DPP – 07

Class – 10th

Topic – Practice question

Q.1 Why do HCl, HNO_3, etc show acidic characters in aqueous solutions while solutions of compounds like alcohol and glucose do not show acidic character?

Q.2 Why does an aqueous solution of an acid conduct electricity?

Q.3 Why does dry HCl gas not change the colour of the dry litmus paper?

Q.4 While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?

Q.5 How is the concentration of hydronium ions (H_3O^+) affected when a solution of an acid is diluted?

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Sol.1 H^+ions in aqueous solution are responsible for acidic character. HCl, HNO_3, etc. give H^+ions in water while alcohol and glucose do not give H^+ion in water. Therefore, alcohol and glucose do not show acidic character.

Sol.2 The aqueous solution of an acid conducts electricity due to the presence of charged particles called ions in it.

Sol.3 Dry HCl gas does not give H^+ions and therefore does not change the colour of dry litmus paper.

Sol.4 While diluting an acid it is recommended that the acid should be added to water and not water to the acid because if water is added to concentrated acid to dilute it, then a large amount of heat is evolved at once. This heat changes some of the water to steam explosively which can splash the acid on one's face or clothes and cause acid burns.

Sol.5 When a given amount of an acid is added to water, there is a fixed number of hydronium ions per volume of the solution. On dilution, the number of hydronium ions per volume decreases and concentration decreases.