC	ME0315	Strength of Materials	3	0	2	4	5	60	40	60	40	200
8	PCC	ME0316	Material Science and Metallurgy	2	0	2	3	4	60	40	60	40	200
9	INT.	ME0317	Internship-1	0	0	0	2	0	0	0	100	0	100
<b>Total</b>				<b>19</b>	<b>2</b>	<b>10</b>	<b>28</b>	<b>31</b>	<b>400</b>	<b>280</b>	<b>400</b>	<b>200</b>	<b>1400</b>

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**B. Tech Mechanical Engineering Teaching Scheme 2021-2025 (Batch SEM I to VIII)**

**B. Tech Semester-IV**

Subject Details			Teaching Scheme						Evaluation Scheme				
Sr. No.	Subject Type	Subject Code	Subject Name	L	T	P	Credits	Hours	Theory		Practical		Total Marks
									CIE	ESE	CIE	ESE	
1	ES	ME0411	Machining Practice	3	0	2	4	5	60	40	60	40	200
2	HS	ME0412	Management for Engineers	2	0	0	2	2	60	40	0	0	100
3	PCC	ME0413	Machine Design and Industrial Drafting	2	0	2	3	4	60	40	60	40	200
4	PCC	ME0414	Engineering Thermodynamics	3	0	0	3	3	60	40	0	0	100
5	PCC	ME0415	Fluid Power Engineering	2	0	2	3	4	60	40	60	40	200
6	PE-1	ME0416	Alternate Energy Sources										
		ME0417	Product Design & Development	3	0	0	3	3	60	40	0	0	100
		ME0418	Non-Conventional Machining										
7	OE-4	ME0419	Open Elective-4 (Roadmap for Patent Creation)										
	OE-5	ME0420	Open Elective-5* (Energy Management)	3	0	0	3	3	60	40	0	0	100
<b>Total</b>				<b>18</b>	<b>0</b>	<b>6</b>	<b>21</b>	<b>24</b>	<b>420</b>	<b>280</b>	<b>180</b>	<b>120</b>	<b>1000</b>

• \* Optional Open Elective (i.e. Choose either OE-4 or OE-5 : any one subject only) for Mech. students

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B. Tech Semester-V

Sr. No.	Subject Type	Subject Code	Subject Name	Teaching Scheme						Evaluation Scheme				
				L	T	P	Credits	Hours	Theory		Practical		Total Marks	
									CIE	ESE	CIE	ESE		
1	ES	ME0511	Entrepreneurship Development	2	0	0	2	2	2	60	40	0	0	100
2	PCC	ME0512	Metrology and Instrumentation	2	0	2	3	4	3	60	40	60	40	200
3	PCC	ME0513	Production Technology	2	0	2	3	4	3	60	40	60	40	200
4	PCC	ME0514	Internal Combustion Engines	3	0	2	4	5	4	60	40	60	40	200
5	PCC	ME0515	Design of Machine Elements	3	0	2	4	5	4	60	40	60	40	200
6	PE-2	ME0516	Total Quality Management											
		ME0517	Power Plant Engineering	3	0	0	3	3	3	60	40	0	0	100
		ME0518	Design for X (DFX)											
7	OE-6	ME0519	Open Elective-6 (Introduction to Robotics)											
		ME0520	Open Elective-7* (Non-Conventional Energy Sources)	2	0	2	3	4	3	60	40	60	40	200
8	INT.	ME0521	Internship-II	0	0	0	2	0	2	0	0	100	0	100
<b>Total</b>				<b>17</b>	<b>0</b>	<b>10</b>	<b>24</b>	<b>27</b>	<b>24</b>	<b>420</b>	<b>280</b>	<b>400</b>	<b>200</b>	<b>1300</b>

\* Optional Open Elective (i.e. Choose either OE-6 or OE-7: any one subject only for Mech. Students)

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**B. Tech Mechanical Engineering Teaching Scheme 2021-2025 (Batch SEM I to VIII)**

**B. Tech Semester-VI**

Subject Details			Teaching Scheme						Evaluation Scheme				
			L	T	P	Credits	Hours	CIE	ESE	CIE	ESE	Practical	Total
Sr. No.	Subject Type	Subject Code	Subject Name	L	T	P	Credits	Hours	CIE	ESE	CIE	ESE	Marks
1	PCC	ME0621	Heat and Mass Transfer	2	1	2	4	5	60	40	60	40	200
2	PCC	ME0622	Dynamics of Machines	2	1	2	4	5	60	40	60	40	200
3	PCC	ME0623	Machine Design - I	2	0	2	3	4	60	40	60	40	200
4	PCC	ME0624	Robotics	2	0	0	2	2	60	40	0	0	100
5	PE-3	ME0625	Mechanical Vibrations										
		ME0626	Automobile Systems	2	0	2	3	4	60	40	60	40	200
		ME0627	Industrial Engineering										
6	PE-4	ME0628	Computer Aided Design and Analysis										
		ME0629	Gas Dynamics	2	0	2	3	4	60	40	60	40	200
		ME0630	Industrial Safety, Laws and Maintenance										
7	OE-8	ME0631	Open Elective-8* (Rapid Prototyping)	3	0	0	3*	3	60	60	40	0	100
8	HS	ME0632	Operations Research	3	1	0	4	4	60	60	40	0	100
<b>Total</b>				<b>18</b>	<b>3</b>	<b>10</b>	<b>23+3*</b>	<b>28</b>	<b>480</b>	<b>320</b>	<b>300</b>	<b>200</b>	<b>1300</b>

\* Optional Open Elective (OE) (i.e. from total nine-OE select any six OE only in four years of B. Tech. programme)

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**B. Tech Mechanical Engineering Teaching Scheme 2021-2025 (Batch SEM I to VIII)**  
**B. Tech Semester-VII**

Sr. No.	Subject Details					Teaching Scheme						Evaluation Scheme			
	Subject Type	Subject Code	Subject Name	L	T	P	Credits	Hours	Theory		Practical		Total		
									CIE	ESE	CIE	ESE			
1	PCC	ME0721	Machine Design - II	2	0	2	3	4	60	40	60	40	200		
2	PCC	ME0722	Computer Integrated Manufacturing	2	0	2	3	4	60	40	60	40	200		
3	PE-5	ME0723	Finite Element Methods	2	0	2	3	4	60	40	60	40	200		
		ME0724	Steam & Gas Turbines												
		ME0725	IoT for Smart Manufacturing												
4	PE-6	ME0726	Artificial Intelligence	2	0	2	3	4	60	40	60	40	200		
		ME0727	Refrigeration & Air Conditioning												
		ME0728	Theory of Metal Forming Technology												
5	OE-9	ME0729	Open Elective-9 (Introduction to Research)	3	0	0	3	3	60	40	0	0	100		
6	PROJ.	ME0730	Fundamentals of Research	0	0	4	2	4	0	0	60	40	100		
7	INT.	ME0731	Internship-III	0	0	0	2	0	0	0	100	0	100		
<b>Total</b>				<b>11</b>	<b>0</b>	<b>12</b>	<b>19</b>	<b>23</b>	<b>300</b>	<b>200</b>	<b>400</b>	<b>200</b>	<b>1100</b>		

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**B. Tech Mechanical Engineering Teaching Scheme 2021-2025 (Batch SEM I to VIII)**

**B. Tech Semester-VIII**

Subject Details			Teaching Scheme					Evaluation Scheme				
Sr. No.	Subject Type	Subject Code	Subject Name	L	T	P	Credits	Hours	CIE	ESE	Practical	Total Marks
1	<b>PROJECT</b>	ME0821	<b>Project</b>	0	0	24	12	24	0	0	40	100