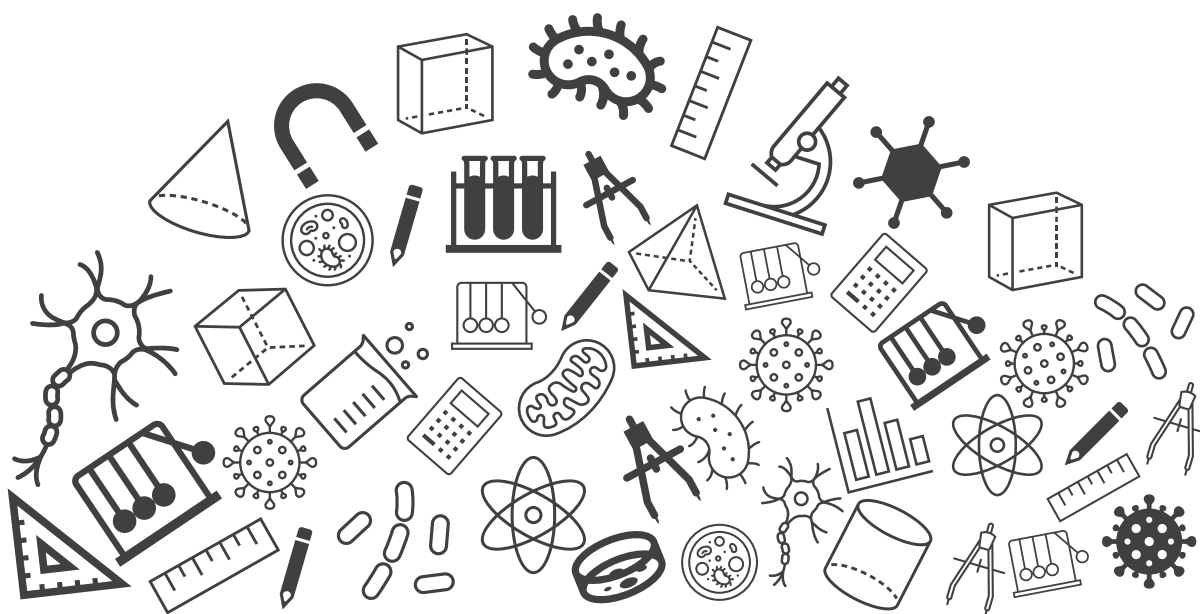




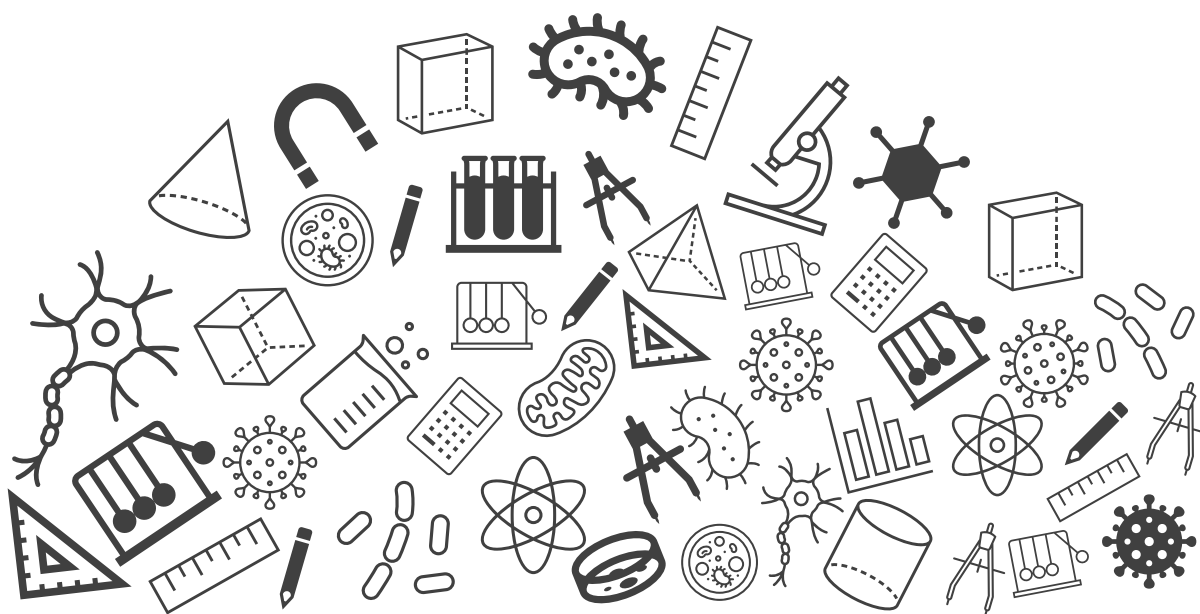
# **Grade 07 : Science**

## **Exam Important Questions**





# Acids, Bases and Salts



## Acids, Bases and Salts

### Topic : Exam Important Questions

---

1. State differences between acids and bases.  
[3 marks]

Solution:

| Acids  | Bases   |          |
|--|---|----------|
| Generally sour in taste                          | Generally bitter in taste                         | [1 mark] |
| Turn blue litmus paper red                       | Do not change the colour of the blue litmus paper | [1 mark] |
| Do not change the colour of the red litmus paper | Turn red litmus paper blue                        | [1 mark] |

2. You are provided with three test tubes containing sugar solution, baking soda solution and tamarind solution. Explain how can you identify the nature of each of these solutions using litmus paper.  
[5 marks]

Solution:

- Red litmus paper remains red in acidic and neutral solutions but turns blue in basic solutions. [1 mark]
- Blue litmus paper remains blue in basic and neutral solutions but turns red in acidic solutions. [1 mark]

The observations after dipping red and blue litmus papers in the solutions are as follows:

- Sugar solution: The colour of both red and blue litmus paper will remain unchanged indicating that the sugar solution is neutral in nature. [1 mark]
- Baking soda solution: The colour of red litmus paper will turn blue and blue litmus paper will remain unchanged indicating that the baking soda solution is basic in nature. [1 mark]
- Tamarind solution: The colour of blue litmus paper will turn red and red litmus paper will remain unchanged indicating that the tamarind solution is acidic in nature. [1 mark]

## Acids, Bases and Salts

3. Boojho, Paheli and their friend Golu were provided with a test tube each containing China rose solution which was pink in colour. Boojho added two drops of solution 'A' in his test tube and got dark pink colour. Paheli added 2 drops of solution 'B' to her test tube and got green colour. Golu added 2 drops of solution 'C' but could not get any change in colour. Suggest the possible cause for the variation in their results.

[2 marks]

**Solution:**

The possible cause for the variation in the colour of the solutions A, B and C after adding china rose solution to them is as follows:

- China rose solution is light pink in colour in neutral solutions, turns dark pink in acidic solutions and green in basic solutions. [1 mark]
- Therefore, solution A which turned dark pink must be acidic in nature, solution B which turned green must be basic in nature and solution C which didn't show any colour change must be neutral in nature. [1 mark]

4. Is the distilled water acidic/basic/neutral? How would you verify it?

[2 Marks]

**Solution:**

- Distilled water is neutral. [0.5 marks]
- We can verify it by using blue and red litmus paper. [0.5 marks]
- Neither blue nor red litmus paper change their colour when dipped in distilled water. [1 mark]

5. Name the source from which litmus solution is obtained. What is the use of this solution?

[2 marks]

**Solution:**

- Litmus solution is a mixture of dyes extracted from lichens. [1 mark]
- Litmus solution is used to determine whether a solution is acidic or basic through distinct colour changes. [1 mark]

## Acids, Bases and Salts

6. Define acids. Name the acids present in lemons and vinegar.  
[2 marks]

Solution:

- Acids are substances that are generally sour in taste. [1 mark]
- Lemons contain citric acid and vinegar contains acetic acid. [1 mark]

7. We brush our teeth with toothpaste that is basic in nature. Explain why?  
[2 marks]

- The bacteria present in our mouth produce acid which tends to decay our tooth. [1 mark]
- The basic compounds present in toothpaste neutralize the acids produced by the bacteria and prevent the decay of our tooth. [1 mark]

8. What do you understand by soil treatment? What should we do if the soil is too acidic? What should we do if the soil is too basic?  
[3 marks]

- With the increase in demand of crops, farmers have started using excessive fertilizers which is affecting the acid-base balance in the soil. Plants do not grow well when the soil is either too acidic or too basic. This process of restoring the acid-base balance in the soil is called soil treatment. [1 mark]
- When the soil is too acidic, it is treated with bases like quicklime (calcium oxide) or slaked lime. [1 mark]
- If the soil is too basic, organic matter is added to it, which neutralizes the basic nature of the soil by releasing acids. [1 mark]