

XII-M1**7B****First Mid Term Test - 2019****Standard XII****CHEMISTRY**

Time: 1.30 hrs.

Marks: 35

PART - I**I. Choose and write the correct answer:**

10x1=10

- Considering Ellingham diagram, which of the following metals can be used to reduce Alumina?
a) Fe b) Cu c) Mg d) Zn
- Match the List I and List II correctly by using the code given below.

<i>List I</i>		<i>List II</i>	
A)	Galvanisation	1)	Copper
B)	Food packing material	2)	Gold
C)	Bronze age	3)	Zinc
D)	Dental filling	4)	Aluminium

Code:

- | | | | | | | | | | |
|----|---|---|---|---|----|---|---|---|---|
| | A | B | C | D | | A | B | C | D |
| a) | 4 | 3 | 2 | 1 | b) | 3 | 4 | 1 | 2 |
| c) | 2 | 1 | 4 | 3 | d) | 3 | 1 | 4 | 2 |
- The basic structural unit of silicates is
a) $(\text{SiO}_3)^{2-}$ b) $(\text{SiO}_4)^{2-}$ c) $(\text{SiO})^-$ d) $(\text{SiO}_4)^{4-}$
 - Among the halogens which is the most reactive and the strongest oxidising agent?
a) Chlorine b) Fluorine c) Iodine d) Bromine
 - Consider the following statements.
I) The order of catenation property is $\text{C} \gg \text{Si} > \text{Ge} > \text{Pb}$.
II) Crystalline boron is used as a rocket fuel igniter.
III) Syngas and producer gas are the mixture of $(\text{CO} + \text{H}_2)$ and $(\text{CO} + \text{N}_2)$ respectively.
Which of the above statement(s) is (are) correct?
a) I and II b) II only c) II and III d) I and III

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6. Assertion : Due to Frenkel defect, density of the crystalline solid decreases.
Reason : In Frenkel defect, cation and anion leaves the crystal.
- Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
 - Both Assertion and Reason are correct. But Reason is not the correct explanation of Assertion.
 - Assertion is true but Reason is false.
 - Both Assertion and Reason are false.
7. Which among the following is an example for covalent solids?
- Silicon carbide
 - Naphthalene
 - Glucose
 - Solid CO_2
8. If the initial concentration of the reactant is doubled, the time for half reaction is also doubled. What is the order of the reaction?
- zero
 - one
 - fraction
 - none
9. Identify the incorrect statement regarding molecularity.
- Assigned for each elementary step of mechanism.
 - It can be a fractional number.
 - It is the total number of reactants in an elementary step.
 - It can't be zero.
10. The approximate collisions for each molecule of a gas at room temperature and 1 atm pressure is
- 10^{18} s^{-1}
 - 10^{11} s^{-1}
 - 10^6 s^{-1}
 - 10^9 s^{-1}

PART - II**II. Answer any three questions. Q. No. 13 is compulsory: 3x2=6**

- Give an example for cyanide leaching.
- Write a note on inert pair effect.
- CO is a reducing agent. Justify with an example.
- Give any four differences between crystalline solids and amorphous solids.
- 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.

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7B**PART - III****III. Answer any three questions. Q. No. 18 is compulsory: 3x3=9**

- Describe a method for refining nickel.
- Write the preparation of potash alum.
- Barium has a body centered cubic unit cell with a length of 508 pm along an edge. What is the density of barium in g cm^{-3} .
- Write Arrhenius equation and explain the terms involved.
- Explain the effect of catalyst on reaction rate with an example.

PART - IV**IV. Answer all the questions:**

2x5=10

- Describe about electrolytic refining with an example. (3)
 - What is calcination? Give an example. (2)

(OR)

- Write the preparation of Borax from Colemanite. (3)
 - Draw the structure of inorganic benzene and diborane. (2)
- Write a short note on Schottky defect. (3)
 - Calculate the number of atoms in a fcc unit cell. (2)

(OR)

- Derive the rate constant expression of integrated rate law for a first order reaction. (3)
- The rate constant for a first order reaction is $1.54 \times 10^{-3} \text{ s}^{-1}$. Calculate its half life time. (2)

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