CBCS SCHEME

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BME654B

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

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