National Institute of Technology Raipur

Course of Study and Scheme of Examination											B. Arch. 3rd Semester		Architecture	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits		
			L	TS	PS		MSE/MTR		ESE/ESVE					
							Theory	Prac.	Theory	Prac.				
1	AR203101AR	Architectural Design-III	3	3	1	100	30	20	0	50	200	6		
2	AR203102AR	History of Hindu, Buddhist and Jain Architecture	3	0	0	20	30	0	50	0	100	3		
3	AR203001AR	Building Materials and Construction Techniques-III	2	1	1	60	30	20	50	40	200	4		
4	AR203002AR	Mechanics of Structures	3	0	0	20	30	0	50	0	100	3		
5	AR203003AR	Water Supply and Sanitation Building Services	3	0	0	20	30	0	50	0	100	3		
6	AR203004AR	Climate Responsive Architecture	3	0	0	20	30	0	50	0	100	3		
7	AR203005AR	Computer Aided Drafting	0	2	0	40	0	20	0	40	100	1		
8	AR203006AR	Architectural Communication Techniques	0	2	0	40	0	20	0	40	100	1		
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Course of Study and Scheme of Examination											B. Arch. 4th Semester		Architecture	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits		
			L	T	P		MSE/MTR		ESE/ESVE					
							Theory	Prac.	Theory	Prac.				
1	AR204101AR	Architectural Design-IV	3	3	1	100	30	20	0	50	200	6		
2	AR204102AR	History of Islamic Architecture	3	0	0	20	30	0	50	0	100	3		
3	AR204001AR	Building Materials and Construction Techniques-IV	2	1	1	60	30	20	50	40	200	4		
4	AR204002AR	Indeterminate Structures	3	0	0	20	30	0	50	0	100	3		
5	AR204003AR	Building Sciences	3	0	0	20	30	0	50	0	100	3		
6	AR204201AR	Theory of Design (Professional Elective (PE)-I)	3	0	0	20	30	0	50	0	100	3		
7	AR204202AR	Art in Architecture (Professional Elective (PE)-I)												
8	AR204004AR	Computer Aided 3D Modelling	0	2	0	40	0	20	0	40	100	1		
9	AR204005AR	Environmental Lab	0	2	0	40	0	20	0	40	100	1		
											1000	24		

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Course of Study and Scheme of Examination — **B. Tech. 3rd Semester** — **Biomedical Engg.**

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	BM103101BM	Signal and System	3	1	0	20	30		50		100	4
2	BM103102BM	Analog Electronic Circuits	3	1	0	20	30		50		100	4
3	BM103103BM	Biomedical Transducers and Sensors	3	1	0	20	30		50		100	4
4	BM103104BM	Network Analysis	3	1	0	20	30		50		100	4
5	BM103105BM	Anatomy and Physiology	3	1	0	20	30		50		100	4
6	BM103001MA	Mathematics III	4	0	0	20	30		50		100	4
7	BM103401BM	Biomedical Electronics Lab	0	0	2	40		20		40	100	1
8	BM103402BM	Anatomy and Physiology Lab	0	0	2	40		20		40	100	1
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			National Institute of Technology Raipur									

Course of Study and Scheme of Examination — **B. Tech. 4th Semester** — **Biomedical Engg.**

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	BM104101BM	Biomedical Signal Processing	3	1	0	20	30		50		100	4
2	BM104102BM	Digital Electronics	3	1	0	20	30		50		100	4
3	BM104103BM	Microprocessor	3	1	0	20	30		50		100	4
4	BM104104BM	Biomedical Instrumentation and Measurement	3	1	0	20	30		50		100	4
5	BM104105BM	Biomechanics	3	1	0	20	30		50		100	4
6	BM104001MA	Mathematics IV (Numerical Methods in Biomedical Engineering)	4	0	0	20	30		50		100	4
7	BM104401BM	Biomedical Signal Processing Lab	0	0	2	40		20		40	100	1
8	BM104402BM	Biomedical Instrumentation and Measurement Lab	0	0	2	40		20		40	100	1
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Course of Study and Scheme of Examination							B. Tech. 3rd Semester				Biotechnology	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	BT103101BT	Biochemistry	3	1	0	20	30		50		100	4
2	BT103102BT	Biophysical Techniques	3	1	0	20	30		50		100	4
3	BT103103BT	Bioprocess Calculations	3	1	0	20	30		50		100	4
4	BT103104IT	Object oriented Methodology	3	1	0	20	30		50		100	4
5	BT103105BT	Microbiology	3	1	0	20	30		50		100	4
6	BT103001MA	Mathematic III	4	0	0	20	30		50		100	4
7	BT103401BT	Biochemistry and Microbiology Lab	0	0	2	40		20		40	100	1
8	BT103402IT	OOM lab using JAVA and UML	0	0	2	40		20		40	100	1
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Course of Study and Scheme of Examination							B. Tech. 4th Semester				Biotechnology	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	BT104101BT	Cell and Molecular Biology	3	1	0	20	30		50		100	4
2	BT104102BT	Enzyme Technology	3	1	0	20	30		50		100	4
3	BT104103BT	Genetics	3	1	0	20	30		50		100	4
4	BT104104BT	Animal Cell and Plant Tissue Culture	3	1	0	20	30		50		100	4
5	BT104105BT	Thermodynamics & Reaction Engineering	3	1	0	20	30		50		100	4
6	BT104001MA	Mathmatics IV (Numerical Methods)	4	0	0	20	30		50		100	4
7	BT104401BT	Cell and Molecular Biology Lab	0	0	2	40		20		40	100	1
8	BT104402BT	Enzyme Technology Lab	0	0	2	40		20		40	100	1
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Course of Study and Scheme of Examination — B. Tech. 3rd Semester — Chemical Engg.

S. No.	Subject Code	Subject Name	L	T	P	TA	MSE/MTR Theory	MSE/MTR Prac.	ESE/ESVE Theory	ESE/ESVE Prac.	Total Marks	Credits
1	CH103101CH	Industrial Process Calculation	3	1	0	20	30		50		100	4
2	CH103102CH	Heat Transfer	3	1	0	20	30		50		100	4
3	CH103103CH	Fluid Particle Operations	3	1	0	20	30		50		100	4
4	CH103104CH	Fluid Mechanics	3	1	0	20	30		50		100	4
5	CH103105CH	Numerical Methods	3	1	0	20	30		50		100	4
6	CH103001MA	Mathematics-III	4	0	0	20	30		50		100	4
7	CH103401CH	Fluid Particle & Mechanics Lab	0	0	2	40		20		40	100	1
8	CH103402CH	Heat Transfer Lab	0	0	2	40		20		40	100	1
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Course of Study and Scheme of Examination — B. Tech. 4th Semester — Chemical Engg.

S. No.	Subject Code	Subject Name	L	T	P	TA	MSE/MTR Theory	MSE/MTR Prac.	ESE/ESVE Theory	ESE/ESVE Prac.	Total Marks	Credits
1	CH104101CH	Chemical Engineering Thermodynamics	3	1	0	20	30		50		100	4
2	CH104102CH	Mass Transfer-I	3	1	0	20	30		50		100	4
3	CH104103CH	Chemical Technology	3	1	0	20	30		50		100	4
4	CH104104CH	Chemical Reaction Engineering-I	3	1	0	20	30		50		100	4
5	CH104105CH	Fuel Technology	3	1	0	20	30		50		100	4
6	CH104001MA	Mathematics-IV	4	0	0	20	30		50		100	4
7	CH104401CH	Analytical Lab	0	0	2	40		20		40	100	1
8	CH104402CH	Fuel Technology Lab	0	0	2	40		20		40	100	1
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		Course of Study and Scheme of Examination					B. Tech. 3rd Semester				Civil Engg.	

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	CV103101CV	Fluid Mechanics-I	3	1	0	20	30		50		100	4
2	CV103102CV	Mechanics of Solids	3	1	0	20	30		50		100	4
3	CV103103CV	Surveying	3	1	0	20	30		50		100	4
4	CV103104CV	Civil Engineering Construction and Materials	3	1	0	20	30		50		100	4
5	CV103105CV	Concrete Technology	3	1	0	20	30		50		100	4
6	CV103001MA	Mathematics III	4	0	0	20	30		50		100	4
7	CV103401CV	Material Testing Lab & Concrete Lab	0	0	2	40		20		40	100	1
8	CV103402CV	Surveying Lab	0	0	2	40		20		40	100	1
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		Course of Study and Scheme of Examination					B. Tech. 4th Semester				Civil Engg.	

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	CV104101CV	Structural Analysis I	3	1	0	20	30		50		100	4
2	CV104102CV	Fluid Mechanics II	3	1	0	20	30		50		100	4
3	CV104103CV	Geotechnical Engineering-I	3	1	0	20	30		50		100	4
4	CV104104CV	Civil Engineering Drawing	3	1	0	20	30		50		100	4
5	CV104105CV	Water Resource Engineering	3	1	0	20	30		50		100	4
6	CV104001MA	Mathematics IV	4	0	0	20	30		50		100	4
7	CV104401CV	Geotechnical Engineering Lab	0	0	2	40		20		40	100	1
8	CV104402CV	Fluid Mechanics Lab	0	0	2	40		20		40	100	1
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| | | | | Course of Study and Scheme of Examination | | | | B. Tech. 3rd Semester | | | Comp. Sci. & Engg. | |

S. No.	Subject Code	Subject Name	L	T	P	TA	MSE/MTR Theory	MSE/MTR Prac.	ESE/ESVE Theory	ESE/ESVE Prac.	Total Marks	Credits
1	CS103101CS	Digital Logic & Design	3	1	0	20	30		50		100	4
2	CS103102CS	Discrete Mathematics	3	1	0	20	30		50		100	4
3	CS103103CS	Object Oriented Programming using JAVA	3	1	0	20	30		50		100	4
4	CS103104CS	Theory of Computation	3	1	0	20	30		50		100	4
5	CS103105CS	Introduction to UNIX Family	3	1	0	20	30		50		100	4
6	CS103001MA	Mathematics III	4	0	0	20	30		50		100	4
7	CS103401CS	Object Oriented Programming using JAVA Lab	0	0	2	40		20		40	100	1
8	CS103402CS	Unix & Shell Programming lab	0	0	2	40		20		40	100	1
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| | | | | Course of Study and Scheme of Examination | | | | B. Tech. 4th Semester | | | Comp. Sci. & Engg. | |

S. No.	Subject Code	Subject Name	L	T	P	TA	MSE/MTR Theory	MSE/MTR Prac.	ESE/ESVE Theory	ESE/ESVE Prac.	Total Marks	Credits
1	CS104101CS	Computer System Architecture	3	1	0	20	30		50		100	4
2	CS104102CS	Analysis & Design of Algorithms	3	1	0	20	30		50		100	4
3	CS104103CS	Computer Networks	3	1	0	20	30		50		100	4
4	CS104104CS	Principles of Programming Languages	3	1	0	20	30		50		100	4
5	CS104105CS	Software Engineering	3	1	0	20	30		50		100	4
6	CS104001MA	Mathematics IV	4	0	0	20	30		50		100	4
7	CS104401CS	Computer Networks Lab	0	0	2	40		20		40	100	1
8	CS104402CS	Analysis Design of Algorithms Lab	0	0	2	40		20		40	100	1
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| | Course of Study and Scheme of Examination | | | | | | B. Tech. 3rd Semester | | | Electrical Engg. | | |

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	EL103101EL	Electrical Measurement and Instrumentation	3	1	0	20	30		50		100	4
2	EL103102EL	Analog Electronics	3	1	0	20	30		50		100	4
3	EL103103EL	Generation of Electrical Energy (Conventional & Non-Conventional)	3	1	0	20	30		50		100	4
4	EL103104EL	Electromagentic Field Theory	3	1	0	20	30		50		100	4
5	EL103105EL	Electrical Power System	3	1	0	20	30		50		100	4
6	EL103001MA	Mathematics-III	4	0	0	20	30		50		100	4
7	EL103401EL	Electrical Measurement and Instrumentation Laboratory	0	0	2	40		20		40	100	1
8	EL103402EL	Analog Electronics Laboratory	0	0	2	40		20		40	100	1
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| | Course of Study and Scheme of Examination | | | | | | B. Tech. 4th Semester | | | Electrical Engg. | | |

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	EL104101EL	Electrical Circuit & Network Analysis	3	1	0	20	30		50		100	4
2	EL104102EL	Electrical Machine -1	3	1	0	20	30		50		100	4
3	EL104103EL	Power Electronics	3	1	0	20	30		50		100	4
4	EL104104EL	Signals & Systems	3	1	0	20	30		50		100	4
5	EL104105EL	Utilization of Electrical Energy	3	1	0	20	30		50		100	4
6	EL104001MA	Mathematics-IV	4	0	0	20	30		50		100	4
7	EL104401EL	Electrical Machine -1 Laboratory	0	0	2	40		20		40	100	1
8	EL104402EL	Power Electronics Laboratory	0	0	2	40		20		40	100	1
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		Course of Study and Scheme of Examination					B. Tech. 3rd Semester			Elex. & Comm. Engg	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	EC103101EC	Network Analysis and Synthesis	3	1	0	20	30		50		100	4
2	EC103102EC	Microelectronic Devices and Circuits	3	1	0	20	30		50		100	4
3	EC103103EC	Signal & Systems	3	1	0	20	30		50		100	4
4	EC103104EC	Digital Logic Design	3	1	0	20	30		50		100	4
5	EC103105EC	Electronic Measurement and Instruments	3	1	0	20	30		50		100	4
6	MA103001MA	Mathematics III	4	0	0	20	30		50		100	4
7	EC103401EC	Devices and Circuit Laboratory	0	0	2	40		20		40	100	1
8	EC103402EC	Digital Logic Design	0	0	2	40		20		40	100	1
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		Course of Study and Scheme of Examination					B. Tech. 4th Semester			Elex. & Comm. Engg	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	EC104101EC	Electro-magnetic Field Theory	3	1	0	20	30		50		100	4
2	EC104102EC	Digital Signal Processing	3	1	0	20	30		50		100	4
3	EC104103EC	Computer System Architecture	3	0	0	20	30		50		100	3
4	EC104104EC	Linear Integrated Circuits and Applications	3	0	0	20	30		50		100	3
5	EC104105EC	Analog Communication	3	1	0	20	30		50		100	4
6	MA104001MA	Mathematics IV	4	0	0	20	30		50		100	4
7	EC104401EC	DSP Laboratory	0	0	2	40		20		40	100	1
8	EC104402EC	Analog Communication Laboratory	0	0	2	40		20		40	100	1
9	EC104403EC	Computer System Architecture	0	0	2	40		20		40	100	1
10	EC104404EC	Linear Integrated Circuits and Applications	0	0	2	40		20		40	100	1
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		Course of Study and Scheme of Examination						B. Tech. 3rd Semester			Information Tech.	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	IT103101IT	Discrete Structures	3	1	0	20	30		50		100	4
2	IT103102IT	Digital Electronics & Logic Design	3	1	0	20	30		50		100	4
3	IT103103IT	Object Oriented Methodology	3	1	0	20	30		50		100	4
4	IT103104IT	Communication Systems	3	1	0	20	30		50		100	4
5	IT103105IT	Operating System	3	1	0	20	30		50		100	4
6	IT103001MA	Mathematics-III (Computational Mathematics)	4	0	0	20	30		50		100	4
7	IT103401IT	OOPS Lab (Java)	0	0	2	40		20		40	100	1
8	IT103402IT	Operating System Lab (Unix)	0	0	2	40		20		40	100	1
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		National Institute of Technology Raipur										
		Course of Study and Scheme of Examination						B. Tech. 4th Semester			Information Tech.	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	IT104101IT	Computer Organization	3	1	0	20	30		50		100	4
2	IT104102IT	Theory of Computation	3	1	0	20	30		50		100	4
3	IT104103IT	Database Management System	3	1	0	20	30		50		100	4
4	IT104104IT	Internet and Web Technologies	3	1	0	20	30		50		100	4
5	IT104105IT	Software Engineering	3	1	0	20	30		50		100	4
6	IT104001MA	Mathematics-IV (Probability and Statistics)	4	0	0	20	30		50		100	4
7	IT104401IT	DBMS Lab	0	0	2	40		20		40	100	1
8	IT104402IT	Web Technology Lab	0	0	2	40		20		40	100	1
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		Computer Application									
		Course of Study and Scheme of Examination					MCA 3rd Semester			Comp. Appl.	
			Periods per Week				Examination Scheme				
S. No.	Subject Code	Subject Name	L	T	P	TA	MSE/MTR		ESE/ESVE		Total Marks	Credits
							Theory	Prac.	Theory	Prac.		
1	CA403101CA	Object Oriented Concepts & Java	3	1	0	20	30		50		100	4
2	CA403102CA	Data Science	3	1	0	20	30		50		100	4
3	CA403103CA	Analysis and Design of Algorithms	3	1	0	20	30		50		100	4
4	CA403104CA	Computer Network	3	1	0	20	30		50		100	4
5	CA403105CA	Compiler Design	3	1	0	20	30		50		100	4
6	CA403401CA	Computer Lab-301	0	0	4	40		20		40	100	2
7	CA403402CA	Computer Lab-302	0	0	4	40		20		40	100	2
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		Computer Application									
		Course of Study and Scheme of Examination					MCA 4th Semester			Comp. Appl.	
			Periods per Week				Examination Scheme				
S. No.	Subject Code	Subject Name	L	T	P	TA	MSE/MTR		ESE/ESVE		Total Marks	Credits
							Theory	Prac.	Theory	Prac.		
1	CA404101CA	AI & Machine Learning	3	1	0	20	30		50		100	4
2	CA404002MA	Computer Oriented Optimization	3	1	0	20	30		50		100	4
3	CA4042**CA	Elective-I	2	1	0	20	30		50		100	3
4	CA4042$$CA	Elective-II	2	1	0	20	30		50		100	3
5	CA4043##CA	Open Elective-I	2	1	0	20	30		50		100	3
6	CA404401CA	Computer Lab-401	0	0	4	40		20		40	100	2
7	CA404502CA	Computer Lab-402	0	0	4	40		20		40	100	2
8	CA404403HS	Language Lab-403- GD/PI	0	0	4	40		20		40	100	2
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**, $$, ## are numbers to be filled from list of electives (Program and Open) prepared and maintained by the department

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		National Institute of Technology Raipur										
	Course of Study and Scheme of Examination							B. Tech. 3rd Semester			Mechanical Engg.	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	ME103101ME	Material Science	3	1	0	20	30		50		100	4
2	ME103102ME	Mechanics of Solids - I	3	1	0	20	30		50		100	4
3	ME103103ME	Applied Thermodynamics	3	1	0	20	30		50		100	4
4	ME103104ME	Manufacturing Science - I	3	1	0	20	30		50		100	4
5	ME103105ME	Machine Drawing	1	3	0	20	30		50		100	4
6	ME103001MA	Mathematics- III	4	0	0	20	30		50		100	4
7	ME103401ME	Mechanical Lab-1	0	0	2	40		20		40	100	1
8	ME103402ME	Mechanical Lab-2	0	0	2	40		20		40	100	1
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		National Institute of Technology Raipur										
	Course of Study and Scheme of Examination							B. Tech. 4th Semester			Mechanical Engg.	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	ME104101ME	Fluid Mechanics	3	1	0	20	30		50		100	4
2	ME104102ME	Mechanics of Solids – II	3	1	0	20	30		50		100	4
3	ME104103ME	Internal Combustion Engines	3	1	0	20	30		50		100	4
4	ME104104ME	Kinematics of Machines	3	1	0	20	30		50		100	4
5	ME104105ME	Manufacturing Science – II	3	1	0	20	30		50		100	4
6	ME104001MA	Mathematics-IV	4	0	0	20	30		50		100	4
7	ME104401ME	Mechanical Lab-3	0	0	2	40		20		40	100	1
8	ME104402ME	Mechanical Lab-4	0	0	2	40		20		40	100	1
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S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		

Course of Study and Scheme of Examination — B. Tech. 3rd Semester — Meta. & Matls Engg.

S. No.	Subject Code	Subject Name	L	T	P	TA	Theory	Prac.	Theory	Prac.	Total Marks	Credits
1	MM103101MM	Metallurgical Thermodynamics & Kinetics	3	1	0	20	30		50		100	4
2	MM103102MM	Minerals, Ore Beneficiation and Refractories	3	1	0	20	30		50		100	4
3	MM103103MM	Transport Phenomena in Metallurgical Processes	3	1	0	20	30		50		100	4
4	MM103104MM	Physical Metallurgy	3	1	0	20	30		50		100	4
5	MM103105MM	Casting and Solidification	3	1	0	20	30		50		100	4
6	MM103001MA	Mathematics-III	4	0	0	20	30		50		100	4
7	MM103401MM	Physical Metallurgy Laboratory	0	0	2	40		20		40	100	1
8	MM103402MM	Casting and Solidification Laboratory	0	0	2	40		20		40	100	1
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Course of Study and Scheme of Examination — B. Tech. 4th Semester — Meta. & Matls Engg.

S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
							MSE/MTR		ESE/ESVE			
			L	T	P		Theory	Prac.	Theory	Prac.		
1	MM104101MM	Mechanical Behavior of Materials	3	1	0	20	30		50		100	4
2	MM104102MM	Heat Treatment and Phase Transformation	3	1	0	20	30		50		100	4
3	MM104103MM	Non Ferrous Metal Extraction	3	1	0	20	30		50		100	4
4	MM104104MM	Iron and Steel Making	3	1	0	20	30		50		100	4
5	MM104105MM	Testing of Materials	3	1	0	20	30		50		100	4
6	MM104001MA	Mathematics-IV	4	0	0	20	30		50		100	4
7	MM104401MM	Testing of Materials Laboratory	0	0	2	40		20		40	100	1
8	MM104402MM	Heat Treatment and Phase Transformation Laboratory	0	0	2	40		20		40	100	1
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		National Institute of Technology Raipur									
		Course of Study and Scheme of Examination					B. Tech. 3rd Semester			Mining Engg.	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	MI103101AG	Geology – I	3	1	0	20	30		50		100	4
2	MI103102MI	Underground Mining Machinery-I	3	1	0	20	30		50		100	4
3	MI103103MI	Basics of Mining Engineering	3	1	0	20	30		50		100	4
4	MI103104MI	Engineering Materials	3	1	0	20	30		50		100	4
5	MI103105MI	Mining Environment-I	3	0	0	20	30		50		100	3
6	MI103001MA	Mathematics III	4	0	0	20	30		50		100	4
7	MI103401AG	Geology-I Lab	0	0	2	40		20		40	100	1
8	MI103402MI	Underground Mining Machinery-I Lab	0	0	2	40		20		40	100	1
9	MI103403MI	Mining Environment-I Lab	0	0	2	40		20		40	100	1
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		National Institute of Technology Raipur									
		Course of Study and Scheme of Examination					B. Tech. 4th Semester			Mining Engg.	
S. No.	Subject Code	Subject Name	Periods per Week			TA	Examination Scheme				Total Marks	Credits
			L	T	P		MSE/MTR		ESE/ESVE			
							Theory	Prac.	Theory	Prac.		
1	MI104101MI	Mining Environment-II	3	1	0	20	30		50		100	4
2	MI104102MI	Basic Mine Surveying	3	1	0	20	30		50		100	4
3	MI104103AG	Geology-II	3	0	0	20	30		50		100	3
4	MI104104MI	Underground Coal Mining	3	1	0	20	30		50		100	4
5	MI104105MI	Surface Mining	3	1	0	20	30		50		100	4
6	MI104001MA	Mathematics IV (Numerical Methods)	4	0	0	20	30		50		100	4
7	MI104401MI	Basic Mine Surveying Lab	0	0	2	40		20		40	100	1
8	MI104402MI	Mining Environment-II Lab	0	0	2	40		20		40	100	1
9	MI104403AG	Geology-II Lab	0	0	2	40		20		40	100	1
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