

# National Institute of Technology Raipur (C.G.)

## Department of Civil Engineering

### M.Tech. in CIVIL with specialization in Water Resources Development and Irrigation Engineering

#### Course of Study

#### M.Tech. First Semester

S.No.	Board of Studies	Sub. Code	Subject Name	Periods/week			Examination Scheme					Total Marks	Credits L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Civil Engg.	CI41111(CI)	Advance Fluid Mechanics	3	1	-	20	15	15	100	-	150	4
2	Civil Engg.	CI40112(CI)	Numerical Methods	3	1	-	20	15	15	100	-	150	4
3	Civil Engg.	CI41113(CI)	Remote Sensing & Application of GIS in Water Resources	3	1	-	20	15	15	100	-	150	4
4	Civil Engg.	-	Elective –I	3	1	-	20	15	15	100	-	150	4
5	Civil Engg.	-	Elective –II	3	1	-	20	15	15	100	-	150	4
6	Civil Engg.	CI41121(CI)	Irrigation & Hydraulics Laboratory	-	-	3	75	-	-	-	50	125	2
7	Civil Engg.	CI41122(CI)	Remote Sensing & GIS Laboratory	-	-	3	75	-	-	-	50	125	2
<b>Total</b>				<b>15</b>	<b>5</b>	<b>6</b>	<b>250</b>	<b>75</b>	<b>75</b>	<b>500</b>	<b>100</b>	<b>1000</b>	<b>24</b>

#### List of Elective Subjects

S.No.	Electives	Subject Code	Subject Name
1	Elective I	CI41131(CI)	Hydrologic Analysis & Design
2		CI41132(CI)	Water Management
3		CI41133(CI)	Soft Computing & Simulation in Water Resources
4		CI41134(CI)	Reservoir Planning & Operations
5		CI41135(CI)	Climate Change and Water Resources
6		CI41136(CI)	Surface Water Hydrology
6	Elective II	CI41141(CI)	Theory of Seepage & Earthen Dams
7		CI41142(CI)	Flood & Drought Management
8		CI41143(CI)	Water Power & Dam Engineering
9		CI41144(CI)	Water Quality & Pollution
10		CI41145(CI)	Techno Economic Analysis of Water Development

# National Institute of Technology Raipur (C.G.)

## Department of Civil Engineering

### M.Tech. in CIVIL with specialization in Water Resources Development and Irrigation Engineering

Course of Study							M.Tech. Second Semester						
S.No.	Board of Studies	Sub. Code	Subject Name	Periods/week			Examination Scheme					Total Marks	Credits L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Civil Engg.	CI41211(CI)	Ground Water Hydrology	3	1	-	20	15	15	100	-	150	4
2	Civil Engg.	CI41212(CI)	Design of Hydraulic Structures	3	1	-	20	15	15	100	-	150	4
3	Civil Engg.	CI41213(CI)	System Analysis in Water Resources	3	1	-	20	15	15	100	-	150	4
4	Civil Engg.	-	Elective –III	3	1	-	20	15	15	100	-	150	4
5	Civil Engg.	-	Elective –IV	3	1	-	20	15	15	100	-	150	4
6	Civil Engg.	CI41221(CI)	Water Supply Engineering Computational Laboratory	-	-	3	75	-	-	-	50	125	2
7	Civil Engg.	CI41222(CI)	Computer Application Laboratory	-	-	3	75	-	-	-	50	125	2
<b>Total</b>				<b>15</b>	<b>5</b>	<b>6</b>	<b>250</b>	<b>75</b>	<b>75</b>	<b>500</b>	<b>100</b>	<b>1000</b>	<b>24</b>

#### List of Elective Subjects

S.No.	Electives	Subject Code	Subject Name
1	Elective III	CI41271(CI)	Construction Planning & Management (Open Elective)
2		CI41231(CI)	Watershed Conservation & Management
3		CI41232(CI)	River Engineering
4		CI41233(CI)	Environmental Impact Assessment of Water Resources Project
5		CI41234(CI)	Water Supply Distribution System and Buried Pipelines
6	Elective IV	CI41241(CI)	Stochastic Hydrology
7		CI41242(CI)	Planning, Analysis & Design of Concrete Dams
8		CI41243(CI)	Water Policies, Laws and Rights
9		CI41244(CI)	Ground Water Modelling and Management
10		CI41272(CI)	Reliability Engineering (Open Elective)

# National Institute of Technology Raipur (C.G.)

## Department of Civil Engineering

### M.Tech. in CIVIL with specialization in Water Resources Development and Irrigation Engineering

#### Course of Study

#### M.Tech. Third Semester

S.No.	Board of Studies	Sub. Code	Subject Name	Periods/week			Examination Scheme					Total Marks	Credits L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Civil Engg.	CI41321(CI)	Preliminary work on Dissertation	-	-	24	100	-	-	-	200	300	12
2	Civil Engg.	CI41322(CI)	Comprehensive Viva Voce & Seminar	-	-	-	-	-	-	-	200	200	4
			<b>Total</b>	<b>0</b>	<b>0</b>	<b>24</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>400</b>	<b>500</b>	<b>16</b>

# National Institute of Technology Raipur (C.G.)

## Department of Civil Engineering

### M.Tech. in CIVIL with specialization in Water Resources Development and Irrigation Engineering

#### Course of Study

#### M.Tech. Fourth Semester

S.No.	Board of Studies	Sub. Code	Subject Name	Periods/week			Examination Scheme					Total Marks	Credits L+(T+P)/2
				L	T	P	TA	FE	SE	ESE	Pract. ESE		
1	Civil Engg.	CI41421(CI)	Dissertation	-	-	32	200	-	-	-	300	500	16
			<b>Total</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>200</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>300</b>	<b>500</b>	<b>16</b>