Name of the faculty: **LOVELEENA, Sr. Lecturer**
Discipline: **Instrumentation & control**
Semester: **4th**
Subject: **Principle of energy management**
Lesson Plan Duration: **14 weeks (March-June 2023)**

Week	Theory		Practical	
	Lecture Day	Topic	Practical Day	Practical Topic
1st	1st	Energy and its source	1	Realization of energy conservation by improving power factor.
	2nd	Types of energy	2	
	3rd	Renewable energy sources	3	
	4th	Non-renewable sources		
2nd	5th	Present energy scenario in India	4	Case study on energy audit (college/hostel building etc.).
	6th	Types of renewable energy	5	
	7th	Methods of obtaining energy	6	All files are checked
	8th	Concept of MPPT		
3rd	9th	Methods of obtaining energy from biomass	7	To demonstrate the P-V characteristics using PV module with varying radiation and temperature level.
	10th	Principle of wind energy conversation	8	
	11th	Non-conventional energy sources	9	
	12th	Magneto hydro dynamic converter		
4th	13th	Tidal	10	To demonstrate the I-V characteristics using PV module with varying radiation and temperature level.
	14th	Geothermal	11	
	15th	Ocean	12	
	16th	Viva voice		
5th	17th	Revision	13	To study the effect of variation in tilt angle on PV module.
	18th	Types of energy	14	
	19th	Types of energy sources	15	
	20th	Concept of MPPT and methods of obtaining energy.		
6th	21st	Introduction of energy conservation	16	Viva vove
	22nd	Need and importance of energy conservation	17	
	23rd	Uses of energy technology in domestic sector	18	
	24th	Uses of energy technology in industrial sector		
7th	25th	Energy conservation by improving load factor	19	

	26th	Energy conservation by improving power factor	20	To study the effect of shading on module output power.
	27th	Types of tariff structure for electricity	21	
	28th	Use of instrumentation & control for energy conservation		
8th	29th	Introduction of energy storage	22	All files are checked
	30th	Need of energy storage	23	
	31st	Energy storage methods	24	
	32nd	Class test		
9th	33rd	Working principle of secondary batteries	25	To perform cost benefit analysis for installing solar photovoltaic roof top system.
	34th	Fuel cells	26	
	35th	Hydrogen energy system	27	
	36th	Revision		
10th	37th	Class test	28	To study the effect of shading on PV module output power.
	38th	Introduction of energy audit	29	
	39th	Methodology for preliminary and detailed energy audit	30	
	40th	Revision		
11th	41st	Energy audit instrumentation	31	All files are checked
	42nd	Class test	32	
	43rd	Need of energy storage	33	
	44th	Hydrogen energy system		
12th	45th	Viva voice	34	Viva vove
	46th	Discussion on previous topics	35	
	47th	Need of energy audit	36	
	48th	Tariff structure for electricity		
13th	49th	Class test	37	Viva vove
	50th	Types of energy	38	
	51st	Renewable energy sources	39	
	52nd	Non-renewable sources		
14th	53rd	MPPT & MHD convertor	40	Viva vove
	54th	Revision	41	
	55th	Revision	42	
	56th	Revision		