

## Yakeen NEET 2.0 2026

**Physical Chemistry By Amit Mahajan Sir**  
**Thermodynamics & Thermochemistry**

DPP: 7

**Q1** In which reaction  $\Delta S$  is positive:

- (A)  $\text{H}_2\text{O}_{(\ell)} \rightarrow \text{H}_2\text{O}_{(\text{s})}$   
 (B)  $3\text{O}_{2(\text{g})} \rightarrow 2\text{O}_{3(\text{g})}$   
 (C)  $\text{H}_2\text{O}_{(\ell)} \rightarrow \text{H}_2\text{O}_{(\text{g})}$   
 (D)  $\text{N}_{2(\text{g})} + 3\text{H}_{2(\text{g})} \rightarrow 2\text{NH}_{3(\text{g})}$

**Q2** When the egg is hard boiled, there is-

- (A) Increase in disorder  
 (B) Decrease in disorder  
 (C) No change in disorder  
 (D)  $\Delta G$  is negative

**Q3** If  $S^\circ$  for  $\text{H}_2$ ,  $\text{Cl}_2$  and  $\text{HCl}$  are 0.13, 0.22 and 0.19  $\text{kJ K}^{-1} \text{mol}^{-1}$  respectively. The total change in standard entropy for the reaction  $\text{H}_2 + \text{Cl}_2 \rightarrow 2\text{HCl}$  is:

- (A) 30  $\text{JK}^{-1} \text{mol}^{-1}$   
 (B) 40  $\text{JK}^{-1} \text{mol}^{-1}$   
 (C) 60  $\text{JK}^{-1} \text{mol}^{-1}$   
 (D) 20  $\text{JK}^{-1} \text{mol}^{-1}$

**Q4** The enthalpy of vaporization for water is 186.5  $\text{kJ mol}^{-1}$ , the entropy of its vaporization will be:

- (A) 0.5  $\text{KJK}^{-1} \text{mol}^{-1}$   
 (B) 1.0  $\text{KJK}^{-1} \text{mol}^{-1}$   
 (C) 1.5  $\text{KJK}^{-1} \text{mol}^{-1}$   
 (D) 2.0  $\text{KJK}^{-1} \text{mol}^{-1}$

**Q5** The enthalpy of vaporization of per mole of ethanol (b.p. =  $79.5^\circ\text{C}$  and  $\Delta S = 109.8 \text{JK}^{-1} \text{mol}^{-1}$ ) is:

- (A) 27.35  $\text{KJ/mol}$

(B) 32.19  $\text{KJ/mol}$

(C) 38.70  $\text{KJ/mol}$

(D) 42.37  $\text{KJ/mol}$

**Q6** Ammonium chloride when dissolved in water leads to cooling sensation. The dissolution of  $\text{NH}_4\text{Cl}$  at constant temperature is accompanied by :

- (A) Increase in entropy.  
 (B) Decrease in entropy  
 (C) No change in entropy  
 (D) No change in enthalpy

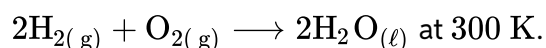
**Q7** The spontaneous nature of a reaction is impossible if:

- (A)  $\Delta H$  is +ve,  $\Delta S$  is also +ve  
 (B)  $\Delta H$  is -ve;  $\Delta S$  is also -ve  
 (C)  $\Delta H$  is -ve;  $\Delta S$  is +ve  
 (D)  $\Delta H$  is +ve;  $\Delta S$  is -ve

**Q8** Which of the following is true for the reaction  $\text{H}_2\text{O}_{(\ell)} \rightleftharpoons \text{H}_2\text{O}_{(\text{g})}$  at  $100^\circ\text{C}$  and 1 atmosphere

- (A)  $\Delta S = 0$   
 (B)  $\Delta H = 0$   
 (C)  $\Delta H = \Delta E$   
 (D)  $\Delta H = T\Delta S$

**Q9** Determine the entropy change for the reaction given below:



If standard entropies of  $\text{H}_{2(\text{g})}$ ,  $\text{O}_{2(\text{g})}$  and  $\text{H}_2\text{O}_{(\ell)}$  are 126.6, 201.20 and



$68.0 \text{ J K}^{-1} \text{ mol}^{-1}$  respectively.

- (A)  $-218.4 \text{ J K}^{-1} \text{ mol}^{-1}$
- (B)  $-318.4 \text{ J K}^{-1} \text{ mol}^{-1}$
- (C)  $-520.2 \text{ J K}^{-1} \text{ mol}^{-1}$
- (D)  $-128.6 \text{ J K}^{-1} \text{ mol}^{-1}$

**Q10** Calculate the entropy change in melting of one gm ice at  $0^\circ\text{C}$  if latent heat of ice is  $80\text{cal/g}$  -

- (A)  $80 \text{ CalK}^{-1}$
- (B)  $20 \text{ CalK}^{-1}$
- (C)  $4.4 \text{ CalK}^{-1}$
- (D)  $0.3 \text{ CalK}^{-1}$

**Q11** Standard state means-

- (A)  $25^\circ\text{C}$  and  $760 \text{ mmHg}$
- (B)  $298 \text{ K}$  and  $760 \text{ cmHg}$
- (C)  $273 \text{ K}$  and  $1 \text{ atm}$
- (D)  $298 \text{ K}$  and one atm

**Q12** If  $900 \text{ J/g}$  of heat is exchanged at boiling point of water, then what is increase in entropy?

- (A)  $43.4 \text{ J/Kmole}$
- (B)  $87.2 \text{ J/K mole}$
- (C)  $900 \text{ J/Kmole}$
- (D) Zero



## Answer Key

Q1 (C)

Q2 (A)

Q3 (A)

Q4 (A)

Q5 (C)

Q6 (A)

Q7 (D)

Q8 (D)

Q9 (B)

Q10 (D)

Q11 (D)

Q12 (A)



[Master NCERT with PW Books APP](#)

