Blue Stars Higher Secondary School

12 REVISION TEST CHEM 12

12th Standard

Chemistry

Date : 28-11-24

Reg.No. :

Exam Time : 03:00 Hrs

Total Marks : 100

I.ANSWER THE FOLLOWING.

10 x 2 = 20

1) What is the role of quick lime in the extraction of Iron from its oxide Fe_2O_3?

2) What is catenation ? describe briefly the catenation property of carbon.

3) Write a note on Fisher tropsch synthesis.

4) What is lanthanoid contraction and what are the effects of lanthanoid contraction?

5) What are interstitial compounds?

6) $[Ti(H_2O)_6]^{3+}$ is coloured, while $[Sc(H_2O)_6]^{3+}$ is colourless- explain.

7) What are point defects?

8) Why ionic crystals are hard and brittle?

9) Write Arrhenius equation and explains the terms involved.

10) Give two examples for zero order reaction.

II.ANSWER THE FOLLOWING.

10 x 3 = 30

11) Describe a method for refining nickel. (or) Explain the Mond process of refining nickel.

12) Write a short note on electrochemical principles of metallurgy.

13) Give the uses of silicones.

14) How will you convert boric acid to boron nitride?

15) A hydride of 2nd period alkali metal (A) on reaction with compound of Boron (B) to give a reducing agent (C). Identify A, B and C.

16) Which is more stable? Fe^{3+} or Fe^{2+}? Why ?

17) Compare lanthanoids and actinoids.

18) Explain Schottky defect.

19) If NaCl is doped with 10^{-2} mol percentage of strontium chloride, what is the concentration of cation vacancy?

20) Write a note on Frenkel defect.

ANSWER IN DETAIL.

10 x 5 = 50

21) Write the postulates of Werner's theory.

22) What are the limitations of VB theory?

23) Differentiate crystalline solids and amorphous solids.

24) What is an elementary reaction? Give the differences between order and molecularity of a reaction.

25) Derive an expression for Nernst equation.

26) Differentiate physisorption and chemisorption.

27) What are the factors which influence the adsorption of a gas on a solid?

28) Describe adsorption theory of catalysis

29) Predict the product A,B,X and Y in the following sequence of reaction

$$butan\text{-}2\text{-}ol \xrightarrow{SOCl_2} A \xrightarrow[ether]{Mg} B$$

$$A \xrightarrow{Cu/573K} X$$

$$B \xrightarrow{} Y$$
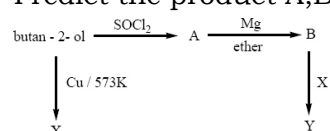
30) Write a short note on peptide bond.

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