12th Standard CHEMISTRY (November and December Month Syllabus)

Revision Test Model Question Paper January 2022

Preparation : www.kalvinesan.com

Time : 03.00 hrs + 15 Minutes **Maximum Marks : 70**

Instructions :

1. Check the question paper for fairness of printing. If there is any lack of fairness inform the hall supervisor immediately.
2. Use Blue or Black ink to write any underline

Part – 1

15 x 1 = 15

Note : (i) Answer all the Questions
(ii) Choose the most suitable answer and write the code with corresponding answer

1. The metal oxide which cannot be reduced to metal by carbon is
   a) PbO b) Al_2O_3 c) ZnO d) FeO
2. Wolframite ore is separated from tinstone by the process of
   a) Smelting b) Calcination c) Roasting d) Electromagnetic separation
3. Zinc is obtained from ZnO by
   a) Carbon reduction b) Reduction using silver c) Electrochemical process d) Acid leaching
4. An aqueous solution of borax is
   a) Neutral b) acidic c) basic d) amphoteric
5. The element that does not show catenation among the following p-block elements is
   a) Carbon b) silicon c) Lead d) germanium
6. The geometry at which carbon atom in diamond are bonded to each other is
   a) Tetrahedral b) hexagonal c) Octahedral d) none of these
7. Graphite and diamond are
   a) Covalent and molecular crystals b) ionic and covalent crystals
   c) both covalent crystals d) both molecular crystals
8. The vacant space in bcc lattice unit cell is
   a) 48% b) 23% c) 32% d) 26%
9. The cation leaves its normal position in the crystal and moves to some interstitial position, the defect in the crystal is known as
   a) Schottky defect b) F center c) Frenkel defect d) non-stoichiometric defect
10. The _____ is a proportionality constant and It is equal to the rate of reaction, when the concentration of each of the reactants is unity.
    a) rate constant b) rate reaction c) rate d) none of these
11. Which of the following compounds on reaction with methyl magnesium bromide will give tertiary alcohol.
    a) Benzaldehyde b) propanoic acid c) methyl propanoate d) acetaldehyde
12. Which one of the following is the strongest acid
    a) 2 – nitrophenol b) 4 – chlorophenol c) 4 – nitrophenol d) 3 – nitrophenol

13. Carbolic acid is
    a) Phenol b) Picric acid c) benzoic acid d) phenylacetic acid
14. Which of the following compound can be used as artifreeze in automobile radiators?
    a) methanol b) ethanol c) Neopentyl alcohol d) ethan -1, 2-diol
15. The total number of reactant species that are involved in an elementary step is called
    a) Molecularity b) reactant c) Rate Reaction d) Rate Constant

Part – 2

6 x 2 = 12

Answer any six of the Following (Question No. 24 is compulsory)

16. What are the various steps involved in extraction of pure metals from their ores?
17. Give the basic requirement for vapour phase refining.
18. What is catenation ?
19. Define average rate and instantaneous rate.
20. Give two exapmles for zero order reaction
21. Define unit cell.
22. Give any three characteristics of ionic crystals.
23. Define Auto-reduction with one example.
24. Barium has a body centered cubic unit cell with a length of 508pm along an edge.What is the density of barium in g cm^{-3} ?

Part – 3

6 x 3 = 18

Answer any six of the Following (Question No. 33 is compulsory)

25. Write a note on Frenkel defect.
26. Explain Schottky defect.
27. What is an elementary reaction? Give the differences between order and molecularity of a reaction.
28. Give the Uses of Graphite
29. Write Arrhenius equation and explains the terms involved.
30. Write a short note on anamolous properties of the first element of p-block.
31. Give the uses of Borax.
32. Explain Schotten-Baumann reaction.
33. Sodium metal crystallizes in bcc structure with the edge length of the unit cell 4.3×10^{-8} cm. calculate the radius of sodium atom.

Part – 4

5 x 5 = 25

Answer all the Questions : -

34. A) i) Describe a method for refining nickel.
    ii) What are the differences between minerals and ores?

    [or]

    B) i) Give the uses of silicones.
    ii)Explain zone refining process with an example.

35. A) i) Explain the principle of electrolytic refining with an example.
    ii) What are point defects?

[or]

B) Describe briefly allotropism in p- block elements with specific reference to carbon.

36. A) i) Write a note on metallic nature of p-block elements.
ii) Differentiate crystalline solids and amorphous solids.

[or]

B) i) Explain the rate determining step with an example.
ii) Explain pseudo first order reaction with an example.

37. A) Show that in case of first order reaction, the time required for 99.9% completion is nearly ten times the time required for half completion of the reaction.

[or]

B) Derive integrated rate law for a zero order reaction A $\longrightarrow$ product .

38. A) i) Explain Kolbe's reaction
ii) Explain Riemer – Tiemann Reaction.

[or]

B) What is metamerism? Give the structure and IUPAC name of metamers of 2-methyoxy propane