

# CBCS SCHEME

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15EE42

Fourth Semester B.E. Degree Examination, Dec.2018/Jan.2019

## Power Generation and Economics

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Define the terms with graph : i) Hydrograph ii) Flow duration curve iii) Mass curve. (06 Marks)
- b. What are the points to be considered for the selection of site in hydro power plant?(06 Marks)
- c. List out the merits and demerits of Hydro Power Plant. (04 Marks)

OR

- 2 a. Explain the components of high head hydroelectric power plant with its schematic arrangement. (10 Marks)
- b. Explain the classification of hydro electric power plant based on water head. (06 Marks)

### Module-2

- 3 a. Mention the classification of stokers. Explain overfeed and underfeed stoker with diagram. (08 Marks)
- b. What is Steam prime movers? Explain Impulse and Reaction turbine. (08 Marks)

OR

- 4 a. Explain how the use of Regenerator, Intercooler and Reheater in gas – turbine power plant help in improvement of thermal efficiency. (08 Marks)
- b. With a flow diagram, explain the Fuel handling system. (04 Marks)
- c. Give the application of Diesel Power Plant. (04 Marks)

### Module-3

- 5 a. Mention the factors which go in favour of Nuclear Power station. (06 Marks)
- b. What are the classification of Nuclear Reactor? Explain BWR with diagram. (10 Marks)

OR

- 6 a. With a neat sketch, explain the main parts of Nuclear Reactor. (10 Marks)
- b. Write briefly about Nuclear Waste Disposal. (06 Marks)

### Module-4

- 7 a. Define the terms :  
i) Circuit breakers ii) Lighting arresters iii) Reactors and capacitors. (04 Marks)
- b. Explain the Interconnection of power station with its advantages and disadvantages. (04 Marks)
- c. Write short notes on : i) Resistance Grounding ii) Reactance Grounding. (08 Marks)

OR

- 8 a. Give short notes on : i) Resonant Grounding ii) Solid Grounding. (08 Marks)
- b. With neat sketch, explain single bus bar system. (08 Marks)

**Module-5**

- 9 a. What are the main disadvantages and causes of poor power factor? (07 Marks)  
b. Mention the measures by which low power factor can be avoided. (05 Marks)  
c. Discuss the Economics of Power factor correction. (04 Marks)
- OR**
- 10 a. Define Tariff. Explain different types of Tariffs. (06 Marks)  
b. What are the main objectives in framing a Tariff? (06 Marks)  
c. Explain the types of consumers and write the general form of Tariff. (04 Marks)

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