

**6TH SEM./MECH. /DIP.MECH./MECH(MAIN)/ MECH(PROD) /MECH(SAND)/
MECH(IND.INT) /2023 (S)**

TH-3 Power Station Engineering

Full Marks: 80

Time- 3 Hrs

Answer any five Questions including Q No.1 & 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
 - a. What is the function of a condenser?
 - b. What do you mean by fusion and fission reaction?
 - c. State any four sources of energy.
 - d. What are the functions of fuel injection system in a diesel power plant?
 - e. Name the essential elements of a Hydro-electric power plant.
 - f. State the function of an air pre-heater.
 - g. What is the function of moderator in a nuclear power plant?
 - h. Define draught.
 - i. Write name of fuels used in gas turbine power station.
 - j. What is an 'economiser'?
2. Answer **Any Six** Questions 6 x 5
 - a. State the advantages and disadvantages of diesel power plant.
 - b. Write a short note on boiler accessories.
 - c. Explain the working of BWR with neat sketch.
 - d. State the criteria for selection of site for a gas turbine power plant.
 - e. Differentiate between central power station and captive power station.
 - f. State the advantages and disadvantages of hydroelectric plants.
 - g. Explain about different types of cooling tower.
3. Explain in detail about cooling system & lubricating system of a diesel power plant. 10
4. Explain Rankine cycle with P-V and T-S diagram and determine its efficiency. 10
5. Explain different methods of disposal of nuclear waste. 10
6. Briefly describe about the main components of a gas turbine power plant. 10
7. What are the criteria for site selection of a hydro electric power plant? Explain in detail. 10