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## Eighth Semester B.E. Degree Examination, June/July 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. Explain the steps involved in coal handling. Also mention the devices used for them. (10 Marks)  
b. Explain the advantages of high pressure boilers. (10 Marks)

OR

- 2 a. With a sketch explain the working of a pneumatic ash handling system. State its advantages and disadvantages. (10 Marks)  
b. With a sketch, explain the working of a Benson boiler. (10 Marks)

#### Module-2

- 3 a. With a sketch explain the working of a pyrheliometer. (10 Marks)  
b. Name and briefly explain the factors which affect the generation of biogas. (10 Marks)

OR

- 4 a. With a sketch explain the working of a solar pond. (10 Marks)  
b. With a sketch explain the working of a KVIC digester. (10 Marks)

#### Module-3

- 5 a. Explain different Geo-thermal sources. (10 Marks)  
b. Give advantages and disadvantages of tidal power plants. (10 Marks)

OR

- 6 a. Explain with sketches single basin and double basin arrangements of tidal power plants. (10 Marks)  
b. How are winds generated? Give their characteristics. (10 Marks)

#### Module-4

- 7 a. Give advantages and disadvantages of water power. (10 Marks)  
b. Write a note on surge tanks and explain different types of surgetanks in use. (10 Marks)

OR

- 8 a. Give detailed classification of hydel power plants. (10 Marks)  
b. Explain the principle and working of Rankine cycle used in ocean thermal plants. (10 Marks)

#### Module-5

- 9 a. With a sketch explain the components of a nuclear reactor. (10 Marks)  
b. Write a note on radio-active waste disposal. (10 Marks)

OR

- 10 a. With a sketch, explain the working of a Pressurized Water Reactor (PWR). (10 Marks)  
b. Give the advantages and disadvantages of nuclear power plants. (10 Marks)

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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.