

SUDHANANDA ENGINEERING & RESEARCH CENTRE

LESSON PLAN

ACADEMIC YEAR -2022-2023

BRANCH:EE
SEMESTER:6

SUBJECT: RENEWABLE ENERGY SYSTEMS
TOTAL HOURS: 60

NAME OF FACULTY: B. KRISHNA PRIYA

SL.NO	TOPIC TO BE TAUGHT	NO OF PERIODS REQUIRED	MODULE NO
1	1.IntroductiontoRenewable energy:	1	1
2	1.1. Environmental consequen of fossil fuel use.	1	1
3	1.2 Importance of renewable sources of energy.	1	1
4	1.2. Sustainable Design and development.	1	1
5	1.4 Types of RE sources.	1	1
6	1.5. Limitations of RE sources.	1	1
7	1.6. Present Indian and international energy scenario conventional and RE sources	1	1
8	REVISION	1	1
9	2.SolarEnergy:	1	2
10	2.1.Solar photo voltaic system- Operating principle.	1	2
11	2.2.Photovoltaiccellconcepts	1	2
12	2.2.1. Cell, module, array, Series and parallel connections.	1	2
13	Maximum power point tracking(MPPT).	1	2
14	2.3. Classification of energy Sources.	1	2
15	2.4.Extra-terrestrialandterreRadiation.	1	2
16	2.5.Azimuthangle,Zenithangle,Hourangle,Irradiance,Solarconstant.	1	2
17	CLASSTEST-1	1	
18	2.6.Solarcollectors,Typesandperformancecharacteristics,	1	2
19	2.7.Applications:Photovoltaic-batterycharger,domesticlighting,streetlighting,	1	2
20	waterpumping,solarcooker,SolarPond.	1	2
21	REVISION	1	2
22	3.WindEnergy:IntroductiontoWind energy.	1	3
23	Windenergyconversion.	1	3
24	Typesofwindturbines	1	3
25	Aerodynamicsofwindrotors.	1	3
26	Windturbinecontrolsystems;conversiontoelectricalpower:	1	3
27	Inductionandsynchronousgenerators.	1	3
28	Gridconnectedandselfexcitedinductiongeneratoroperation.	1	3
29	Constantvoltagegenerationwithpowerelectroniccontrol.	1	3
30	Constantfrequencygenerationwithpowerelectroniccontrol.	1	3

31	Singleanddoubleoutput systems.	1	3
32	Hybridconnection&Singleanddoubleoutputsystems.	1	3
33	Characteristicsofwindpowerplant.	1	3
34	REVISION	1	3
35	BiomassPower:EnergyfromBiomass.	1	4
36	BiomassasRenewableEnergySource	1	4
37	TypesofBiomassFuels-Solid,LiquidandGas.	1	4
38	Combustionandfermentation.	1	4
39	INTERNALASSESSMENT	1	4
40	Anaerobicdigestion.	1	4
41	Typesofbiogasdigester.	1	4
42	Woodgassifier.	1	4
43	Pyrolysis,.	1	4
44	Applications:Biogas,Biodiesel	1	4
45	REVISION	1	4
46	OtherEnergySources	1	5
47	TidalEnergy:Energyfromthetides,BarrageandNonBarrage	1	5
48	Tidalpowersystems.	1	5
49	OceanThermalEnergyConversion(OTEC).	1	5
50	GeothermalEnergy-Classification.	1	5
51	HybridEnergySystems.	1	5
52	NeedforHybridSystems.	1	5
53	Electricandhybridelectricvehicles.	1	5
54	INTERNAL	1	
55	Electricandhybridelectricvehicles.	1	5
56	IntroductiontoHybridElectricVehicles	1	5
57	DynamicsofhybridandElectricvehicles	1	5
58	REVISION	1	5
59	CLASSTEST-2	1	5
60	REVISION	1	5
61	REVISION	1	5