



**MIT ART, DESIGN AND TECHNOLOGY  
UNIVERSITY, PUNE**

**MIT SCHOOL OF ENGINEERING, PUNE**

**STRUCTURE**

FOR

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**M. Tech  
Mechanical Engineering  
(Design)**

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**UNDER FACULTY OF TECHNOLOGY**

**(w.e.f. 2019-2020)**

**M. Tech. (Mechanical Engineering)**  
**(2019 Regulations) Credits to be earned: 74**

**Academic Year 2019-20**

**1. Design Engineering**

**SEMESTER-I**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
19MTMT106	Advanced Mathematics and Numerical Techniques	3	1	0	4	40	60	100
19MTMD102	Advanced Stress Analysis	3	0	0	3	40	60	100
19MTMD103	Advanced Mechanical Vibration and Acoustics	3	0	0	3	40	60	100
19MTMD104	Research Methodology	3	0	0	3	40	60	100
19MTMD---	Elective-I:	3	0	0	3	40	60	100
19MTMD---	Elective-II:	3	0	0	3	40	60	100
19MTMD111	Laboratory Practice - I	0	0	6	3	40	60	100
<b>Total</b>		<b>18</b>	<b>1</b>	<b>6</b>	<b>22</b>	<b>280</b>	<b>420</b>	<b>700</b>

**SEMESTER-II**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
19 MTMD 201	Analysis and Synthesis of Mechanisms	3	0	0	3	40	60	100
19 MTMD 202	Advanced Machine Design	3	0	0	3	40	60	100
19 MTMD 203	Finite Element Analysis	3	0	0	3	40	60	100
19 MTMD 204	Business Economics and Financial Analysis	2	0	0	2	40	60	100
19 MTMD ---	Elective-III	3	0	0	3	40	60	100
19 MTMD---	Elective-IV	3	0	0	3	40	60	100
19MTMD 221	Technical Seminar-I	0	0	4	2	40	60	100
19 MTMD 211	Laboratory-II	0	0	6	3	40	60	100
<b>Total</b>		<b>18</b>	<b>00</b>	<b>10</b>	<b>22</b>	<b>380</b>	<b>420</b>	<b>800</b>

**SEMESTER-III**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
19 MTMD 321	Technical Seminar-II	0	0	4	2	40	60	100
19 MTMD 322	Project Phase-I	0	0	24	12	40	60	100
<b>Total</b>		<b>0</b>	<b>0</b>	<b>28</b>	<b>14</b>	<b>80</b>	<b>120</b>	<b>200</b>

**SEMESTER-IV**

Course Code	Course Name	Hours/week				Maximum Marks		
		Lecture	Tutorial	Practical	Credits	CA	FE	Total
19 MTMD 421	Project Phase-II	0	0	32	16	100	200	300
<b>Total</b>		<b>0</b>	<b>0</b>	<b>32</b>	<b>16</b>	<b>100</b>	<b>200</b>	<b>300</b>

CA = Continuous Assessment, FE= Final Examination,

\*\*Final Lab exam will be conducted with viva-voce of the respective practical (50 exam +10 viva = 60)

**List of Electives**

<b>Elective-I</b>	
19MTMD131	Material Handling Equipment Design
19MTMD132	Mechanics of Composites and Smart Materials
19MTMD133	Process Equipment Design
19MTMD134	Nanomaterials and Nanotechnology
19MTMD135	Instrumentation and Control System

<b>Elective-II</b>	
<b>19MTMD136</b>	<b>Tribology</b>
19MTMD137	Theory of plates and Shells
19MTMD138	Rotor Dynamics
19MTMD139	Experimental Stress Analysis
19MTMD140	Optimization Technique in Design

<b>Elective-III</b>	
19MTMD231	Mechanical System Design
19MTMD232	Micro Electromechanical system

19MTMD233	Vehicle Dynamics
19MTMD234	Design of Automotive System
19MTMD235	Fracture Mechanics

**Elective-IV**

19MTMD236	Product Development and Reverse Engineering
19MTMD237	Industrial Design
19MTMD238	Financial Management
19MTMD239	Open Elective
19MTMD240	Machine Tool Design