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CLASSES – V TO XII (CBSE, ICSE/ISC), IIT/NDA/TGT/PGT

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CLASS- 9th TOPIC→ MATTER IN OUR SURROUNDINGS

Q.1→ State two characteristics of matter demonstrated by:
(a) diffusion
(b) Brownian motion

Q.2→ When a crystal of potassium permanganate is placed in a beaker, its purple colour spreads throughout the water. What does this observation tell us about the nature of potassium permanganate and water.

Q.3→ Give two reasons to justify that:
(a) water is a liquid at room temperature.
(b) An iron almirah is a solid.

Q.4→ (a) what does the diffusion of gases tell us about their particles?
(b) Give one example of diffusion of gases in a liquid.

Q.5→ When a crystal of copper sulphate is placed at the bottom of a beaker containing water, the water slowly turns blue. why?

Q.6→ Honey is more viscous than water. Can you suggest why?

2.7 → Explain why:
(a) air is used to inflate tyres.
(b) Steel is used to make railway lines.

2.8 → Explain why, diffusion occurs more quickly in a gas than in a liquid.

2.9 → (a) What is meant by 'diffusion' give one example of diffusion in gases.
(b) Why do gases diffuse very fast?

2.10 → Compare the properties of solids, liquids and gases in tabular form.

2.11 → (a) Why does a gas exert pressure?
(b) Why does a gas fill a vessel completely?
(c) Why are gases so easily compressible whereas it is almost impossible to compare a solid or a liquid?

2.12 → (a) Define Matter. Give four Examples of matter.
(b) What are the characteristics of matter?

2.13 → (a) What is Brownian motion? Draw a diagram to show the movement of a particle (like a pollen grain) during Brownian motion.
(b) In a beam of sunlight entering a room, we can sometimes see dust particles moving in a haphazard manner in the air. What do these dust particles show?

Q.14→ The boiling point of water is 100°c. Express this in SI units (Kelvin scale).

Q.15→ The Kelvin temperature is 270 K. What is the corresponding Celsius scale temperature?

Q.16→ Convert the temperature of 573 K to the Celsius scale.

Q.17→ Convert the temperature of 373°C to the Kelvin scale.

Q.18→ The boiling point of alcohol is 78°C. what is the temperature on Kelvin scale?

Q.19→ The Kelvin scale temperature is 0 K. What is the corresponding Celsius scale temperature

Q.20→ Explain why, ice at 0°c is more effective in cooling than water at the same temperature

Q.21→ Why does steam cause more severe burns than boiling water?

Q.22→ which contains more heat, 1 kg of ice at 0°c or 1 kg of water at 0°c? Give reason for your answer.

Q.23→ Which contains more heat, 1 kg of ~~ice~~ water at 100°c or 1 kg of Steam at 100°c? Give reason for your answer.

Q.24→ Explain why, steam at 100°c is better for heating purposes than boiling water at 100°c.

Q.25→ Why does the temperature of a substance remain constant during the change of state?

Q.26→ What is the physical state of water:
(a) at 0°c? (b) at 25°c? (c) at 100°c? (d) at 250°c?

Q.27→ Define 'melting point' of a substance? what is the melting point of ice?

Q.28→ Define 'boiling point' of a substance? what is the boiling point of water?

Q.29→ Define the following terms:
(a) melting (b) Boiling.

Q.30→ Define the following terms:
(a) condensation (b) Freezing.

Q.31→ How is ammonia gas liquefied?

Q.32→ Why does a desert cooler cool better on a hot, dry day?

Q.33→ What types of clothes should we wear in Summer? why?

Q.34→ How will you demonstrate that water vapour is present in air?

Q.35→ Define the term 'latent heat of fusion' of a solid. how much is the latent heat of fusion of ice?

Q.36→ (a) Define the term 'latent heat of vaporisation of a liquid, what is the value of the latent heat of vaporisation of water?

(b) Draw a labelled diagram of the Experimental set-up to study the latent heat of vaporisation of water.

Q.37→ (a) Draw the 'States of matter triangle' to show the interconversion of states of matter.

(b) How can the evaporation of a liquid be made fast

Q.38→ what is evaporation? State the various factors which affect evaporation?