CBCS SCHEME

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BME515D

ACHARYA INSTITUTE OF TECHNOLOGY MC Library Date BANGALORE

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
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 principle of Benson Boiler.	10	L2	CO1
	b.	With a neat sketch, explain forced draught and induced draught cooling towers.	10	L2	CO1
		OR			
Q.2	a.	With a neat diagram , explain the general layout of diesel power plants.	10	L2	CO1
	b.	Explain the different methods of starting diesel engines.	6	L2	CO1
	c.	Write any 4 applications of diesel power plants.	4	L1	CO1
		Module – 2			
Q.3	a.	With a neat sketch, explain Pyranometers.	6	L2	CO2
	b.	With a neat sketch, explain the flat plate collectors.	6	L2	CO2
	c.	With a neat diagram, explain the electric power generation from solar ponds.	8	L2	CO2
		OR			
Q.4	a.	Write the difference between Biomass and Biogas.	5	L4	CO3
	b.	Explain the working of down draft gasifier, with neat sketch.	10	L2	CO3
	c.	What are the factors affecting biogas generation.	5	L1	CO3
		Module – 3			
Q.5	a.	Explain the advantages and disadvantages of Tidal plants.	10	L1	CO3
	b.	Explain the Hot dry rock energy system, with a neat sketch.	10	L2	CO3
		OR			
Q.6	a.	Explain the working of Horizontal axis wind mill.	10	L2	CO3
	b.	List the advantages and disadvantages of wind energy.	10	L1	CO3

		Module – 4			
Q.7	a.	With a neat sketch, explain the general layout of a hydel power plant.	10	L2	CO3
	b.	Write a note on : i) Hydrographs ii) Flow duration curves iii) Spill ways iv) Surge tank v) Water hammer	10	L1	CO3
		OR			
Q.8	a.	List the advantages of hydel power plants.	5	L1	CO3
	b.	What are the problems encountered in harnessing OTE?	7	L1	CO3
	c.	Explain the working of Rankine cycle in OTEC system.	8	L2	CO3
		Module – 5			
Q.9	a.	Write the advantages and disadvantages of nuclear power plants.	10	L1	CO3
	b.	Explain the layout of a nuclear power plant.	10	L2	CO3
		OR			
Q.10	a.	With a neat sketch, explain boiling water reactor.	10	L2	CO3
	b.	Write a note on : i) Structure of an atom ii) Disposal of nuclear wastes.	10	L1	CO3

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