UNIT-9

MULTIPLE CHOICE QUESTIONS

BOOK- MCQs

1. Heat is the form of _____
   a) Pressure
   b) Weight
   c) Energy
   d) All
2. Heat capacity is the product of mass and _____
   a) Boiling point
   b) Freezing point
   c) Energy
   d) Specific heat of material
3. The amount of heat needed to convert a substance from liquid to gas is called _____
   a) Heat of Vaporization
   b) Specific heat
   c. latent heat of fusion
   d) All
4. Thermal energy transfer required per unit mass to increase the temperature by 1 ^{0}C or 1 K is called ____
   a) Latent heat of Vaporization
   b) Specific heat capacity
   c) Latent heat of fusion
   d) Thermal capacity
5. A fixed temperature at which a pure liquid boil is called_____.
   a) melting point
   b) freezing point
   c) boiling point
   d) Both (a) and (b).
6. The melting point of ice at normal atmospheric pressure is _____.
   a) 0 ^{0}C
   b) 0K
   c) 100 ^{0}C
   d) Both (a) and (b)
7. Thermal energy transfer required to change a solid into liquid without changing its temperature is called _____.
   a) Latent heat of Fusion
   b) latent heat of vaporization
   c) latent heat of boiling
   d) specific heat capacity
8. Thermal energy transfer required to change a liquid into gas without changing its temperature is called
   a) latent heat of freezing
   b) latent heat of vaporization
   c) latent heat of boiling
   d) latent heat of melting
9. Evaporation can occur at _____
   a) freezing point
   b) melting point
   c) boiling point
   d) all temperatures
10. Rate of evaporation of a liquid can be increased by_____.
    a) increasing humidity
    b) decreasing temperature
    c) increasing its boiling point
    d) decreasing atmospheric pressure
11. Linear thermal expansion of a solid depends upon_____.
    a) increase in temperature
    b) original length
    c) properties of material
    d) all of these

UNIT-9

EXAMS PRACTICE
MULTIPLE CHOICE QUESTIONS

1. The freezing point of water on the Celsius scale is:

A) 100°C
B) 32°C
C) 0°C
D) 273°C

Answer: C) 0°C

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2. The boiling point of water on the Fahrenheit scale is:

A) 212°F
B) 100°F
C) 32°F
D) 273°F

Answer: A) 212°F

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3. Convert 25°C into Fahrenheit.

A) 67°F
B) 77°F
C) 57°F
D) 87°F

Answer: B) 77°F

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4. Convert 68°F into Celsius.

A) 10°C
B) 15°C
C) 20°C
D) 25°C

Answer: C) 20°C

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5. The SI unit of temperature is:

A) Fahrenheit
B) Celsius
C) Kelvin
D) Joule

Answer: C) Kelvin

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6. Convert 300 K into Celsius.

A) 27°C
B) 37°C
C) 17°C
D) 0°C

Answer: A) 27°C

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7. At what temperature do Celsius and Fahrenheit scales show the same reading?

A) −40°
B) 0°
C) 100°
D) 32°

Answer: A) −40°

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8. Convert 40°C into Kelvin.

A) 273 K
B) 313 K
C) 233 K
D) 373 K

Answer: B) 313 K

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9. The normal body temperature of a human is approximately:

A) 37°C
B) 100°C
C) 273°C
D) 40°C

Answer: A) 37°C

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10. Convert 95°F into Celsius.

A) 25°C
B) 30°C
C) 35°C
D) 40°C

Answer: C) 35°C

11. Specific heat capacity is the amount of heat required to:

A) Raise the temperature of 1 kg substance by 1°C
B) Melt 1 kg substance
C) Boil 1 kg substance
D) Freeze 1 kg substance

Answer: A) Raise the temperature of 1 kg substance by 1°C

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12. The SI unit of specific heat capacity is:

A) J/kg
B) J/kg°C
C) kg/J
D) cal/g

Answer: B) J/kg°C

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13. How much heat is required to raise the temperature of 2 kg water by 5°C?

(C=4200 J/kg k)

A) 21000 J
B) 42000 J
C) 8400 J
D) 10000 J

Answer: B) 42000 J

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14. Latent heat of fusion is the heat required to:

A) Raise temperature
B) Convert liquid into gas
C) Convert solid into liquid without temperature change
D) Convert gas into liquid

Answer: C) Convert solid into liquid without temperature change

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15. Latent heat of vaporization is the heat required to:

A) Convert solid into liquid
B) Convert liquid into gas without temperature change
C) Raise temperature
D) Convert gas into liquid

Answer: B) Convert liquid into gas without temperature change

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16. Which substance has the highest specific heat capacity?

A) Copper
B) Iron
C) Water
D) Silver

Answer: C) Water

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17. A body absorbs 6000 J heat and its temperature rises by 3°C. If its mass is 2 kg, the specific heat capacity is:

A) 500 J/kg°C
B) 1000 J/kg°C
C) 1500 J/kg°C
D) 2000 J/kg°C

Answer: B) 1000 J/kg°C

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18. During melting, the temperature of ice:

A) Increases
B) Decreases
C) Remains constant
D) First increases then decreases

Answer: C) Remains constant

19. Linear expansion means increase in:

A) Mass
B) Length
C) Volume
D) Density

Answer: B) Length

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20. A metal rod of length 2 m is heated through 50 °C. If $\alpha = 2 \times 10^{-5}/^\circ C$, find increase in length.

A) 0.001 m
B) 0.002 m
C) 0.003 m
D) 0.004 m

Answer: B) 0.002 m

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21. Volume expansion occurs because:

A) Only length increases
B) Only mass increases
C) All dimensions increase
D) Density increases

Answer: C) All dimensions increase

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22. The relation between coefficient of linear expansion α and volume expansion β is:

A) $\beta = \alpha$
B) $\beta = 2\alpha$
C) $\beta = 3\alpha$
D) $\beta = 4\alpha$

Answer: C) $\beta=3\alpha$

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23. A steel wire 5 m long expands by 0.005 m on heating. The type of expansion is:

A) Area expansion
B) Volume expansion
C) Linear expansion
D) No expansion

Answer: C) Linear expansion

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24. Gaps are left in railway tracks to:

A) Reduce friction
B) Save iron
C) Allow thermal expansion
D) Increase speed

Answer: C) Allow thermal expansion

25. Evaporation is a process in which a liquid changes into:
A) Solid
B) Gas
C) Plasma
D) None
Answer: B

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26. Evaporation takes place at:
A) Boiling point only
B) All temperatures
C) Melting point
D) Freezing point
Answer: B

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27. Which factor increases the rate of evaporation?
A) Decrease in temperature
B) Increase in humidity
C) Increase in surface area
D) Decrease in wind speed
Answer: C

28. Evaporation causes cooling because:
A) Heat is released
B) High energy molecules leave the liquid
C) Pressure increases
D) Volume increases
Answer: B

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29. Which condition slows down evaporation?
A) High temperature
B) Strong wind
C) High humidity
D) Large surface area
Answer: C

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30. Wind increases evaporation by:
A) Heating liquid
B) Removing vapour molecules
C) Increasing pressure
D) Decreasing surface area
Answer: B
