Ts12C   **Tenkasi District**
                    Common First Mid Term Test - 2023

11-08-2023.   **Standard 12**

Time: 1.30 Hrs.   **CHEMISTRY**   Marks: 35

PART - I

I.   Answer all the questions: 7×1=7

1) Which of the following plot gives Ellingham diagram?

   a) ΔSVsT   b) ΔG^oVsT   c) ΔG^oVs1/T   d) ΔG^oVsT^2

2) In the extraction of copper from its sulphide ore, the metal finally obtained by the reduction of cuprous oxide with

   a) Iron (II) sulphide   b) Carbon monoxide

   c) Copper (I) sulphide   d) Sulphur dioxide

3) The basic structural unit of silicates is

   a) $(SiO_3)^{2-}$ b) $(SiO_4)^{2-}$ c) $(SiO)^-$ d) $(SiO_4)^{4-}$

4) The ratio of close packed atoms to tetrahedral hole in cubic packing is

   a) 1:1   b) 1:2   c) 2:1   d) 1:4

5) A substance A decomposes by a first order reaction starting initially with [A] = 2.00M and after 200 min, [A] becomes 0.15M for this reaction $t^{1/2}$ is

   a) 53.49 min   b) 50.49 min

   c) 48.45 min   d) 46.45 min

6) The compound that is used in nuclear reactors as protective shields and control rods is

   a) Metal borides   b) Metal oxides

   c) Metal carbonates   d) Metal carbide

7) **Assertion** :   Phenol is more acidic than ethanol.

   Reason :   Phenoxide ion is resonance stabilized.

   a) both assertion and reason are true and reason is the correct explanation of assertion.

   b) both assertion and reason are true but reason is not the correct explanation of assertion.

   c) assertion is true but reason is false.

   d) both assertion and reason are false.

PART - II

II.   Answer any TWO of the following: 2×2=4

8) Give any two limitations of Elingham diagram.

9) Define unit cell.

10) What is Arhenius Equation? Explain the terms.

11) Explain Swern oxidation.

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PART - III

III. Answer any THREE of the following. Q.no. 16 is compulsory: 3×3=9

12) What are the differences between minerals and ores?

13) What is Catenation? Describe briefly the catenation property of carbon. (any two)

14) Differentiate: Order and Molecularity

15) Calculate the packing efficiency of packing in case of body centerd cubic crystal.

16) 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.

17) Explain the preparation of phenolphthalein.

PART - IV

IV. Answer all of the following: 3×5=15

18) a) i) What is the role of Limestone in the extraction of iron from its oxide. $Fe_2(O_3)$.   **(2)**

   ii) Explain Zone refining.   **(3)**

   (OR)

   b) i) Describe the structure of diborane.   **(3)**

   ii) Write ethyl borate test.   **(2)**

19) a) Explain Frenkal and Schotty defedct.   **(5)**

   (OR)

   b) Derive integrated rate law for a first order reaction.   **(5)**

20) a) Write victor mayer's test to distinguish three types of alcohols.   **(5)**

   (OR)

   b) i) Convert Glycerol into TNG.   **(2)**

   ii) Explain Kolbe's reaction.   **(3)**

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