Govt. Polytechnic Panchkula

Electrical Engineering Department

Lesson plan (for odd-semester as per revised curriculum and study scheme)

Name of Faculty	**Visiting Faculty**
Discipline	**Electrical Engineering**
Semester	**3rd(odd- semester)**
Subject	**Non- Conventional Energy Sources**
Lesson Plan Duration	**From Sep 2020 to Dec 2020**
Work load (Theory + Practical) Per Week	**(04+00)**

Week	Day	Topics
1st	1	Discussion of Course Objective of NCES subject/ Syllabus
	2	Unit :1 Introduction to Basics of Energy
	3	Classification of Energy-primary and secondary energy
	4	commercial and non-commercial energy
2nd	1	Unit :1 Importance of non-conventional energy sources
	2	Present scenario, Future Prospectus
	3	Energy Scenario in India, Sector-wise energy consumption (domestic, industrial, agriculture etc)
	4	Revision and problem related to 1st unit/ discussion related to topic
3rd	1	Unit : 2 Introduction to Solar Energy
	2	Principle of conversion of solar radiation into heat, photo-voltaic cell
	3	Electricity generation
	4	Application of Solar Energy like solar water heaters
4th	1	Unit: 2 Solar Furnaces
	2	Solar Cookers
	3	Solar lighting, Solar pumping
	4	Revision
5th	1	Unit: 3 Bio- energy
	2	Bio-mass conversion technologies-wet and dry processes
	3	Revision
	4	Quiz Test
6th	1	Unit: 3 Methods for obtaining energy from biomass
	2	Power generation by using gasifiers
	3	Revision
	4	Revision
7th	1	Unit : 4 Introduction to Wind energy
	2	Wind Energy Conversion
	3	Windmills
	4	Electricity generation from wind- Types of wind mills
8th	1	Unit: 4 Local Control
	2	Energy storage
	3	Revision
	4	Quiz
9th	1	Display of 1st sessional marks and identification of weak students.
	2	Unit: 5 Introduction to Geo-thermal and Tidal Energy, Geo-thermal sources
	3	Ocean thermal electric conversion

	4	Open and Closed cycles
10th	1	Unit : 5 Hybrid cycles
	2	Prime movers for geo-thermal energy conversion
	3	Steam Generation and electricity generation
	4	Revision and problem related to 5thunit/ discussion related to topic
11th	1	Unit :- 6 Introduction to MHD
	2	Magneto hydro Dynamic (MHD)
	3	Revision
	4	Revision
12th	1	Unit : 7 Fuel Cells
	2	Design and operating Principles of a fuel cell
	3	Conversion Efficiency
	4	Quiz
13th	1	Display of 2ndsessional marks and identification of weak students.
	2	Unit : 7 Work output and e.m.f of fuel cells, Applications
	3	Revision
	4	Revision
14th	1	Unit : 8 Hydro Energy
	2	Mini & micro hydro plants
	3	Revision
	4	Revision
15th	1	Revision
	2	Discussion of old question paper of HSBTE.
	3	Conduct of 3rdSessional test (tentative)
	4	Display of 3rdSessional marks