08E

S S LC Top Test Series

KP(G)
Std 10

Chemistry
(Chapter 1 to 4)

Time: 45 Mnts
Score : 20

Instructions:

- The first 7 minutes are cool-off time.
- Time is spent for reading the question paper you are not suppose to write any thing during cool-off time.
- Read the instructions carefully and attempt this questions.

Type-A

[Attempt any 2 questions from 1 to 3 . Each question carries 1 score]

[2×1=2]

1. Which of the following subshell is not possible.

   [1S, 4d, 2P, 3f]

2. The number molecules present in 1 mole N_2 is _____.

3. The impurities present in ores are called _____

[Attempt any 2 questions from 4 to 6 . Each question carries 2 score]

[2×2=4]

4.a) How is an ore of a metal different from its mineral?

b) Write down any two characteristics of possessed by a mineral to be used as an ore.

5.a) What is the energy conversion taking place in a galvanic cell?

b) How does an electrolytic cell.

6. Find the atomic number and subshell electronic configuration of the element A with period number 3 and group number 17. [Symbol A is not real]

[Attempt any 2 questions from 7 to 9 . Each question carries 3 score]

[2×3=6]

7. The electronic configuration of element X is $1S^2 2S^2 3P^6 3S^2 3P^6 3d^6 4S^2$

   Find the block, period and group to, which this element belong? (Symbol X is not real)

8.a) Name the process in which one metal is coated over another metal using electrolysis.

b) Name the electrolyte and the anode used to coat silver over an iron bangle?

9.a) Name the method of concentration of sulphide ores.

b) Name the method of concentration of bauxite ore.

c) Which method is suitable for the concentration of magnetite?

[P.T.O]

[Attempt any 2 questions from 10 to 12 . Each question carries 4 score] [2×4=8]

10.a) What is meant by refining of metals?

b) Complete the following table choosing the match given bracket.

[Zinc, Copper, Aluminium, Gold, Tin]

Method of refining	Metal
Liquation	Aluminium
Distillation	Copper
Electrolytic refining	Zinc

11. A galvanic cell is constructed using zinc and silver as electrodes.

a) Find the electrode at which oxidation takes place.

b) Write down the chemical equation of the oxidation reaction taking place here.

c) If silver is replaced by copper, which will act as the cathode?

[Zinc/Copper]

d) Write down the reaction taking place at the cathode then?

12. The size of the air bubbles rising from the bottom of an aquarium increases.

a) Given reason.

b) Name the gas law applied here?

c) State the law.

A

Type-B

[Attempt any 2 questions from 1 to 3 . Each question carries 1 score]

[2×1=2]

1. Which one of the following is not the correct subshell electronic configuration.
   a) $1s^2 2s^2 3p^6 3s^1$ b) $1s^2 2s^2 2p^6 3s^2 3d^2$
   c) $1s^2 2s^2 3p^4$ d) $1s^2 2s^2 2p^6 3s^2 3d^{10} 4s^2 4p^2$
2. The number molecules present in 1 GMM N_2 is _____.
3. The method of concentration of gold ores is _____

[Attempt any 2 questions from 4 to 6 . Each question carries 2 score]

[2×2=4]

4.a) Calculate the molecular mass of glucose ($C_6H_{12}O_6$) (At. masses C=12, H=1, O=16)
   b) What is the mass of 1 GMM glucose?
5. The reaction taking place in a galvanic cell are given.
   i) $Zn \rightarrow Zn^{2+} + 2e^-$
   ii) $Cu^{2+} + 2e^- \rightarrow Cu$
   a) In a galvanic cell redox reaction takes place. Give reason answer.
   b) Which one of these reactions take place at the cathode?
6. Find the atomic number and write down subshell electronic configuration of element belonging to 4^{th} group and 4^{th} period. [Symbol A is not real]

[Attempt any 2 questions from 7 to 9 . Each question carries 3 score]

[2×3=6]

7. The electronic configuration of element X is $1s^2 2s^2 2p^6 3s^2 3p^6 3d^{10} 4s^2 4p^1$
   Find its block, period number and group number. (Symbol X is not real)
8. Molten sodium chloride is electrolysed.
   a) What are the products obtained at the cathode and anode?
   b) Write down the chemical equation of the reaction taking place at the cathode.
9. **Complete the table.**

Ore	Method of concentration
Zinc blends	_____
Magnetite	_____
Bauxite	_____

[Attempt any 2 questions from 10 to 12 . Each question carries 4 score] [2×4=8]

10.a) What is calcination?

b) How does calcination differ from roasting?

c) Which one of these two methods - calcination / roasting - is suitable in the following cases.

i. Carbonate ore

ii. Sulphide ore.

11. A galvanic cell is constructed using Magnesium (Mg) and Copper (Cu) as electrodes.

a) At which electrode, oxidation takes place?

b) Write down the chemical equation of the oxidation reaction taking place here.

c) If copper is replaced by silver, which will act as the cathode?

[Magnesium/Silver]

d) Write down the chemical equation of reaction taking place at the cathode then.

12.a) Find the molecular mass of ammonia (NH_3).

b) How much is the GMM of ammonia.

c) Find the number of moles present in 340g of ammonia.

d) Find the number of ammonia molecules present in the above sample of ammonia.

[Hint : Atomic masses N=14, H=1]