

UNIT-1

Generation of Electric Power

Multiple Choice Questions

1. The main source of energy in a hydroelectric power plant is:
A) Coal B) Uranium C) Water stored at height D) Natural gas
Answer: C
2. Which component converts hydraulic energy into mechanical energy in a hydel plant?
A) Alternator B) Transformer C) Turbine D) Condenser
Answer: C
3. The function of a surge tank in a hydropower plant is:
A) Store fuel B) Reduce water hammer effect
C) Increase turbine speed D) Generate electricity
Answer: B
4. Which turbine is suitable for high-head hydroelectric plants?
A) Kaplan Turbine B) Francis Turbine
C) Pelton Wheel D) Propeller Turbine
Answer: C
5. The primary fuel used in a thermal power station is:
A) Water B) Coal C) Wind D) Solar Energy
Answer: B
6. Which cycle is commonly used in thermal power plants?
A) Carnot Cycle B) Otto Cycle C) Rankine Cycle D) Brayton Cycle
Answer: C
7. The fuel commonly used in nuclear power plants is:
A) Coal B) Uranium-235 C) Diesel D) Natural Gas
Answer: B
8. The process responsible for energy generation in a nuclear reactor is:
A) Fusion B) Fission C) Combustion D) Ionization
Answer: B
9. Gas turbine power plants operate mainly on:
A) Rankine Cycle
B) Brayton Cycle
C) Otto Cycle
D) Diesel Cycle
Answer: B
10. Which component compresses air before combustion in a gas turbine plant?
A) Condenser
B) Compressor
C) Boiler

D) Economizer

Answer: B

11. The basic unit of a solar photovoltaic system is:

A) Turbine

B) Solar Cell

C) Generator

D) Boiler

Answer: B

12. Wind energy is converted into electrical energy using:

A) Solar Cells

B) Wind Turbines

C) Boilers

D) Nuclear Reactors

Answer: B

13. Which power plant has the shortest construction period?

A) Nuclear Plant

B) Hydel Plant

C) Thermal Plant

D) Gas Turbine Plant

Answer: D

14. Which renewable source has the lowest environmental pollution during operation?

A) Coal

B) Solar PV

C) Diesel

D) Natural Gas

Answer: B

15. Which factor is most important in selecting a hydel plant site?

A) Availability of Water

B) Coal Transportation

C) Uranium Reserves

D) Wind Velocity

Answer: A

Fill in the Blanks

16. The conduit that carries water from the reservoir to the turbine is called a _____.

Answer: Penstock

17. In a hydel power plant, the _____ converts mechanical energy into electrical energy.

Answer: Alternator

18. The device used to produce steam in a thermal power plant is called a _____.

Answer: Boiler

19. The exhaust steam from a turbine is converted into water in a _____.
Answer: Condenser
20. The cycle used in steam power plants is the _____ cycle.
Answer: Rankine
21. Uranium-235 undergoes nuclear _____ to produce energy.
Answer: Fission
22. The material used to slow down neutrons in a nuclear reactor is called a _____.
Answer: Moderator
23. _____ rods are used to control the rate of nuclear reaction.
Answer: Control
24. The working cycle of a gas turbine plant is the _____ cycle.
Answer: Brayton
25. Air is compressed by a _____ before entering the combustion chamber.
Answer: Compressor
26. Solar cells convert solar energy directly into _____ energy.
Answer: Electrical
27. The most commonly used semiconductor material in solar cells is _____.
Answer: Silicon
28. The energy available in wind is proportional to the _____ of wind speed.
Answer: Cube
29. The rotating blades of a wind turbine are collectively known as the _____.
Answer: Rotor
30. Hydroelectric power is considered a _____ source of energy.
Answer: Renewable
31. Thermal power plants are generally located near _____ mines.
Answer: Coal
32. Nuclear power plants are usually located away from _____ areas.
Answer: Populated
33. Solar power generation is _____ in nature because it depends on sunlight availability.
Answer: Intermittent
34. Wind farms are generally installed in regions having high average _____ speed.
Answer: Wind
35. Gas turbine plants are preferred for peak loads because of their quick _____ capability.
Answer: Start-up
36. The efficiency of a hydel power plant is generally _____ than that of a thermal power plant.
Answer: Higher
37. Radioactive waste disposal is a major disadvantage of _____ power plants.
Answer: Nuclear



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38. The reservoir in a hydel plant stores _____ energy in the form of water.

Answer: Potential

39. The alternator is coupled directly to the _____ in a generating station.

Answer: Turbine

40. Wind energy is an indirect form of _____ energy.

Answer: Solar