**QUESTION BANK**

**Power station engineering**

6TH SEMESTER

CHAPTER-1 (2 MARKS)

1. What are the source of energy?
2. Define energy.
3. Classify power plants.
4. What is terrestrial heat?
5. What do you mean by geothermal energy?

(5 MARKS)

1. Differentiate between central and captive power station.
2. Describe the different source of energy.

CHAPTER-2 (2 MARKS)

1. What are the different main components of a steam power plant.
2. What is a steam power cycle.
3. Draw the P-V , T-S and H-S diagram of a Rankine cycle.
4. Define work ratio and specific steam consumption. 2017
5. Define thermal efficiency of Rankine cycle.
6. Define reheating of steam.
7. Define boiler accessories? Give some example.
8. What is the function of air preheater in boiler?
9. What is the need of economizer in boiler? 2016
10. What is the function of electrostatic precipitator?
11. What is the function of super heater?
12. What is the need of boiler mountings? Give example.
13. Define draught?
14. What do you mean by natural draught system?
15. Write the function of steam prime movers?
16. What are the elements of steam turbine?
17. Define compounding of steam turbine.
18. What is governing of steam turbine?
19. Define stage efficiency and gross efficiency of steam turbine.
20. What is the function of condenser?
21. Classify condenser.
22. What is the different condenser auxiliaries?
23. What is the function of condenser ectraction pump?
24. What is air extraction pump?
25. What is the function of cooling tower?
26. Write the different types of cooling tower.
27. What is natural draft cooling tower?
28. Write any two advantages of using condenser on a steam power plant.
29. Write down difference between boiler accessories and boiler mounting? 2016
30. What is steam generator?
31. Classify boiler?
32. Define and classify steam turbine.
33. Define prime mover? Give two example. 2016
34. What are the components used for coal conveying system in a thermal power plant? 2017
35. What are the basic different
36. What is the function of feed water heater? 2017
37. Define reheat factor? 2017
38. What is the objective of feed water heating in a steam power plant?
39. Define blade efficiency.

(5 MARKS)

1. Draw a layout of steam power plant.
2. Explain reheat cycle? With neat sketch and advantages and disadvantages?
3. Explain regeneration cycle with a neat sketch and advantages and disadvantages.
4. Write short note on i) Air preheater ii) Economizer
5. What is boiler accessories? Explain with neat sketch some of accessories function?
6. Write short notes on : i) Electro static precipitator ii) Superheater
7. What do you mean by draught system? Explain the draught system with advantages and disadvantages.
8. Explain forced draught and balanced draught system.
9. What do you mean by steam prime movers? Explain the advantages and disadvantages of a steam turbine.
10. Explain governing of steam turbine?
11. Explain jet condenser.
12. Differentiate between jet condenser and surface condenser?
13. What is the function of condenser? Explain the different function of condenser auxiliaries?
14. Differentiate between natural draft cooling tower and mechanical draft cooling tower.
15. Why compound of steam turbine is necessary ? Explain velocity compounding? 2017
16. Explain the requirement of good condensing system. 2017
17. What is regenerative cycle? Explain direct contact heater type regeneration system. 2017
18. Write down the function and classification of condenser? Draw the sketch of surface condenser and explain it. 2016

(10 MARKS)

1. With neat sketch explain Rankine cycle with P-V,T-S and h-s diagram, thermal efficiency, work done, work ratio and specific steam consumption.
2. Explain reheat cycle and regenerative cycle? Also combination of reheat and regenerative cycle with advantages and disadvantages?
3. What do you mean by draught system? Explain different draught system with their advantages and disadvantages.
4. Explain compounding and governing of steam turbine.
5. What is cooling tower? Describe different type of cooling tower.
6. With neat sketch explain throttle governing of steam turbine? 2017
7. Describe various type of natural draft cooling tower. 2017
8. Explain the working of green’s economizer with a neat sketch. 2015
9. With a neat sketch explain nozzle control governing of steam turbine?
10. Draw the layout of steam power plant mentioning all components in details. 2016
11. Why compounding of steam turbine is necessary? Mention various types of compounding describing one of them in details. 2016
12. In which way, artificial cooling tower are different from natural cooling tower. Explain with neat sketch about an artificial draught cooling tower. 2016
13. Solve all problems

CHAPTER-3 (2 MARKS)

1. Define nuclear fuel? Write some example.
2. Classify nuclear fuel?
3. Differentiate between fissile and fertile material?
4. What is the function of nuclear reactor?
5. What is moderator?
6. What is the function of coolant in nuclear power plant? Give some example.
7. What is the function of control rod in nuclear power plant?
8. What is the full form of PWR and BWR?
9. Mention two places in India where there are nuclear power plant? 2016
10. What do you mean by fission reaction? Give an example. 2015

(5 MARKS)

1. With a neat sketch explain the working of boiling water reactor plant. 2017
2. Compare between a nuclear power plant and thermal power plant. 2016
3. Explain how nuclear waste is disposed of? 2016
4. What is chain reaction? Explain controlled and uncontrolled chain reaction. 2016
5. Explain fusion and fission reaction.
6. Explain with neat sketch the working of pressurized water reactor plant.

(10 MARKS)

1. What is nuclear reactor? Explain with a neat diagram different components of a nuclear reactor?
2. Explain the different method of disposal of nuclear waste.

CHAPTER-4 (2 MARKS)

1. What is the function of injection system in a diesel power plant? 2017
2. What is governing system in diesel engine power plant?
3. What is diesel engine power plant?

(5 MARKS)

1. Explain the fuel storage and supply system of a diesel power plant. 2017
2. Write the advantages of diesel plant.

(10 MARKS)

1. State the advantages and disadvantages of a diesel power plant over steam plant. 2017
2. Explain the cooling system used in a diesel power plant. 2016
3. Explain in detail about cooling system and lubrication system of a diesel power plant. 2015
4. Explain briefly different system of diesel power plant.

CHAPTER-5 (2 MARKS)

1. Write two hydro power plant in India and as well as in Odisha.
2. Write the element of hydroelectric power plant.
3. Classify hydroelectric power plant?

(5 MARKS)

1. Classify hydro power plant based on different aspect of load and explain ?

(10 MARKS)

1. State the advantages and disadvantages of hydroelectric power plant. 2017
2. What are the criteria for site selection of a hydroelectric power plant? Explain in detail. 2015
3. Explain the storage type hydroelectric power plant and explain its operation.