

NCERT QUESTIONS WITH SOLUTION

1. What purpose does handpicking serve in the process of separation?

- (1) Filtration
- (2) Sorting
- (3) Evaporation
- (4) Decantation

Ans. (2) Sorting

2. Which of the following substances are commonly separated using the churning method?

- (1) Oil from water
- (2) Sand from water
- (3) Cream from milk
- (4) Oxygen from air

Ans. (3) Cream from milk

3. Which factor is usually essential for the filtration?

- (1) Apparatus size
- (2) presence of air
- (3) Pore size
- (4) Temperature of the mixture

Ans. (3) Pore size

4. State with reason(s) whether the following statements are True [T] or False [F]. Also, correct the False statement(s).

(1) Salt can be separated from salt solution by keeping it under the sun.

Ans. True

(2) Handpicking should be used only when the quantity of one component is less.

Ans. True

(3) A mixture of puffed rice and rice grains can be separated by threshing.

Ans. False

A mixture of puffed rice and rice grains can be separated by winnowing.

(4) A mixture of mustard oil and lemon water can be separated by decantation.

Ans. True

(5) Sieving is used to separate a mixture of rice flour and water.

Ans. False

Filtration is used to separate a mixture of rice flour and water.

5. Column-I		Column-II	
(A)	Gram flour mixed with black gram	(i)	Handpicking
(B)	Chalk powder mixed with water	(ii)	Magnetic separation
(C)	Corn mixed with potatoes	(iii)	Decantation
(D)	Iron powder mixed with sawdust	(iv)	Sieving
(E)	Oil mixed with water	(v)	Filtration

Ans. A – (iv), B – (v), C – (i), D – (ii), E – (iii)

6. In what situations would you use decantation instead of filtration to separate solids from liquids?

Ans. Decantation is used when the solid particles are heavy and settle down at the bottom of the container, allowing the clear liquid to be poured off without disturbing the solid sediment. For example, separating sand from water.

7. Can you relate the presence of nasal hair to any separation process?

Ans. Nasal hair acts like a natural filter, trapping dust, pollen, and other particles from the air we breathe, similar to how a filtration process works to remove solid impurities from a liquid.

8. During the COVID-19 pandemic, all of us wore masks. Generally, what material are they made of? What is the role of these masks?

Ans. Masks are generally made of multiple layers of fabric or materials such as cotton, polypropylene, or polyester. Their role is to filter out harmful particles, including viruses, from the air we breathe, similar to how filtration processes work to remove impurities from liquids.

9. A mixture containing potatoes, salt and sawdust has been given to you. Outline a stepwise procedure for separating each component from this mixture.

Ans. Step 1: Handpick the potatoes out of the mixture.

Step 2: Add water to the remaining mixture to dissolve the salt.

Step 3: Filter the mixture to separate the sawdust from the salt solution.

Step 4: Evaporate the water from the salt solution to obtain the salt.