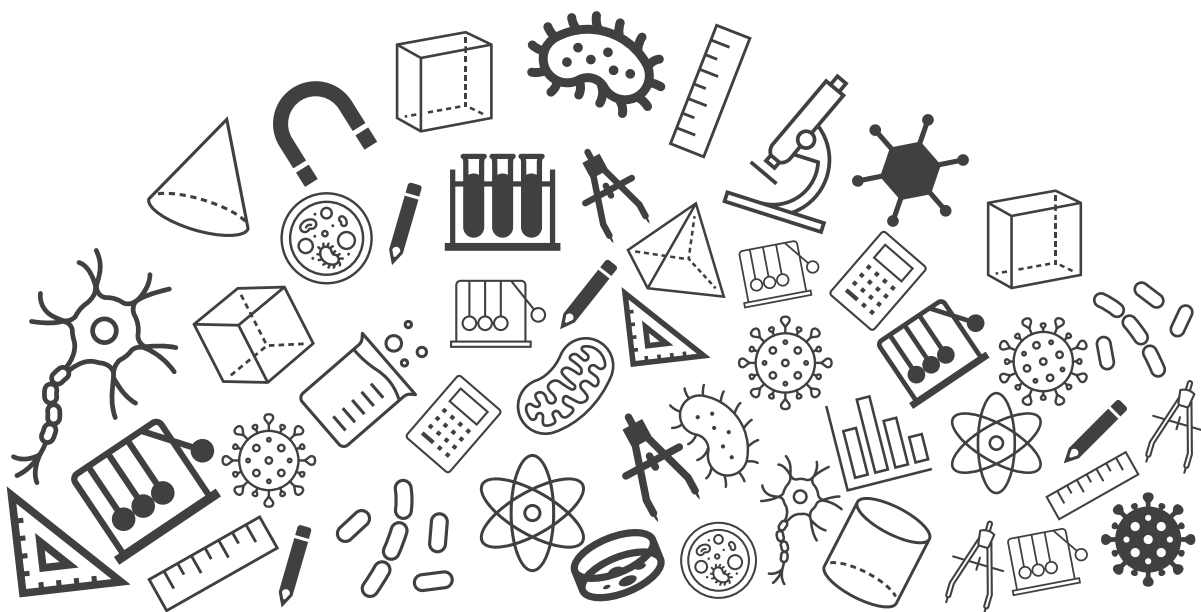




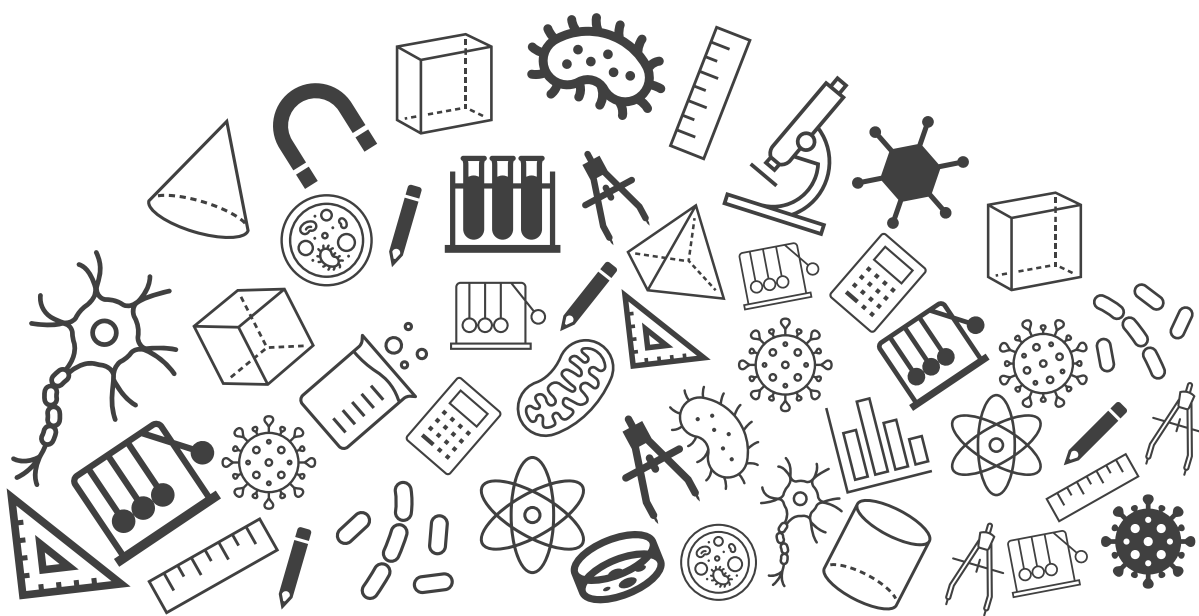
# Grade 06 : Science

## Exam Important Questions





# Separation of Substances



## Separation of Substances

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1. Handpicking method of separation is suitable for separating which type of mixture? Give two examples of mixtures that can be separated by handpicking.

[2 marks]

Handpicking method of separation is used when components of a mixture differ in shape, size, or colour and their quantities are small enough to be handpicked. [1 mark]

Potatoes can be separated from tomatoes, rotten fruits from fresh ones by handpicking. [0.5 marks]

Stones can be separated from rice by handpicking. [0.5 marks]

2. What do you mean by winnowing? Give one scenario where winnowing can be used as a method of separating mixture.

[2 marks]

[DPS 2020]

- Winnowing is a process to separate heavier and lighter components of a mixture by wind or by blowing air. [1 mark]
- This technique is used by farmers to separate lighter husk particles from heavier seeds of grains. The husk gets blown away by the air that results in the separation of husk from the grains (desired substance). [1 mark]

3. Explain how threshing can be used to separate mixture.

[2 marks]

- Threshing is the process of separating grains from the stalk by beating them. [1 mark]
- The grains are weakly attached to the stalk therefore, they get separated from the stalks when they are beaten on the ground. [1 mark]

## Separation of Substances

4. How is fine sand separated from larger particles? Explain.

[2 marks]

- The fine sand and larger particles can be separated by sieving as there is a difference in the sizes of sand particles. [1 mark]
- Sieving is a method in which a mixture with the components of different sizes are separated using a sieve. [1 mark]

5. Why do we need to separate different components of a mixture? Give two examples.

[2 marks]

The reason why we need to separate the different components of a mixture are:

- To obtain two or more different but useful components. For example, to separate out grapes from a mixture of fruits [1 mark]
- To remove non-useful components from a mixture. For example, to separate out husk from grains [1 mark]

6. While preparing chapatis, Paheli found that the flour to be used was mixed with wheat grains. What is the most suitable method to separate the grains from the flour? [3 marks]

- Sieving is used to separate a solid-solid mixture, where components differ in size. [1 mark]
- To carry out sieving, a sieve is used. The pore size of sieve is such that it allows the slightly smaller component to pass through it while the bigger component stays at the top of sieve. [1 mark]
- Grains are larger in size than flour, so flour will pass through the sieve, leaving the grains behind. So, grains can be separated from flour by sieving. [1 mark]

## Separation of Substances

7. Define saturated solution and also explain how saturated solution is made unsaturated. (3 marks)

**Solution:**

- A solution in which no more solute can be dissolved at a given temperature is called a saturated solution. (1 mark)

There are two ways in which saturated solutions can be made unsaturated.

- First method is by adding more solvent. Adding more solvent helps to dissolve more solute. (1 mark)
- Second method is by increasing the temperature. When the temperature is increased, more solute particles can dissolve in the solvent. (1 mark)

8. A student took a beaker and mixed ink and water in it. Will he be able to separate ink and water using decantation process? Explain it. When can we use decantation? [3 marks]

- No, we cannot remove the ink from the water through decantation, since the mixture of ink and water forms a solution. [1 mark]
- In the solutions, the particles are evenly mixed around, and will not form sediments. [1 mark]
- Decantation can be used for a mixture of two liquids which are not soluble into each other and forms distinct layers or it can be used to separate the components of a solid-liquid mixture in which the solid particles settle at the bottom and the clear liquid above it can be poured into another container. [1 mark]