



SSLC PRE MODEL EXAMINATION – 2023

CHEMISTRY

(English)

TIME : 45 Min

Total Score : 20

Answer any two questions from 1 to 3 (1 mark each)

1. Lanthanoids and Actinoids belong to which block of the periodic table?
2. How many molecules are there in one mole of oxygen?
3. Which of the following metal can displace zinc from zinc sulphate solution?
(Cu , Fe , Zn , Mg)

Answer any two questions from 4 to 6 (2 marks each)

4. Sub shell Electronic configuration of ${}_{24}\text{Cr}$ is given
 ${}_{24}\text{Cr} - 1s^2 2s^2 2p^6 3s^2 3p^6 3d^4 4s^2$
 - a) Correct if any mistake in the given Electronic configuration
 - b) Justify your answer
5. Compare the following properties of a substance in liquid and gaseous state
 - a) Energy.
 - b) Attraction between molecules
6. In a copper plated arrangement on an iron ring,
 - a) Which electrolyte can be used?
 - b) Which metal connects to the positive terminal of the battery?

Answer any two questions from 7 to 9 (3 marks each)

7. If the electron configuration of an atom ends up being $3s^2$
 - a) Write the complete subshell electronic configuration of the element.
 - b) What is the valency of the element?
 - c) Write the atomic number of the element
8. The GMM of water is 18 g. If so, 90 grams of water is,
 - a) How much is GMM?
 - b) How many moles will there be?
 - c) How many molecules will it contain?
9. The equation representing a displacement reaction is given.
 $\text{Cu}^0 + 2\text{AgNO}_3 \text{ ----> } \text{Cu}(\text{NO}_3)_2 + 2\text{Ag}^0$
 - a) Which metal is oxidized here?
 - b) Write the equation representing the oxidation reaction.
 - c) Why is displacement reaction called a REDOX reaction?

Answer any two questions from 10 to 12 (4 marks each)

10. If the atomic number of manganese is 25
- In which block and periodic does this element belong?
 - Write the oxidation number of Mn in MnO_2
 - Write the sub shell electronic configuration of Mn^{4+}
 - Why this element shows different oxidation states?
11. The relationship between the pressure and volume of a given mass of gas at constant temperature is given in the table.

Pressure (P) atm	Volume (V) L	PxV
1	200	200
2(a)....	200
.....(b).....	50(c)....

- Find out the values of (a), (b), (c)
 - Which gas law is related with this ?
12. a) Electrical conductivity in electrolytes is due to
- What is electrolyte?
 - Write two examples for electrolyte.
 - Who was the first scientist to give a scientific explanation for electrolysis?