

DEPARTMENT OF HYDRO AND RENEWABLE ENERGY

M.TECH. (ALTERNATE HYDRO ENERGY SYSTEMS)

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
1st YEAR					Semester- I (Autumn)									
1.	HRE-511	Small Hydro Power Planning and Management	PCC	4	3	1	-	3	-	25	-	25	50	-
2.	HRE-513	Renewable Energy Resources Development Technology	PCC	4	3	1	2/2	3	-	20	20	20	40	-
3.	HRE-514	Hydro Electric Equipment	PCC	4	3	1	2/2	3	-	20	20	20	40	-
4.	-	Programme Elective-I*	PEC	4	-	-	-	-	-	-	-	-	-	-
5.	-	Programme Elective-II*	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		20	9	3	2							
					Semester-II (Spring)									
1.	HRE-512	Design of SHP Structures	PCC	4	3	1	-	3	-	25	-	25	50	-
2.	HRE-516	Hydro Mechanical Equipment	PCC	4	3	1	2/2	3	-	20	20	20	40	-
3.	HRE-700	Seminar	SEM	2	-	-	-	-	-	-	-	-	100	-
4.	-	Programme Elective-III*	PEC	4	-	-	-	-	-	-	-	-	-	-
5.	-	Programme Elective-IV*	PEC	4	-	-	-	-	-	-	-	-	-	-
		Total		18	6	2	1							
2nd YEAR					Semester- I (Autumn)									
1.	HRE-701A	Dissertation Stage-I (to be continued in next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
					Semester-II (Spring)									
1.	HRE-701B	Dissertation Stage-II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										
		Total Credits		68										

Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.

PROGRAM ELECTIVE COURSES (AHES)

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.	HRE-517A	Modeling, Simulation and Computer Applications	PEC	4	3	1	2/2	3	-	20	20	20	40	-
2.	HRE-518	Environmental Planning and Management	PEC	4	3	1	-	3	-	25	-	25	50	-
3.	HRE-522	Wind Energy Application Technology	PEC	4	3	1	-	3	-	25	-	25	50	-
4.	HRE-526	Instrumentation for Hydro Power Plants	PEC	4	3	1	2/2	3	-	20	20	20	40	-
5.	HRE-528	Rural Electrical Energy System Planning and Design	PEC	4	3	1	-	3	-	25	-	25	50	-
6.	HRE-530	Remote Sensing and GIS for SHP Planning	PEC	4	3	-	2	3	-	15	25	20	40	-
7.	HRE-534	Construction Planning and Management	PEC	4	3	1	-	3	-	25	-	25	50	-
8.	HRE-536	Biomass Production and Utilisation	PEC	4	3	1	-	3	-	25	-	25	50	-
9.	HRE-538	Operation and Maintenance of Small Hydro Plants	PEC	4	3	1	-	3	-	25	-	25	50	-
10.	HRE-540	Solar Photo-Voltaic Design and Application	PEC	4	3	1	-	3	-	25	-	25	50	-
11.	HRE-542	Energy Conservation and Management	PEC	4	3	1	-	3	-	25	-	25	50	-
12.	HRE-548	Simulation of Small Hydropower Plants	PEC	4	3	1	2/2	3	-	20	20	20	40	-
13.	HRE-580	Climate Change and water resources	PEC	4	3	1	-	3	-	25	-	25	50	-
14.	HRE-582	Electric vehicular Technology	PEC	4	3	1	-	3	-	20 - 35	- -	20 - 30	40 - 50	-
15.	HRE-581	Energy-Water-Food Nexus	PEC	4	3	1	-	3	-	20 - 35	- -	20 - 30	40 - 50	-