

Science

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(Chapter – 2) (Acids, Bases and Salts)
(Class 10)

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Question 1:

You have been provided with three test tubes. One of them contains distilled water and the other two contain an acidic solution and a basic solution, respectively. If you are given only red litmus paper, how will you identify the contents of each test tube?

Answer 1:

If the colour of red litmus paper gets changed to blue, then it is a base and if there is no colour change, then it is either acidic or neutral. Thus, basic solution can be easily identified.

Let us mark the three test tubes as A, B, and C. A drop of the solution in A is put on the red litmus paper. Same is repeated with solution B and C.

If either of them changes colour to blue, then it is basic. Therefore, out of three, one is eliminated.

Out of the remaining two, any one can be acidic or neutral. Now a drop of basic solution is mixed with a drop of each of the remaining two solutions separately and then the nature of the drops of the mixtures is checked.

If the colour of red litmus turns blue, then the second solution is neutral and if there is no change in colour, then the second solution is acidic.

This is because acidic and basic solutions neutralize each other. Hence, we can distinguish between the three types of solutions.

