

Scheme 2023-2027**Department of Mechanical Engineering****RAFFLES UNIVERSITY, NEEMRANA****School of Engineering & Technology (SOE&T)****Department of Mechanical Engineering**

S.No.	Category of Course	Abbreviation Used	Credits
1.	Humanities and Social Sciences including Management Courses	HSMC	13
2.	Basic Sciences Courses	BSC	26
3.	Engineering Sciences Courses including workshop, Drawing, Basics of Electrical/ Mechanical/ Computer etc.	ESC	26
4.	Professional Core Courses	PCC	98
5.	Professional Elective Courses relevant to chosen specialization/ branch	PEC	13
6.	Open Subjects- Electives from other technical and /or emerging subjects	OEC	12
7.	Project Work, Seminar and internship in industry or elsewhere	PROJ	16
8.	Mandatory Courses (Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Traditional Knowledge)	MC	Non Credit
Total			204

	Subject	Preferred Semester	Credit
PCC-ME 201	Strength of material	III	3
PCC-ME 202	Thermodynamics	III	3
PCC-ME 203	Material science & Engineering	III	3
PCC-ME 204	Manufacturing Processes-I	III	3
PCC-ME 205	Machine Drawing &Auto CAD	III	2

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	Lab		
PCC-ME 206	Thermodynamics Lab	III	1
PCC-ME 207	Manufacturing Processes-I Lab	III	1
PCC-ME 208	Strength of Materials Lab	III	1
PCC-ME 209	Material Science & Engineering Lab	III	1
PCC-ME 210	Kinematics of Machines	IV	3
PCC-ME 211	Fluid Mechanics	IV	3
PCC-ME 212	Manufacturing Processes-II	IV	3
PCC-ME 213	I. C. Engines	IV	3
PCC-ME 214	Industrial Engineering	IV	3
PCC-ME 215	Design of Machine Elements	IV	3
PCC-ME 216	Kinematics of Machines Lab	IV	1
PCC-ME 217	Fluid Mechanics Lab	IV	1
PCC-ME 218	Manufacturing Processes-II Lab	IV	1
PCC-ME 219	I. C. Engines Lab	IV	1
PCC-ME 301	Dynamics of Machines	V	3
PCC-ME 302	Hydraulic Machines	V	3
PCC-ME 303	Heat Transfer	V	3
PCC-ME 304	Design of Transmission Systems	V	3
PCC-ME 305	Measurement & Metrology	V	3
PCC-ME 306	Hydraulic Machines Lab	V	1
PCC-ME 307	Dynamics of Machines Lab	V	1
PCC-ME 308	Heat Transfer Lab	V	1
PCC-ME 309	Measurement & Metrology Lab	V	1
PCC-ME 310	Automobile Engineering	VI	3

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Code No.	Subject	Preferred semester	Credit
PEC-ME 301	Applied Thermodynamics	VI	3
PEC-ME 302	Tribology	VI	3
PEC-ME 303	Numerical Methods & Analysis	VI	3
PEC-ME 315	Robotics Lab	VI	1
PEC-ME 401	Welding Technology	VII	3
PEC-ME 402	Advanced strength of material	VII	3
PEC-ME 403	Production Planning & Control	VII	3
PEC-ME 404	Computer Aided Lab	VIII	1
PEC-ME 405	Rapid Prototyping	VIII	3
PEC-ME 406	Foundry Technology	VIII	3
PEC-ME 407	Gas Turbine and Gas Power Plant	VIII	3
PEC-ME 408	Aerodynamics & Their Analysis	VIII	3
PEC-ME 409	Advance Manufacturing Processes	VIII	3

Code No.	Subject	Preferred semester	Credit
OEC-301	Instrumentation & Control	VI	3
OEC-302	Total Quality Management	VI	3
OEC-303	Product Design & Development	VI	3
OEC-304	Cyber Laws And Security	VI	3
OEC-305	Soft Computing	VI	3
OEC-306	Special Electrical Machines	VI	3
OEC-401	Non-Conventional Energy sources	VII	3
OEC-402	Management Information System	VII	3
OEC-403	Soft Skills for Engineers	VII	3
OEC-404	Utilization of electrical power & Traction	VIII	3
OEC-405	Optimization techniques in Engineering	VIII	3
OEC-406	Microprocessor & Microcontroller	VIII	3

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OEC-407	Reliability and maintenance Engineering	VIII	3
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Code No.	Subject	Preferred semester	Credit
BSC-101	Engineering Physics-I	I	3
BSC-102	Engineering Mathematics-I	I	3
BSC-103	Physics-I Lab	I	1
BSC-104	Engineering Physics-II	II	3
BSC-105	Engineering Mathematics-II	II	3
BSC-106	Engineering Chemistry	II	3
BSC-107	Physics-II Lab	II	1
BSC-108	Engineering Chemistry Lab	II	1

Code No.	Subject	Preferred semester	Credit
ESC-101	Computer Fundamental	I	3
ESC-102	Basics of Mechanical Engineering	I	3
ESC-103	Workshop Practice Lab	I	2
ESC-104	Computer Fundamental Lab	I	1
ESC-105	Programming with C	II	3
ESC-106	Basics of Electrical & Electronics Engineering	II	4
ESC-107	Engineering Mechanics	II	4
ESC-108	Basics of Electrical & Electronics Engineering Lab	II	1
ESC-109	Engineering Graphics & Design Lab	II	2
ESC-110	C Programming Lab	II	1

Code No.	Subject	Preferred semester	Credit
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HSMC-101	Communicative English	I	3
HSMC-102	Language Lab	I	1
HSMC-301	Principles of Management	V	3
HSMC-401	Engineering Economics	VII	3
HSMC-402	Entrepreneurship Development	VIII	3

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3rd Semester

S. No.	Category	Code	Course Title	Hours Per Week			Credits	Marks		
				L	T	P		CIE	ESE	Total
1	BSC	BSC- 201	Mathematics III (Minor (Core))	3	1	THEORY	4	40	60	100
2	PCC	PCC- ME- 201	Strength of Materials (Major (Core))	3	0		3	40	60	100
3	PCC	PCC -ME-202	Thermodynamics (Major (Core))	3	0		3	40	60	100
4	PCC	PCC- ME- 203	Material Science and Engineering (Major (Core))	3	0		3	40	60	100
5	PCC	PCC- ME-204	Manufacturing Process I (Major (Core))	3	0		3	40	60	100
6	MC	MC-III	Introduction of Indian Law (Multidisciplinary)	2	0		2	40	60	100
7	PCC	PCC- ME-205	Machine Drawing and Auto Cad Lab (Major (Core))	PRACTICAL		2	1	60	40	100
8	PCC	PCC- ME-206	Thermodynamics Lab (Minor (Core))			2	1	60	40	100
9	PCC	PCC- ME-207	Manufacturing Process I Lab (Major (Core))			2	1	60	40	100
10	PCC	PCC- ME-208	Strength of Materials Lab (Major (Core))			2	1	60	40	100
TOTAL				17	01	08	22	480	520	1000

***CIE (Continues Internal Evaluation)**

***ESE (End Semester Exam)**

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4th Semester

S. No.	Category	Code	Course Title	Hours Per Week			Credits	Marks		
				L	T	P		CIE	ESE	Total
1	PCC	PCC-ME-210	Kinematics of Machine (Major (Core))	3	0	THEORY	3	40	60	100
2	PCC	PCC-ME-211	Fluid Mechanics (Major (Core))	3	0		3	40	60	100
3	PCC	PCC-ME-212	Manufacturing Process II (Major (Core))	3	0		3	40	60	100
4	PCC	PCC-ME-213	Heat Transfer (Major (Core))	3	0		3	40	60	100
5	PCC	PCC-ME-214	Industrial Engineering (Major (Core))	3	0		3	40	60	100
6	PCC	PCC-ME-215	Design of Machine Element (Major (Core))	3	0		3	40	60	100
7	PCC	PCC-ME-216	Kinematics of Machine Lab (Major (Core))	PRACTICAL		2	1	40	60	100
8	PCC	PCC-ME-217	Fluid Mechanics Lab (Major (Core))			2	1	60	40	100
9	PCC	PCC-ME-218	Manufacturing Process-II Lab (Major (Core))			2	1	60	40	100
10	PCC	PCC-ME-219	Heat Transfer Lab (Major (Core))			2	1	60	40	100
TOTAL				18	00	08	22	460	540	1000

***CIE (Continues Internal Evaluation)**

***ESE (End Semester Exam)**

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5th Semester

S. No.	Category	Code	Course Title	Hours Per Week			Credits	Marks			
				L	T	P		CIE	ESE	Total	
1	PCC	PCC-ME-301	Dynamics of Machines (Major (Core))	3	0	THEORY	3	40	60	100	
2	PCC	PCC-ME-302	Hydraulic Machines (Major (Core))	3	0		3	40	60	100	
3	HSMC	HSMC-301	Principle of Management (Value Added Course)	3	0		3	40	60	100	
4	PCC	PCC-ME-303	IC Engines (Major (Core))	3	0		3	40	60	100	
5	PCC	PCC-ME-304	Design of Transmission Systems (Major (Core))	2	0		2	40	60	100	
6	PCC	PCC-ME-305	Measurement and Metrology (Major (Core))	2	0		2	40	60	100	
7	PCC	PCC-ME-306	Dynamics of Machines Lab (Major (Core))	PRACTICAL			2	1	60	40	100
8	PCC	PCC-ME-307	Hydraulic Machines Lab (Major (Core))				2	1	60	40	100
9	PCC	PCC-ME-308	IC Engine Lab (Major (Core))				2	1	60	40	100
10	PROJ	PROJ-ME-301	Summer Internship				2	1	60	40	100
TOTAL				16	03	08	20	480	520	1000	

*CIE (Continues Internal Evaluation)

*ESE (End Semester Exam)

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6th Semester

S. No.	Category	Code	Course Title	Hours Per Week			Credits	Marks			
				L	T	P		CIE	ESE	Total	
1	PCC	PCC-ME-310	Automobile Engineering (Major (Core))	3	0	THEORY	3	40	60	100	
2	PCC	PCC-ME-311	Mechanical Vibration (Major (Core))	3	0		3	40	60	100	
3	PCC	PCC-ME-312	Operation Research (Major (Core))	3	1		4	40	60	100	
4	PEC	PEC-ME-301	Professional elective (Minor (Core))	3	0		3	40	60	100	
5	OEC	OEC 301-303	Open Elective I (Minor (Core))	3	0		3	40	60	100	
6	OEC	OEC-304-306	Open Elective II (Skill Enhancement Course)	3	0		3	40	60	100	
7	PCC	PCC-ME 313	Automobile Engineering Lab (Major (Core))	PRACTICAL			2	1	60	40	100
8	PCC	PCC-ME 314	Mechanical Vibration Lab (Major (Core))				2	1	60	40	100
9	PCC	PCC-ME-315	Robotics Lab (Skill Enhancement Course)				2	1	60	40	100
10	HSMC	HSMC-ME-302	Aanandam (Activity of joy) (Value Added Course)				4	2	60	40	100
TOTAL				18	01	10	24	480	520	1000	

***CIE (Continues Internal Evaluation)**

***ESE (End Semester Exam)**

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7th Semester

S. No.	Category	Code	Course Title	Hours Per Week			Credits	Marks			
				L	T	P		CIE	ESE	Total	
1	PCC	PCC-ME-401	Computer Aided Design (Major Core)	3	0	THEORY	3	40	60	100	
2	PCC	PCC-ME-402	Refrigeration and Air Conditioning (Major Core)	3	0		3	40	60	100	
3	HSMC	HSMC-401	Engineering Economics (Value Added Course)	3	0		3	40	60	100	
4	PEC	PEC-ME-401-403	Professional Elective (Skill Enhancement Course)	3	0		3	40	60	100	
5	PCC	PCC-ME-403	Refrigeration and Air-Conditioning Lab (Minor (Core))	PRACTICAL			2	1	60	40	100
6	PCC	PCC-ME-404	Computer Aided Design Lab (Skill Enhancement Course)				2	1	60	40	100
7	PROJ	PROJ-ME-401	Minor Project-II				12	6	120	80	200
8	PROJ	PROJ-ME-402	Industrial Training				4	2	120	80	200
TOTAL				12	00	20	22	520	480	1000	

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8th Semester

S. No.	Category	Code	Course Title	L	T	P	Credits	CIE	ES E	Total
1	PCC	PCC-ME-403	Power Plant Engineering (Major (Core))	3	0	0	3	40	60	100
2	PEC	PEC-ME-406	CNC Machines and Automation (Major (Core))	3	0	0	3	40	60	100
3	PCC	PCC-ME-407	CNC Machine and Automation Lab (Skill Enhancement Course)	PRACTICAL		0	2	60	40	100
4	SE	SE-ME-401	Seminar			4	2	60	40	100
5	PROJ	PCC-ME-403	Major Project II (Research Project) and Dissertation)			16	8	360	240	600
TOTAL				06	00	20	18	560	440	1000

***CIE (Continues Internal Evaluation)**

***ESE (End Semester Exam)**

