

**Model Question Paper**  
**d- Block Elements - Part V**

12th Standard

**Chemistry**

Reg.No. : 

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I. Answer all the questions.

II. Use Blue pen only.

III. Question No 15,16 is compulsory

Time : 01:15:00 Hrs

Total Marks : 60

5 x 1 = 5

**Section-A**

- 1) The electrolyte used in chrome plating is  
(a) Chromic acid and sulphuric acid (b)  $Cr_2O_3 + HCl$  (c)  $CrO_3 + HCl$  (d) chromic acid and nitric acid
- 2) Philosopher's wool is  
(a)  $ZnCO_3$  (b)  $ZnO$  (c)  $ZnS$  (d)  $ZnCl_2$
- 3) Which of the following liberates hydrogen with dil. HCl?  
(a) Zn & Cr (b) Ag (c) Cu (d) Ag & Au
- 4) The chloride ore of silver is  
(a) Argentite (b) Pyrargyrite (c) Silver glance (d) Horn silver
- 5) From silver chloride, silver is obtained by fusion with  
(a)  $NaOH$  (b)  $H_2SO_4$  (c)  $HNO_3$  (d)  $Na_2CO_3$

**Section-B**

5 x 3 = 15

- 6) How is silver obtained from silver coins?
- 7) Explain electrolytic refining of copper.
- 8)  $Fe^{3+}$  ions are brown in colour while  $Zn^{2+}$  salts are white. Give reason.
- 9) Mention the catalysts employed in  
(i) Haber process (ii) Oxidation of  $SO_2$  to  $SO_3$  and (iii) Manufacture of polythene
- 10) What are diamagnetic substances? Give examples.

**Section-C**

6 x 5 = 30

- 11) An element A belongs to group number 11 and period number 4. A is a reddish brown metal. A reacts with dil. HCl in the presence of air and gives compound B. A also reacts with con.  $HNO_3$  to give compound C with the liberation of  $NO_2$ . Identify A, B and C. Explain the reactions.
- 12) Silver reacts with dil.  $HNO_3$  to give compound (A) which on heating at 723K gives (B). (B) on further heating gives (C). Further compound (A) reacts with KBr and gives (D) which is highly useful in photography. Identify (A), (B), (C) and (D) and write the reactions.
- 13) The sulphide ore of an element of group 12 when roasted gave compound (A) which on reduction with carbon gave the element (B). The carbonate (C) of this element is used for skin disease. Identify (A), (B) and (C) and write the required reaction.
- 14) An element A occupies group number 11 and period number 4. This metal is extracted from its mixed sulphide ore (B). (A) reacts with dil.  $H_2SO_4$  in presence of air and forms (C) which is colourless. With water (C) gives a blue compound (D). Identify (A), (B), (C) and (D) and explain the reactions.
- 15) a) An element (A) belongs to group number 11 and period number 4 is extracted from the pyrite ore. (A) reacts with oxygen at two different temperatures forming compounds (B) and (C). (A) also reacts with con.  $HNO_3$  to give (D) with the evolution of  $NO_2$ . Find out (A), (B), (C) and (D). Explain the reactions.  

**(OR)**

b) The metal A is extracted from its sulphide ore. On treatment with dilute nitric acid metal (A) gives a compound (B), which is also known as Lunar caustics. (B) on heating at 723 K gives (C) and  $O_2$ . Identify (A), (B) and (C) and explain the reactions.
- 16) a) Compound (A) is the chief ore of chromium in which chromium exists in +3 oxidation state. (A) on roasting with molten  $Na_2CO_3$  gives yellow coloured compound (B). When (B) reacts with concentrated sulphuric acid gives compound (C). (C) on treatment with KCl gives (D). Identify (A), (B), (C) and (D) and explain the reactions.  

**(OR)**

b) The chief ore of zinc, on roasting gives a compound (A) which on reduction by carbon gives (B). (B) reacts with concentrated sulphuric acid to give compound C and  $SO_2$  gas. Identify A, B and C. Explain the reactions.

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