

Department of Mechanical Engineering
National Institute of Technology Raipur
(Institute of National Importance)
G. E. Road, Raipur-492010 (CG)

B. Tech. in Mechanical Engineering
III Semester CBCS Scheme

Sl. No	Course Title	Course Code	Course Name	Type	L	T	P	TA		MSE		ESE		Total Marks	Credits
								Max	Min	Max	Min	Max	Min		
1.	Program Core	ME103101ME	Material Science	T	3	1	0	20	0	30	0	50	0	100	4
2.	Program Core	ME103102ME	Mechanics of Solids - I	T	3	1	0	20	0	30	0	50	0	100	4
3.	Program Core	ME103103ME	Applied Thermodynamics	T	3	1	0	20	0	30	0	50	0	100	4
4.	Program Core	ME103104ME	Manufacturing Science - I	T	3	1	0	20	0	30	0	50	0	100	4
5.	Program Core	ME103105ME	Machine Drawing	T	1	3	0	20	0	30	0	50	0	100	4
6.	Program Core	ME103001MA	Mathematics- III	T	4	0	0	20	0	30	0	50	0	100	4
7.	Laboratory	ME103401ME	Mechanical Lab-1	P	0	0	2	40	0	20	0	40	0	100	1
8.	Laboratory	ME103402ME	Mechanical Lab-2	P	0	0	2	40	0	20	0	40	0	100	1
					17	7	4							800	26

(Institute of National Importance)
G. E. Road, Raipur-492010 (CG)

B. Tech. in Mechanical Engineering IV Semester CBCS Scheme

Sl. No	Course Title	Course Code	Course Name	Type	L	T	P	TA		MSE		ESE		Total Marks	Credits
								Max	Min	Max	Min	Max	Min		
1.	Program Core	ME104101ME	Fluid Mechanics	T	3	1	0	20	0	30	0	50	0	100	4
2.	Program Core	ME104102ME	Mechanics of Solids - II	T	3	1	0	20	0	30	0	50	0	100	4
3.	Program Core	ME104103ME	Internal Combustion Engines	T	3	1	0	20	0	30	0	50	0	100	4
4.	Program Core	ME104104ME	Kinematics of Machines	T	3	1	0	20	0	30	0	50	0	100	4
5.	Program Core	ME104105ME	Manufacturing Science - II	T	3	1	0	20	0	30	0	50	0	100	4
6.	Program Core	ME104001MA	Mathematics-IV	T	4	0	0	20	0	30	0	50	0	100	4
7.	Laboratory	ME104407ME	Mechanical Lab-3	P	0	0	2	40	0	20	0	40	0	100	1
8.	Laboratory	ME104408ME	Mechanical Lab-4	P	0	0	2	40	0	20	0	40	0	100	1
Total					19	5	4							800	26

Department of Mechanical Engineering
National Institute of Technology Raipur
(Institute of National Importance)
G. E. Road, Raipur-492010 (CG)

B. Tech. in Mechanical Engineering
V Semester CBCS Scheme

Sl. No	Course Title	Course Code	Course Name	Type	L	T	P	TA		MSE		ESE		Total Marks	Credits
								Max	Min	Max	Min	Max	Min		
1.	Program Core	ME105101ME	Heat and Mass Transfer	T	3	1	0	20	0	30	0	50	0	100	4
2.	Program Core	ME105102ME	Refrigeration and Air Conditioning	T	3	1	0	20	0	30	0	50	0	100	4
3.	Program Core	ME105103ME	Machine Design - 1	T	3	1	0	20	0	30	0	50	0	100	4
4.	Program Elective-I	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
5.	Program Elective-II	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
6.	Open Elective-I	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
7.	Laboratory	ME105401ME	Mechanical Lab - 5	P	0	0	2	40	0	20	0	40	0	100	1
8.	Laboratory	ME105402ME	Mechanical Lab - 6	P	0	0	2	40	0	20	0	40	0	100	1
9.	Internship	ME105701ME	Summer Internship 1	P	0	0	2	50	0	0	0	50	0	100	1
Total					18	3	6							900	24

The List of Program Elective-I		
SN	Course Code	Subject Name
1.	ME105202ME	Industrial Engineering & Management
2.	ME105203ME	Introduction to Aerospace Engineering
3.	ME105204ME	Fluid Mechanics II- Fluid Machinery

The List of Program Elective-II		
SN	Course Code	Subject Name
1.	ME105211ME	Design and Optimization of Energy Systems
2.	ME105212ME	Measurement and Control
3.	ME105213ME	Dynamics and Vibration

The List of Open Elective-I		
SN	Course Code	Subject Name
1	ME105302ME	Composite Materials and Mechanics
2.	ME105304ME	Design Thinking and Production Innovation
3.	ME105305ME	Smart Manufacturing

Department of Mechanical Engineering
National Institute of Technology Raipur
(Institute of National Importance)
G. E. Road, Raipur-492010 (CG)

B. Tech. in Mechanical Engineering
VI Semester CBCS Scheme

Sl. No	Course Title	Course Code	Course Name	Type	L	T	P	TA		MSE		ESE		Total Marks	Credits
								Max	Min	Max	Min	Max	Min		
1.	Program Core	ME106101ME	Machine Design II-Mechanical Drives	T	3	1	0	20	0	30	0	50	0	100	4
2.	Program Core	ME106102ME	Dynamics of Machines	T	3	1	0	20	0	30	0	50	0	100	4
3.	Program Core	ME106103ME	Turbo Machinery	T	3	1	0	20	0	30	0	50	0	100	4
4.	Program Elective-III	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
5.	Open Elective-II	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
6.	Laboratory	ME106401ME	Mechanical Lab – 7	P	0	0	2	40	0	20	0	40	0	100	1
7.	Laboratory	ME106402ME	Mechanical Lab - 8	P	0	0	2	40	0	20	0	40	0	100	1
Total					15	3	4							700	20

The List of Program Elective-III

SN	Course Code	Subject Name
1.	ME106201ME	Air Conditioning Techniques and System Design
2.	ME106202ME	Fatigue Creep and Fracture
3.	ME106203ME	Operations Research

The List of Open Elective-II

SN	Course Code	Subject Name
1.	ME106302ME	Experimental Stress Analysis
2.	ME106303ME	Robotics
3.	ME106304ME	Smart Materials and Systems

Sl. No	Course Title	Course Code	Course Name	Type	L	T	P	TA		MSE		ESE		Total Marks	Credits
								Max	Min	Max	Min	Max	Min		
1.	Program Core	ME107101ME	Production Management	T	3	1	0	20	0	30	0	50	0	100	4
2.	Program Elective-IV	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
3.	Program Elective-V	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
4.	Open Elective-III	As per given in list		T	3	0	0	20	0	30	0	50	0	100	3
5.	Laboratory	ME107401ME	Mechanical Lab – 9	P	0	0	2	40	0	20	0	40	0	100	1
6.	Internship	ME107701ME	Summer Internship II	P	0	0	4	50	0	0	0	50	0	100	2
7.	Laboratory	ME107801ME	Project Work	P	0	0	8	40	0	20	0	40	0	100	4
Total					12	1	14							700	20

The List of Program Elective-IV		
SN	Course Code	Subject Name
1.	ME107202ME	Solar Energy Utilization
2.	ME107203ME	Computational Fluid Dynamics
3.	ME107204ME	Finite Element Method

The List of Program Elective-V		
SN	Course Code	Subject Name
1.	ME107211ME	Energy Conversion System
2.	ME107212ME	Power Plant Engineering
3.	ME107213ME	Tribology

The List of Open Elective-III		
SN	Course Code	Subject Name
1.	ME107301ME	Air Pollution Control
2.	ME107302ME	Integrated Product Development
3.	ME107303ME	Optimization Techniques
4.	ME107304ME	Industry 5.0 for Engineers

Sl. No	Course Title	Course Code	Course Name	Type	L	T	P	TA		MSE		ESE		Total Marks	Credits
								Max	Min	Max	Min	Max	Min		
1.	Program Elective-VI		As per given in list	T	3	0	0	20	0	30	0	50	0	100	3
4.	Program Elective-VII		As per given in list	T	3	0	0	20	0	30	0	50	0	100	3
5.	Open Elective-IV		As per given in list	T	3	0	0	20	0	30	0	50	0	100	3
6.	Open Elective-V		As per given in list	T	3	1	0	20	0	30	0	50	0	100	3
7.**	Internship	ME108701ME	Major Internship	P	0	0	2	50	0	0	0	50	0	100	6
Total					12	1	12							500	12

****The students who opt for Major Internship will have to take '2' open elective courses along with the Major Internship making a total 12 credits for VIIIth Semester.**

The List of Program Elective-VI		
SN	Course Code	Subject Name
1.	ME108201ME	Additive Manufacturing
2.	ME108202ME	Computer Aided Design and Manufacturing
3.	ME108203ME	Heat Exchangers: Fundamental & Design

The List of Program Elective-VII		
SN	Course Code	Subject Name
1.	ME108211ME	Advance Refrigeration and Air Conditioning
2.	ME108212ME	Alternative fuels and emission control in internal combustion engines
3.	ME108213ME	Automobile Engineering

The List of Open Elective-IV		
SN	Course Code	Subject Name
1.	ME108301ME	Experimental Techniques for the Engineers
2.	ME108302ME	Welding Technology

The List of Open Elective-V		
SN	Course Code	Subject Name
1.	ME108311ME	Non-Conventional Energy Resources
2.	ME108312ME	Nature Inspired Design