CLASS-9 SCIENCE EXTRA QUESTIONS

CHAPTER 2 - IS MATTER AROUND US PURE

MCQ QUESTIONS

1. Which of the following is not an element?
   (a) graphite(b) germanium
   (c) silica(d) silicon
2. Which of the following are compounds?
   (i) CO(ii) No
   (iii) NO(iv) Co
   (a) (i) and (ii)(b) (ii) and (iii)
   (c) (i) and (iii)(d) (ii) and (iv)
3. One of the following substances is neither a good conductor of electricity nor an insulator. This substance is:
   (a) chromium(b) gernmanium
   (c) gallium(d) potassium
4. Which of the following is not a mixture?
   (a) kerosene(b) air
   (c) alcohol(d) petrol
5. The element which is not common between the compounds called baking soda and soda ash is
   (a) Sodium(b) hydrogen
   (c) oxygen(d) carbon
6. "Is malleable and ductile" best describes:
   (a) a solution(b) a metal
   (c) a compound(d) a non-metal
7. Which one of the following is not a metalloid?
   (a) boron(b) silicon
   (c) gallium(d) germanium
8. The elements which normally exist in the liquid state are:
   (a) bromine and iodine
   (b) mercury and chlorine
   (c) iodine and mercury
   (d) bromine and mercury
9. When a mixture of iron powder and sulphur powder is heated strongly to form iron sulphide, then heat energy is:

(a) released

(b) first absorbed and then released

(c) absorbed

(d) neither absorbed nor released

10. The property/properties which enable copper metal to be used for making electric wires is/are:

(a) copper metal is malleable and ductile

(b) copper metal is a good conductor of electricity

(c) copper metal is ductile and has low electrical resistance

(d) copper metal is sonorous and an excellent conductor of electricity

11. On the basis of composition of matter, milk is considered to be:

(a) a pure substance

(b) (b) an impure substance

(c) An element (d) a compound

12. Which of the following statements are true for pure substances?

(i) pure substances contain only one kind of particles

(ii) pure substances may be compounds or mixtures

(iii) pure substances have the same composition throughout

(iv) pure substances can be exemplified by all elements other than nickel

(a) (i) and (ii) (b) (i) and (iii)

(c) (iii) and (iv) (d) (ii) and (iii)

13. Which of the following are homogeneous in nature?

(i) ice(ii) wood

(iii) soil(iv) air

(a) (i) and (iii)(b) (ii) and (iii)

(c) (i) and (iv) (d) (iii) and (iv)

14. Two chemical substances X and Y combine together to form a product P which contains both X and Y

$$X + Y \rightarrow P$$

X and Y cannot be broken down into simpler substances by simple chemical reactions. Which of the following statements concerning X, Y and P are correct?

(i) P is a compound

(ii) X and Y are compound

(iii) X and Y are elements

(iv) P has a fixed composition

(a) (i), (ii) and (iii)

(b) (i), (ii) and (iv)

(c) (ii), (iii) and (iv)

(d) (i), (iii) and (iv)

15. Which of the following does not have a fixed melting point/boiling point?

(a) gold (b) ethanol

(c) air (d) oxygen

1. (c) 2. (c) 3. (b) 4. (c). 5. (b) 6. (b) 7. (c) 8. (d)

9. (b) 10. (c) 11. (b) 12. (b) 13. (c) 14. (d) 15. (c)

Q. A solution contains 40 g of sugar dissolved in 360 g of water. Calculate the concentration of this solution. (3)

Ans. This solution contains a solid solute dissolved in a liquid solvent. Hence, we have to calculate the concentration of the solution in terms of mass percentage of the solute .

Given that

Mass of solute (sugar) = 40 g

Mass of solvent (water) = 360 g

Thus,

Mass of solution = Mass of solute + Mass of solvent

= 40 + 360 = 400 g

$$\text{Concentration of solution} = \frac{\text{Mass of solute} \times 100}{\text{Mass of solution}}$$

$$= \frac{40\,\text{g} \times 100}{400\,\text{g}} = 10\%$$