

LESSON PLAN

Name of the faculty: Manisha Goel
Discipline : Electrical Engg.
Semester : 4th
Subject : Energy sources and Management of Electrical energy
Lesson Plan Duration : 15 weeks (from January,2018 to April,2018)

Work load (Lecture/Practical) per week (55 minutes) : Lectures-05

Week	Theory	
	Lecture day	Topic
1st	1st	Renewable and Nonrenewable energy sources
	2nd	Characteristics of Energy
	3rd	Importance of non conventional sources of energy
	4th	Present scenario of Energy sources
	5th	Future prospects & economic criteria
2nd	6th	Projected Energy Consumption of India for 2030
	7th	Solar Energy and its source
	8th	Principle of conversion of solar radiation into heat/Greenhouse effect
	9th	Working of Photo voltaic cell
	10th	V-I characteristics and efficiency of Solar cell
3rd	11th	Electricity generation from solar energy
	12th	Solar water heaters
	13th	Solar furnaces
	14th	Solar cookers
	15th	Solar lighting
4th	16th	Solar pumping
	17th	Solar Pond and solar stills
	18th	Revision of Unit 1 and 2
	19th	Biomass and Biogas
	20th	Biomass Conversion technology-Wet Process
5th	21st	Biomass Conversion technology-Dry Process
	22nd	Methods for obtaining energy from biomass
	23rd	Gassifier, advantages
	24th	Types of Gassifier
	25th	Power generation by using Gassifiers
6th	26th	Revision of Unit-3
	27th	WindEnergy, advantages and disadvanatges
	28th	Windenergy conversion
	29th	Windmills-Types
	30th	Claasification of wind power Plants
7th	31st	Selection of site for a wind power plant
	32nd	Electricity generation from wind
	33rd	Local control and energy storage

	34th	Revision of unit-4
	35th	Geothermal energy and its sources
8th	36th	Prime movers for geo thermal energy conversion
	37th	Francis and Kaplan turbine
	38th	Steam generation and electricity generation
	39th	Advantages and disadvantages of Geothermal Energy
	40th	Ocean thermal energy conversion
9th	41st	Open cycle of OTEC
	42nd	Closed cycle of OTEC
	43rd	Hybrid cycle of OTEC
	44th	Tidal energy
	45th	Sea Waves
10th	46th	Revision of Unit-5
	47th	MHD and its principle
	48th	Working of MHD generator
	49th	Advantages and disadvantages of MHD
	50th	Types of MHD generation system
11th	51st	Revision of Unit 6
	52nd	Fuel Cell, Advantages and disadvantages
	53rd	Design of fuel cell
	54th	Operating principle of Fuel cell
	55th	Conversion efficiency of Fuel cell
12th	56th	Work output and emf of fuel cell
	57th	Cell voltage
	58th	Fuel cell performance
	59th	Applications of Fuel cell
	60th	Revision of Unit 7
13th	61st	Need of Energy conservation
	62nd	Brief description of coal and Oil crisis
	63rd	Environmental aspects
	64th	Energy efficiency and its significance
	65th	Energy efficient technology -CFL/LED
14th	66th	Need of Energy efficient devices
	67th	Energy conservation in Domestic Lighting
	68th	Energy conservation in Home Appliances
	69th	Energy conservation in Industrial sector-Industrial lighting, distribution system
	70th	Energy conservation in Industrial sector-Pumps, fans and blowers
15th	71st	Energy conservation in Agriculture sector- Tubewell pumps, diesel
	72nd	Macro level approach for energy conservation at design stage
	73rd	Revision of Unit-8
	74th	Revision of complete syllabus
	75th	Discussion of previous year HSBTE question papers