

ANURAG Engineering College
(An Autonomous Institution)

IV B. Tech I Semester Regular/Supplementary Examinations, Dec-2024

POWER PLANT ENGINEERING
(MECHANICAL ENGINEERING)

Time: 3 Hours

Max. Marks: 75

Section – A (Short Answer type questions)

Answer All Questions

(25 Marks)

	Course Outcome	B.T Level	Marks
1. Define steam power plant and classification of steam power plants.	CO1	L1	2M
2. List of fuel and handling equipment's.	CO1	L2	3M
3. Classify the Gas Turbine power plant.	CO2	L1	2M
4. Explain the advantages and disadvantages of diesel power plant	CO2	L2	3M
5. Explain the hydro-plant auxiliaries.	CO3	L1	2M
6. Write brief notes on the hydroelectric power plant.	CO3	L2	3M
7. What is a nuclear reactor?	CO4	L1	2M
8. Describe a breeder reactor. What are its advantages and disadvantages?	CO4	L2	3M
9. What is the significance of load curves?	CO5	L1	2M
10. Explain briefly the following: capital or fixed cost and operational cost.	CO5	L2	3M

Section B (Essay Questions)

Answer all questions, each question carries equal marks.

(5 X 10M = 50M)

11. A) Draw a general layout of a steam power plant and explain the working of difference circuits.	CO1	L2	10M
OR			
B) Explain with the help of a diagram the working of a cooling towers.	CO1	L3	10M
12. A) State the merits of gas turbines over I.C. engines and steam turbines. Discuss also the demerits over gas turbines.	CO2	L2	10M
OR			
B) What do you mean by combination gas turbine cycles? Explain briefly combined gas turbine and steam power plants.	CO2	L3	10M
13. A) Classify dams and explain any two of dams with neat sketches.	CO3	L2	10M
OR			
B) Explain the essential elements of pumped storage plants with neat sketch.	CO3	L3	10M
14. A) Describe the pressurized water reactor with the help of neat sketch and explain working principle and its chief characteristics.	CO4	L2	10M
OR			
B) Describe with the help a neat sketch, the working of a solar power plant. What are its salient features?	CO4	L3	10M
15. A) Write short notes on the following: i) Working of MHD generator. ii) Fuel cells and its applications.	CO5	L2	10M
OR			
B) A power station has two 60MW units each running for 1500hours a year. The energy produced per year is 700×10^6 kW-hr. Calculate the plant load factor and plant use factor.	CO5	L3	10M