CBCS SCHEME

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BME654B

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Renewable Energy Power Plant

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 an overview of global energy demand and the need for renewable energy source.	10	L2	CO1
	b.	List advantages and disadvantages of renewable energy resource.	10	L2	CO1
		OR			
Q.2	a.	Explain spectral distribution of extra-terrestrial radiation.	10	L2	CO2
	b.	Explain the terrestrial radiation received on the earth surface with figure.	10	L2	CO2
		Module – 2			
Q.3	a.	With a neat sketch, explain the working principle of solar pond electric power generation.	10	L2	CO2
	b.	Write short note on : i) Sunshine recorder ii) Pyrheliometer	10	L2	CO2
		OR			
Q.4	a.	List the types of solar power plant and explain any one.	10	L2	CO1
	b.	List and explain design consideration for solar power plants.	10	L2	CO2
		Module – 3			
Q.5	a.	With a neat sketch explain components of horizontal axis wind mill and also list some advantage and disadvantages.	10	L2	CO3
	b.	Describe the main consideration in selecting the site for wind generator.	10	L2	CO3
		OR			
Q.6	a.	List the types of geothermal station and explain any one with schematic diagram.	10	L2	CO4
	b.	Explain the problem associated with geothermal energy conversion.	10	L2	CO4
		Module – 4			
Q.7	a.	Explain the working principle of single tide basin and list few advantages and disadvantages.	10	L2	CO4
	b.	Explain the fundamental characteristics of tidal powers.	10	L2	CO4

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		OR			
Q.8	**a.**	Explain the working principle of OTEC with neat sketch.	**10**	**L2**	**CO4**
	b.	Explain the problem associated with OTEC.	**10**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	Sketch and explain the working of a fixed dome biogas plant.	**10**	**L2**	**CO5**
	b.	List the application of biogas. What are the problems involved in production of biogas?	**10**	**L2**	**CO5**
		OR			
Q.10	**a.**	With a neat block diagram, explain the process of production of hydrogen by electrolysis method.	**10**	**L2**	**CO4**
	b.	Write the advantage, disadvantage and application of hydrogen energy.	**10**	**L2**	**CO4**

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