

JIS Institute for Advanced Studies and Research (JISIASR)

2 Years M.Tech in New and Renewable Energy and Applications

Course structure

1st Semester:

Sl. No	Subject code	Subject Name	Class Load/Week			Total load (h/week)	Credit
			L	T	P		
1.		Introduction to Renewable Energy: Materials and Resource Assessment	3	1	0	4	4
2.		Solar Cells and Photovoltaic Engineering	3	1	0	4	4
3.		Wind and Biomass Energy Systems	3	1	0	4	4
4.		Elective- I*	3	1	0	4	4
5.		Lab - I: Solar PV and System Laboratory	0	0	3	3	2
6.		Lab – II: Weather monitoring and solar thermal system Laboratory	0	0	3	3	2
7.	CBCS	Offered by other centres / departments / MOOC Courses	4	0	0	4	4
1st SEMESTER TOTAL						-	24
8.	STI-S101	Seminar/SkillX	-	-	-	-	2

*Elective papers:

1. Photovoltaic Power Plant Engineering and Management
2. Economics and Financing of Energy System
3. Solar Thermal System: Fundamental and Applications

2nd Semester:

Sl. No	Subject code	Subject Name	Class Load/Week			Total load (h/week)	Credit
			L	T	P		
1.		Policy and Planning Aspects of Energy Management of Renewable Sources	3	1	0	4	4
2.		Fuel Cells, Green Hydrogen and Battery Management System	3	1	0	3	4
3.		Electric Vehicle design and application	3	1	0	3	4
4.		Elective- II**	4	0	0	4	4
5.		Lab - III: Wind, Biomass Energy and Microgrid Lab and Industry Visit	0	0	3	3	2
6.		Lab - IV: System Design and Mini Project Laboratory	0	0	3	3	2
7.	CBCS	Offered by other centres / departments / MOOC Courses	4	0	0	4	4
2nd SEMESTER TOTAL						-	24
9.	STI-S201	Seminar/SkillX	-	-	-	-	2

**Elective papers:

1. Instrumentation and Control Engineering in Renewable Energy
2. Smart Microgrid Systems: Design and Performance
3. Wind small hydro Power Generation

3rd Semester:

Sl. No	Paper	Credit
1	M. Tech Thesis Part - I (Progress Report) ***	12
2	Progress Report Seminar and Viva-voce	12
Total Credit		24

4th Semester:

Sl. No	Paper	Credit
1	M. Tech Final thesis ***	16
2	Thesis Seminar and Grand Viva	8
Total Credit		24

***At least 4 months in industry is must for project related work in the 2nd year of the course.