CBCS SCHEME

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BME515D

Fifth Semester B.E./B.Tech. Degree Examination, June/July 2025
Energy Engineering

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.	With a neat sketch, explain the working of Benson boiler.	10	L2	CO1
	b.	Why cooling towers and ponds are used in thermal power stations?	2	L1	CO1
	c.	Explain the importance of accessories of boiler.	8	L2	CO1
		OR			
Q.2	a.	Explain the applications of diesel engines in power field.	10	L2	CO1
	b.	With a neat sketch, explain the layout of diesel power plant.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the working principle of pyranometer and pyrhaliometer with a neat sketch.	10	L2	CO2
	b.	With a neat sketch, explain the solar pond electric power generation.	10	L2	CO2
		OR			
Q.4	a.	With a neat sketch, explain the working of floating drum biogas plant.	10	L2	CO3
	b.	Explain the factors affecting biogas generation.	10	L2	CO3
		Module – 3			
Q.5	a.	With a neat sketch, explain the working of dry steam geothermal power plant.	10	L2	CO3
	b.	With a neat sketch, explain the working of double basin tidal power plant.	10	L2	CO3
		OR			
Q.6	a.	What are the advantages and limitations and applications of wind energy?	10	L2	CO3
	b.	With a neat sketch, explain the working principle of horizontal axis wind turbine.	10	L2	CO3
		Module – 4			
Q.7		Write a short note of the following : i) Hydrographs and flow duration curves. ii) Storage and pondage. iii) Penstock and surge tank. iv) Draft tube and their applications. v) Pumped storage plants.	20	L2	CO3

OR					
Q.8	a.	With a neat sketch, explain Open cycle and Closed cycle OTEC system.	14	L2	CO3
	b.	Explain the problems associated with OTEC system.	6	L2	CO3
Module – 5					
Q.9	a.	Explain the principles of release of nuclear energy – Fusion and Fission reactions.	8	L2	CO3
	b.	With a neat sketch, explain the working principle of Pressurized water reactor.	12	L2	CO3
OR					
Q.10		Write a short note of the following : i) Nuclear fuels. ii) Nuclear Fusion and Fission. iii) Chain reaction. iv) Radiation hazards. v) Radioactive waste disposal.	20	L2	CO3

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