

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**
- Why does ionic character of halides decrease from left to right in a period?
 - How does Lanthanide contraction control the atomic sizes of elements of 6th and 7th periods?
 - Why is Potassium Superoxide used in breathing equipments of mountaineers and in space craft?
 - How is boric acid prepared from colemanite?
 - What is effect of heat on boric acid?
 - What is Asbestos? Give its two uses.
 - Give the reactions of nitric acid with: (a) Arsenic (b) Antimony
 - What is aqua regia? How does it dissolve gold?
 - What happens when following compounds are heated with conc. H_2SO_4 ?
(a) $C_6H_{12}O_6$ (b) H_5C_2OH
 - What are macro-nutrients? Give their names.
 - Give four properties of a good fertilizer.
 - State the term "Dissolved Oxygen (D.O.)". What is its use?
3. **Attempt any eight parts.** **8 × 2 = 16**
- Define the term Carbonization. Indicate three fractions obtained by the carbonization of coal.
 - Write structural formulas of the followings:
(i) 3-n-Propyl-1, 4-Pentadiene (ii) Divinyl acetylene
 - Define heat of combustion with example.
 - How will you prepare m-chloronitrobenzene from benzene in two steps?
 - Write two objections that were raised on Kekule's structure for benzene molecule.
 - Write reaction of ethyl magnesium chloride with water.
 - Write an excellent method for the preparation of simple alkyl iodides.
 - Write structural formulas of these compounds: (i) Ethoxy propane (ii) Lactic acid
 - How ethanol is denatured to avoid its use for drinking purpose?
 - Write the structural formulas of these compounds: (i) Phthalic acid (ii) Acetic anhydride
 - What is zwitter ion? How it is formed?
 - What are essential and non-essential amino acids?
4. **Attempt any six parts.** **6 × 2 = 12**
- What are disproportionation reactions? Explain your answer with suitable example.
 - HF is weaker acid than HCl . Why?
 - Arrange these ions in order of increasing size. F^- , I^- , Cl^- , Br^-
 - Why does damaged tin plated iron get rusted quickly?
 - Describe general mechanism of base-catalyzed addition reaction of carboxyl compounds.
 - How will you distinguish between ethanal and propanone?
 - Draw cyclic structure of glucose and fructose.
 - Define acid number. What is rancidity?
 - What is meant by hardening of oil?

SECTION-II**NOTE: - Attempt any three questions.****8 × 3 = 24**

- What are hydrides? Write down their classification and the properties of the covalent hydrides. 4
 - Describe the preparation of $NaOH$ by Nelson's cell. 4
- How will you manufacture wrought iron from cast iron? 4
 - What is smog? Explain the pollutants which are main cause of photochemical smog. 4
- Define hybridization and explain the structure of Ethyne on the basis of hybridization. 4
 - What are Friedel-Crafts alkylation? Explain by giving two examples with mechanism. 4
- Write down structural formulae for the following compounds: 4
(i) Isobutylene (ii) But-1-ene-3-Yne
(iii) 2, 5-Heptadiene (iv) Vinyl bromide
 - Explain following terms using ethyl alcohol as an example: 2 + 2
(i) Esterification (ii) Ether formation (iii) Oxidation (iv) Dehydration
- What are Grignard reagents? How can you prepare a primary, secondary and a tertiary alcohol with the help of Grignard reagent? 4
 - Write reaction equation for reaction of ethanal with: 4
(i) NH_2OH (ii) NH_2-NH_2 (iii) $H_2N-NHC_6H_5$ (iv) 2, 4-DNPH

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) Which statement is incorrect?

(A) All the metals are good conductors of electricity. (B) All the metals are good conductor of heat.
(C) All the metals form positive ions. (D) All the metals form acidic oxides.
- (2) Which of the following Sulphates is not soluble in water?

(A) Sodium Sulphate (B) Potassium Sulphate (C) Zinc Sulphate (D) Barium Sulphate
- (3) Chemical composition of Colemanite is:

(A) $Ca_2B_6O_{11} \cdot 5H_2O$ (B) $CaB_4O_7 \cdot 4H_2O$ (C) $Na_2B_4O_7 \cdot 4H_2O$ (D) $CaNaB_5O_9 \cdot 8H_2O$
- (4) Among group VA elements, the most electronegative element is:

(A) Sb (B) N (C) P (D) As
- (5) The strongest acid is:

(A) $HClO$ (B) $HClO_2$ (C) $HClO_3$ (D) $HClO_4$
- (6) Coordination number of Pt in $[PtCl(NO_2)(NH_3)_4]$ is:

(A) 2 (B) 4 (C) 1 (D) 6
- (7) Select from the following the one which is alcohol.

(A) CH_3-CH_2-OH (B) CH_3-O-CH_3 (C) CH_3COOH (D) CH_3-CH_2-Br
- (8) Which one of the following gases is used for artificial ripening of fruits?

(A) Ethene (B) Ethyne (C) Methane (D) Propane
- (9) Aromatic hydrocarbons are the derivatives of:

(A) Normal series of paraffins (B) Alkene (C) Benzene (D) Cyclohexane
- (10) When CO_2 is made to react with ethyl magnesium iodide, followed by acid hydrolysis, the product formed is:

(A) Propane (B) Propanoic acid (C) Propanal (D) Propanol
- (11) According to Lewis concept ethers behave as:

(A) Acid (B) Base (C) Catalyst (D) Enzyme
- (12) Which of the following will have the highest boiling point?

(A) Methanal (B) Ethanal (C) Propanal (D) 2-Hexanone
- (13) Which of the following is used in the manufacture of synthetic fibre?

(A) Formic acid (B) Oxalic acid (C) Carbonic acid (D) Acetic acid
- (14) Which one of the following statements about glucose and sucrose is incorrect?

(A) Both are soluble in water (B) Both are naturally occurring
(C) Both are Carbohydrates (D) Both are disaccharides
- (15) In which of these processes are small organic molecules made into macromolecules?

(A) The cracking of petroleum fractions (B) The fractional distillation of crude oil
(C) The polymerization of ethene (D) The hydrolysis of proteins
- (16) Micronutrients are required in quantity ranging from:

(A) 4-40 g (B) 6-200 g (C) 6-200 kg (D) 4-40 kg
- (17) Ecosystem is the smaller unit of:

(A) Lithosphere (B) Hydrosphere (C) Atmosphere (D) Biosphere

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-I

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- (8) Micronutrients are required in quantity ranging from:
(A) 4 – 40 g (B) 6 – 200 g (C) 6 – 200 kg (D) 4 – 40 kg
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- (10) Which statement is incorrect?
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- (11) Which of the following Sulphates is not soluble in water?
(A) Sodium Sulphate (B) Potassium Sulphate (C) Zinc Sulphate (D) Barium Sulphate
- (12) Chemical composition of Colemanite is:
(A) $Ca_2B_6O_{11} \cdot 5H_2O$ (B) $CaB_4O_7 \cdot 4H_2O$ (C) $Na_2B_4O_7 \cdot 4H_2O$ (D) $CaNaB_5O_9 \cdot 8H_2O$
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- (16) Select from the following the one which is alcohol.
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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 × 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) Acetaldehyde (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

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-II

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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) $\text{Na}_2\text{B}_4\text{O}_7$ (D) $\text{Na}_2\text{NO}_3 \cdot \text{H}_2\text{O}$
- (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) $\text{S}_\text{N}2$ 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

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-II

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 (A) Halogenation (B) Hydrogenation (C) Hydroxylation (D) Dehydrogenation
- (15) 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
- (16) $\text{S}_\text{N}2$ reactions can be best carried out with:
 (A) Primary alkyl halides (B) Secondary alkyl halides (C) Tertiary alkyl halides (D) All of these
- (17) Ethanol can be converted into ethanoic acid by:
 (A) Hydrogenation (B) Hydration (C) Oxidation (D) Fermentation

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) Which of the following is a non-typical transition element?
(A) Cr (B) Mn (C) Zn (D) Fe
- (2) The state of hybridization of carbon atom in methane is:
(A) sp (B) sp^2 (C) sp^3 (D) dsp^2
- (3) Preparation of vegetable ghee involves:
(A) Halogenation (B) Hydrogenation (C) Hydroxylation (D) Dehydrogenation
- (4) Which of the following can be used as a catalyst in Friedel-Crafts reactions?
(A) $AlCl_3$ (B) HNO_3 (C) $BeCl_2$ (D) $NaCl$
- (5) 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
- (6) Ethanol can be converted into ethanoic acid by:
(A) Hydrogenation (B) Hydration (C) Oxidation (D) Fermentation
- (7) Which one of the following will have the highest boiling point?
(A) Methanal (B) Ethanal (C) Propanal (D) 2-Hexanone
- (8) Amyl acetate has the flavour of:
(A) Apricot (B) Banana (C) Orange (D) Jasmine
- (9) Which of the following elements is not present in all proteins?
(A) Carbon (B) Hydrogen (C) Nitrogen (D) Sulphur
- (10) 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
- (11) Which woody raw material is used for the manufacture of paper pulp?
(A) Cotton (B) Bagasse (C) Poplar (D) Rice straw
- (12) A single Chloride free radical can destroy how many Ozone molecules?
(A) 100 (B) 100000 (C) 10000 (D) 1000
- (13) 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
- (14) Chile saltpetre has the chemical formula:
(A) $NaNO_3$ (B) KNO_2 (C) $Na_2B_4O_7$ (D) $Na_2NO_3 \cdot H_2O$
- (15) Which metal is used in the thermite process because of its activity?
(A) Iron (B) Copper (C) Aluminium (D) Zinc
- (16) 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-}
- (17) Which of the following hydrogen halide is the weakest acid in solution?
(A) HF (B) HBr (C) HI (D) HCl

CHEMISTRY PAPER-II (NEW SCHEME) GROUP-II

TIME ALLOWED: 20 Minutes

OBJECTIVE

MAXIMUM MARKS: 17

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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN
OBJECTIVE KEY FOR INTERMEDIATE ANNUAL EXAMINATION, 2019

Name of Subject: Chemistry

Session: New Scheme

Group: 1st

Group: 2nd

Q. Nos	Paper Code 4481	Paper Code 4483	Paper Code 4485	Paper Code 4487
1	D	C	A	B
2	D	B	B	D
3	A	B	C	D
4	B	D	B	A
5	D	D	B	B
6	D	D	D	C
7	A	C	D	B
8	B	B	D	B
9	C	D	C	D
10	B	D	B	D
11	B	D	D	D
12	D	A	D	C
13	D	B	D	B
14	D	D	A	D
15	C	D	B	D
16	B	A	D	D
17	D	B	D	A
18				
19				
20				

Q. Nos	Paper Code 4482	Paper Code 4484	Paper Code 4486	Paper Code 4488
1	C	D	C	D
2	A	B	C	B
3	C	D	B	C
4	A	B	A	B
5	A	C	A	C
6	C	B	C	A
7	C	C	D	C
8	B	A	B	A
9	A	C	D	A
10	A	A	B	C
11	C	A	C	C
12	D	C	B	B
13	B	C	C	A
14	D	B	A	A
15	B	A	C	C
16	C	A	A	D
17	B	C	A	B
18				
19				
20				

مرئیٹیکٹ بابت صحیح سوالیہ پرچہ امارنگ Key

ہم نے مضمون Chemistry پرچہ II گروپ T&II سیم New انٹر سالانہ امتحان 2019 کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عین چیک کر لیا ہے یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزیمینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 10-5-19

S.#	Name	Designation	Institution	Mobile No	Signature
1	M. Tariq Shehzad	AP	G.E.C Multan	0334-6070969	
2	Dr. M. Ramzan	AP	G.E.C. Multan	0334-6027512	
3	MUHAMMAD NAEEM ARSHAD	Associate Prof	Govt. Engineers College Multan	0334-6030916	
4	Azhar Hussain	A/P	Govt. C.C. Univ Multan	0336-1685735	
5					

Re-Checked By ہم نے درج بالا سوالیہ پرچہ (انشائیہ + معروضی) معروضی "Key" اور ہدایات کے حوالے سے مکمل طور پر چیک کر لیا ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

1	JAVED ANHAR CH	Associate Prof	B.C. of Sciences Multan	0300-7336924	
2	M. Khalid Akhtar	"	G.C. Civil Lines Multan	0333-9288504	
3					

تاریخ

CHEMISTRY PAPER-II (OLD SCHEME) GROUP-I

TIME ALLOWED: 3.10 Hours

SUBJECTIVE

MAXIMUM MARKS: 83

**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) Write down features of 6th period of periodic table.
- (ii) Give two properties of ionic hydrides.
- (iii) How does beryllium react with alkalies?
- (iv) How do the nitrates of Lithium and Sodium decompose on heating?
- (v) Describe two uses of boric acid in daily life.
- (vi) What is Minium? How is it prepared?
- (vii) Write two chemical reactions which show that H_2SO_4 is an oxidizing agent.
- (viii) How does P_2O_3 react with cold and hot water?
- (ix) Give one method of preparation each for XeO_3 and XeO_4 .
- (x) Mention two properties of Fluorine in which it differs from its family members.
- (xi) What is sacrificial corrosion?
- (xii) Why are III – B group elements called non-typical transition elements?

3. Attempt any Eight parts.

8 × 2 = 16

- (i) What is reforming of petroleum?
- (ii) Write names and formulas of four heterocyclic compounds.
- (iii) What is Markonikov's rule? Give an example.
- (iv) Convert ethyne to acetaldehyde.
- (v) Describe X – rays studies of benzene structure.
- (vi) Prepare benzene from cyclohexane and phenol.
- (vii) Why pure and dry ether is used in preparation of Grignard reagent?
- (viii) Differentiate S_N1 and S_N2 reaction.
- (ix) What is Formaline?
- (x) Differentiate ethanal and propanone.
- (xi) Write down the conditions required for the formation of smog.
- (xii) What is Biochemical Oxygen demand?

4. Attempt any Six parts.

6 × 2 = 12

- (i) How does ethyl alcohol react with conc. H_2SO_4 at different temperatures?
- (ii) What is Dow's method for the preparation of Phenol?
- (iii) Write down structural formulas of the following compounds
(a) Malonic acid (b) Iso-Butyric acid
- (iv) Describe the Strecker Synthesis for the preparation of α – amino acids.
- (v) What are thermosetting polymers? Give two examples.
- (vi) What is denaturation of proteins? Give an example.

- (vii) Write down any two points of difference between RNA and DNA.
- (viii) Explain the preparation and dehydration of ammonium carbamate in urea synthesis.
- (ix) Why is wet process mostly used in Pakistan for the production of cement?

SECTION-II

NOTE: - Attempt any three questions.

8 × 3 = 24

- 5.(a) Define and explain Ionization Energy. How does it vary in periodic table? 4
- (b) Discuss the peculiar behaviour of beryllium within its group IIA. 4

- 6.(a) Explain open hearth process for the manufacture of steel. 4
- (b) Explain incineration of industrial and hazardous waste. 4

- 7.(a) Define organic compounds. Give any three features of organic compounds. 4
- (b) Using ethyl bromide as a starting material, how will you prepare the following compounds? 4
 - (i) n-Butane (ii) Ethyl alcohol (iii) Ethene (iv) Propanoic acid

- 8.(a) Discuss atomic orbital treatment of concept about structure of Benzene. 4
- (b) How Ethanol is obtained by the fermentation of starch? Write all steps. 4

- 9.(a) Write down the structural formulas of the products that are formed when 1-Butene will react with following reagents:- 4
 - (i) H_2 , Pt (ii) $HOCl$ (iii) Cold dil. $KMnO_4 / OH^-$ (iv) O_2 in the presence of Ag
- (b) Define Cannizzaro's reaction with example. Also give its mechanism. 4

SECTION-III (PRACTICAL)

10. Attempt any three parts.

- (i) Write the material required, equation and procedure for the Copper amine complex. 5
- (ii) How Phenol group is identified and confirmed in an organic compound? 5
- (iii) How will you perform the qualitative analysis of HCO_3^{1-} ion systematically? 5
- (iv) Write the qualitative analysis of Al^{3+} ion in a systematic manner. 5
- (v) How will you analyze qualitatively Mg^{2+} ion in a systematic manner? 5

INTERMEDIATE PART-II (12th CLASS)

CHEMISTRY PAPER-II (OLD 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) Majority of elements in the periodic table are:
 (A) Semi-metals (B) Non-metals (C) Metals (D) Noble metals
- (2) Which one of the following is not an alkali metal?
 (A) Francium (B) Cesium (C) Rubidium (D) Radium
- (3) Aluminium oxide is:
 (A) Acidic Oxide (B) Basic Oxide (C) Amphoteric Oxide (D) Neutral Oxide
- (4) Which catalyst is used in contact process?
 (A) Fe_2O_3 (B) V_2O_5 (C) SO_3 (D) Ag_2O
- (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) Linear shape is associated with which set of hybrid orbitals?
 (A) sp (B) sp^2 (C) sp^3 (D) dsp^2
- (8) Formula of chloroform is:
 (A) CH_3Cl (B) CCl_4 (C) CH_2Cl_2 (D) $CHCl_3$
- (9) Benzene can not undergo:
 (A) Substitution reactions (B) Addition reactions (C) Oxidation reactions (D) Elimination reactions
- (10) Acetic acid can be obtained from CH_3MgI by treatment with:
 (A) H_2O (B) $ClNH_2$ (C) CO_2 (D) $HCHO$
- (11) Which enzyme is not involved in fermentation of starch?
 (A) Diastase (B) Zymase (C) Urease (D) Invertase
- (12) The carbon atom of carbonyl group is:
 (A) sp hybridized (B) sp^2 hybridized (C) sp^3 hybridized (D) None of these
- (13) The solution of which acid is used for seasoning of food?
 (A) Formic acid (B) Acetic acid (C) Benzoic acid (D) Butanoic acid
- (14) Acetic acid is manufactured by:
 (A) Distillation (B) Fermentation (C) Ozonolysis (D) Esterification
- (15) Which of these polymers is a synthetic polymer?
 (A) Animal fat (B) Starch (C) Cellulose (D) Polyester
- (16) Phosphorus helps in the growth of:
 (A) Root (B) Leave (C) Stem (D) Seed
- (17) Ecosystem is a smaller unit of:
 (A) Lithosphere (B) Hydrosphere (C) Atmosphere (D) Biosphere

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN
OBJECTIVE KEY FOR INTERMEDEAT ANNUAL/SUPPLY EXAMINATION, 2019'

Name of Subject: Chemistry Session: Old. Group-I

Q.Nos	Paper Code	Paper Code	Paper Code	Paper Code
	8481			
1	C			
2	D			
3	C			
4	B			
5	A			
6	C			
7	A			
8	D			
9	D			
10	C			
11	C			
12	B			
13	B			
14	B			
15	D			
16	D			
17	D			
18				
19				
20				

سرٹیفکٹ بابت صحیح سوال پرچہ / مارکنگ Key

ہم نے مضمون کیمیائی پرچہ Old II گروپ I سیم Old انٹر سالانہ امتحان 2019ء کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عین چیک کر لیا ہے یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی معروضی (MCQs) Key کی بابت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: _____

S.#	Name	Designation	Institution	Mobile No	Signature
1	Mian. M. Nawaz	Professor	Govt. Emerson College Multan.	0300 6382621	
2	Miss Shahzad Agha.	Lecturer	Govt. Degree College (IN) Chungi No. 6 Multan	03077411047	
3	Abdul Rauf.	SSS Chemistry	Govt. H S/S Samee Tabad Multan.	03006354713	

Re-checked by

JAVED AKHTAR CH. Associate Prof (Retd) 03007336924
 Science College Am