CBSE

IS MATTER AROUND US PURE WS 3

Class 09 - Science

Section A

1. Which of the following are physical changes? **[1]**

   i. Decaying of wood
   ii. Burning of wood
   iii. Sawing of wood
   iv. Hammering of a nail into a piece of wood

   a) (i) and (iv)
   b) (iii) and (iv)
   c) (ii) and (iii)
   d) (i) and (ii)

2. Rusting of an article made up of iron is called **[1]**

   a) corrosion and it is a physical as well as chemical change
   b) dissolution and it is a physical
   c) dissolution and it is a chemical change
   d) corrosion and it is a chemical change

3. A student added only two drops of iodine to a rice extract in test tube 'A'. Another student added a little rice extract to iodine solution in test tube 'B'. They would then observe: **[1]**

   a) no change of colour in any test tube
   b) a change of colour to blue-black in both tubes 'A' and 'B'
   c) a change of colour to blue-black in test tube 'B' but not in test tube 'A'
   d) a change of colour to blue-black in test tube 'A' but not in test tube 'B'

4. Fermentation of grapes is an example of **[1]**

   a) Redox reaction
   b) Reversible change
   c) Chemical change
   d) Physical change

5. What happens on adding dilute HCl to a mixture of iron filling and sulphur powder? **[1]**

   a. H_2S is formed.
   b. A colourless and odourless gas is formed.
   c. A greenish solution appears.
   d. FeS is formed.

   a) (a), (b) and (c) are correct
   b) (b) and (c) are correct
   c) All of these
   d) (a) and (b) are correct

6. Which of the following are chemical changes? **[1]**

   a) Melting of ice
   b) The cooking of vegetables.
   c) Freezing of water
   d) Drying of wet clothes in sun light

7. Boiling points of a few gases are given below: **[1]**

Gas	W	X	Y	Z
Boiling point (^oC)	-152	-246	-196	-183

If liquid mixture of these gases is fractionally distilled, the order of gases distilling out from first to last is

a) Z, X, Y, W
b) X, Y, Z, W
c) W, X, Y, Z
d) Y, X, Z, W

8. Which one is a physical change? **[1]**

a) Mixing $BaSO_4$ + NaCl
b) Mixing NH_3 and HCl
c) Burning magnesium in air
d) Adding NaCl to water

9. A change is said to be a physical change when **[1]**

a) No energy change occurs
b) All statements are correct
c) The change can be easily reversed
d) No new substances are formed

10. Which of the following are physical changes? **[1]**

i. Melting of iron metal
ii. Rusting of iron
iii. Bending of an iron rod
iv. Drawing a wire of iron metal

a) (i), (ii) and (iii)
b) (ii), (iii) and (iv)
c) (i), (ii) and (iv)
d) (i), (iii) and (iv)

11. To observe starch granules in potato under a microscope, freshly cut surface of potato placed on a slide. The stain that will show starch granules clearly is: **[1]**

a) safranin
b) iodine
c) eosin
d) methylene blue

12. **Assertion (A):** The interconversion of state occurs without a change in composition but there is a change in the chemical nature of the substance. **[1]**

Reason (R): During burning one substance reacts with another to undergo a chemical composition.

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

13. **Assertion (A):** An unknown substance A on thermal decomposition produces B and C. **[1]**

Reason (R): Unknown substance A is an element because compounds and mixtures do not decompose.

a) Both A and R are true and R is the correct explanation of A.
b) Both A and R are true but R is not the correct explanation of A.
c) A is true but R is false.
d) A is false but R is true.

14. Seema on adding a solution 'X' to rice extract observed the conversion of colour of the solution to bluish-black. Identify compound 'X'. **[1]**

a) Distilled solution
b) Iodine solution
c) Salt solution
d) Bromine solution

15. On the laboratory table four watch glasses were placed with labels A, B, C and D. Watch glass 'A' had chalk powder, 'B' had sago powder, 'C' had common salt and 'D' had powdered sugar. On adding two drops of iodine to the content of each watch glass, the one turning blue-black will be : **[1]**

a) C
b) B
c) D
d) A

16. Why is combustion of Liquefied Petroleum Gas (LPG) a chemical change? **[1]**

17. How will you justify that rusting if iron is a chemical change? **[1]**

Section B

18. **State True or False:** **[2]**
    (a) Souring of milk is a physical change. **[1]**
    (b) A new substance is formed in a physical change. **[1]**

19. Classify the following as physical or chemical properties: **[2]**
    i. The composition of a sample of steel is 98% iron, 1.5% carbon and 0.5% other elements.
    ii. Zinc dissolves in hydrochloric acid with the evolution of hydrogen gas.
    iii. Metallic sodium is soft enough to be cut with a knife.
    iv. Most metal oxides form alkalis on interacting with water.

20. Why cannot a chemical change be normally reversed? **[2]**

21. Which of the following are chemical changes? **[2]**
    a. Growth of a plant
    b. Rusting of iron
    c. Mixing of iron filings and sand
    d. Cooking of food
    e. Digestion of food
    f. Freezing of water
    g. Burning of a candle

22. A candle seems to lose its weight on burning. Explain this fact. **[2]**

23. On heating calcium carbonate gets converted into calcium oxide and carbon dioxide. **[2]**
    i. Is this a physical or a chemical change?
    ii. Can you prepare one acidic and one basic solution by using the products formed in the above process? If so, write the chemical equation involved.

Section C

24. **Fill in the blanks:** **[3]**
    (a) Calcium carbonate on heating gets converted to _____ and _____. **[1]**
    (b) $CO_{2(s)} \rightarrow CO_{2(g)}$ is a _____ change. **[1]**
    (c) Cutting of trees is a _____ change. **[1]**

Section D

25. i. Draw a neat and labelled diagram of the apparatus used to separate components of blue-black ink. Name the process and state the principle involved. **[5]**

ii. Identify, the physical and chemical changes from the following.

a. Burning of magnesium in air.

b. Tarnishing of silver spoon.

c. Sublimation of iodine.

d. Electrolysis of water.