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Answer Sheet No. _____

Sig. of Candidate. _____

Sig. of Invigilator. _____

CHEMISTRY SSC-II

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) Binary compounds of Oxygen are called Oxides. Predict the type of Oxide formed by the reaction of Aluminum with oxygen:

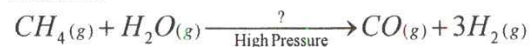
A. Super oxide

B. Sub oxide

C. Amphoteric oxide

D. Normal oxide

(ii) Analyse the chemical equation and select the correct conditions for this reaction:

A. $Fe_2O_3 / 450 - 500^\circ C$ B. $Ni / 600 - 1000^\circ C$ C. $V_2O_5 / 600 - 800^\circ C$ D. $Zn / 400 - 500^\circ C$

(iii) The element which reacts with Dilute Nitric Acid to produce Hydrogen is:

A. Zinc

B. Iron

C. Magnesium

D. Aluminum

(iv) Amethyst is a quartz which imparts violet colour. This violet colour is due to the presence of traces of:

A. Zn

B. Cu

C. Fe

D. Iodine

(v) Carbonyl Chloride is poisonous gas which is used in war. The correct name for Carbonyl Chloride is _____

A. Phosphine gas

B. Phosgene gas

C. Marsh gas

D. Coal gas

(vi) Iron Pyrite is one of the ores of Sulphur. Which of the following is composition of Iron Pyrite?

A. HgS

B. ZnS

C. PbS

D. FeS₂

- (vii) Halogens form precipitates on mixing with Silver Nitrate solution. The Halogen Ion which gives white precipitate with Silver Nitrate is _____
- A. Flouride ion
B. Bromide ion
C. Chloride ion
D. Iodide ion
- (viii) Select correct chemical equation in all respects:
- A. $FeCl_{2(aq)} + 2H_2O_{(l)} + SO_{3(g)} \longrightarrow FeCl_{3(aq)} + 2HCl_{(aq)} + SO_{2(g)}$
- B. $2FeCl_{3(aq)} + 2H_2O_{(l)} + SO_{2(g)} \longrightarrow 2FeCl_{2(aq)} + 2HCl_{(aq)} + H_2SO_{4(aq)}$
- C. $3FeCl_{3(aq)} + O_{2(g)} + H_2SO_{4(aq)} \longrightarrow 3FeSO_{4(s)} + 2HCl_{(aq)} + H_2SO_{4(aq)}$
- D. $2FeCl_{3(aq)} + 2HCl_{(aq)} + H_2SO_{3(aq)} \longrightarrow FeCl_{2(aq)} + 2H_2O_{(l)} + SO_{2(g)}$
- (ix) Cu_2S is the form of an ore of Copper and occurs in Chaghi. Which of the following is the correct name of ore?
- A. Chalcocite
B. Haematite
C. Malachite
D. Chalcopyrite
- (x) The process in which various fractions are separated by evaporation and condensation is called:
- A. Polemerization
B. Catenation
C. Fractional distillation
D. Unsaturation
- (xi) $\left\{ \begin{array}{c} CH - CH_2 \\ | \\ C_6H_5 \end{array} \right\}_n$ is the formula of:
- A. Teflon
B. Polystyrene
C. Polyvinyl chloride
D. Polyethene
- (xii) Certain chemicals are used for the preservation of food. Which one prevents the growth of microorganisms?
- A. Benzoic acid
B. Sodium dihydrogen sulphate
C. Propanoic acid
D. Potassium Meta-bi-sulphate

For Examiner's use only:

Total Marks:

12

Marks Obtained:



CHEMISTRY SSC-II

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)

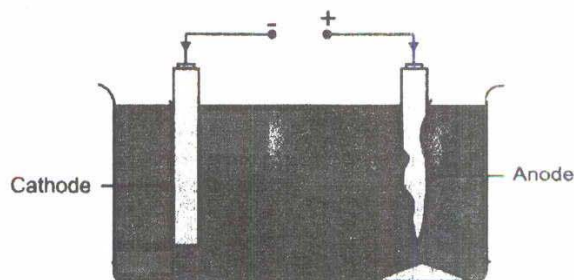
Q. 2 Attempt any ELEVEN parts. The answer to each part should not exceed 3 to 4 lines.

(11 x 3 = 33)

- (i) According to scientists the Sun and other stars are composed largely of Hydrogen. Define catalyst. Illustrate preparation of Hydrogen when steam is passed over red hot coke. Also describe how Hydrogen is separated from water gas. 03
- (ii) a. What are Silicate Minerals? Give two examples. 02
b. Write principal component of the earth's Mantle. Mention its formula. ½+½
- (iii) Complete the following chemical equations. Also write conditions:
- a. $KOH_{(aq)} + SiO_{2(s)} \longrightarrow$ 01
b. $Na_2CO_{3(s)} + SiO_{2(s)} \longrightarrow$ 01
c. $CaO_{(s)} + SiO_{2(s)} \longrightarrow$ 01
- (iv) An element has Atomic Number 7. It has two electrons in the first shell and five electrons in the second shell.
- a. Write down the name of the element. 01
b. How is the element prepared in laboratory? Also write its complete balanced chemical equation. 02
- (v) $2FeCl_{3(aq)} + 2H_2O_{(l)} + SO_{2(g)} \longrightarrow 2FeCl_{2(aq)} + 2HCl_{(aq)} + H_2SO_{4(aq)}$
- a. Which ion in this equation goes under reduction? Calculate the Oxidation number of reducing atom. 02
b. In above reaction the colour of $FeCl_3$ is brown. Write the colour imparted by $FeCl_2$. 01
- (vi) List the properties (colour, shape and melting point) of Rhombic and Plastic sulphur, which are allotropes of sulphur. 03
- (vii) a. Write importance of halogens in our everyday life. 01
b. Elaborate reactions of chlorine gas with Alkalies both in: 02
(i) Cold state (ii) Hot state
Also write equations.
- (viii) Write the chemical formula of Bleaching Powder. State its physical properties. Also give the reaction of Bleaching Powder with H_2SO_4 . 03

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- (ix) Write down the additional constituents, uses and characteristics of the following:
- Chromium steel 1½
 - Manganese steel 1½
- (x) The diagram of refining of copper is given below:



- Write equations of reactions occurring at anode and cathode. 1+1
 - Deduce the name of solutions used as electrolyte in this cell. 01
- (xi) Ethene is a colourless gas with a faint sweet odour. Its melting point is $-169^{\circ}C$ and boiling point is $-104^{\circ}C$. Write chemical reactions of Ethene with:
- Bromine water 01
 - Water 01
 - Hydrogen 01
- (xii) Give any three physical properties of Sodium Hydroxide (caustic soda). 03
- (xiii) a. Name the raw materials for manufacturing Soap. 1+1
 b. What is "Salting Out"? 01
- (xiv) Write down the preparation and use of Polyvinyl chloride (PVC). 03
- (xv) Write the chemical properties of Ozone. 03

SECTION – C (Marks 20)

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

- Q. 3** Sulphuric Acid is called the king of chemicals. Every manufacturing process makes use of this acid directly or indirectly at some stage.
- Illustrate the manufacturing of Sulphuric Acid by Contact Process. 06
 - Explain Sulphuric Acid as an Oxidizing Agent. Give two examples. 04
- Q. 4** Organic Chemistry is the chemistry of compounds necessarily containing Carbon.
- Write any two characteristics of Organic Compound. Why are the Saturated Hydrocarbons called Paraffins? 03
 - Relate any one method for the preparation of Methane in laboratory. Also give its complete equation. Draw and describe structure of Methane molecule. 03
 - Give a detailed account of the Organic Theory about the origin of Petroleum. 04
- Q. 5**
- In winter, fish and other aquatic life continue to survive under frozen water. Explain why? 02
 - Elaborate chemical reactions of water with Chlorine, Metallic carbide, Iron and Acidic Oxide. 04
 - Write a short note on "Water of Crystallization". 04