Paper Code Number: 4482 | 2019 (A) | Roll No. MTN-12-G2-19

INTERMEDIATE PART-II (12th CLASS)

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-II

TIME ALLOWED: 20 Minutes | **OBJECTIVE** | MAXIMUM MARKS: 17

Note: You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question. Attempt as many questions as given in objective type question paper and leave others blank. No credit will be awarded in case BUBBLES are not filled. Do not solve questions on this sheet of OBJECTIVE PAPER.

Q.No.1

(1) Mark the correct statement: (A) All lanthanides are present in the same group (B) All halogens are present in the same period (C) All the alkali metals are present in the same group (D) All the noble gases are present in the same period

(2) Chile saltpetre has the chemical formula:
(A) $NaNO_3$ (B) KNO_2 (C) $Na_2B_4O_7$ (D) $Na_2NO_3.H_2O$

(3) Which metal is used in the thermite process because of its activity?
(A) Iron (B) Copper (C) Aluminium (D) Zinc

(4) Which of the following species has the maximum number of unpaired electrons?
(A) O_2 (B) O_2^+ (C) O_2^- (D) O_2^{2-}

(5) Which of the following hydrogen halide is the weakest acid in solution?
(A) HF (B) HBr (C) HI (D) HCl

(6) Which of the following is a non-typical transition element?
(A) Cr (B) Mn (C) Zn (D) Fe

(7) The state of hybridization of carbon atom in methane is:
(A) sp (B) sp^2 (C) sp^3 (D) dsp^2

(8) Preparation of vegetable ghee involves:
(A) Halogenation (B) Hydrogenation (C) Hydroxylation (D) Dehydrogenation

(9) Which of the following can be used as a catalyst in Friedel-Crafts reactions?
(A) $AlCl_3$ (B) HNO_3 (C) $BeCl_2$ (D) $NaCl$

(10) S_N2 reactions can be best carried out with:
(A) Primary alkyl halides (B) Secondary alkyl halides (C) Tertiary alkyl halides (D) All of these

(11) Ethanol can be converted into ethanoic acid by:
(A) Hydrogenation (B) Hydration (C) Oxidation (D) Fermentation

(12) Which one of the following will have the highest boiling point?
(A) Methanal (B) Ethanal (C) Propanal (D) 2 – Hexanone

(13) Amyl acetate has the flavour of:
(A) Apricot (B) Banana (C) Orange (D) Jasmine

(14) Which of the following elements is not present in all proteins?
(A) Carbon (B) Hydrogen (C) Nitrogen (D) Sulphur

(15) Vegetable oils are:
(A) Unsaturated fatty acids (B) Glycerides of unsaturated fatty acids
(C) Glycerides of saturated fatty acids (D) Essential oils obtained from plants

(16) Which woody raw material is used for the manufacture of paper pulp?
(A) Cotton (B) Bagasse (C) Poplar (D) Rice straw

(17) A single Chloride free radical can destroy how many Ozone molecules?
(A) 100 (B) 100000 (C) 10000 (D) 1000

2019 (A) Roll No: MTN-12-G2-19

INTERMEDIATE PART-II (12th CLASS)

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-II

TIME ALLOWED: 2.40 Hours **SUBJECTIVE** MAXIMUM MARKS: 68

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2. Attempt any eight parts. 8 × 2 = 16

(i) Why ionization energy decreases down the group?

(ii) Why metallic character increases from top to bottom in a group of metals?

(iii) Why 2 % gypsum is added in the cement?

(iv) Why is CO_2 a gas at room temperature while SiO_2 is a solid?

(v) Name four important Boric acids.

(vi) Write down the formulas of: (i) Kaolin (Pottery clay) (ii) Zircon

(vii) Write down the structural formulas of: (i) Nitrous acid (HNO_2) (ii) Nitric acid (HNO_3)

(viii) Write down two uses of Nitric acid.

(ix) Complete and balance the following equations:

(i) $H_2S + NO \longrightarrow$ (ii) $NO_2 + H_2O \longrightarrow$

(x) Name eight macronutrients of fertilizers.

(xi) Write down two important raw materials used for the manufacture of cement.

(xii) What is chemical oxygen demand (COD)? How it can be determined?

3. Attempt any eight parts. 8 × 2 = 16

(i) What are heterocyclic compounds? Give two examples.

(ii) How is 2–Butyne converted into Cis–2–Butene?

(iii) How would you establish that ethylene contains a double bond? Justify your answer with a chemical reaction.

(iv) Give two objections to Kekule's formula of Benzene.

(v) How is benzene prepared from the given compounds? (a) n–Hexane (b) Sodium benzoate

(vi) Give reactions of ethyl chloride with: (a) Sodium metal (b) Sodium lead alloy

(vii) Give the reactions of a Grignard's Reagent with (a) Ethanol (b) Cyanogen Chloride

(viii) What is denaturing of alcohol?

(ix) State term esterification with an example.

(x) Give a reaction in which - $COOH$ group is reduced to $-CH_3$ group.

(xi) What is Zwitter ion? Give an example.

(xii) How is vinegar prepared from ethanol?

4. Attempt any six parts. 6 × 2 = 12

(i) Give reaction of bleaching powder with excess of Sulphuric acid. How the activity of bleaching powder is measured.

(ii) Give two uses of Argon.

(iii) Give reactions of X_eF_4 with (i) Hg (ii) NH_3

(iv) Under what conditions, does aluminium corrode?

(v) Give any four uses of Formaldehyde.

(vi) How will you distinguish between methanal and ethanal?

(vii) Define saponification number.

(viii) In what ways fats and oils are different? Give example.

(ix) What are thermoplastic polymers? Give example.

SECTION-II

NOTE: - Attempt any three questions. 8 x 3 = 24

5.(a) Define electron affinity. Explain trends of electron affinity in groups and periods. 4

(b) Complete and balance the given equations: (i) $Mg(OH)_2 \xrightarrow{Heat}$ 4

(ii) $Li_2O + H_2O \longrightarrow$ (iii) $Na_2O_2 + H_2O \longrightarrow$ (iv) $NaNO_3 \xrightarrow{Heat}$

6.(a) Write down the chemical equations for the reaction of $K_2Cr_2O_7$ with: 4

(i) H_2S (ii) $FeSO_4$ (iii) KI (iv) $NaCl$

(b) What is smog? Write down the conditions required for its formation. 4

7.(a) Define Hybridization and explain the structure of ethyne on its basis. 4

(b) What are aromatic hydrocarbons? How are they classified? 4

8.(a) How will you convert ethyne to? (i) Ethene (ii) Acetal dehyde (iii) Divinyl acetylene (iv) Glyoxal 4

(b) Write down any two methods for the preparation of phenol. 4

9.(a) How C_2H_5–Mg–Br reacts with (i) CO_2 (ii) $HCHO$ (iii) $CH_3-CO-CH_3$ (iv) CH_3CHO 4

(b) Explain Aldol condensation with its mechanism. 4