1. Which condition is necessary for maximum discharge in steam nozzles?

a) Adiabatic flow
b) Isentropic flow
c) Super-saturated flow
d) Frictionless flow

Answer: b) Isentropic flow

Explanation: Isentropic flow refers to the ideal condition where there is no change in entropy during the flow process. In steam nozzles, achieving isentropic flow is crucial for maximizing discharge and efficiency.

2. What is the effect of friction in steam nozzles?

a) Increases discharge
b) Decreases discharge
c) Has no effect
d) Causes vaporization

Answer: b) Decreases discharge

Explanation: Friction in steam nozzles leads to energy losses, which ultimately reduces the discharge of steam.

3. What type of flow occurs when steam exits a nozzle at a pressure lower than its saturation pressure?

a) Superheated flow
b) Subcooled flow
c) Super-saturated flow
d) Saturated flow

Answer: a) Superheated flow

Explanation: Superheated flow occurs when steam exits a nozzle at a pressure lower than its saturation pressure and its temperature is above the saturation temperature corresponding to that pressure.

4. Which type of condenser relies on air circulation for cooling?

a) Surface condenser
b) Jet condenser
c) Evaporative condenser
d) Shell and tube condenser

Answer: c) Evaporative condenser

Explanation: Evaporative condensers use air circulation and evaporation of water to cool the condensate.

5. How does back pressure affect plant performance in steam condensers?

a) Increases efficiency
b) Decreases efficiency
c) No effect

d) Increases discharge

Answer: b) Decreases efficiency

Explanation: Back pressure in steam condensers reduces the pressure differential across the turbine, leading to decreased efficiency of the power plant.

6. What is the primary effect of air leakage in condensers?

a) Decreases cooling efficiency
b) Increases cooling efficiency
c) Reduces condensate formation
d) Increases condensate formation

Answer: a) Decreases cooling efficiency

Explanation: Air leakage in condensers disrupts the cooling process by introducing non-condensable gases, which reduces the efficiency of heat transfer.

7. Which type of cooling tower uses water spray to enhance cooling efficiency?

a) Natural draft cooling tower
b) Mechanical draft cooling tower
c) Wet cooling tower
d) Dry cooling tower

Answer: c) Wet cooling tower

Explanation: Wet cooling towers utilize water spray or film to increase the contact area between air and water, enhancing the cooling efficiency.

8. In which type of cooling tower does air circulate naturally without the use of fans?

a) Induced draft cooling tower
b) Forced draft cooling tower
c) Natural draft cooling tower
d) Hyperbolic cooling tower

Answer: c) Natural draft cooling tower

Explanation: Natural draft cooling towers rely on the buoyancy effect of warm air rising and cool air sinking to circulate air without the need for fans.

9. What is the purpose of a cooling tower in a power plant?

a) To increase steam temperature
b) To decrease turbine efficiency
c) To cool condensate for reuse
d) To increase condensation pressure

Answer: c) To cool condensate for reuse

Explanation: Cooling towers cool the condensate from steam back into water for reuse in the power plant’s steam cycle.

10. Which type of condenser is more commonly used in power plants due to its compact

design and efficient heat transfer?

a) Surface condenser
b) Jet condenser
c) Evaporative condenser
d) Shell and tube condenser

Answer: a) Surface condenser

Explanation: Surface condensers are preferred in power plants for their compact design, efficient heat transfer, and ability to handle large quantities of condensate.

Related posts:

1. Steam generators and boilers MCQs
2. Vapour Cycles MCQs
3. Gas Dynamics MCQs
4. Air Compressors MCQs
5. Introduction to stress in machine component MCQs
6. Shafts MCQS
7. Springs MCQs
8. Brakes & Clutches MCQs
9. Journal Bearing MCQs
10. Energy transfer in turbo machines MCQs
11. Steam turbines MCQs
12. Water turbines MCQs
13. Rotary Fans, Blowers and Compressors MCQs
14. Power transmitting turbo machines MCQs

15. Energy transfer in turbo machines MCQs
16. Steam turbines MCQs
17. Water turbines MCQS
18. Rotary Fans, Blowers and Compressors MCQs
19. Power transmitting turbo machines MCQs
20. Introduction to Computer Engineering MCQs
21. Types of Analysis MCQS
22. Heat Transfer and Conduction MCQs
23. Extended Surfaces (fins) MCQs
24. Convection MCQs
25. Thermal and Mass Transfer MCQs
26. Thermal Radiation & Boiling/Condensation MCQs
27. Mechanical processes MCQs
28. Electrochemical and chemical metal removal processes MCQs
29. Thermal metal removal processes MCQs
30. Rapid prototyping fabrication methods MCQs
31. Technologies of micro fabrication MCQs
32. Power Plant Engineering MCQs
33. Fossil fuel steam stations MCQs
34. Nuclear Power Station MCQs
35. Hydro-Power Station MCQs
36. Power Station Economics MCQs
37. Design of Belt, Rope and Chain Drives MCQS
38. Spur and Helical Gears MCQs
39. Bevel Gears MCQs
40. Design of I.C. Engine Components MCQs
41. Linear system and distribution models MCQs

42. Supply chain (SCM) MCQs
43. Inventory models MCQs
44. Queueing Theory & Game Theory MCQs
45. Project Management & Meta-heuristics MCQs
46. Overview of Systems Engineering MCQS
47. Structure of Complex Systems MCQs
48. Concept Development and Exploration MCQs
49. Engineering Development MCQs
50. Basic Concepts & Laws of Thermodynamics MCQs
51. Properties of Steam MCQs
52. Air standard cycles MCQS
53. Fuels & combustion MCQs
54. Materials Science MCQs
55. Alloys and Materials MCQs
56. Metal Heat Treatment MCQs
57. Material Testing and Properties MCQs
58. Chemical Analysis of Metal Alloys MCQs
59. Stress and strain MCQs
60. Bending MCQs
61. Torsion in shafts MCQs
62. Theories of failures MCQs
63. Columns & struts MCQs
64. Manufacturing Process MCQs