

SANJIVANI RURAL EDUCATION SOCIETY'S
SANJIVANI COLLEGE OF ENGINEERING
KOPARGAON

(An Autonomous Institute Affiliated to SPPU Pune)



DEPARTMENT OF MECHANICAL ENGINEERING
COURSE STRUCTURE - 2021 PATTERN
SECOND YEAR to FINAL YEAR B. TECH.

LIST OF ABBREVIATIONS			
Abbreviation	Full Form	Abbreviation	Full Form
ES	Engineering Science	HSMC	Humanity Science
PCC	Professional Core	CA	Continuous Assessment
PE	Professional Elective	OR	End Semester Oral Examination
OE	Open Elective	PR	End Semester Practical Examination
ISE	In-Semester Evaluation	TW	Continuous Term work Evaluation
ESE	End-Semester Evaluation	BSC	Basic Science Course
PRJ	Project	MC	Mandatory Course

COURSE STRUCTURE- 2021 PATTERN
SECOND YEAR B. TECH: MECHANICAL ENGINEERING

SEMESTER-III 2021

Cat.	Code	Course Title	Teaching Scheme			Credits	Evaluation Scheme-Marks					
			L (hrs)	T (hrs)	P (hrs)		Theory		OR	PR	T W	Total
							ESE	CIA				
PCC	ME201	Basic Thermodynamics	3	-	-	3	60	40	-	-	-	100
BSC	ME202	Engineering Mathematics-III	3	1	-	4	60	40	-	-	-	100
PCC	ME203	Strength of Materials	3	-	-	3	60	40	-	-	-	100
PCC	ME204	Manufacturing Process	3	-	-	3	60	40	-	-	-	100
HSMC	HS205	Universal Human Values & Ethics (UHV)	3	-	-	3	60	40	-	-	-	100
PCC	ME206	Lab-I (Machine Drawing & GM)	1	-	4	3	-	-	-	50	-	50
PCC	ME207	Lab-II (Open Source)	-	-	2	1	-	-	-	-	50	50
PCC	ME208	Lab-III (Strength of Materials)	-	-	2	1	-	-	50	-	-	50
PCC	ME209	Lab-IV (MP)	-	-	2	1	-	-	-	50	-	50
MLC	MC210	Mandatory Course-III	1	-	-	No	-	-	-	-	-	-
Total			17	1	10	22	300	200	50	100	50	700

SEMESTER-IV

Cat.	Code	Course Title	Teaching Scheme			Credits	Evaluation Scheme-Marks					
			L (hrs)	T (hrs)	P (hrs)		Theory		OR	PR	TW	Total
							ESE	CIA				
PCC	ME211	Applied Thermodynamics	3	-	-	3	60	40	-	-	-	100
PCC	ME212	Theory of Machines	4	-	-	4	60	40	-	-	-	100
PCC	ME213	Fluid Mechanics	3	-	-	3	60	40	-	-	-	100
PCC	ME214	Numerical Methods	3	-	-	3	60	40	-	-	-	100
PCC	ME215	Materials Science & Metallurgy	3	-	-	3	60	40	-	-	-	100
PCC	ME216	Lab-I (ATD+BT+FM)	-	-	2	1	-	-	-	50	-	50
PCC	ME217	Lab-II (NM)	-	-	2	1	-	-	-	25	-	25
PCC	ME218	Lab-III (MSM)	-	-	2	1	-	-	25	-	-	25
PCC	ME219	Lab-IV (TOM)	-	-	2	1	-	-	25	-	-	25
PRJ	ME220	Mini project/Project Based Learning	-	-	2	1	-	-	25	-	-	25
HSMC	HS221	Corporate Readiness	-	-	2	1	-	-	-	-	50	50
MLC	MC222	Mandatory Course-IV	1	-	-	No	-	-	-	-	-	-
Total			18	-	10	22	300	200	75	75	50	700

MC210	Mandatory Course-III	Constitution of India – Basic features and fundamental principles
MC221	Mandatory Course-IV	

Note: For evaluation of Oral/Practical/TW, students should submit the journal regularly. Non submission of journal will be treated as absentees in concern head.

T.Y.B. Tech SEM V 2021

Cat	Code	Course Title	Hrs./Week			Credits	Marks					
			L	T	P		Theory		OR	PR	TW	Total
							ESE	CIA				
PCC	ME301	Heat Transfer	3	-	-	3	60	40	-	-	-	100
PCC	ME302	Machine Design-I	3	-	-	3	60	40	-	-	-	100
PCC	ME303	Metrology & Quality Control	3	-	-	3	60	40	-	-	-	100
PCC	ME304	Industrial Automation (METX+HP)	3	-	-	3	60	40	-	-	-	100
PEC	ME305	Professional Elective-I	3	-	-	3	60	40	-	-	-	100
PCC	ME306	Lab-I (HT)	-	-	2	1	-	-	-	50	-	50
PCC	ME307	Lab-II(MD-I)	-	-	2	1	-	-	-	-	25	25
PCC	ME308	Lab-III (MQC)	-	-	2	1	-	-	25	-	-	25
PCC	ME309	Lab-IV (METX+HP)	-	-	2	1	-	-	-	50	-	50
PRJ	ME310	Seminar/Communication Skills	-	-	4	2	-	-	25	-	-	25
HSMC	HS311	Corporate Readiness	-	-	2	1	-	-	-	-	25	25
MLC	ME312	Mandatory Learning Course-V	1	-	-	NC	-	-	-	-	-	-
Total			16		14	22	240	200	50	100	50	700

T.Y.B. Tech SEM VI

Cat	Code	Course Title	Hrs./Week			Credits	Marks					
			L	T	P		Theory		OR	PR	TW	Total
							ESE	CIA				
PCC	ME313	Refrigeration and Air Conditioning	3	-	-	3	60	40	-	-	-	100
PCC	ME314	Machine Design –II	4	-	-	4	60	40	-	-	-	100
PCC	ME315	Production Technology	3	-	-	3	60	40	-	-	-	100
PEC	ME316	Professional Elective-II	3	-	-	3	60	40	-	-	-	100
PRJ	ME317	IPR & EDP	2	-	-	2	30	20	-	-	-	50
PCC	ME318	Lab-I (RAC)	-	-	2	1	-	-	-	25	-	25
PCC	ME319	Lab-II (Machine Design –II)	-	-	2	1	-	-	50	-	-	50
PCC	ME320	Lab-III (PT)	-	-	2	1	-	-	-	25	-	25
PRJ	ME321	Project Based Learning	-	-	2	1	-	-	-	-	25	25
HSMC	HS322	Creational Activity Lab	-	-	2	1	-	-	-	-	25	25
MLC	ME323	Mandatory Learning Course-VI	1	-	-	NC	-	-	-	-	-	-
Total			16		10	20	270	180	50	50	75	600

Professional Elective – I		Professional Elective – II	
ME305A		ME315A	
ME305B		ME315B	
ME306C		ME315C	

ME311	Mandatory Learning Course	Proficiency Skills (Design Thinking)
ME322	Mandatory Learning Course	Proficiency Skills (Programing Skills)

Final. B.Tech SEM VII 2021

Cat	Code	Course Title	Hrs./Week			Credits	Marks					
			L	T	P		Theory		OR	PR	TW	Total
							ESE	CIA				
PCC	ME401	Finite Element Analysis	3	-	-	3	60	40	-	-	-	100
PCC	ME402	Dynamics of Machinery	3	-	-	3	60	40	-	-	-	100
PCC	ME403	Energy Engineering (Steam/Gas/Hydraulic Turbine)	3	-	-	3	60	40	-	-	-	100
PEC	ME404	Professional Elective-III	3	-	-	3	60	40	-	-	-	100
PEC	ME405	Professional Elective-IV	3	-	-	3	60	40	-	-	-	100
PCC	ME406	Lab-I (Finite Element Analysis)	-	-	2	1	-	-	-	25	-	25
PCC	ME407	Lab-II (Dynamics of Machinery)	-	-	2	1	-	-	-	25	-	25
PCC	ME408	Lab-III (Energy Engineering (Steam/Gas/Hydraulic Turbine))	-	-	2	1	-	-	25	-	-	25
PRJ	ME409	Project Stage-I	-	-	4	2	-	-	25	-	-	25
MLC	ME410	Mandatory Learning Course-VII	(1)	-	-	Non-Credit	-	-	-	-	-	-
Total			16	-	10	20	300	200	50	50	-	600

Final. B.Tech SEM VIII

Cat	Code	Course Title	Hrs./Week			Credits	Marks					
			L	T	P		Theory		OR	PR	TW	Total
							ESE	CIA				
OE	ME411	Open Elective-I	3	-	-	3	60	40	-	-	-	100
OE	ME412	Open Elective-II	3	-	-	3	60	40	-	-	-	100
OE	ME413	Open ELECTIVE-III [Online through MOOCs]	2	-	-	2	-	100	-	-	-	100
PCC	ME415	Research Project OR Industrial Internship OR Entrepreneurship Development Project	-	-	12	6	-	-	50	-	50	100
PRJ	ME417	Project Stage-II	-	-	8	4	-	50	50	-	50	150
MLC	ME418	Mandatory Learning Course-VIII	(1)	-	-	Non-Credit	-	-	-	-	-	-
Total			9	-	20	18	120	230	100	-	100	550

Professional Elective – III		Professional Elective – IV	
ME404A		ME405A	
ME404B		ME405B	
ME404C		ME405C	

Open Electives-I		Open Electives-II		Open Electives-III	
ME411A	IoT (Internet of Things)	ME412A		ME413A	
ME411B	Artificial Intelligence	ME412B	Artificial Neural Networks and Fuzzy Systems	ME413B	
ME411C	Digital Marketing	ME412C	Cyber Law and Ethics		
ME411D		ME412D	Speech and Image Processing		
		ME412E	Fire Safety (Health Safety and Environment)		
		ME412F	Quality Management System		

ME410	Mandatory Learning Course	
ME418	Mandatory Learning Course	

Credit Structure

Semester	Teaching Scheme			Credits (L+T+P)	Examination Scheme					Grand Total
	L	T	P		Theory		Practical			
					ESE	CIA	OR	PR	TW	
I	13	1	10	19	240	160	-	-	175	575
II	16	1	12	21	240	160	-	-	225	625
III	17	1	10	22	300	200	100	50	50	700
IV	18	-	10	22	300	200	50	100	50	700
V	16	-	14	22	240	200	50	100	50	700
VI	18	-	8	20	270	180	25	50	75	600
VII	16	-	10	20	300	200	50	50	-	600
VIII	9	-	20	18	120	230	100	-	100	550
Grand Total	123	3	92	164	2010	1530	375	350	725	5050

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