

1	2
2	2
3	3

Time: 3 hours

P-198

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. No marks will be awarded for cutting, erasing and overwriting.

Time: 15 minutes

Section-A

Marks: 12

QNo.1 Select the correct option and insert (A,B,C,D) in the relevant box.

- i. One atomic mass unit (amu) is \_\_\_\_\_  
 A-  $1.67 \times 10^{-25}$ g      B-  $1.67 \times 10^{-24}$ g      C-  $1.67 \times 10^{-23}$ g      D-  $1.67 \times 10^{-22}$ g
- ii. Which one of the following is a homogenous mixture?  
 A- Smoke      B- Air      C- Fog      D- Smog
- iii. Carbon has \_\_\_\_\_ isotopes.  
 A- Five      B- Three      C- Two      D- Four
- iv. Alpha particles are \_\_\_\_\_.  
 A- Neutral      B- Negatively charged      C- Protons      D- Double positively charged
- v. The group I and group II elements are called the \_\_\_\_\_ elements.  
 A- P-block      B- S-block      C- D-block      D- F-block
- vi. The modern periodic table is based on the \_\_\_\_\_.  
 A- Law of triads      B- Law of octaves      C- Mendeleev's Periodic Law      D- Modern-Periodic Law
- vii. Which kind of bond exists in HCl?  
 A- Covalent bond      B- Ionic bond      C- Polar bond      D- Coordinate bond
- viii. When the temperature of water is dropped to \_\_\_\_\_, it changes into ice.  
 A-  $100^{\circ}\text{C}$       B-  $50^{\circ}\text{C}$       C-  $0^{\circ}\text{C}$       D-  $4^{\circ}\text{C}$
- ix. The increase in temperature of the gases decreases the \_\_\_\_\_.  
 A- Pressure      B- Volume      C- Force of attraction      D- Kinetic energy
- x. Solution whose concentration is known is called \_\_\_\_\_.  
 A- Aqueous solution      B- Saturated solution      C- Standard solution      D- Non-standard solution
- xi. Which one of the following is a strong electrolyte in solution?  
 A-  $\text{H}_2\text{CO}_3$       B-  $\text{NH}_4\text{OH}$       C- HCl      D-  $\text{CH}_3\text{COOH}$
- xii. The halogens are \_\_\_\_\_.  
 A- Inert      B- Reactive      C- Electropositive      D- Metallic

B

B

B

D

B

D

C

C

C

C

C

B

Note: Time allowed 2:45 hours.

SECTION – B

Marks: 32

Q2: Answer any EIGHT parts. Each part carries equal marks.

- i. Differentiate between Analytical and Bio Chemistry.
- ii. Calculate the molecular mass of glucose ( $C_6H_{12}O_6$ ), the atomic mass of C, H and O to be 12, 1, 16 respectively.
- iii. Write two de-merits of Rutherford Atomic Model.
- iv. Why atom is a neutral particle?
- v. Define Shielding effect. Does it vary in a period?
- vi. What is metallic bond?
- vii. Differentiate between Crystalline solids and Amorphous solid.
- viii. It takes long time to cook at high altitude. Why?
- ix. Define saturated and unsaturated solutions.
- x. Define Oxidation and Reduction.
- xi. What is aqua regia?

SECTION – C

Marks: 21

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

- Q3. (a) How many grams are there in 3.5 moles of water?  
(b) Give the electronic configuration of elements having atomic number 5 to 10.
- Q4. (a) Define the electronegativity of an element. Discuss its periodic variation in a period and in a group in the periodic table.  
(b) Define covalent bond and explain its types in detail.
- Q5. (a) What is vapour pressure? What are the factors, which effect vapour pressure?  
(b) Define and explain the following with examples:  
(i) Suspension (ii) Colloidal solution
- Q6. (a) Describe Daniel cell.  
(b) Write down chemical properties of Halogens.