MBS INTERNATIONAL SCHOOL
SECTOR-11, DWARKA
PRACTISE PAPER
SESSION- 2019-20
CHEMISTRY
CLASS:XI

Time allowed: **Maximum Marks: 35**

General Instructions

(a) All questions are compulsory.

(b) Section A: Q.no. 1 to 11 are very short answer questions (objective type) and carry 1 mark each.

(c) Section B: Q.no. 12 to 16 are short answer questions and carry 2 marks each.

(d) Section C: Q.no. 17 to 19 are long answer questions and carry 3 marks each.

(e) Section D: Q.no. 20 is also a long answer question and carry 5 marks.

(f) There is no overall choice. However an internal choice has been provided in two questions of two marks, two questions of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.

(g) Use log tables if necessary, use of calculators is not allowed.

SECTION-A(1 mark)

Questions 1 to 5 are to be answered in one word /one sentence:

1. What is the full form PAN? 1

2. Name the alkali metal which shows diagonal relationship with **Lithium** and **Beryllium**. 1

3. What is the oxidation state of **oxygen** in OF_2? 1

4. Name the radioactive elements of group 1 and group 2. 1

5. State the number of significant figures in each of the following: 1
   a. 208.91 b. 453

Questions 6 to 9 are multiple choice questions:

6. The law which deals with the ratios of volumes of the gaseous reactants and products: 1
   a. Law of Definite Proportions b. Avagadro's Law
   c. Law of Multiple Proportions d. Gay Lussac's Law

7. The general electronic configuration of **s-block elements** is: 1
   a. ns^{1-2} b. $(n-1)d^{1-10}ns^{1-2}$
   c. ns^2np^{1-6} d. None of the above

8. Which main gas is responsible for damage in ozone layer? 1
   a. CO b. CO_2
   c. CFC_s d. CH_4

9. The general formula of **alkynes** is: 1
   a. C_nH_{2n} b. C_nH_{2n+2}
   c. C_nH_{2n-2} d. C_nH_{2n+1}

Questions 10 and 11:
(A) Both assertion and reason are correct statements, and reason is the correct explanation of the assertion.
(B) Both assertion and reason are correct statements, but reason is not the correct explanation of the assertion.
(C) Assertion is correct, but reason is wrong statement.
(D) Assertion is wrong, but reason is correct statement.

10. **Assertion**: Hydrogen has been placed separately in the periodic table. 1
Reason: Hydrogen resembles to both group 1 and group 18 elements.

11. **Assertion**: In all its compounds, Fluorine exhibits only -1 oxidation state. 1
Reason: Fluorine is the most electropositive element.

SECTION-B(2 marks)

12. Why are alkali metals not found as free state in nature? 2

OR

State the general electronic configuration of p-block elements. Name the element of group 14 which exhibits maximum tendency for catenation.

13. State down one laboratory and one commercial preparation of dihydrogen with chemical reaction. 2

14. What is Hybridisation and draw the shape of PCl_5 molecule. 2

15. Why is hydrogen peroxide stored in wax-lined bottles? 2

16. Explain the following terms with example: 2
a. Heterolytic Cleavage
b. Inductive Effect

OR

What are silicones? How are they prepared? Give its two important applications.

SECTION-C(3 marks)

17. Determine the molecular formula of an oxide of iron in which the mass percentage of iron and oxygen are 69.9 and 30.1 respectively, Given that the molar mass of oxide is 159.898 $gmol^{-1}$.(Atomic mass of Fe = 55.85 $gmol^{-1}$) 3

18. a. What is Syngas? 3
b. State the preparation of Syngas.

OR

Write the condensed and bond line formula of 2,2,4-Trimethylpentane.

19. If the velocity of the electron in the Bohr's first orbit is 2.19×10^6 ms^{-1}, Calculate the de Broglie wavelength associated with it.(Planck's constant = 6.626×10^{-34} Jsec , mass of electron= 9.1×10^{-31} kg) 3

OR

a. Explain:
i. Pauli Exclusion Principle
ii. Heisenberg Uncertainity Principle
b. Write the electronic configuration of Vanadium atom .(Atomic No. of V = 23)

SECTION-D(5 marks)

20. a.In the reactions given below, identify the species undergoing oxidation and reduction. 5

i. $MnO_2(s) + HCl(aq) \rightarrow MnCl_2(aq) + Cl_2(g) + H_2O(l)$.

ii. $3Fe_3O_4(s) + 8Al(s) \rightarrow 9Fe(s) + 4Al_2O_3(s)$

iii. $2HgCl_2(aq) + SnCl_2(aq) \rightarrow Hg_2Cl_2(s) + SnCl_4(aq)$

b. State Le-Chatelier's Principle.

c. Give one similarity and one dissimilarity between Boron and Aluminium

OR

a. Define Boyle's Law. Give its mathematical formula.

b. For the reaction $NH_4Cl_{(s)} \longrightarrow NH_{3(g)} + HCl_{(g)}$ at 25°C, enthalpy change $\Delta H = +177\ kJmol^{-1}$ and entropy change $\Delta S = +285 JK^{-1}mol^{-1}$. Calculate free energy change ΔG at 25^0C and predict whether the reaction is spontaneous or not.