

In which of the following coordination entities, the magnitude of Δ_0 will be maximum? :

- (A) $[\text{Co}(\text{CN})_6]^{3-}$ (B) $[\text{Co}(\text{C}_2\text{O}_4)_3]^{3-}$ (C) $[\text{Co}(\text{H}_2\text{O})_6]^{3+}$ (D) $[\text{Co}(\text{NH}_3)_6]^{3+}$

Ans: A

CFSE : $(+3/5\Delta^*t_{2g} - 2/5 \Delta^*e_g)$

CN is SFL So CFSE = $0 \cdot 3/5 - 6 \cdot 2/5 = -2.4 \Delta$