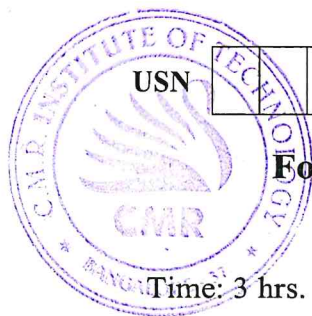


# CBCS SCHEME



17EE42

## Fourth Semester B.E. Degree Examination, Feb./Mar. 2022 Power Generation and Economics

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Write a neat diagram, explain the working hydro electric power plant. (08 Marks)  
b. Describe the merits and demerits of hydro electric power plant. (06 Marks)  
c. Define the term with graph i) Hydrograph ii) Flow duration curve iii) Mass curve. (06 Marks)

OR

- 2 a. Explain classification of hydroelectric power plant based on water head. (06 Marks)  
b. With a neat schematic diagram explain working of pumped storage power plant and write the advantage of pumped storage power plant. (08 Marks)  
c. What is meant by phenomenon "Water hammering"? Explain how a surge tank helps in reducing water hammer effect. (06 Marks)

### Module-2

- 3 a. Describe the working of closed cycle gas turbine power plant with a neat diagram. (10 Marks)  
b. Give the comparison of hydro power plant with steam power plant. (05 Marks)  
c. Mention the advantages and disadvantages of diesel power plant. (05 Marks)

OR

- 4 a. What are the main consideration for selection of site for thermal power plant station? (08 Marks)  
b. Explain the technique of dust collection in thermal power plant. (08 Marks)  
c. Explain the function of preheater and economizer in thermal power plant. (04 Marks)

### Module-3

- 5 a. Explain the nuclear reactor with neat diagram. (10 Marks)  
b. What are the classifications of nuclear reactor? Explain operation of fast breeder reactor. (10 Marks)

OR

- 6 a. List the advantages and disadvantages of nuclear power plant. (06 Marks)  
b. Write the points for the selection of site for nuclear power plant. (07 Marks)  
c. Write briefly about nuclear waste disposal. (07 Marks)

### Module-4

- 7 a. Write short notes on: i) Resistance grounding ii) Reactance grounding. (10 Marks)  
b. With neat sketch, explain Single Bus Bar System. (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.

OR

- 8 a. Explain the interconnection of power station with its advantages and disadvantages. (06 Marks)  
b. State function of i) Current limiting reactor ii) Lighting arrester iii) Fuse. (06 Marks)  
c. Write short notes on i) Resonant grounding ii) Solid grounding. (08 Marks)

Module-5

- 9 a. Define: i) Demand factor ii) Diversity factor. (04 Marks)  
b. Describe the classification of cost of electricity. (08 Marks)  
c. Explain the disadvantages of low power factor. (08 Marks)

OR

- 10 a. What are factors to be considered while deciding the number of generating units? (08 Marks)  
b. Describe types of consumer and their tariff. (08 Marks)  
c. Discuss the economic of power factor correction. (04 Marks)

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