QP Code: SN22BTECH580 | Reg. No | | | | | | | | | | | AR 21

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Seventh Semester - Regular) Examinations, November-2025

22BELPC47001/22BEEPC47001 - Power Station Engineering and Economy

(EE / EEE)

Time: 3 hrs | Maximum: 70 Marks

Answer ALL questions

(The figures in the right-hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a. List the types of information that can be obtained from a load curve	CO1	K1
b. Analyze the main disadvantages of nuclear power plants	CO2	K3
c. What is the main function of Trash racks in hydro power plants	CO3	K1
d. Explain briefly the purpose of a cooling tower in a thermal power plant.	CO4	K2
e. Identify the function of a superheater in a steam power plant.	CO5	K2

PART – B **(15 x 4 = 60 Marks)**

Answer ***all*** the questions	Marks	CO #	Blooms Level
2. a. Discuss the load duration curve and how it differs from the load curve.	8	CO1	K3
b. The maximum demand on a power station is 100 MW. If the annual load factor is 40%, calculate the total energy generated in a year.	7	CO1	K3
(OR)			
c. Define Connected Load, Maximum Demand, and Average Load. Explain their importance.	8	CO1	K2
d. A generating station has a connected load of 43MW and a maximum demand of 20 MW; the units generated being $61{\cdot}5 \times 10^6$ per annum. Calculate (i) the demand factor and (ii) the load factor.	7	CO1	K3
3.a. Illustrate the function of a Nuclear reactor with a neat diagram	8	CO2	K2
b. Explain about function of PWR with a neat diagram	7	CO2	K1
(OR)			
c. What choices influence the site selection of a nuclear power plant?	8	CO2	K2
d. Explain about function of BWR with a neat diagram	7	CO2	K2
4.a. What are the factors to be considered in selecting the site of a hydroelectric power plant?	8	CO3	K3
b. Analyze the major advantages and disadvantages of hydro power plants	7	CO3	K3
(OR)			
c. Differentiate between various types of hydro power plants based on head, capacity, and operating conditions.	8	CO3	K2
d. Explain the function of the Surge tank with a neat diagram.	7	CO3	K2
5.a. Draw the Schematic diagram of a Thermal power station and explain the steam circuit	8	CO4	K2
b. Differences between Jet Condensers and Surface Condensers.	7	CO4	K3
(OR)			
c. Explain the main features for choice of the site selection for a Thermal power plant	8	CO4	K2
d. Illustrate and explain the working of an Electrostatic Precipitator with a neat diagram.	7	CO4	K3

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