

# CBSE Class 12 physics Important Questions Chapter 8 The d- and f- Block Elements

### 2 Marks Questions

### 1. Give an explanation for the catalytic properties shown by transition metals.

Ans. Catalytic properties shown by transition metals can be explained due to

- (i) Presence of variable valency and ability of elements to form complexes.
- (ii) Surface of metals where the reaction can occur.

### 2. Write some characteristics of interstitial compounds.

Ans. Some characteristics of interstitial compounds are

- (i) They have high melting points.
- (ii) They are very hard.
- (iii) They retain metallic lusture.
- (iv) They are chemically inert.

## 3. Describe the steps of preparation of $KMnO_4$ ?

Ans. Potassium Permanganate is prepared in two steps:

Step 1: Fusion of  $MnO_2$  with KOH and oxidizing agent to give dark green  $K_2MnO_4$ .

$$2MnO_2 + 4KOH + O_2 \rightarrow 2K_2MnO_4 + 2H_2O$$

Step 2: Disproportionation of manganate ions to give permanganate ions.

$$3MnO_4^{2-} + 4H + \rightarrow 2MnO_4^{-} + MnO_2 + 2H_2O$$



# 4. Give some of the uses of $KMnO_4$ ?

Ans. Uses of potassium permanganate -

- (a) As an oxidizing agent.
- (b) For bleaching of wool, cotton & silk.
- (c) For decolourisation of oils.
- 5. What happens when
- (a) A lanthonoid reacts with dil-acid
- (b) A lanthonoid reacts with water.

Ans. (i) When a Lanthanoid reacts with dil-acid, it liberate hydrogen gas.

$$Ln + dil.HCl \rightarrow Ln Cl_3 + H_2$$

(ii) When a Lanthanoid reacts with water, it forms hydroxide.

$$Ln + H_2O \rightarrow Ln (OH)_3 + H_2$$