

## Is Matter Around Us Pure?

### Assertion & Reason Type Questions

**Directions :** Each of the following questions consists of two statements, one is **Assertion (A)** and the other is **Reason (R)**. Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below:

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

**Q1. Assertion (A):** A solution of sugar in a glass of water is homogeneous.

**Reason (R):** A solution having non-uniform composition is homogeneous.

**Answer :** (c) Assertion (A) is true but Reason (R) is false. A solution having non-uniform composition is heterogeneous.

**Q2. Assertion (A):** True solution do not exhibit Tyndall effect.

**Reason (R):** Particles of true solution are very small in size.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q3. Assertion (A):** Solute particles can be separated from the solution by the process of filtration.

**Reason (R):** A solution is a homogeneous mixture.

**Answer :** (d) Assertion (A) is false because solute particles cannot be separated from the solution by the process of filtration.

**Q4. Assertion (A):** On dissolving chalk powder in water, a suspension is obtained.

**Reason (R):** The particles of a suspension can be seen by the naked eye.

**Answer :** (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).



**Q5. Assertion (A):** Tyndall effect can be observed in the canopy of a dense forest.

**Reason (R):** When a beam of light passes through the canopy of a dense forest, it gets scattered by the tiny droplets of water that act as particles of colloid dispersed in air.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q6. Assertion (A):** When a beam of light is passed through a colloidal solution placed in a dark place the path of the beam becomes visible.

**Reason (R):** Light gets scattered by the colloidal particles.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

**Q7. Assertion (A):** Colloidal solutions are stable and the colloidal particles do not settle down.

**Reason (R):** Colloidal particles can be separated from a colloidal solution by centrifugation.

**Answer :** (b) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of Assertion (A).

**Q8. Assertion (A):** If the dispersed phase is liquid and the dispersion medium is solid, the colloid formed is known as sol.

**Reason (R):** Mud is an example of a sol.

**Answer :** (c) Reason (R) is false because in sol, dispersed phase is solid and dispersion medium is liquid.

**Q9. Assertion (A):** Interconversion of states of matter is considered a physical change.

**Reason (R):** Interconversion of states of matter takes place without change in composition.

**Answer :** (a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).