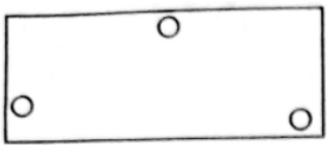
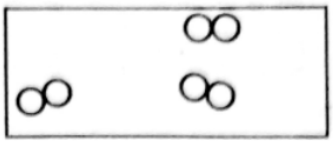
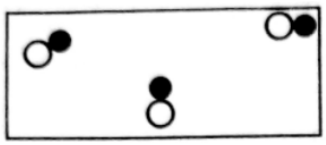
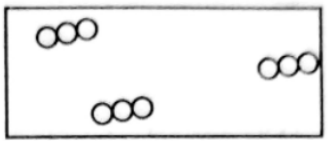
1. Identify the incorrect statement.
   (a) Mixtures are constituted by more than one kind of pure form of matter.
   (b) Dissolved sodium chloride cannot be separated from water by the physical process of evaporation.
   (c) Sodium chloride cannot be separated by physical process into its chemical constituents.
   (d) Sugar contains only one kind of pure matter and its composition is the same throughout.
2. The zig-zag movement of dispersed phase particle in a colloidal system is known as
   (a) Brownian motion (b) translational motion (c) circular motion (d) linear motion.
3. Identify the incorrect statement(s).
   (a) Alloys are mixtures of two or more metals or a metal and a non-metal.
   (b) Alloys cannot be separated into their components by physical methods.
   (c) An alloy is considered as a mixture because it shows the property of its constituents and can have variable composition.
   (d) All the statements are correct.
4. What kind of solution is gel?
   (a) Colloid (b) Mixture (c) Emulsion (d) Suspension
5. A solution contains 50g of common salt in 420g of water. Calculate the concentration in terms of mass by mass percentage of the solution.
   (a) 9.80% (b) 10.64% (c) 11.52% (d) 15.64%
6. When a beam of light is passed through a colloidal solution, it gets
   (a) reflected (b) absorbed (c) scattered (d) refracted.
7. Which of the following statements are correct about properties of colloids?
   I. A colloid is a homogeneous mixture.
   II. The size of particles of a colloid is too small to be individually seen by naked eye.
   III. Colloids are big enough to scatter a beam of light passing through it and make its path visible.
   (a) I, II and III (b) II and III (c) I and II (d) I and III
8. A student mixed a small amount of iron filings and sulphur powder in a dish. He could not affect the separation by simple handpicking. Which liquid will you suggest to affect the separation?
   (a) Carbon disulphide (b) Cold water (c) Boiling water (d) Kerosene
9. An example of a chemical change is
   (a) formation of clouds (b) glowing of an electric light
   (c) dropping sodium into water (d) dissolving of salt in water.
10. Chemical changes are
   (a) temporary, reversible and a new substance is produced
   (b) always accompanied by exchange of light
   (c) permanent, irreversible and a new substance is produced
   (d) never accompanied by exchange of light and heat energy.
11. If the component of the substance can be separated by a chemical change only then it is
   (a) element (b) compound (c) mixture (d) both (a) and (b).
12. Which of the following are metalloids?
   (i) Boron (ii) Sodium (iii) Silicon (iv) Chlorine
   (v) Germanium
   (a) (ii) and (iv) (b) (i) and (iv) (c) (iii) and (v) (d) (i), (iii) and (v)

13. Which diagram shows the arrangement of the diatomic molecules of chlorine gas?

(a) 

(b) 

(c) 

(d) 

14. Rusting of an article made up of iron is called
    (a) corrosion and it is a physical as well as chemical change
    (b) dissolution and it is a physical change
    (c) corrosion and it is a chemical change
    (d) dissolution and it is a chemical change.

15. Tincture of iodine has antiseptic properties. This solution is made by dissolving
    (a) iodine in potassium iodide (b) iodine in vaseline
    (c) iodine in water (d) iodine in alcohol.

16. Which of the following are physical changes!
    (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) (i), (ii) and (iv) (c) (i), (iii) and (iv) (d) (ii), (iii) and (iv)

17. Which of the following are chemical changes?
    (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 (ii) (b) (ii) and (iii) (c) (iii) and (iv) (d) (i) and (iv)

**Assertion-Reason Codes:**

(a) If both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) If both Assertion and Reason are true and Reason is not the correct explanation of Assertion.
(c) If Assertion is true but Reason is false.
(d) If both Assertion and Reason are false.

18. Assertion: Impure benzoic acid can be purified by sublimation.
    Reason: Benzoic acid sublimes on heating.

19. Assertion: True solution exhibits Tyndall effect.
    Reason: Particles are very large in size.

20. Assertion: If the dispersed phase is liquid and the dispersion medium is solid, the colloid formed is known as emulsion. Reason: Whipped cream is an example of a sol.

21. Assertion: A mixture of camphor and ammonium chloride cannot be separated by sublimation.
    Reason: Camphor on heating sublimes, ammonium chloride does not.

22. Assertion: Hot water is used for separation of benzoic acid from naphthalene.
    Reason: Whenever a crystal is formed it tends to leave out the impurities.

23. Assertion: A mixture of plant pigments can be separated by chromatography.
    Reason: Chromatography is used for the separation of coloured substances into individual components.