Question-6
Why does an aqueous solution of acid conduct electricity?
Solution:
The aqueous solution of an acid conducts electricity due to the presence of charged particles called ions in it.

Question-7
Why does dry HCl gas not change the colour of the dry litmus paper?
Solution:
Dry HCl gas does not contain any hydrogen ions in it, so it does not show acidic behaviour. In fact, dry HCl gas does not change the colour of dry litmus paper as it has no hydrogen ions [H^+(aq) ions] in it.

Question-8
While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?
Solution:
Diluting an acid should be done by adding concentrated acid to water gradually with stirring and not by adding water to concentrated acid.
The heat is evolved gradually when a concentrated acid is added to water for diluting an acid and the large amount of water is easily absorbed.
If, however, water is added to concentrated acid to dilute it, a large amount of heat is evolved at once. The heat generated may cause the mixture to splash the acid on our face or clothes and cause acid burns.

Question-9
How is the concentration of hydronium ions (H_3O+) affected when a solution of an acid is diluted?
Solution:
When the concentrated solution of an acid is diluted by mixing water, the concentration of hydronium ions H_3O+ per unit volume decreases.
Question-10
How is the concentration of hydroxide ions (OH-) affected when excess base is dissolved in water?
Solution:
When the solution of a base is diluted by mixing more water in it, the concentration of hydroxide ions (OH^- ions) per unit volume decreases.

Question-11
You have two solutions A and B. The pH of solution A is 6 and pH of solution B is 8.
i. Which solution has more hydrogen ion concentration?
ii. Which of this is acidic and which one is basic?
Solution:
The pH of a solution is inversely proportional to its hydrogen ion concentration. This means that the solution having lower pH will have more hydrogen ion concentration. In this case, solution A(having a lower pH of 6) will have more hydrogen ion

concentration.Solution A is acidic and solution B is basic.

Question-12

What effect does the concentration of $H^+(aq)$ ions have on the nature of the solution?

Solution:

Acids produce hydrogen ions in water. So, when an acid is added to water, the concentration of hydrogen ions in water increases. The solution of acid thus formed will have more of hydrogen ions and it will be acidic in nature.

********** END **********