

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-I

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) Keeping in view the size of atoms, the correct order is:-
 (A) $Mg > Sr$ (B) $Ba > Mg$ (C) $Lu > Ce$ (D) $Ce > I$
- (2) The mineral $CaSO_4 \cdot 2H_2O$ has general name of:-
 (A) Gypsum (B) Dolomite (C) Calcite (D) Epsom Salt
- (3) _____ elements is not present abundantly in earth's crust.
 (A) Silicon (B) Aluminium (C) Sodium (D) Oxygen
- (4) Oxidation of NO in air produces:-
 (A) N_2O (B) N_2O_3 (C) N_2O_4 (D) N_2O_5
- (5) The anhydride of $HClO_4$ is:-
 (A) ClO (B) ClO_2 (C) ClO_3 (D) Cl_2O_7
- (6) Co-ordination number of Pt in $[PtCl(NO_2)(NH_3)_4]^{2-}$ is:-
 (A) 2 (B) 4 (C) 1 (D) 6
- (7) Ether shows the phenomenon of:-
 (A) Position isomerism (B) Functional group isomerism (C) Metamerism (D) Cis-trans isomerism
- (8) Vinyl acetylene combines with HCl to form:-
 (A) Polyacetylene (B) Benzene (C) Chloroprene (D) Divinyl acetylene
- (9) _____ can be used as a catalyst in Friedel-Craft's reactions.
 (A) $AlCl_3$ (B) HNO_3 (C) $BeCl_2$ (D) $NaCl$
- (10) _____ is not a nucleophile.
 (A) H_2O (B) H_2S (C) BF_3 (D) NH_3
- (11) According to Lewis concept; ether behaves as:-
 (A) Acid (B) Base (C) Acid as well as a base (D) Electrophile
- (12) The Carbon atom of a Carbonyl group is:-
 (A) sp hybridized (B) sp^2 hybridized (C) sp^3 hybridized (D) dsp^2 hybridized
- (13) Acetic acid can be manufactured by:-
 (A) Distillation (B) Fermentation (C) Ozonolysis (D) Esterification
- (14) The main pollutant of leather tanneries in the waste water is due to the salt of:-
 (A) Lead (B) Chromium (VI) (C) Copper (D) Chromium (III)
- (15) The reaction between a fat and $NaOH$ is:-
 (A) Esterification (B) Hydrogenolysis (C) Fermentation (D) Saponification
- (16) Phosphorus helps in the growth of:-
 (A) Root (B) Leave (C) Stem (D) Seed
- (17) _____ is secondary pollutant.
 (A) Carbonic acid (B) CO_2 (C) SO_2 (D) CO

INTERMEDIATE PART-II (12th CLASS)**CHEMISTRY PAPER-II (NEW SCHEME) GROUP-I**

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
- Define Atomic Radius. Why Atomic Radius of Alkali metals increases in group of Periodic table?
 - What are Halides? Give their types.
 - What is function of *Ca* in plant growth?
 - What is the formula of Red Lead? Give its principle uses.
 - What is the effect of heat on the Orthoboric Acid?
 - What is the Chemistry of the Borax-bead Test?
 - Orthophosphoric acid is a weak tribasic acid. Prove it giving reactions with *NaOH*.
 - Complete the following chemical equations:-
 - $H_2S + NO_2 \longrightarrow$
 - $KI + NO_2 \longrightarrow$
 - Concentrated H_2SO_4 act as a dehydrating agent. Give two examples.
 - What is meant by Biochemical Oxygen Demand?
 - Define Smog. Give the composition of Photochemical Smog.
 - What is an Oil Refinery? Mention oil refineries in Pakistan.
3. **Attempt any eight parts.** 8 × 2 = 16
- Name the following complexes according to IUPAC System:-
 - $[Cr(OH)_3(H_2O)_3]$
 - $K_2[Pt(Cl)_6]$
 - Define the term coordination number with an example.
 - How Ethylene is converted into? (a) Ethylene Oxide (b) Ethylene glycol
 - How will you convert 1 – propanol into 1 – chloro – 2 – propanol?
 - Write down the structural formulae of following compounds:-
 - Benzophenone
 - Acetophenone
 - Which method is more useful for the preparation of ethyl chloride? Give its chemical reaction.
 - Write down the structural formulae of following compounds:-
 - Glycerol
 - Lactic acid
 - Ethyl alcohol is a liquid while methylchloride is a gas? Justify.
 - How will you distinguish between Acetaldehyde and Benzaldehyde?
 - Discuss the reaction of an aldehyde with Tollen's reagent.
 - What are Zwitter Ions?
 - What is a Peptide Bond? Write down formula of a dipeptide?
4. **Attempt any six parts.** 6 × 2 = 12
- What are Thermosetting Polymers? Give an example.
 - Define Saponification number with an example.
 - Write four importances of Lipids.
 - What are Micronutrients?
 - Describe the composition of a good Portland cement.
 - How is the wet sheet of paper dried in paper industry?
 - Why is *HF* a weaker acid than *HCl*?
 - Write the reactions of bleaching powder with (a) NH_3 (b) CO_2
 - Give two uses of Argon.

SECTION-II

- NOTE: - Attempt any three questions.** 8 × 3 = 24
- Explain the position of Hydrogen in 1 A and VII A groups and explain its similarities and dissimilarities with those groups. 4
 - What is the role of Gypsum in Agriculture and Industry? 4
 - Explain the following properties of Transition metals:- 4
 - Paramagnetism
 - Colour
 - Explain the process of incineration of industrial waste. 4
 - Define Alicyclic compounds and Aromatic compounds with one example in each case. 4
 - Predict the major products of bromination of the following compounds:- 4
 - Toluene
 - Benzoic acid
 - Benzaldehyde
 - Phenol
 - How will you bring about the following conversions? 4
 - Methane to Ethane
 - Acetic acid to Ethane
 - How is Methyl alcohol obtained on large scale from water gas? Draw diagram also. 4
 - Write reactions of ethyl magnesium bromide with:- 4
 - Water
 - Ammonia
 - Alcohol
 - CO_2
 - Explain Cannizzaro's reaction with suitable examples and mechanism. 4

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) The ionization energy of Calcium is:-
 (A) Lower than that of Barium (B) Lower than that of Magnesium
 (C) Higher than that of Beryllium (D) Lower than that of Strontium
- (2) _____ does not belong to Alkaline Earth Metal.
 (A) Rn (B) Ba (C) Ra (D) Be
- (3) The chief ore of Aluminium is:-
 (A) Na_3AlF_6 (B) $Al_2O_3 \cdot H_2O$ (C) $Al_2O_3 \cdot 2H_2O$ (D) Al_2O_3
- (4) The brown gas formed, when metal reduces HNO_3 to:-
 (A) N_2O_3 (B) N_2O_5 (C) NO (D) NO_2
- (5) _____ is the strongest acid in water.
 (A) $HClO$ (B) $HClO_2$ (C) $HClO_3$ (D) $HClO_4$
- (6) The strength of binding energy of transition elements depends upon:-
 (A) Number of neutrons (B) Number of protons
 (C) Number of unpaired electrons (D) Number of electron pairs
- (7) Linear shape is associated with which set of hybrid orbitals:-
 (A) dsp^2 (B) sp^3 (C) sp^2 (D) sp
- (8) Vinyl acetylene combines with HCl to form:-
 (A) Polyacetylene (B) Benzene (C) Chloroprene (D) Divinylacetylene
- (9) _____ compound is the most reactive one.
 (A) Ethene (B) Benzene (C) Ethane (D) Ethyne
- (10) _____ is not a nucleophile.
 (A) H_2S (B) H_2O (C) BF_3 (D) NH_3
- (11) Ethanol can be converted into Ethanoic Acid by:-
 (A) Hydration (B) Hydrogenation (C) Fermentation (D) Oxidation
- (12) _____ have the highest boiling point.
 (A) 2 - Hexanone (B) Propanal (C) Ethanal (D) Methanal
- (13) _____ reagent is used to reduce a Carboxylic group to an alcohol.
 (A) $NaBH_4$ (B) H_2 / Pt (C) $LiAlH_4$ (D) H_2 / Ni
- (14) _____ element is not present in all proteins.
 (A) Sulphur (B) Hydrogen (C) Carbon (D) Nitrogen
- (15) Phosphorus helps the growth of:-
 (A) Leave (B) Root (C) Seed (D) Stem
- (16) The main pollutant of leather tanneries in the waste water is due to the salt of:-
 (A) Chromium (III) (B) Lead (C) Chromium(VI) (D) Copper
- (17) Peroxyacetylnitrate(PAN) is an irritant to human beings and it affects:-
 (A) Eyes (B) Ears (C) Stomach (D) Nose

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

8 × 2 = 16

2. Attempt any eight parts.

- Why are the ionic radius of negative ions larger than the size of their parent atoms?
- Zinc oxide is amphoteric in nature. Explain with reactions.
- How is Gypsum converted into plaster of Paris? Write chemical equation.
- Write the formula of (a) Bauxite (b) Cryolite
- Write the Chemistry of Borax Bead test with an example.
- Why are Silicones preferred to petroleum products as lubricant?
- Write two reactions of NO with (a) $FeSO_4$ (b) H_2S
- Write two reactions of P_2O_5 as dehydrating agent.
- Write two similarities of Oxygen and Sulphur.
- What is the role of Chlorofluorocarbons in destroying ozone? Write reactions.
- How is the quality of water determined by chemical Oxygen demand?
- Define Heterocyclic compounds with two examples.

3. Attempt any eight parts.

8 × 2 = 16

- Give systematic names to following complexes:- (a) $[Fe(CO)_5]$ (b) $[Co(NH_3)_6]Cl_3$
- Give the uses of $KMnO_4$.
- What happens when ter-butyl alcohol is treated with conc. H_2SO_4 ?
- How will you distinguish acetylene and ethene?
- How will you prepare the following compound from Benzene in two steps?
m-chloronitro benzene
- Give the reaction of Ethylene epoxide with ethyl-magnesium bromide.
- Give the four uses of Ethanol.
- How phenol is prepared from Chlorobenzene (Dow's Method)?
- What does happen when Alkaline Sodium nitroprusside solution is added to Ketones?
- How does an Aldehyde react with (a) hydroxylamine (b) Hydrazine
- Write down the four uses of Acetic Acid.
- What are essential and non-essential Amino Acids?

6 × 2 = 12

4. Attempt any six parts.

- Write reactions of H_2SO_4 with $NaCl_{(s)}$ and $NaBr_{(s)}$.
- Justify that Cl_2O_7 is the anhydride of perchloric acid.
- Write important uses of Radon.
- Write note on Polyester resins.
- What is the effect of pH on Enzymes?
- Point out the difference between Glucose and Fructose?
- Write importance of Nitrogen for growth of plant.
- Define Lignin, write its effect on paper.
- Write names of two woody and two non-woody raw materials used for manufacturing of paper.

SECTION-II

8 × 3 = 24

NOTE: - Attempt any three questions.

- What are Hydrides? Give classification of Hydrides with Periodic Trend. 4
- Describe with diagram the manufacture of Sodium by Down's cell. 4
- Give two methods for the preparation of $K_2Cr_2O_7$, also give its two uses. 4
- What is Acid Rain? How does it affect our environment? 4
- Define Hybridization and explain the structure of Ethyne according to Hybridization concept. 4
- What are Friedel-Crafts' reactions? Explain by giving two examples with mechanism. 4
- How will you prepare following from Ethyne (Equations only):- 4
 - Acetaldehyde
 - Benzene
 - Ethane
 - Oxalic acid
- Write two methods for the preparation of Phenol. 4
- What is β -Elimination? Explain briefly the two possible mechanisms of β -Elimination reactions. 4
- What type of Aldehydes give Cannizzaro's reaction? Give its Mechanism. 4