2009

Roll No. | | | | | | |

Answer Sheet No._____

Sig. of Candidate._____

Sig. of Invigilator._____

CHEMISTRY SSC–I

SECTION – A (Marks 12)

Time allowed: 20 Minutes

NOTE:- **Section–A is compulsory and comprises pages 1–2. All parts of this section are to be answered on the question paper itself. It should be completed in the first 20 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.**

Q. 1 Insert the correct option i.e. A / B / C / D in the empty box provided opposite each part. Each part carries one mark.

(i) Which particles are added to find the Mass Number? ☐

A. Number of electrons and number of protons
B. Number of neutrons and number of protons
C. Number of neutrons and number of electrons
D. Total number of neutrons

(ii) Which of the following branches of Chemistry studies all elements and their compounds, except the compounds of carbon? ☐

A. Physical Chemistry
B. Organic Chemistry
C. Biochemistry
D. Inorganic Chemistry

(iii) If a liquid is boiled, its vapours are condensed. This process is called _____. ☐

A. Evaporation B. Solidification
C. Condensation D. Distillation

(iv) Which of the following is a weak electrolyte? ☐

A. Citric Acid B. Sulphuric Acid
C. Hydrochloric Acid D. Nitric Acid

(v) How the solubility of Lithium Carbonate Li_2CO_3 can be increased? ☐

A. By decreasing the temperature
B. By increasing the temperature
C. By decreasing the pressure
D. By increasing the pressure

2009

DO NOT WRITE ANYTHING HERE

(vi) How many grams of water is equal to 2 moles of water?

A. 18 grams B. 06 grams
C. 56 grams D. 36 grams

(vii) In which of the following natural things the Formic Acid is present?

A. Lemon B. Vinegar
C. Stings of bees D. Sour milk

(viii) What kind of heat is evolved by mixing equimolar volume of Sodium Hydroxide and Hydrochloric Acid?

A. Heat of vapourization
B. Specific heat
C. Heat of neutralization
D. Latent heat of fusion

(ix) Which of the following pairs of atoms forms a pure covalent bond?

A. Hydrogen and Chlorine
B. Chlorine and Chlorine
C Hydrogen and Oxygen
D. Sodium and Chlorine

(x) Which of the following is the most reactive metal?

A. Sodium B. Potassium
C. Cesium D. Calcium

(xi) 44 grams of Carbon dioxide contains 6.02×10^{23} _____

A. Moles B. Molecules
C. Radicals D. Ions

(xii) Which of the following is a Lewis Acid?

A. NH_3 B. CH_4
C. $AlCl_3$ D. CH_3COOH

For Examiner's use only:

Total Marks: 12

Marks Obtained:

2009

CHEMISTRY SSC–I

Time allowed: 2:40 Hours **Total Marks Sections B and C: 53**

NOTE:- Sections 'B' and 'C' comprise pages 1–2 and questions therein are to be answered on the separately provided answer book. Answer any eleven parts from Section 'B' and attempt any two questions from Section 'C'. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 33)

Q. 2 Attempt any ELEVEN parts. The answer to each part should not exceed 3 to 4 lines. (11 x 3 = 33)

(i) What is meant by Artificial Radioactivity?

(ii) Define Isotope and draw isotopes of Nitrogen.

(iii) Which elements are responsible for the different colours of hair of different people?

(iv) What type of bond is formed between NH_3 and BF_3? Explain.

(v) Give reason. Why?

a. On heating, liquid change into gaseous form.

b. It is easy to compress air as compare to water.

c. A gas neither has a fixed shape nor a fixed volume.

(vi) Give reasons:

a. Is it possible to make a saturated solution of alcohol and water?

b. Is Kerosene oil soluble in water?

(vii) What is meant by Solubility? List any two factors which affect the Solubility.

(viii) During electrolysis water ionizes into ions. Name the gases which are produced at cathode and anode. Write oxidation reaction involved in this process.

(ix) What is meant by "Ionization" and "Degree of Ionization"?

(x) Complete and balance the following reactions.

a. $Na_2CO_3 + HCl \longrightarrow$

b. $Al + Fe_2O_3 \longrightarrow$

c. $Zn(NO_3)_2 \xrightarrow{Heat}$

2009

(xi) Phlogiston theory is about the combustible material.

a. Name the scientist who developed this theory.

b. State the theory.

(xii) Define Empirical Formula and draw structure of sand (SiO_2).

(xiii) Benzene is represented by its empirical formula CH . While its molecular mass is 78. Find out its molecular formula.

(xiv) Titration is a method used to find the unknown molarity of solution.

a. What is meant by standard solution?

b. What is the sum of pH and pOH in any solution? If a solution has $pH\,3.5$ what will be its pOH .

(xv) When a chemical reaction takes place in a container, heat is evolved.

a. Is this reaction 'Exothermic' or 'Endothermic'?

b. The container becomes hot or cold?

c. If the energy of the system will increase or decrease after the reaction.

SECTION – C (Marks 20)

Note:- Attempt any TWO questions. (2 x 10 = 20)

Q. 3 Define Salts. How are they classified? Explain any three of them. 10

Q. 4 Describe the construction and working of dry cell and lead storage battery. Give their uses in every day life. 5+5

Q. 5 Define "Atom". Name atomic properties of an atom. Define and explain their trends in the periodic table. 1+3+3+3

—— 1SA-0905(L) ——