1. Which factor measures the ratio of average load to maximum load?

a) Load factor
b) Diversity factor
c) Plant factor
d) Maximum demand

Answer: a) Load factor
Explanation: Load factor represents the average load divided by the maximum load during a specific period. It indicates how efficiently a power plant is being utilized over time.

2. What does the diversity factor measure in a power system?

a) Variation in load over time
b) Variation in load across different regions
c) Ratio of sum of individual maximum demands to system maximum demand
d) Ratio of average demand to maximum demand

Answer: c) Ratio of sum of individual maximum demands to system maximum demand
Explanation: Diversity factor measures the degree to which the sum of individual maximum demands is less than the system’s maximum demand. It indicates the extent to which the peak demands of various components occur simultaneously.

3. Which factor assesses the availability and reliability of a power plant?

a) Load factor
b) Plant factor
c) Diversity factor

d) Maximum demand

Answer: b) Plant factor
Explanation: Plant factor evaluates the availability and reliability of a power plant by comparing its actual output with its maximum potential output over a specific period.

4. The ratio of the maximum demand to the connected load is known as:

a) Load factor
b) Diversity factor
c) Plant factor
d) Maximum demand

Answer: d) Maximum demand
Explanation: Maximum demand represents the highest level of power consumption recorded during a specific period, usually in a power system or facility.

5. Which cost structure typically characterizes a hydroelectric power plant?

a) High initial investment and low operational costs
b) Low initial investment and high operational costs
c) High initial investment and high operational costs
d) Low initial investment and low operational costs

Answer: a) High initial investment and low operational costs
Explanation: Hydroelectric power plants generally require significant upfront investments for construction but have minimal ongoing operational costs once operational.

6. What is a common characteristic of nuclear power plant cost structures?

a) Low initial investment and low operational costs
b) High initial investment and high operational costs
c) High initial investment and low operational costs
d) Low initial investment and high operational costs

Answer: b) High initial investment and high operational costs
Explanation: Nuclear power plants entail substantial upfront capital expenditures for construction and also have significant ongoing operational and maintenance expenses.

7. Which term refers to the allocation of electricity generation among various power plants to meet demand efficiently?

a) Load forecasting
b) Load dispatch
c) Load shedding
d) Load balancing

Answer: b) Load dispatch
Explanation: Load dispatch involves managing and allocating electricity generation from different power plants to meet demand requirements effectively while considering various factors like cost, availability, and reliability.

8. What is a primary advantage of interconnected power systems?

a) Increased system reliability
b) Decreased transmission losses

c) Reduced investment in generation capacity
d) Simplified load management

Answer: a) Increased system reliability
Explanation: Interconnected power systems enhance overall system reliability by providing backup support and sharing resources among interconnected grids or regions.

9. Which factor represents the ratio of average load to the peak load during a specific period?

a) Load factor
b) Diversity factor
c) Plant factor
d) Maximum demand

Answer: a) Load factor
Explanation: Load factor measures the average load relative to the peak load, reflecting how efficiently power resources are utilized over time.

10. What does the diversity factor indicate in power system planning?

a) Variability in load over different time intervals
b) Variation in load across different geographic regions
c) Degree of simultaneous peak demands of various components
d) Ratio of average load to peak load

Answer: c) Degree of simultaneous peak demands of various components
Explanation: Diversity factor evaluates the extent to which the peak demands of different components occur simultaneously, influencing power system planning and resource

allocation.

11. Which factor assesses the actual output of a power plant relative to its maximum potential output?

a) Load factor
b) Plant factor
c) Diversity factor
d) Maximum demand

Answer: b) Plant factor
Explanation: Plant factor evaluates the efficiency and performance of a power plant by comparing its actual output to its maximum potential output over a specific period.

12. What is a significant characteristic of hydroelectric power plant economics?

a) Low initial investment and high operational costs
b) High initial investment and low operational costs
c) Low initial investment and low operational costs
d) High initial investment and high operational costs

Answer: b) High initial investment and low operational costs
Explanation: Hydroelectric power plants typically involve substantial upfront investments for construction but have relatively low ongoing operational costs.

13. Which term refers to the process of prioritizing electricity generation sources to meet demand effectively?

a) Load balancing
b) Load forecasting
c) Load dispatch
d) Load shedding

Answer: c) Load dispatch
Explanation: Load dispatch involves the management and scheduling of electricity generation from various sources to ensure demand is met efficiently and reliably.

14. What is a key benefit of interconnected power systems?

a) Lower overall transmission losses
b) Reduced need for generation redundancy
c) Simplified load management
d) Increased system resilience

Answer: d) Increased system resilience
Explanation: Interconnected power systems enhance overall system resilience by providing backup support and sharing resources among interconnected grids or regions.

15. Which factor measures the highest level of power consumption observed within a specific period?

a) Load factor
b) Diversity factor
c) Plant factor
d) Maximum demand

Answer: d) Maximum demand
Explanation: Maximum demand represents the peak level of power consumption recorded during a particular period, often used for system planning and capacity management.

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