

**Sardar Patel College of Engineering Andheri (West), Mumbai 400 058**  
Year: 2017-18

**M. Tech.(Mechanical) with Thermal Engineering Courses (Semester - I)**

Sr. No.	Course	Code	Course Plan per Week (Hrs.)			Credits	Evaluation (Points)							
			L	Lab	T		T1	T2	End Semester	Duration (Hrs)	End Semester Weightage (%)	Term Work	Seminar / Lab Work	Total
1	Transport Phenomena	MTTH101	3	--	2	4	20	20	100	3	60	25	--	125
2	Energy Resources, conversion and management	MTTH102	3	--	2	4	20	20	100	3	60	25	--	125
3	Design and Analysis of Thermal Systems	MTTH103	3	--	2	4	20	20	100	3	60	25	--	125
4	Elective I	MTTH111 To MTTH113	3	--	2	4	20	20	100	3	60	25	--	125
5	Elective II	MTTH114 To MTTH116	3	--	2	4	20	20	100	3	60	25	--	125
6	Seminar-I / Mini Project-I#	MTTH199 MTTH189#	--	--	4	2	--	--	--	--	--	50*	75*	125
7	Laboratory-I Thermal Laboratory	MTTH104		2	--	1	--	--	--	--	--	25	25	50
<b>TOTAL</b>			<b>15</b>	<b>2</b>	<b>14</b>	<b>23</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>800</b>

NOTE: Test 1 will be conducted on module 1, 2 and Test 2 will be conducted on module 3,4 for theory courses which will be of one hour duration.

\* Examined by mentor/supervisor and at least one internal examiner

For passing, Student must secure minimum 50% points in each Course with all heads of passing taken together and minimum 50% points in the end semester examination.

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**Elective-I can be chosen from the Courses given below:**

<b>Sr. No.</b>	<b>Code</b>	<b>Elective Courses</b>
<b>Elective-I</b>	MTTH111	Refrigeration System Design
	MTTH112	Advanced Combustion Techniques
	MTTH113	Fuel Cells

**Elective-II can be chosen from the Courses given below:**

<b>Sr. No.</b>	<b>Code</b>	<b>Elective Courses</b>
<b>Elective-II</b>	MTTH 114	Energy Storage Systems
	MTTH115	Hydraulic and Pneumatic Control System
	MTTH116	Fundamentals of Gas Dynamics

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**M. Tech.(Mechanical) with Thermal Engineering Courses (Semester - II)**

Sr. No.	Course	Code	Course Plan per Week (Hrs.)			Credits	Evaluation (Points)							
			L	Lab	T		T1	T2	End Semester	Duration (Hrs)	End Semester Weightage (%)	Term Work	Seminar / Lab Work	Total
1	Design of Heat Exchangers	MTTH201	3	--	2	4	20	20	100	3	60	25	--	125
2	Experimental Analysis and Instrumentation	MTTH202	3	--	2	4	20	20	100	3	60	25	--	125
3	Computational Fluid Dynamics	MTTH203	3	--	--	3	20	20	100	3	60	--	--	100
4	Elective III	MTTH211 To MTTH213	3	--	2	4	20	20	100	3	60	25	--	125
5	Elective IV	MTTH214 To MTTH216	3	--	2	4	20	20	100	3	60	25	--	125
6	Seminar-II / Mini Project-II <sup>#</sup>	MTTH299 MTTH289 <sup>#</sup>	--	--	4	2	--	--	--	--	--	50*	75*	125
7	Laboratory – IV Computational Fluid Dynamics	MTTH204		2		1	--	--	--	--	--	25	50	75
<b>TOTAL</b>			<b>15</b>	<b>2</b>	<b>12</b>	<b>22</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>800</b>

NOTE: Test 1 will be conducted on module 1, 2 and Test 2 will be conducted on module 3, 4 for theory courses which will be of one hour duration.

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**Elective-III can be chosen from the Courses given below:**

<b>Sr. No.</b>	<b>Code</b>	<b>Elective Courses</b>
<b>Elective-III</b>	MTTH211	Air-Conditioning System Design
	MTTH212	Advanced Turbo-machinery
	MTTH213	Research Methodology

**Elective-IV can be chosen from the Courses given below:**

<b>Sr. No.</b>	<b>Code</b>	<b>Elective Courses</b>
<b>Elective-IV</b>	MTTH 214	Piping Engineering
	MTTH215	Nuclear Engineering
	MTTH216	Intellectual Property Rights

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**M. Tech.(Mechanical) with Thermal Engineering Courses (Semester - III)**

Sr. No.	Course	Code	Course Plan per Week (Hrs)			Credits	Evaluation (Points)		
			Lecture	Lab	Tutorial		Report	Seminar	Total
1	Seminar on Literature Review	MTTH396	--	--	3 <sup>#</sup> +11 <sup>\$</sup>	7	50*	50*	100
2	Dissertation Stage-I Seminar	MTTH397	--	--	2 <sup>#</sup> +14 <sup>\$</sup>	8	50*	50*	100
<b>TOTAL</b>			--	--	<b>5<sup>#</sup>+25<sup>\$</sup></b>	<b>15</b>	--	--	<b>200</b>

\* Examined by supervisor and at least one internal examiner. <sup>#</sup>Contact hours with mentor/supervisor/guide, <sup>\$</sup>Self learning hours

For passing, Student must secure minimum 50% points in each Course with all headof passing taken together and minimum 50% points in the end semester examination.

**Credit system for M. Tech.(Mechanical) with Thermal Engineering Courses (Semester - IV)**

Sr. No.	Course	Code	Course Plan per Week (Hrs)			Credits	Evaluation (Points)		
			Lecture	Lab	Tutorial		Report	Seminar	Total
1	Dissertation Stage-II Seminar (Pre-Synopsis)	MTTH498	--	--	4 <sup>#</sup> +12 <sup>\$</sup>	8	50*	50*	100
2	Dissertation & Viva-Voce	MTTH499	--	--	6 <sup>#</sup> +18 <sup>\$</sup>	12	100**	50**	150
<b>TOTAL</b>			--	--	<b>10<sup>#</sup>+30<sup>\$</sup></b>	<b>20</b>	--	---	<b>250</b>

\* Examined by supervisor and at least one internal examiner

\*\* Examined by supervisor and one approved external examiner. <sup>#</sup>Contact hours with mentor/supervisor/guide, <sup>\$</sup>Self learning hours

For passing, Student must secure minimum 50% points in each Course with all headof passing taken together and minimum 50% points in the end semester examination.