

**Chemistry Part-I**

Fic. No. \_\_\_\_\_

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**Chemistry Part-I****SECTION "A"**

Time: 20 Min

Marks: 18

**NOTE: Use this sheet for this section. No marks will be awarded for cutting, erasing or overwriting.**

Q1. Choose the correct answer from the given choices i.e. (a, b, c, d) and insert into the relevant box.

- |   |                              |                             |                              |                      |
|---|------------------------------|-----------------------------|------------------------------|----------------------|
| (i). One mole of electrons means.   |                              |                             |                              |                      |
| (a) 1 Newton  | (b) 1 cal                    | (c) 1 joule                 | (d) 1 Faraday                | <input type="text"/> |
| (ii). Naphthalene is Purified by _____.                                   |                              |                             |                              | <input type="text"/> |
| (a) Sublimation   | (b) Neutralization           | (c) Condensation            | (d) All of these             | <input type="text"/> |
| (iii). 1amu = _____.  |                              |                             |                              | <input type="text"/> |
| (a) $1.66 \times 10^{-23}g$   | (b) $1.661 \times 10^{-24}g$ | (c) $0.66 \times 10^{-24}g$ | (d) $0.066 \times 10^{-25}g$ | <input type="text"/> |
| (iv). Number of waves passing through a point per second is called _____. |                              |                             |                              | <input type="text"/> |
| (a) Frequency   | (b) Wave length              | (c) Wave number             | (d) Photon                   | <input type="text"/> |
| (v). Number of unpaired electrons present in He atom is _____.            |                              |                             |                              | <input type="text"/> |
| (a) One   | (b) Zero                     | (c) Two                     | (d) Three                    | <input type="text"/> |
| (vi). Which one has highest boiling point?                                |                              |                             |                              | <input type="text"/> |
| (a) $H_2S$  | (b) $HCl$                    | (c) $NH_3$                  | (d) $H_2O$                   | <input type="text"/> |
| (vii). Bond angle in unit cell of diamond is _____.                       |                              |                             |                              | <input type="text"/> |
| (a) $100^\circ$   | (b) $120^\circ$              | (c) $109.5^\circ$           | (d) $60^\circ$               | <input type="text"/> |
| (viii). Total number of single bonds in methane is _____.                 |                              |                             |                              | <input type="text"/> |
| (a) 2   | (b) 3                        | (c) 4                       | (d) 5                        | <input type="text"/> |
| (ix). The number of components in binary solution is _____.               |                              |                             |                              | <input type="text"/> |
| (a) 5   | (b) 4                        | (c) 3                       | (d) 2                        | <input type="text"/> |
| (x). Which one is used as reference electrode.                            |                              |                             |                              | <input type="text"/> |
| (a) Carbon  | (b) SHE                      | (c) Ga                      | (d) Ne                       | <input type="text"/> |
| (xi). Common ore of Aluminium is _____.                                   |                              |                             |                              | <input type="text"/> |
| (a) Iron Oxide  | (b) Nitride                  | (c) Bauxite                 | (d) None of them             | <input type="text"/> |
| (xii). Highest electron affinity is shown by _____.                       |                              |                             |                              | <input type="text"/> |
| (a) Oxygen  | (b) Flourine                 | (c) Hydrogen                | (d) All of them              | <input type="text"/> |
| (xiii). The charge of electron was determined by .....                    |                              |                             |                              | <input type="text"/> |
| (a) Thomson   | (b) Millikan                 | (c) Crooks                  | (d) Stony                    | <input type="text"/> |
| (xiv). Which one will diffuse slowly?                                     |                              |                             |                              | <input type="text"/> |
| (a) Hydrogen  | (b) Ammonia                  | (c) Nitrogen                | (d) Sulphurdioxide           | <input type="text"/> |
| (xv). Formula of Bauxite is _____.  |                              |                             |                              | <input type="text"/> |
| (a) $Al_2O_3$   | (b) $Fe_2O_3$                | (c) $Cr_2O_3$               | (d) $CaO$                    | <input type="text"/> |
| (xvi). Which equation shows Charless Law                                  |                              |                             |                              | <input type="text"/> |
| (a) $V \propto \frac{1}{T}$   | (b) $V \propto P$            | (c) $V \propto T$           | (d) $V \propto n$            | <input type="text"/> |
| (xvii). Allotropy is shown by _____.                                      |                              |                             |                              | <input type="text"/> |
| (a) Element   | (b) Mixture                  | (c) Compound                | (d) All of them              | <input type="text"/> |
| (xviii). Oxidation number of group 1 <sup>st</sup> is _____.              |                              |                             |                              | <input type="text"/> |
| (a) +1  | (b) +2                       | (c) +3                      | (d) +4                       | <input type="text"/> |

**Chemistry Part-I**

Time: Allowed: 2.40h

Max. Marks: 67

**SECTION "B"****Q2. Attempt any TEN questions. Each question carries equal marks. (40)**

- (i) Write down the advantages of paper chromatography.
- (ii) Calculate the total number of atoms present in 36g of  $C_6H_{12}O_6$ .
- (iii) Discuss the discovery of protons in an atom.
- (iv) Why sulphur dioxide has dipole moment 1.62D and carbon dioxide has zero dipole moment.
- (v) What are the defects present in Rutherford's Model of an Atom?
- (vi) Write down a note on hydrolysis.
- (vii) Why is cooking time reduced by a pressure cooker?
- (viii) In carbon disulfide the bond is polar but why is molecule as a whole non polar?
- (ix) Explain the First Law of Thermodynamics.
- (x) Discuss the type of equilibrium with examples.
- (xi) Explain self Ionization in water.
- (xii) Write down the guidelines for assigning of oxidation number.

**SECTION "C"****Note: Attempt any THREE questions. Each question carries equal marks. (27)**

- Q3. (a) Hydrogen Fluoride is more polar than water but boiling point of water is higher Than HF why?
- (b) Calculate the number of molecules of Ammonia in  $12dm^3$  volume at  $25^0C$  and 1 atm pressure
- Q4. (a) Discuss the Millikan's oil drop experiment in detail.
- (b) Prove that  $qp = \Delta H$ .
- Q5. (a) What is catalyst? Explain the kinds of catalysts.
- (b) Discuss the zero order, fractional order and first order reactions.
- Q6. (a) Discuss the properties of Cathode rays.
- (b) Write down the properties of covalent crystals.