

Time Allowed : 3 Hrs

BN-XXXVII-I
CHEMISTRY (9th)
(Fresh / Reappear)
(Question Paper 2)

Total Marks : 65

Note: There are **THREE** sections in this paper i.e A, B & C. Attempt section A and return it to the superintendent within the given time.

Time: 20 Min

SECTION -A

Marks: 12

Q.No.1: You have four choices for each objective type question as (A), (B), (C) and (D). The choice which you think is correct fill that circle in front of the question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question.

- i. The gram molecular mass of HNO_3 is _____.
- (A) 60 (B) 100 (C) 63 (D) 98
- ii. Rutherford bombarded a gold foil by _____.
- (A) Alpha particles (B) Beta particles (C) Gamma rays (D) Helium atoms
- iii. Which one of the following is a transition element?
- (A) Cl (B) B (C) S (D) Cu
- iv. Crystalline carbon exists in _____ allotropic forms.
- (A) 3 (B) 2 (C) 4 (D) 5
- v. Milk is an example of _____.
- (A) Solution (B) Colloidal solution (C) Suspension (D) Heterogeneous mixture
- vi. $\text{Ca}(\text{OH})_2$ is the formula of:
- (A) Lime stone (B) Lime (C) Lime water (D) Bleaching powder
- vii. The empirical formula of benzene is _____.
- (A) H_2O (B) CH (C) CH_2O (D) $\text{C}_6\text{H}_{12}\text{O}_6$
- viii. Uranium has _____ isotopes.
- (A) 2 (B) 3 (C) 4 (D) 5
- ix. The elements of group IIIA – VIIIA are called _____ elements.
- (A) s-block (B) p-block (C) d-block (D) f-block
- x. Identify the compound which is formed by three types of bond.
- (A) Water (B) Carbon dioxide (C) Sodium chloride (D) Ammonium chloride
- xi. Glass is a solid which is;
- (A) Crystalline (B) Amorphous (C) Allotrope (D) None
- xii. A cation is a/an
- (A) Neutral (B) Negatively charged (C) Positively charged (D) Colored

Time allowed: 2:40 Hrs

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SECTION- B & C

Note: Attempt section B & C accordingly.

SECTION -B

Marks: 32

Q.No 2. Attempt any EIGHT parts of the following. All parts carry equal marks.

- i. Differentiate between empirical formula and molecular formula?
- ii. How many moles of CO₂ are there in 7.5×10^{24} molecules of the gas?
- iii. Draw the structures of hydrogen isotopes.
- iv. If element 17 is a halogen. Where would you expect to find element 18?
- v. Write five properties of ionic compounds.
- vi. Write the electronic configuration for the Na and Cl atoms.
- vii. Write a note on Bucky ball.
- viii. Explain Charles law.
- ix. Differentiate between dilute and concentrated solutions.
- x. What is percentage composition?
- xi. Give reasons that Alkali metals are good reducing agents.

SECTION -C

Marks: 21

Note: Attempt any THREE of the following. All questions carry equal marks

- Q.No:3.a) Calculate the number of molecules present in 5 moles of glucose C₆H₁₂O₆. 3
- b) What did Rutherford deduce from his experiment? Give diagram and explain his model of atom. 4
- Q.No:4.a) Define the modern periodic law. Discuss the periods and groups in the modern form of the periodic table. 4
- b) Give reasons H₂S is a gas while H₂O is liquid. 3
- Q.No:5.a) State and explain diffusion in gases. 3
- b) 5.85 g of NaCl are dissolved in water so as to make 500 cm³ solution, determine the molarity of solution. (At. Mass of Na=23 and Cl=35.5g). 4
- Q.No:6.a) What is difference between oxidizing and reducing agents? Explain your answer with examples. 4
- b) Write down the uses of noble metals. 3