

1. An open system

(a) has energy + mass transfer (b) has only energy transfer (c) has only mass transfer (d) None of the above

2. Work is a

a) point function (b) path function (c) depends on the state (d) none of the mentioned

3. Ideally, boiling temperature of a given volume of water will be higher in:

(a) a tall container (b) a short container (c) a short and wide container (d) none of them

4. The transfer of heat between a wall and a fluid system in motion is called

(a) radiation (b) convection (c) conduction (d) none of the mentioned

5. The internal energy of a substance depends on

(a) Temperature (b) Pressure (c) Volume (d) Specific gravity (e) Velocity

6. In an isothermal process

(a) Temperature increases gradually (b) Volume remains constant (c) Pressure remains constant
(d) heat transfer is zero (e) Change in internal energy is zero

7. Work done in an adiabatic process between a given pair of states is

(a) Independent of the nature of the process (b) Constant (c) Both a and b (d) None of the above

8. The latent heat of vaporisation at critical point is

(a) less than zero (b) greater than zero (c) equal to zero (d) none of the mentioned

9. With the increase in pressure

(a) T_{sat} increases, v_g increases (b) T_{sat} increases, v_g decreases (c) T_{sat} decreases, v_g decreases
(d) None of the above

10. Which is a state of a substance in which a phase change occurs without a change of pressure or temperature?

(a) compressed state (b) superheated state (c) saturation state (d) critical state

11. What is the state, at which saturated liquid line and saturated vapor line on T-v diagram of pure substance meet, called?

(a) saturation state (b) critical state (c) vaporization state (d) superheated vapor state

12. What is a liquid, whose temperature is less than the saturation temperature at the given pressure called?

(a) compressed liquid (b) subcooled liquid (c) both a and b (d) none of the mentioned

13. Solar Panel on a grid provides electricity to a house from sunlight. If the house and panel are the system, what is the interaction with the surrounding

(a) Heat Transfer (b) Work Transfer (c) Mass Transfer (d) Combination of all (e) none of the above

14. Solar Panel on a grid provides electricity to a house. If only the house is the system, what is the interaction with the surrounding

(a) Heat Transfer (b) Work Transfer (c) Mass Transfer (d) Combination of all (e) none of the above

15. An apple loses 4.5 kJ of heat as it cools per °C drop in its temperature. The amount of heat loss from the apple per °F drop in its temperature is

(a) 1.25 kJ (b) 2.50 kJ (c) 5.0 kJ (d) 8.1 kJ (e) 4.1 kJ

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