

CBCS SCHEME

18ME81

USN

--	--	--	--	--	--	--	--	--	--

Eighth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Energy Engineering

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. List and explain the steps in Coal Handling. (10 Marks)
b. Describe with a neat sketch La Mont Boiler and list advantages. (10 Marks)

OR

- 2 a. Describe with a neat sketch, Natural Draught Cooling tower. List the advantages. (10 Marks)
b. Summarize : i) Super heater ii) Economizer iii) De Superheater (10 Marks)
iv) Air preheater.

Module-2

- 3 a. Describe the Solar radiation at Earths surface with direct and diffuse solar radiation. (10 Marks)
b. Summarize the components of Flat Plate Collectors, with neat sketch. (10 Marks)

OR

- 4 a. Explain with a neat sketch, KVIC type of Biogas plant and list advantages. (10 Marks)
b. Explain with a neat sketch, Fixed dome type ϕ biogas plant and list advantages. (10 Marks)

Module-3

- 5 a. List and describe the categories of forms of geothermal energy. (10 Marks)
b. Outline Single basin and Double basin system. (10 Marks)

OR

- 6 a. List and explain the Basic components of Wind Energy Conversion System. (10 Marks)
b. Describe the working of Horizontal axis type wind mills and list advantages. (10 Marks)

Module-4

- 7 a. Summarize : i) Flow duration curve ii) Storage and Pondage. (10 Marks)
b. Outline the general layout of Hydel Power plants. (10 Marks)

OR

- 8 a. Summarize : i) Water Hammer ii) Problem with OTEC. (10 Marks)
b. Describe with a neat block diagram, principle of OTEC with Rankine cycle. (10 Marks)

Module-5

- 9 a. Describe Fusion and Fission reactions. (10 Marks)
b. Outline : i) Nuclear fuels ii) Breeding. (10 Marks)

OR

- 10 a. Describe Boiling water reactor and list the advantages. (10 Marks)
b. Summarize : i) Shielding ii) Radioactive waste disposal. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.