

Debashish group

Viva voice questions (Thermochemistry)

1. What do you understand by water equivalent of calorimeter?

Ans. Heat required to raise the temperature of water to 1°C .

2. Why are metallic calorimeters not used for determining heat of neutralization?

Ans. Metals react with acids or bases.

3. Define enthalpy of solution?

Ans. Amount of heat evolved or absorbed when one mole of solute is dissolved in large excess of water so that no change in temperature occurs.

4. If 1.0M NaOH is diluted to 0.1M, heat will be absorbed or evolved?

Ans. Heat is evolved.

5. What happens when (i) KNO_3 is dissolved in water (ii) NH_4Cl is dissolved in water

Ans. (i) Heat is evolved, (ii) Heat is absorbed

Acid radicals

1. How will you test the presence of S^{2-} and SO_3^{2-} ?

Ans. Lead acetate solution turns black for sulphide ions and acidified $\text{K}_2\text{Cr}_2\text{O}_7$ solution turns green for sulphite ions.

2. In the detection of sulphate ions can we use barium nitrate solution in place of barium chloride?

Ans. Yes.

3. Give the chemistry of ring test for nitrate ions.

Ans. Nitrate ions(SE) + freshly prepared FeSO_4 solution+ conc. H_2SO_4 \rightarrow Brown ring due to the formation of penta aqua nitrosonium iron(I) complex.

4. Give the chemistry of chromyl chloride test. Why it is not shown by bromides and iodides?

Ans. Chloride ions +conc. H_2SO_4 +solid $\text{K}_2\text{Cr}_2\text{O}_7$ \rightarrow reddish vapours of chromyl chloride which change to yellow ppt on adding lead acetate and NaOH.

Br^- and I^- give unstable chromyl bromide and chromyl iodide.

5. Which ion gives brown fumes with conc. HCl?

Ans. Nitrates