MERI College of Engineering and Technology
(MERI - CET)

Session: 2020-21

Lesson Plan

Name of the Faculty : Mr. Sandeep Chhillar (Theory & Practical)

Discipline : Mechanical Engineering

Semester : 7th

Subject : Solar Energy Engineering (ME-431-F)

Lesson Plan Duration : 15 Weeks (from Aug., 2020 to Nov., 2020)

** Work Load (Lecture/Practical) per week (in hours): Lectures-02, Practicals-00

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/test)	Practical day	Topic
1st	1st	Solar Radiation: Introduction, solar system – sun, earth and earth-sun angles, time, derived solar angles	No Practical's	
	2nd	estimation of solar radiation (direct and diffuse), measurement systems – pyrheliometers' and other devices		
2nd	3rd	Effect of Solar radiation upon structures: Steady state heat transmission		
	4th	solar radiation properties of surfaces, shading of surfaces		
3rd	5th	periodic heat transfer through walls and roofs.		
	6th	Solar Collectors: Flat plate and concentrating – comparative study		
4th	7th	design and materials, efficiency, selective coatings, heliostats		

	8th	Heating Applications of Solar Energy: Air and Water heating systems		
5th	9th	thermal storages, solar bonds, solar pumps		
	10th	solar lighting systems		
6th	11th	solar cookers, solar drying of grains		
	12th	Cooling Applications of Solar Systems		
7th	13th	Continuous and intermittent vapour absorption systems for cooling applications		
	14th	absorbent – refrigerant combination and passive cooling systems		
8th	15th	Solar Electric Conversion Systems		
	16th	Photovoltaic, solar cells		
9th	17th	satellite solar power systems		
	18th	Effects on Environment		
10th	19th	economic scenario		
	20th	ozone layer depletion		
11th	21st	greenhouse effect		
	22nd	global warming		
12th	23rd	Remedial measures by international bodies		
	24th	Revision of important topics		
13th	25th	Revision of important topics		
	26th	Revision of important topics		
	28th			