
**Thermochemistry**

# DPP-5 [Enthalpy of Neutralisation]

*"Assignment se bhagoge toh paper se kaise ladoge?"*

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**Q1.** **The change in the enthalpy of $NaOH + HCl \rightarrow NaCl + H_2O$ is called :**

(1) Heat of neutralisation
(2) Heat of reaction
(3) Heat of hydration
(4) Heat of solution

**Q2.** **If water is formed from $H^+$ ions and $OH^-$ the heat of formation of water is :**

(1) –13.7 kCal
(2) 13.7 kCal
(3) –63.4 kCal
(4) More data required

**Q3.** **Which of the following data represents the value of heat of neutralisation of strong acid against strong base ?**

(1) –13.7 kCal
(2) –57.2 kJ
(3) $-5.72 \times 10^4$ J
(4) All the above

**Q4.** **Enathalpy of neutralisation of acetic acid with KOH will be numerically :**

(1) $1 = 57.2$ kJ
(2) $> 57.2$ kJ
(3) $< 57.2$ kJ
(4) unpredictable

**Q5.** **The amount of heat liberated when one mole of $NH_4OH$ reacts with one mole of HCl is**

(1) 13.7 kCal
(2) More than 13.7 kCal
(3) Less than 13.7 kCal
(4) Cannot be predicted

**Q6.** **The most exothermic neutralisation reaction would be between**

(1) $NH_4OH$ and HCl
(2) $CH_3COOH$ and NaOH
(3) $NH_4OH$ and $H_2SO_4$
(4) NaOH and HCl

**Q7.** **The absolute enthalpy of neutralisation of the reaction for MgO(s) : $MgO(s) + 2HCl(aq) \rightarrow MgCl_2(aq) + H_2O(\ell)$ will be :**(with Sign)

(1) 57.33 kJ $mol^{-1}$
(2) –57.33 kJ $mol^{-1}$
(3) Greater than –57.33 kJ $mol^{-1}$
(4) Less than –57.33 kJ $mol^{-1}$

**Q8. Heat of neutralisation of a strong dibasic acid in dilute solution by NaOH is nearly :**
(1) –27.4 kCal $eq^{-1}$
(2) –13.7 kCal $eq^{-1}$
(3) +13.7 kCal $eq^{-1}$
(4) –13.7 kCal $mol^{-1}$

**Q9. If $H^+ + OH^- = H_2O$ + 13.7 kCal, then heat of complete neutralisation of one mole of $H_2SO_4$ with strong base will be :**
(1) 13.7 Kcal
(2) 27.4 Kcal
(3) 6.85 Kcal
(4) 3.425 KCal

**Q10. One mol of $H_2SO_4$ is completely neutralised with 2 mole of NaOH in dilute solutions. The amount of heat evolved during the process is:**
(1) 57.2 kJ
(2) $\frac{57.2}{2}$ kJ
(3) 13.7 kCal
(4) 114.4 kJ

**Q11. 100 ml of 3 mol $H_2SO_4$ reacts with 100 ml of 3 mol NaOH. Enthalpy of neutralisation of reaction will be**
(1) –57.1 kJ/mol
(2) –2 × 57.1 kJ
(3) –0.3 × 57.1 kJ
(4) –3 × 57.1 kJ

**Q12. The heat of neutralization of HCl by NaOH is –55.9 kCal $mol^{-1}$. If the heat of neutralization of HCN by NaOH is –12.1 kCal $mol^{-1}$. The energy of dissociation of HCN is**
(1) –43.8 kJ
(2) 43.8 kJ
(3) 68 kJ
(4) –68 kJ

**Q13. Heat of neutralisation of oxalic acid is –106.7 kJ $mol^{-1}$ using NaOH hence $\Delta H$ of : $H_2C_2O_4 \rightarrow 2CO_2 + 2H^+$ is :**
(1) 5.88 kJ $mol^{-1}$
(2) –5.88 kJ $mol^{-1}$
(3) –13.7 kCal $mol^{-1}$
(4) 7.5 kJ $mol^{-1}$