

**WATER RESOURCES DEVELOPMENT AND MANAGEMENT
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code: **43** **M.Tech. (Irrigation Water Management)**
 Department: **WR** **WATER RESOURCES DEVELOPMENT AND MANAGEMENT**
 Year: **I**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Semester- I (Autumn)														
1.	WRN-501	System Design Techniques	PCC	4	3	1	0	3	-	25	-	25	50	-
2.	WRN-571	Design of Irrigation Structures and Drainage Works	PCC	4	3	1	0	3	-	25	-	25	50	-
3.	WRN-572	Soil and Agronomy	PCC	4	3	1	0	3	-	25	-	25	50	-
4.	WRN-573	Principles and Practices of Irrigation	PCC	4	3	1	0	3	-	25	-	25	50	-
5.		Program Elective Course	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		20	12	4	-							
Semester-II (Spring)														
1.	WRN-574	Diagnostic Analysis	PCC	2	0	0	4	-	-	-	50	-	-	50
2.	WRN-700	Seminar	SEM	2	-	-	-	-	-	-	-	100	-	-
3.		Program Elective Course	PEC	4	3	1	0	3	-	25	-	25	50	-
4.		Program Elective Course	PEC	4	3	1	0	3	-	25	-	25	50	-
5.		Program Elective Course	PEC	4	3	1	0	3	-	25	-	25	50	-
6.		Program Elective Course	PEC	4	3	1	0	3	-	25	-	25	50	-
		Total		20	-	-	4							

Note: P.G. Diploma course in IWM shall be of ONE YEAR duration comprising of semesters I and II only, with a minimum credits of 40

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 Year: **II**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
Semester- I (Autumn)														
1.	WRN-701A	Dissertation Stage-I (to be continued next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.														
Semester-II (Spring)														
1.	WRN-701B	Dissertation Stage-II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										

Summary					
		1	2	3	4
Semester-wise Total Credits		20	20	12	18
Total Credits		70			

Program Elective Courses (IWM)

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	WRN-503	Water Resources Planning and Management	PEC	4	3	1	0	3	-	25	-	25	50	-
2.	WRN-504	Applied Hydrology	PEC	4	3	1	0	3	-	25	-	25	50	-
3.	WRN-513	Earth and Rockfill Dams	PEC	4	3	1	0	3	-	25	-	25	50	-
4.	WRN-516	Rural and Urban Water Supply	PEC	4	3	1	0	3	-	25	-	25	50	-
5.	WRN-520	Environmental Impact Assessment of Water Resource Projects	PEC	4	3	1	0	3	-	25	-	25	50	-
6.	WRN-522	Climate Change and Water Resources	PEC	4	3	1	0	3	-	25	-	25	50	-
7.	WRN-575	On Farm Development	PEC	4	3	1	0	3	-	25	-	25	50	-
8.	WRN-576	Operation Maintenance and Management of Irrigation Systems	PEC	4	3	1	0	3	-	25	-	25	50	-
9.	WRN-577	Water and Land Laws	PEC	4	3	1	0	3	-	25	-	25	50	-
10.	WRN-578	Rural Sociology and Irrigation Economics	PEC	4	3	1	0	3	-	25	-	25	50	-
11.	WRN-579	Evaluation of Irrigation Project	PEC	4	3	1	0	3	-	25	-	25	50	-
12.	WRN-580	Renewable Energy System Technology	PEC	4	3	1	0	3	-	25	-	25	50	-
13.	WRN-581	Water Quality Monitoring and Modeling	PEC	4	3	1	0	3	-	25	-	25	50	-
14.	WRN-582	Theory of Seepage	PEC	4	3	1	0	3	-	25	-	25	50	-
15.	WRN-583	Remote Sensing and GIS Applications in Agriculture	PEC	4	3	1	0	3	-	25	-	25	50	-
16.	WRN-584	Cropping System Modeling	PEC	4	3	1	0	3	-	25	-	25	50	-
17.	WRN-585	Environmental Impact of Irrigated Agriculture	PEC	4	3	1	0	3	-	25	-	25	50	-
18.	WRN-586	Groundwater Development and Management	PEC	4	3	1	0	3	-	25	-	25	50	-
19.	WRN-587	Watershed Development and Management	PEC	4	3	1	0	3	-	25	-	25	50	-