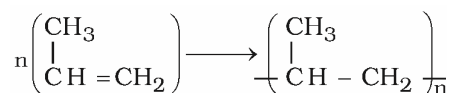


Date Planned : __ / __ / __	Daily Tutorial Sheet-12	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level-3	Exact Duration : _____

- 141.** Given $\Delta H_{\text{ioniz}}(\text{HCN}) = 45.2 \text{ kJ/mol}$ and $\Delta H_{\text{ioniz}}(\text{CH}_3\text{COOH}) = 2.1 \text{ kJ/mol}$. Which one of the following facts is true ?
- (A) $K_a(\text{HCN}) = K_a(\text{CH}_3\text{COOH})$ (B) $K_a(\text{HCN}) < K_a(\text{CH}_3\text{COOH})$
- (C) $K_a(\text{HCN}) > K_a(\text{CH}_3\text{COOH})$ (D) $K_a(\text{HCN}) = \frac{45.17}{2.07} K_a(\text{CH}_3\text{COOH})$
- 142.** The standard heat of formation of sodium ions in aqueous solution from the following data is [Given : Heat of formation of NaOH(aq) at $25^\circ\text{C} = -470.7 \text{ kJ}$. Heat of formation of $\text{OH}^-(\text{aq})$ at $25^\circ\text{C} = -228.8 \text{ kJ}$]
- (A) -251.9 kJ (B) 241.9 kJ 
- (C) -241.9 kJ (D) 251.9 kJ
- 143.** Molar heat capacity of water in equilibrium with ice at constant pressure is: 
- (A) Zero (B) Infinity
- (C) $40.45 \text{ JK}^{-1}\text{mol}^{-1}$ (D) $75.48 \text{ JK}^{-1}\text{mol}^{-1}$
- 144.** If bond energy of H_2 , F_2 and HF are in the ratio $2 : 1 : 3$ and $\Delta H_a(\text{H}_2) = 400 \text{ kJ/mol}$. Then $\Delta H_f(\text{HF})$ is :
- (A) 0 kJ/mol (B) -600 kJ/mol 
- (C) -1200 kJ/mol (D) None of these
- 145.** The standard enthalpy of formation of octane (C_8H_{18}) is -250 kJ/mol . Calculate the enthalpy of combustion of C_8H_{18} . The enthalpy of formation of $\text{CO}_2(\text{g})$ and $\text{H}_2\text{O}(\text{l})$ are -394 kJ/mol and -286 kJ/mol respectively : 
- (A) -5200 kJ/mol (B) -5726 kJ/mol
- (C) -5476 kJ/mol (D) -5310 kJ/mol
- 146.** The polymerization of propene to linear polypropene is represented by the reaction. 



Where n has large integral value, the average enthalpies of bond dissociation for $(\text{C} = \text{C})$ bond and $(\text{C} - \text{C})$ at 298 K are $+590$ and $+331 \text{ kJ mol}^{-1}$, respectively. The enthalpy of polymerization is -360 kJ mol^{-1} . Find the value on n .