1219 Warning:- Please write your Roll No. in the space provided and sign. Roll No----- SAR
(Inter Part – II) (Session 2015-17 to 2017-19) Sig. of Student -----

Chemistry (Objective) **(Group – I)** **Paper II**

Time Allowed:- 20 minutes **PAPER CODE 4483** 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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE, which is printed on this question paper,** on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed.

Q. 1

1. 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)
2. Which is more acidic oxide in the following?
(A) MnO (B) Mn_2O_3 (C) MnO_2 (D) Mn_2O_7
3. General name of mineral $MgSO_4 \cdot 7H_2O$ is?
(A) Gypsom (B) Dolomite (C) Calcite (D) Epsom salt
4. Chemical formula of litharge is?
(A) Pb_2O (B) SiO_2 (C) PbO (D) Pb_3O_4
5. The lowest ionization energy is possessed by?
(A) P (B) N (C) Sb (D) As
6. Which is the strongest oxidizing agent in the following?
(A) I_2 (B) Cl_2 (C) F_2 (D) Br_2
7. Which one of these elements is a typical transition element?
(A) Ni (B) Zn (C) Cd (D) Hg
8. Number of possible chain isomers of alkane C_5H_{12} are?
(A) 2 (B) 3 (C) 4 (D) 5
9. Structural formula of vinyl chloride is
(A) $HC \equiv C - Cl$ (B) $H_2C = CHCl$ (C) $H_3C - CHCl_2$ (D) $H_2\underset{Cl}{C} - \underset{Cl}{C}H_2$
10. Which one of the following species is an electron withdrawing?
(A) $-CH_3$ (B) $-CHO$ (C) $-OH$ (D) $-NH_2$
11. When ethyl magnesium bromide is reacted with HCHO, followed by acid hydrolysis, the product formed is?
(A) Ethanol (B) 1-propanol (C) 2-propanol (D) Ethanoic acid
12. Which compound will have maximum repulsion with water?
(A) H_5C_2OH (B) H_3COH (C) C_6H_6 (D) $H_3C - O - CH_3$
13. Which one of the following compounds will react with Fehling's solution?
(A) HCOOH (B) $H_3C \cdot CHO$ (C) H_3CCOOH (D) $H_3C - COCH_3$
14. Chemical formula of glycine is?
(A) H_3CCOOH (B) $H_3C \cdot CHO$ (C) $H_2N \cdot CH_2COOH$ (D) $H_3C \cdot CO \cdot CH_3$
15. Which nitrogeneous base is not present in RNA?
(A) Thiamine (B) Cytosine (C) Adenine (D) Uracil
16. Which of these polymers is a synthetic polymer?
(A) Animal fat (B) Starch (C) Cellulose (D) Polyester
17. Which is not a calcarious material?
(A) Clay (B) Lime (C) Marble (D) Marine Shell

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Warning:- Please, do not write anything on this question paper except your Roll No.

1219 (Inter Part-II) (Session 2015-17 to 2017-19)

Chemistry (Subjective) **Group – I** Paper II

Time Allowed: 2.40 hours Maximum Marks: 68

SECTION ---------- I

2. Answer briefly any EIGHT parts from the followings:- 8×2=16

(i) Write two properties of covalent hydrides

(ii) Define Lanthanides and Actinides.

(iii) Complete and balance the following equations (a) $Li_2CO_3 + heat \Rightarrow$ (b) $NaNO_3 + heat \Rightarrow$

(iv) Justify that CO_2 is acidic in nature.

(v) How Borax is used as water softening agent.

(vi) How H_3BO_3 reacts with (a) C_2H_5OH (b) $NaOH$

(vii) What is aqua regia. How is it dissolves the gold.

(viii) Write chemical Equations showing effect of temperature on H_3PO_4

(ix) How temperature affects the gaseous Nitrogen di-oxide (NO_2)

(x) Why NH_4NO_3 is not used as fertilizer for paddy rice.

(xi) What do you mean by setting of cement.

(xii) What is Biochemical oxygen demond (BOD)

3. Answer briefly any EIGHT parts from the followings:- 8×2=16

(i) Write down the useful by-products obtained in the process of cracking.

(ii) What is Clemmensen reduction? Give an example.

(iii) Why alkanes are less reactive than alkenes?

(iv) Write down the structural formulas of (a)Naphthalene (b)Phenanthrene

(v) Write down five resonance structures of benzene.

(vi) Give IUPAC names of the following compounds. (a) $(CH_3)_3\ C-CH_2-Cl$ (b) $(CH_3)_2\ CHBr$

(vii) What are Grignard's reagents. How are these produced?

(viii) How Phenol is prepared by Dow's process?

(ix) How Phenol reacts with formaldehyde?

(x) Write down the formulas of (a) Palmitic acid (b) Iso-Butyric acid

(xi) How can you convert acetic acid into (a) Methane (b) Acetyl chloride

(xii) Write down the mechanism for the reaction between CH_3COOH and NH_3

4. Answer briefly any SIX parts from the followings:- 6×2=12

(i) Complete and balance following equations. (a) $HClO_4 + P_2O_5 \xrightarrow{-10\ ^oC}$ (b) $HgO + Br_2 \xrightarrow{50\ ^oC}$

(ii) Write order of acid strength of oxyacids of chlorine.

(iii) What happens when bleaching powder reacts with (a) $conc.H_2SO_4$ (b) NH_3

(iv) Give systematic names to following complexes (a) $K_2[PtCl_6]$ (b) $[Co(NH_3)_4]Cl_3$

(v) Write industrial method for the preparation of formaldehyde.

(vi) What is Cannizzaro's reaction? Give an example.

(vii) Define thermoplastic and thermosetting polymers.

(viii) What are polyester resins? Give an example with reaction equation.

(ix) What is meant by denaturing of proteins.

SECTION ---------- II

Note: Attempt any three questions from the following. (8 × 3 = 24)

5. (a) How does the classification of elements in different blocks help in understanding their chemistry

(b) How is sodium metal extracted by Down's cell? Describe the products formed by this cell on different electrodes by balanced chemical equation.

6. (a) Explain the electrochemical theory for corrosion.

(b) What is smog? Explain the pollutants which are the main causes of photochemical smog.

7. (a) Define Isomerism and explain any two types of structural isomerism with examples.

(b) Discuss the stability of benzene in detail with reference to 1,3,5 - cyclohexatriene.

8. (a) Explain the polymerization of acetylene in detail.

(b) Describe the preparation of ethyl alcohol by fermentation of starch and molasses.

9. (a) How does acetaldehyde react with (i) C_2H_5MgBr (ii) $NaHSO_3$ (iii) NH_2OH (iv) N_2H_4

(b) Write a detailed note on S_N2 reactions of alkyl halides.

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(Inter Part – II) (Session 2015-17 to 2017-19) Sig of Student ----------

Chemistry (Objective) **Group – II** **Paper (II)**

Time Allowed:- 20 minutes **PAPER CODE 4488** 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 circle in front of that question number. Use marker or pen to fill the circles. Cutting or filling two or more circles will result in zero mark in that question. Write **PAPER CODE, which is printed on this question paper,** on the both sides of the Answer Sheet and fill bubbles accordingly, otherwise the student will be responsible for the situation. Use of Ink Remover or white correcting fluid is not allowed. **Q.1**

1) Which of these polymers is an addition polymer?
(A) Nylon-6,6 (B) Polystyrene (C) Terylene (D) Epoxy resin

2) The reaction between fat and NaOH is called
(A) Esterification (B) Hydrogenolysis (C) Fermentation (D) Saponification

3) Which three elements are needed for the healthy growth of plants?
(A) N, S, P (B) N, Ca, P (C) N, P, K (D) N, K, C

4) Newspaper can be recycled again and again by how many times?
(A) 5 (B) 4 (C) 3 (D) 2

5) Mark the correct statement.
(A) Na^+ is smaller than Na atom (B) Na^+ is larger than Na atom (C) Cl^- (ion) is smaller than Cl atom (D) Cl^- (ion) and Cl atom are equal in size

6) Which ion will have the maximum value of heat of hydration?
(A) Na^+ (B) Cs^{2+} (C) Ba^{2+} (D) Mg^{2+}

7) Tincal is a mineral of
(A) *Al* (B) B (C) Si (D) C

8) Laughing gas is chemically
(A) NO (B) N_2O (C) NO_2 (D) N_2O_4

9) Which is the strongest acid?
(A) $HC\ell O$ (B) $HC\ell O_2$ (C) $HC\ell O_3$ (D) $HC\ell O_4$

10) The total number of transition elements is
(A) 10 (B) 14 (C) 40 (D) 58

11) Ethers show the phenomenon of
(A) Position isomerism (B) Cis-trans isomerism (C) Metamerism (D) Functional group isomerism

12) Formula of Chloroform is
(A) CH_3Cl (B) CCl_4 (C) CH_2Cl_2 (D) $CHCl_3$

13) Which compound is the most reactive one?
(A) Benzene (B) Ethene (C) Ethane (D) Ethyne

14) Grignard's reagent is reactive due to
(A) The presence of halogen atom (B) The presence of Mg atom (C) The polarity of C-Mg bond (D) The polarity of Mg-X bond

15) According to Lewis concept ethers behave as
(A) Acid (B) Base (C) Acid as well as base (D) Neutral

16) Cannizzaro's reaction is not given by
(A) Formaldehyde (B) Acetaldehyde (C) Benzaldehyde (D) Trimethyl-acetaldehyde

17) The solution of which acid is used for the seasoning of food?
(A) Formic acid (B) Acetic acid (C) Benzoic acid (D) Butanoic acid

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Roll No._____ امیدوار خود پُر کرے

(For all Sessions)

Chemistry (Essay Type)

Time: 2:40 Hours **Marks: 68**

Section - I

2- Write short answers of any eight parts from the following. **2 x 8 =16**

i. How do you justify the position of hydrogen at the top of VIIA group?
ii. Why does metallic character increase from top to bottom in a group of metals?
iii. Why does lime water turn milky with CO_2 but becomes clear with excess CO_2?
iv. Give equations to represent the given reaction. Borax is heated with CuO.
v. NO_2 is strong oxidizing agent, prove it with two examples.
vi. P_2O_5 is a powerful dehydrating agent, show it with two examples.
vii. What are Silicones?
viii. What are Silicates?
ix. Write four uses of HNO_3.
x. What is Biosphere?
xi. What is BOD?
xii. What are Isomers? Write isomers of pentane.

3- Write short answers of any eight parts from the following. **2 x 8 =16**

i. How acid and base catalyses the reactivity of carboxyl compound?
ii. Write two examples of Monodentate ligands.
iii. Write correct names of compounds by I.U.P.A.C system. (A) 4-methyl pentane (B) 3,3,5-Trimethyl hexane
iv. Write effect of branching on melting point of alkanes.
v. What informations do we get from x-ray analysis of benzene.
vi. Convert (a) $C_3H_7Cl \Rightarrow CH_3-CH=CH_2$ (b) $C_3H_7Cl \Rightarrow CH_3-CH_2-CH_2OH$
vii. Write down structures of (a) Vinyl alcohol (b) Lactic acid
viii. Point out difference between symmetric and unsymmetric ehter.
ix. Write chemistry of chromyl chloride test.
x. Write four uses of farmaldehyde.
xi. Draw structures of (a) Alanine (b) Valine
xii. Draw structures of Dimer of Carboxylic acid.

4- Write short answers of any six parts from the following. **2 x 6 =12**

i. What is meant by degree of polymerization. Give an example.
ii. Write different stages in the manufacture of cement by wet process.
iii. Give trend of oxidizing power of halogens. Write any two factors on which oxidizing power of halogens depends.
iv. Write main raw materials used in the production of pulp and paper in Pakistan.
v. Define saponification number and iodine number of a fat or an oil.
vi. How are polyamide resins prepared? Give an example.
vii. Write any two applications of noble gases.
viii. Write any two methods of preparation of chlorinedioxide.
ix. Write any two essential qualities of a good fertilizer.

Section - II

NOTE: Answer any three questions from the following. **8x3=24**

5.(a) Discuss the position of hydrogen over IA and VII A group of periodic table. 4
(b) Explain the preparation of Na metal by Down cell. 4
6.(a) What do you mean by corrosion. Explain electrochemical theory in detail. 4
(b) Discuss in detail any two components of the environment. 4
7.(a) Define Isomerism. Explain position isomerism and functional group isomerism with one example each. 4
(b) Discuss atomic orbital treatment of Benzene. 4
8.(a) Explain free radical mechanism for the reaction of chlorine with methane in the presence of Sunlight. 4
(b) Write down important physical properties and uses of phenols. How Bakelite is prepared from it (Phenol)? 4
9.(a) How will you make the following conversions from ethyl bromide? 4
i. Propane ii. Propanoic acid iii. Ethene iv. Ethyl cyanide
(b) Describe the mechanism of aldolcondensation reaction? Why does formaldehyde not give this reaction? 4

☆☆☆ KNP

Inter. (Part-II)-A-2019

Roll No._____to be filled in by the candidate.

(For all Sessions)

Paper Code	8	4	8	5

Chemistry (Objective Type)

II ... 2019

Time: 17 Minutes **Marks: 20**

NOTE: Write answers to the questions on objective answer sheet provided. Four possible answers A,B,C & D to each question are given.Which answer you consider correct, fill the corresponding circle A,B,C or D given in front of each question with Marker or pen ink on the answer sheet provided.

1.1. For which mechanism, the first step involved is the same?

(A) E1 and E2 (B) E2 and S_N2 (C) S_N1 and E2 (D) E1 and S_N1

2. Ethanol can be converted into ethanoic acid by:

(A) Hydrogenation (B) Hydration (C) Oxidation (D) Fermentation

3. The carbon atom of a carbonyl group is:

(A) SP^2 hybridized (B) SP^3 hybridized (C) SP hybridized (D) dSP^2 hybridized

4. Which reagent is used to reduce carboxylic group to alcoholic group?

(A) H_2/Ni (B) H_2/Pt (C) H_2/Fe (D) $LiAlH_4$

5. Which one of the following polymers is an addition polymer?

(A) nylon-6,6 (B) polystyrene (C) terylene (D) epoxy resin

6. Micronutrients are required in quantity ranging from:

(A) 4-40 gm (B) 6-200 kg (C) 6-200 gm (D) 4-40 kg

7. Peroxyacetylnitrate (PAN) is an irritant to human beings and it affects:

(A) eyes (B) ears (C) stomach (D) nose

8. Newspaper can be recycled again and again by how many times?

(A) 4 (B) 5 (C) 2 (D) 3

9. Keeping in view the size of atoms, which order is the correct one:

(A) Mg>Sr (B) Ba>Mg (C) Lu>Ce (D) Cl>I

10. Tincal is a mineral of:

(A) Al (B) Si (C) B (D) C

11. Laughing gas is chemically:

(A) NO (B) NO_2 (C) N_2O_4 (D) N_2O

12. Which one of the following hydrogen halides is the weakest acid in aqeous solution?

(A) HF (B) HCl (C) HBr (D) HI

13. Which one of the following sulphate is insoluble in water?

(A) Sodium sulphate (B) Potassium sulphate (C) Zinc sulphate (D) Barium sulphate

14. Which one of the following is a typical transition metal?

(A) Sc (B) Y (C) Co (D) Ra

15. Which set of hybrid orbital has planar triangular shape?

(A) SP (B) SP^2 (C) SP^3 (D) dSP^2

16. Formula of chloroform is:

(A) $CHCl_3$ (B) CH_2Cl_2 (C) CH_3Cl (D) CCl_4

17. During nitration of benzene, the acitive nitrating agent is:

(A) NO_3 (B) NO_2^+ (C) NO_2^- (D) HNO_3