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Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025

Renewable Energy Power Plants

Time: 3 hrs.

Max. Marks: 100

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.**2. M : Marks , L: Bloom's level , C: Course outcomes.*

Module – 1			M	L	C
Q.1	a.	Explain briefly different renewable and non-renewable energy sources.	10	L2	CO1
	b.	Explain environmental benefits and challenges of renewable energy sources.	10	L2	CO1
OR					
Q.2	a.	Explain extra-terrestrial radiation and special distribution of extra terrestrial radiation.	10	L2	CO1
	b.	Explain solar radiation at the earth's surface.	10	L2	CO1
Module – 2					
Q.3	a.	Explain pyranometer with neat sketch.	10	L2	CO2
	b.	Explain pyrheliometer with neat sketch.	10	L2	CO2
OR					
Q.4	a.	Explain PV system components and their functionalities.	10	L2	CO2
	b.	What are the design considerations for solar power plants.	10	L2	CO2
Module – 3					
Q.5	a.	Explain horizontal wind energy power plant with diagram.	10	L3	CO3
	b.	Explain the parameters effecting the energy extraction through wind.	10	L2	CO1
OR					
Q.6	a.	Explain with schematic diagram the working of a dry steam geothermal power plant.	10	L3	CO3
	b.	What are the problems associated with geothermal conversion.	10	L2	CO3
Module – 4					
Q.7	a.	Explain different ways to extract energy through tides with neat diagram.	10	L3	CO4
	b.	Explain different ways to extract energy through waves with neat diagram.	10	L2	CO4
OR					
Q.8	a.	Describe OTEC and working principle with neat sketch.	10	L2	CO4
	b.	What are the problems associated with OTEC.	10	L2	CO4
Module – 5					
Q.9	a.	Explain fixed dome biogas power plant with diagram.	10	L2	CO5
	b.	Explain gasification with diagram.	10	L2	CO5
OR					
Q.10	a.	Explain Hydrogen Production Technology (Electrolysis method).	10	L2	CO5
	b.	Describe advantages of hydrogen energy.	10	L2	CO5

