

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2026

Name of Subject: CHEMISTRY (New Course) Group: I

Q. Nos	Paper Code 2481	Correct Answer	Paper Code 2483	Correct Answer	Paper Code 2485	Correct Answer	Paper Code 2487	Correct Answer
1	B	Decreases	B	-CH ₂ -CH ₂ -	C	1 mole of O ₃ contain Na O-atoms	✓D	overall order of reaction
2	C	O ²⁻	D	Air	D	Boiling	✓B	[SO ₂][O ₂]/[SO ₃]
3	D	2	A	Fluorine	B	-286 kJmol ⁻¹	✓A	1.41x10 ⁻⁵ mol.d ⁻³
4	A	CCl ₄	D	Refrigerant & Aerosol Prop.	A	Mg ²⁺ + 2Cl ₂ → MgCl ₂	✓D	Photosynthesis
5	C	1 mole of O ₃ contain Na O-atoms	B	Decreases	D	overall order of reaction	✓C	Loses one or more electron
6	D	Boiling	C	O ²⁻	B	[SO ₂][O ₂]/[SO ₃]	✓B	-CH ₂ -CH ₂ -
7	B	-286 kJmol ⁻¹	D	2	A	1.41x10 ⁻⁵ mol.d ⁻³	✓D	Air
8	A	Mg ²⁺ + 2Cl ₂ → MgCl ₂	A	CCl ₄	D	Photosynthesis	✓A	Fluorine
9	D	overall order of reaction	C	1 mole of O ₃ contain Na O-atoms	C	Loses one or more electron	✓D	Refrigerant & Aerosol Prop.
10	B	[SO ₂][O ₂]/[SO ₃]	D	Boiling	B	-CH ₂ -CH ₂ -	✓B	Decreases
11	A	1.41x10 ⁻⁵ mol.d ⁻³	B	-286 kJmol ⁻¹	D	Air	✓C	O ²⁻
12	D	Photosynthesis	A	Mg ²⁺ + 2Cl ₂ → MgCl ₂	A	Fluorine	✓D	2
13	C	Loses one or more electron	D	overall order of reaction	D	Refrigerant & Aerosol Prop.	✓A	CCl ₄
14	B	-CH ₂ -CH ₂ -	B	[SO ₂][O ₂]/[SO ₃]	B	Decreases	✓C	1 mole of O ₃ contain Na O-atoms
15	D	Air	A	1.41x10 ⁻⁵ mol.d ⁻³	C	O ²⁻	✓D	Boiling
16	A	Fluorine	D	Photosynthesis	D	2	✓B	-286 kJmol ⁻¹
17	D	Refrigerant & Aerosol Prop.	C	Lose one or more electron	A	CCl ₄	✓A	Mg ²⁺ + 2Cl ₂ → MgCl ₂
18	/	/	/	/	/	/	/	/
19	/	/	/	/	/	/	/	/
20	/	/	/	/	/	/	/	/
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	4 4 3 6		4 4 3 6		4 4 3 6		4 4 3 6	

سرٹیفکٹ بابت صحیح سوالیہ پرچہ امارنگ Key

ہم نے مضمون کیمسٹری پرچہ I - (نیوکورس) - گروپ I - انٹرمیڈیٹ پہلا سالانہ امتحان 2026 کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عمیق 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 سیمہ / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 19-06-2026

S.#	Name	Designation	Institution	Mobile No	Signature
1	M. Awaiz Saeed	A.P.	Govt. Alauddin Hussain Islamia Graduate College Multan	0333-6143457	
2	MUHAMMAD RAMZAN	SSS(CH)	GHSS 138/10 R. Jahanian	03007333192	
3	Dr. Nadia Arif	AP	Govt. Graduate College of Science Multan	03007189259	
4	SHAHNAZ A.E.HA	A.P.	Govt. Graduate College (W) at No. 6 Multan	03017411047	
5					

ہم نے درج بالا سوالیہ پرچہ (انشائیہ و معروضی) معروضی "Key" اور ہدایات کے حوالے سے مکمل طور پر تسلی کر لی ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

Re-Checked By	Name	Designation	Institution	Mobile No	Signature
1	Dr. M. Tariq Sheikh	Associate Professor	Govt. Graduate College Civil Lines, Multan	0334-6070969	
2	Dr. Tahira Saleem	Associate Professor	Govt. Graduate College (W) Multan	0331-7262726	

تاریخ

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2026

Name of Subject: **CHEMISTRY (New Course)** Group: **II**

Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
	2482		2484		2486		2488	
1	D	Atomic Radius	B	$2C(\text{graphite}) + 2H_2 \rightarrow C_2H_4$	A	$Cu^{+} \rightarrow Cu^{++} + e^{-}$	B	A larger rate constant
2	A	It becomes less -ve from top to...	D	0.5 mol of CO_2	C	Free radical substitution	C	$2NO_2 \rightleftharpoons N_2O_4$
3	C	4p	C	Enthalpy change (ΔH)	B	Reduction	B	2.7
4	B	one s & two p bonds	B	A larger rate constant	A	53	D	4
5	C	Boiling	C	$2NO_2 \rightleftharpoons N_2O_4$	D	CO	A	$Cu^{+} \rightarrow Cu^{++} + e^{-}$
6	B	$2C(\text{graphite}) + 2H_2 \rightarrow C_2H_4$	B	2.7	D	Atomic Radius	C	Free radical substitution
7	D	0.5 mol of CO_2	D	4	A	It becomes less -ve from top...	B	Reduction
8	C	Enthalpy change (ΔH)	A	$Cu^{+} \rightarrow Cu^{++} + e^{-}$	C	4p	A	53
9	B	A larger rate constant	C	Free radical substitution	B	one s & two p bonds	D	CO
10	C	$2NO_2 \rightleftharpoons N_2O_4$	B	Reduction	C	Boiling	D	Atomic Radius
11	B	2.7	A	53	B	$2C(\text{graphite}) + 2H_2 \rightarrow C_2H_4$	A	It becomes less -ve from top...
12	D	4	D	CO	D	0.5 mol of CO_2	C	4p
13	A	$Cu^{+} \rightarrow Cu^{++} + e^{-}$	D	Atomic Radius	C	Enthalpy change (ΔH)	B	one s & two p bonds
14	C	Free radical substitution	A	It becomes less -ve from...	B	A larger rate constant	C	Boiling
15	B	Reduction	C	4p	C	$2NO_2 \rightleftharpoons N_2O_4$	B	$2C(\text{graphite}) + 2H_2 \rightarrow C_2H_4$
16	A	53	B	one s & two p bonds	B	2.7	D	0.5 mol of CO_2
17	D	CO	C	Boiling	D	4	C	Enthalpy change (ΔH)
18	/	/	/	/	/	/	/	/
19	/	/	/	/	/	/	/	/
20	/	/	/	/	/	/	/	/
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	3554		3554		3554		3554	

سرٹیفکیٹ بابت تصحیح سوالیہ پرچہ مارکنگ Key

ہم نے مضمون **کیمیاسٹری** پرچہ **I (ننوکورس)** گروپ **II** انٹر میڈیٹ پہلا سالانہ امتحان 2026 کا سوالیہ پرچہ انشائیہ و معروضی (Subjective & Objective) کو بنظر عمیق 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: **19-6-2026**

S.#	Name	Designation	Institution	Mobile No	Signature
1	M. Awaiz Saeed	A.P.	Govt. Alimdar Hussain Islamia Graduate College Multan	0333-6143457	[Signature]
2	MUHAMMAD RANZAN	SSS(CR)	GHSS 138/10/L Jaharian	0300733192	M. Ranzan
3	Dr. Nadia Arif	Asst. Prof.	Govt. Graduate College of Science Multan	03007189257	[Signature]
4	SHAHNAZ ACHHA	A.P.	Govt. Graduate College (w) Chapra	03017411047	[Signature]
5					

ہم نے درج بالا سوالیہ پرچہ (انشائیہ + معروضی) معروضی "Key" اور ہدایات کے حوالہ سے مکمل طور پر تسلی کر لی ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔

Re-Checked By	Name	Designation	Institution	Mobile No	Signature
1	Dr. M. Tahir Shehad	Associate Prof.	Govt. Graduate College Civil Lines, Multan	0334-607969	[Signature]
2	Dr. Tahira Saleem	Assistant Professor	Govt. Graduate College (w) Multan	0331-7262796	[Signature]

درج

2026 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____
CHEMISTRY (NEW COURSE)	PAPER-I	GROUP-I
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68
NOTE: Write same question number and its parts number on answer book, as given in the question paper.		
SECTION-I		
2. Write answers of any eight parts.		8 × 2 = 16
(i)	What factors are responsible for the increasing reactivity of alkali metals as we move down the group?	
(ii)	Na_2O is basic while SO_2 is acidic in nature. Why?	
(iii)	Define electron affinity. Give example.	
(iv)	Among the elements Li , K , Ca , S and Kr which one has the lowest first ionization energy? Which has the highest first ionization?	
(v)	Define Pauli's exclusion principle. Give one example of an element that obeys this rule.	
(vi)	Give the difference between enthalpy change of reaction and energy of activation of reaction.	
(vii)	Define instantaneous and average rate of reaction.	
(viii)	What is meant by the state of chemical equilibrium?	
(ix)	The change of volume disturbs the equilibrium position for some of the gas phase reactions but not the equilibrium constant.	
(x)	Why HF is weaker acid than HCl ?	
(xi)	Name the elements and their symbols present in group 17 of the periodic table.	
(xii)	What is the colour change when chlorine displaces bromine?	
3. Write answers of any eight parts.		8 × 2 = 16
(i)	Write any two postulates of Valence Bond Theory (VBT).	
(ii)	Sketch the molecular orbital pictures of $\pi(2p)$ and $\pi^*(2p)$.	
(iii)	Predict the shape of XeF_4 in accordance with VSEPR theory.	
(iv)	Why boiling point of a liquid increases when the external pressure rises?	
(v)	What are cleavage planes?	
(vi)	Define enthalpy of combustion giving one example.	
(vii)	Differentiate between exothermic and endothermic reactions.	
(viii)	State Hess Law of Constant Heat Summation.	
(ix)	How common ion effect is used in purification of Sodium Chloride?	
(x)	What is Buffer solution? Name its types.	
(xi)	What is homolytic fission? Give one example.	
(xii)	Why alkenes are more reactive than alkanes?	
4. Write answers of any six parts.		6 × 2 = 12
(i)	What is Molar Volume? Give example.	
(ii)	What is Disproportionation reaction? Give example.	
(iii)	Write down the merits of Photovoltaic Cell as sustainable source of energy.	
(iv)	What are Odorants/Fragrances? Give example.	
(v)	Write down the components of Atmosphere. (only names)	
(vi)	How and why the electric double layer is formed?	
(vii)	Write down the stoichiometric assumptions.	
(viii)	Which man-made sources of Nitrogen oxides affect Air?	
(ix)	How does Polycyclic Aromatic Hydrocarbon (PAHs) affect human health?	
SECTION-II		
NOTE: Write answers of any three questions.		3 × 8 = 24
5.(a)	Explain Pauli's exclusion principle and Hund's rule giving one example in each case.	4
(b)	What are London Dispersion Forces? How molecular mass and size affect their strength?	4
6.(a)	Write down Postulates of Valence Shell Electron Pair Repulsion (VSEPR) Theory.	4
(b)	Explain various types of order of reaction with examples.	1+1+1+1=4
7.(a)	Explain Dynamic Equilibrium in Reversible reaction with the help of Microscopic events.	4
(b)	In a solution, the pH is 9.2. Determine the ionic product of water K_w at $25^\circ C$.	4
8.(a)	How Markovnikov's Rule is applied in addition of HBr to 2-pentene? Give its mechanism also.	4
(b)	Explain different layers of atmosphere.	4
9.(a)	Explain structure, properties and uses of N_2O and NO_2 .	1+1+2=4
(b)	Explain the followings: (i) Physical state and colour of Halogens (ii) Bond strength of Halogen Molecules	2+2=4

2026 (1 st -A)		Roll No:
INTERMEDIATE PART-I (11 th Class)		
CHEMISTRY (NEW COURSE)	PAPER-I	GROUP-II
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68
NOTE: Write same question number and its parts number on answer book, as given in the question paper.		
SECTION-I		
2. Write answers of any eight parts.		8 × 2 = 16
(i)	Define atomic radius, write down names of factors effecting atomic radius.	1+1
(ii)	How ZnO reacts with HCl to give $ZnCl_2$ and with $NaOH$ to give Na_2ZnO_2 , give equations.	1+1
(iii)	Why some of the elements show variable oxidation numbers while others do not?	1+1
(iv)	Why electron is more deflected in electric field than proton?	1+1
(v)	I_3 of Mg is much bigger than its I_2 . Justify.	1+1
(vi)	What is Heterogeneous catalysis, give example?	1+1
(vii)	How does activation energy affects rate of reaction?	2
(viii)	Mention two characteristics of chemical equilibrium.	1+1
(ix)	Dynamic equilibrium exists between water and its vapours at $100^\circ C$, justify the statement.	1+1
(x)	Write physical states and colour change of common halogens.	1+1
(xi)	How fluorine and chlorine reacts with hydrogen?	1+1
(xii)	How chlorine dose and contact time effect disinfection?	1+1
3. Write answers of any eight parts.		8 × 2 = 16
(i)	By using VSEPR model, predict the shapes of BF_3 and SO_3 molecules.	
(ii)	Differentiate between bonding molecular orbitals and anti bounding molecular orbitals.	
(iii)	Give MOT diagram of He_2 .	
(iv)	Mention four items in which liquid crystals are used.	
(v)	Differentiate between crystalline solids and amorphous solids.	
(vi)	Define Enthalpy change of Neutralization. Give an example.	
(vii)	Bond energy is affected by other atoms in a molecule. Justify.	
(viii)	What is specific heat capacity? Give an example	
(ix)	What is common ion effect? Give two examples.	
(x)	How are acidic and basic buffers prepared?	
(xi)	How are alcohols dehydrated to form alkenes?	
(xii)	How can you convert propene into 2-bromopropane. Give reaction.	
4. Write answers of any six parts.		6 × 2 = 12
(i)	39g of potassium and 56g of iron have equal number of atoms in them. Justify.	
(ii)	Differentiate between theoretical yield and actual yield.	
(iii)	Distinguish between oxidation and reduction.	
(iv)	Define electrolysis with an example of $(ZnCl_2)$.	
(v)	Calculate the oxidation number of sulphur in SO_4^{2-}	
(vi)	What is the function of catalytic converter?	
(vii)	Why sulfur is quite unreactive at room temperature.	
(viii)	How do Volatile Organic Compounds (VOCs) affect on environment?	
(ix)	Mention major sources of heavy metals in the atmosphere.	
SECTION-II		
NOTE: Write answers of any three questions.		3 × 8 = 24
5.(a)	State and explain Pauli's exclusion principle and Hund's rule with examples.	2 + 2 = 4
(b)	Discuss influence of Hydrogen bonding on properties of water.	4
6.(a)	Define orbital hybridization. Discuss structure of CH_4 on the basis of orbital hybridization.	1 + 3 = 4
(b)	Explain any two physical methods to measure the concentration of reactants and products of a reaction.	2 + 2 = 4
7.(a)	What is Le-Chatelier's Principle? Discuss the effect of concentration on chemical equilibrium of a reaction.	4
(b)	Calculate the solubility of lead(II) iodide in water when its solubility product constant is 1.4×10^{-8} .	4
8.(a)	Explain the free radical Halogenation of (Methane) CH_4 with chlorine Cl_2 .	4
(b)	Describe the four layers of Atmosphere.	4
9.(a)	How does sulfur react with following substances?	
(i)	O_2	
(ii)	HNO_3	
(iii)	Cl_2	
(iv)	KCN	4
(b)	Write a detailed account of reactions of halogens with hydrogen.	4

PAPER CODE: 2481		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The atomic radius generally _____ across a period in the periodic table.	Increases	Decreases	Remains constant	First increases then decreases
2	Which of the given will have large size than neutral atom:	K^+	Al^{3+}	O^{2-}	Sr^{2+}
3	A p orbital has a characteristic shape with how many lobes?	4	1	3	2
4	Which of the given molecules has a central atom with sp^3 hybridization and a tetrahedral electron pair geometry?	CCl_4	BF_3	SO_2	PCl_5
5	Which one of the given statements is incorrect?	One mole of nitrogen gas contains Avogadro's number of molecules	One mole of ozone gas contains Avogadro's number of molecules	One mole of ozone contains Avogadro's number of O atoms	One mole of hydrogen gas contains Avogadro's number of molecules
6	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Freezing	Boiling
7	Standard enthalpy of formation of $H_2O_{(l)}$ is:	-1386 kJmol^{-1}	-286 kJmol^{-1}	$-242.5 \text{ kJmol}^{-1}$	-436 kJmol^{-1}
8	Which of the given equations correctly defines Lattice energy of $MgCl_2$?	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(g)}$	$Mg^{2+}_{(s)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg_{(s)} + Cl_{2(g)} \rightarrow MgCl_2$
9	The units of the rate constant (k) for a reaction depend upon the:	Stoichiometry of the balanced chemical equation	Activation energy of the reaction	Temperature of the reaction	Overall order of the reaction
10	$2SO_{3(g)} \rightleftharpoons 2SO_{2(g)} + O_{2(g)}$ The conventional equilibrium constant expression K_c for the system as described by the above equation is:	$\frac{[SO_2]^2}{[SO_3]}$	$\frac{[SO_2]^2[O_2]}{[SO_3]^2}$	$\frac{[SO_3]^2}{[SO_3]^2[O_2]}$	$[SO_2][O_2]$
11	The solubility product of $AgCl$ is $2.0 \times 10^{-10} \text{ mol}^2 \text{ dm}^{-6}$. The maximum concentration of Ag^+ ions in the solution is:	$1.41 \times 10^{-5} \text{ mol dm}^{-3}$	$1.0 \times 10^{-10} \text{ mol dm}^{-3}$	$2.0 \times 10^{-10} \text{ mol dm}^{-3}$	$4.0 \times 10^{-20} \text{ mol dm}^{-3}$
12	Given is example of natural redox reaction:	Electrolysis of Molten $NaCl$	Electrolysis of Aqueous solution of $NaCl$	Electrolysis of fused $PbCl_2$	Photosynthesis
13	Which statement about reducing agent is correct in redox reaction?	Itself is reduced	Its oxidation state is decreased	Loses one or more electrons	Its oxidation state remains unchanged
14	Which of the given is the repeating unit in polymer poly(ethene)?	$-CH_2-CH_3-$	$-CH_2-CH_2-$	$-CH=CH-$	$-CH(CH_3)CH_2-$
15	On industrial scale nitrogen is obtained from:	NH_4Cl	NH_3	NH_4NO_2	Air
16	Which common halogen reacts explosively with hydrogen at room temperature?	Fluorine	Chlorine	Iodine	Bromine
17	Chlorofluorocarbons(CFCs) have been primarily used in:	Fertilizers	Pesticides	Pharmaceuticals	Refrigerants and Aerosol propellants

PAPER CODE: 2483		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Which of the given is the repeating unit in polymer poly(ethene)?	$-CH_2-CH_3-$	$-CH_2-CH_2-$	$-CH=CH-$	$-CH(CH_3)CH_2-$
2	On industrial scale nitrogen is obtained from:	NH_4Cl	NH_3	NH_4NO_2	Air
3	Which common halogen reacts explosively with hydrogen at room temperature?	Fluorine	Chlorine	Iodine	Bromine
4	Chlorofluorocarbons(CFCs) have been primarily used in:	Fertilizers	Pesticides	Pharmaceuticals	Refrigerants and Aerosol propellants
5	The atomic radius generally _____ across a period in the periodic table.	Increases	Decreases	Remains constant	First increases then decreases
6	Which of the given will have large size than neutral atom:	K^+	Al^{3+}	O^{2-}	Sr^{2+}
7	A <i>p</i> orbital has a characteristic shape with how many lobes?	4	1	3	2
8	Which of the given molecules has a central atom with <i>sp</i> ³ hybridization and a tetrahedral electron pair geometry?	CCl_4	BF_3	SO_2	PCl_5
9	Which one of the given statements is incorrect?	One mole of nitrogen gas contains Avogadro's number of molecules	One mole of ozone gas contains Avogadro's number of molecules	One mole of ozone contains Avogadro's number of O atoms	One mole of hydrogen gas contains Avogadro's number of molecules
10	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Freezing	Boiling
11	Standard enthalpy of formation of $H_2O_{(l)}$ is:	$-1386 kJmol^{-1}$	$-286 kJmol^{-1}$	$-242.5 kJmol^{-1}$	$-436 kJmol^{-1}$
12	Which of the given equations correctly defines Lattice energy of $MgCl_2$?	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(g)}$	$Mg^{2+}_{(s)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg_{(s)} + Cl_{2(g)} \rightarrow MgCl_2$
13	The units of the rate constant (<i>k</i>) for a reaction depend upon the:	Stoichiometry of the balanced chemical equation	Activation energy of the reaction	Temperature of the reaction	Overall order of the reaction
14	$2SO_{3(g)} \rightleftharpoons 2SO_{2(g)} + O_{2(g)}$ The conventional equilibrium constant expression K_c for the system as described by the above equation is:	$\frac{[SO_2]^2}{[SO_3]}$	$\frac{[SO_2]^2[O_2]}{[SO_3]^2}$	$\frac{[SO_3]^2}{[SO_3]^2[O_2]}$	$[SO_2][O_2]$
15	The solubility product of $AgCl$ is $2.0 \times 10^{-10} mol^2 dm^{-6}$. The maximum concentration of Ag^+ ions in the solution is:	$1.41 \times 10^{-5} mol dm^{-3}$	$1.0 \times 10^{-10} mol dm^{-3}$	$2.0 \times 10^{-10} mol dm^{-3}$	$4.0 \times 10^{-20} mol dm^{-3}$
16	Given is example of natural redox reaction:	Electrolysis of Molten $NaCl$	Electrolysis of Aqueous solution of $NaCl$	Electrolysis of fused $PbCl_2$	Photosynthesis
17	Which statement about reducing agent is correct in redox reaction?	Itself is reduced	Its oxidation state is decreased	Loses one or more electrons	Its oxidation state remains unchanged

PAPER CODE: 2485		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Which one of the given statements is incorrect?	One mole of nitrogen gas contains Avogadro's number of molecules	One mole of ozone gas contains Avogadro's number of molecules	One mole of ozone contains Avogadro's number of O atoms	One mole of hydrogen gas contains Avogadro's number of molecules
2	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Freezing	Boiling
3	Standard enthalpy of formation of $H_2O_{(l)}$ is:	-1386 kJmol^{-1}	-286 kJmol^{-1}	$-242.5 \text{ kJmol}^{-1}$	-436 kJmol^{-1}
4	Which of the given equations correctly defines Lattice energy of $MgCl_2$?	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(g)}$	$Mg^{2+}_{(s)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg_{(s)} + Cl_{2(g)} \rightarrow MgCl_2$
5	The units of the rate constant (k) for a reaction depend upon the:	Stoichiometry of the balanced chemical equation	Activation energy of the reaction	Temperature of the reaction	Overall order of the reaction
6	$2SO_{3(g)} \rightleftharpoons 2SO_{2(g)} + O_{2(g)}$ The conventional equilibrium constant expression K_c for the system as described by the above equation is:	$\frac{[SO_2]^2}{[SO_3]}$	$\frac{[SO_2]^2[O_2]}{[SO_3]^2}$	$\frac{[SO_3]^2}{[SO_3]^2[O_2]}$	$[SO_2][O_2]$
7	The solubility product of $AgCl$ is $2.0 \times 10^{-10} \text{ mol}^2 \text{ dm}^{-6}$. The maximum concentration of Ag^+ ions in the solution is:	$1.41 \times 10^{-5} \text{ mol dm}^{-3}$	$1.0 \times 10^{-10} \text{ mol dm}^{-3}$	$2.0 \times 10^{-10} \text{ mol dm}^{-3}$	$4.0 \times 10^{-20} \text{ mol dm}^{-3}$
8	Given is example of natural redox reaction:	Electrolysis of Molten $NaCl$	Electrolysis of Aqueous solution of $NaCl$	Electrolysis of fused $PbCl_2$	Photosynthesis
9	Which statement about reducing agent is correct in redox reaction?	Itself is reduced	Its oxidation state is decreased	Loses one or more electrons	Its oxidation state remains unchanged
10	Which of the given is the repeating unit in polymer poly(ethene)?	$-CH_2-CH_3-$	$-CH_2-CH_2-$	$-CH=CH-$	$-CH(CH_3)CH_2-$
11	On industrial scale nitrogen is obtained from:	NH_4Cl	NH_3	NH_4NO_2	Air
12	Which common halogen reacts explosively with hydrogen at room temperature?	Fluorine	Chlorine	Iodine	Bromine
13	Chlorofluorocarbons(CFCs) have been primarily used in:	Fertilizers	Pesticides	Pharmaceuticals	Refrigerants and Aerosol propellants
14	The atomic radius generally _____ across a period in the periodic table.	Increases	Decreases	Remains constant	First increases then decreases
15	Which of the given will have large size than neutral atom:	K^+	Al^{3+}	O^{2-}	Sr^{2+}
16	A p orbital has a characteristic shape with how many lobes?	4	1	3	2
17	Which of the given molecules has a central atom with sp^3 hybridization and a tetrahedral electron pair geometry?	CCl_4	BF_3	SO_2	PCl_5

PAPER CODE: 2487		2026 (1 st -A)			Roll No: _____
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The units of the rate constant (<i>k</i>) for a reaction depend upon the:	Stoichiometry of the balanced chemical equation	Activation energy of the reaction	Temperature of the reaction	Overall order of the reaction
2	$2SO_{3(g)} \rightleftharpoons 2SO_{2(g)} + O_{2(g)}$ The conventional equilibrium constant expression K_c for the system as described by the above equation is:	$\frac{[SO_2]^2}{[SO_3]}$	$\frac{[SO_2]^2[O_2]}{[SO_3]^2}$	$\frac{[SO_3]^2}{[SO_2]^2[O_2]}$	$[SO_2][O_2]$
3	The solubility product of <i>AgCl</i> is $2.0 \times 10^{-10} \text{ mol}^2 \text{ dm}^{-6}$. The maximum concentration of <i>Ag</i> ⁺ ions in the solution is:	$1.41 \times 10^{-5} \text{ mol dm}^{-3}$	$1.0 \times 10^{-10} \text{ mol dm}^{-3}$	$2.0 \times 10^{-10} \text{ mol dm}^{-3}$	$4.0 \times 10^{-20} \text{ mol dm}^{-3}$
4	Given is example of natural redox reaction:	Electrolysis of Molten <i>NaCl</i>	Electrolysis of Aqueous solution of <i>NaCl</i>	Electrolysis of fused <i>PbCl</i> ₂	Photosynthesis
5	Which statement about reducing agent is correct in redox reaction?	Itself is reduced	Its oxidation state is decreased	Loses one or more electrons	Its oxidation state remains unchanged
6	Which of the given is the repeating unit in polymer poly(ethene)?	$-CH_2-CH_3-$	$-CH_2-CH_2-$	$-CH=CH-$	$-CH(CH_3)CH_2-$
7	On industrial scale nitrogen is obtained from:	<i>NH</i> ₄ <i>Cl</i>	<i>NH</i> ₃	<i>NH</i> ₄ <i>NO</i> ₂	Air
8	Which common halogen reacts explosively with hydrogen at room temperature?	Fluorine	Chlorine	Iodine	Bromine
9	Chlorofluorocarbons(CFCs) have been primarily used in:	Fertilizers	Pesticides	Pharmaceuticals	Refrigerants and Aerosol propellants
10	The atomic radius generally _____ across a period in the periodic table.	Increases	Decreases	Remains constant	First increases then decreases
11	Which of the given will have large size than neutral atom:	<i>K</i> ⁺	<i>Al</i> ³⁺	<i>O</i> ²⁻	<i>Sr</i> ²⁺
12	A <i>p</i> orbital has a characteristic shape with how many lobes?	4	1	3	2
13	Which of the given molecules has a central atom with <i>sp</i> ³ hybridization and a tetrahedral electron pair geometry?	<i>CCl</i> ₄	<i>BF</i> ₃	<i>SO</i> ₂	<i>PCl</i> ₅
14	Which one of the given statements is incorrect?	One mole of nitrogen gas contains Avogadro's number of molecules	One mole of ozone gas contains Avogadro's number of molecules	One mole of ozone contains Avogadro's number of O atoms	One mole of hydrogen gas contains Avogadro's number of molecules
15	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Freezing	Boiling
16	Standard enthalpy of formation of <i>H</i> ₂ <i>O</i> _(l) is:	-1386 kJmol^{-1}	$+286 \text{ kJmol}^{-1}$	$-242.5 \text{ kJmol}^{-1}$	-436 kJmol^{-1}
17	Which of the given equations correctly defines Lattice energy of <i>MgCl</i> ₂ ?	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg^{2+}_{(g)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(g)}$	$Mg^{2+}_{(s)} + 2Cl^{-}_{(g)} \rightarrow MgCl_{2(s)}$	$Mg_{(s)} + Cl_{2(g)} \rightarrow MgCl_2$

PAPER CODE: 2482		2026 (1 st -A)		Roll No:	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Which property increases as we go down a group in the periodic table?	Ionization energy	Electron affinity	Electronegativity	Atomic radius
2	Which is the correct general trend in the variation of electron affinity in a group?	It becomes less negative from top to bottom	It becomes more negative from top to bottom	It remains the same	It has no definite trend and changes irregularly
3	When 3d subshell is completely filled, the next entering electron goes into:	4f	4s	4p	4d
4	The numbers of σ (Sigma) and π (Pi) bonds in the N_2 molecules are:	One σ and one π bond	One σ and two π bonds	Three π bonds only	Two σ and one π bond
5	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Boiling	Freezing
6	Which of the given equations represents standard heat of formation of C_2H_4 ?	$2C(\text{diamond}) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$2C(\text{graphite}) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$C(\text{graphite}) + H_{2(g)} \rightarrow \frac{1}{2}C_2H_{4(g)}$	$2C(\text{diamond}) + 4H_{(g)} \rightarrow C_2H_{4(g)}$
7	Which one of the given has greatest mass?	0.5 mol of N_2	0.5 mol of NH_3	0.5 mol of He	0.5 mol of CO_2
8	The calorie content of food, often expressed in Calories(kcal), is fundamentally related to which thermodynamic quantity during its metabolism or combustion?	Entropy change (ΔS)	Gibbs-free energy change (ΔG)	Enthalpy change (ΔH)	Specific heat capacity (c)
9	Consider two reactions with different activation energies at the same temperature. The reaction with the lower activation energy will have:	A smaller rate constant	A larger rate constant	The same rate constant	A rate constant that depends on the enthalpy change
10	For which system, does the equilibrium constant, K_c , has units of (concentration) ⁻¹ ?	$N_2 + 3H_2 \rightleftharpoons 2NH_3$	$H_2 + I_2 \rightleftharpoons 2HI$	$2NO_2 \rightleftharpoons N_2O_4$	$2HF \rightleftharpoons H_2 + F_2$
11	The pH of $10^{-3} \text{ mol dm}^{-3}$ of an aqueous solution of H_2SO_4 is:	3.0	2.7	2.0	1.5
12	$4OH^-(aq) \rightarrow O_{2(g)} + 2H_2O_{(l)} + xe^-$ (electrons) The x electron in above equation are:	1	3	2	4
13	Which of the given half-reactions represents the oxidation process occurring in the disproportionation of Cu^+ ?	$Cu^+(aq) \rightarrow Cu^{2+}(aq) + e^-$	$Cu^+(aq) + e^- \rightarrow Cu_{(s)}$	$Cu^{2+}(aq) + 2e^- \rightarrow Cu_{(s)}$	$2Cu^+(aq) \rightarrow Cu^{2+}(aq) + Cu_{(s)}$
14	Halogenation of alkanes is an example of:	Electrophilic substitution	Nucleophilic substitution	Free-radical substitution	Oxidation
15	In a catalytic converter, the conversion of nitrogen oxides (NO_x) into nitrogen gas (N_2) and oxygen gas (O_2) is a process of:	Oxidation	Reduction	Combustion	Neutralization
16	What is the Proton number of Iodine?	53	35	79	126
17	Which pollutant binds irreversibly to haemoglobin, causing suffocation?	SO_2	NO_2	O_3	CO

PAPER CODE: 2484		2026 (1 st -A)		Roll No:	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Which of the given equations represents standard heat of formation of C_2H_4 ?	$2C(\text{diamond}) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$2C(\text{graphite}) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$C(\text{graphite}) + H_{2(g)} \rightarrow \frac{1}{2}C_2H_{4(g)}$	$2C(\text{diamond}) + 4H_{(g)} \rightarrow C_2H_{4(g)}$
2	Which one of the given has greatest mass?	0.5 mol of N_2	0.5 mol of NH_3	0.5 mol of He	0.5 mol of CO_2
3	The calorie content of food, often expressed in Calories(kcal), is fundamentally related to which thermodynamic quantity during its metabolism or combustion?	Entropy change (ΔS)	Gibbs free energy change (ΔG)	Enthalpy change (ΔH)	Specific heat capacity (c)
4	Consider two reactions with different activation energies at the same temperature. The reaction with the lower activation energy will have:	A smaller rate constant	A larger rate constant	The same rate constant	A rate constant that depends on the enthalpy change
5	For which system, does the equilibrium constant, K_c has units of (concentration) ⁻¹ ?	$N_2 + 3H_2 \rightleftharpoons 2NH_3$	$H_2 + I_2 \rightleftharpoons 2HI$	$2NO_2 \rightleftharpoons N_2O_4$	$2HF \rightleftharpoons H_2 + F_2$
6	The pH of $10^{-3} \text{ mol dm}^{-3}$ of an aqueous solution of H_2SO_4 is:	3.0	2.7	2.0	1.5
7	$4OH^-(aq) \rightarrow O_{2(g)} + 2H_2O_{(l)} + xe^-$ (electrons) The x electron in above equation are:	1	3	2	4
8	Which of the given half-reactions represents the oxidation process occurring in the disproportionation of Cu^+ ?	$Cu^+(aq) \rightarrow Cu^{2+}(aq) + e^-$	$Cu^+(aq) + e^- \rightarrow Cu_{(s)}$	$Cu^{2+}(aq) + 2e^- \rightarrow Cu_{(s)}$	$2Cu^+(aq) \rightarrow Cu^{2+}(aq) + Cu_{(s)}$
9	Halogenation of alkanes is an example of:	Electrophilic substitution	Nucleophilic substitution	Free-radical substitution	Oxidation
10	In a catalytic converter, the conversion of nitrogen oxides (NO_x) into nitrogen gas (N_2) and oxygen gas (O_2) is a process of:	Oxidation	Reduction	Combustion	Neutralization
11	What is the Proton number of Iodine?	53	35	79	126
12	Which pollutant binds irreversibly to haemoglobin, causing suffocation?	SO_2	NO_2	O_3	CO
13	Which property increases as we go down a group in the periodic table?	Ionization energy	Electron affinity	Electronegativity	Atomic radius
14	Which is the correct general trend in the variation of electron affinity in a group?	It becomes less negative from top to bottom	It becomes more negative from top to bottom	It remains the same	It has no definite trend and changes irregularly
15	When 3d subshell is completely filled, the next entering electron goes into:	4f	4s	4p	4d
16	The numbers of σ (Sigma) and π (Pi) bonds in the N_2 molecules are:	One σ and one π bond	One σ and two π bonds	Three π bonds only	Two σ and one π bond
17	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Boiling	Freezing

PAPER CODE: 2486		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Which of the given half-reactions represents the oxidation process occurring in the disproportionation of Cu^+ ?	$Cu^+_{(aq)} \rightarrow Cu^{2+}_{(aq)} + e^-$	$Cu^+_{(aq)} + e^- \rightarrow Cu_{(s)}$	$Cu^{2+}_{(aq)} + 2e^- \rightarrow Cu_{(s)}$	$2Cu^+_{(aq)} \rightarrow Cu^{2+}_{(aq)} + Cu_{(s)}$
2	Halogenation of alkanes is an example of:	Electrophilic substitution	Nucleophilic substitution	Free-radical substitution	Oxidation
3	In a catalytic converter, the conversion of nitrogen oxides (NO_x) into nitrogen gas (N_2) and oxygen gas (O_2) is a process of:	Oxidation	Reduction	Combustion	Neutralization
4	What is the Proton number of Iodine?	53	35	79	126
5	Which pollutant binds irreversibly to haemoglobin, causing suffocation?	SO_2	NO_2	O_3	CO
6	Which property increases as we go down a group in the periodic table?	Ionization energy	Electron affinity	Electronegativity	Atomic radius
7	Which is the correct general trend in the variation of electron affinity in a group?	It becomes less negative from top to bottom	It becomes more negative from top to bottom	It remains the same	It has no definite trend and changes irregularly
8	When 3d subshell is completely filled, the next entering electron goes into:	4f	4s	4p	4d
9	The numbers of σ (Sigma) and π (Pi) bonds in the N_2 molecules are:	One σ and one π bond	One σ and two π bonds	Three π bonds only	Two σ and one π bond
10	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Boiling	Freezing
11	Which of the given equations represents standard heat of formation of C_2H_4 ?	$2C(diamond) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$2C(graphite) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$C(graphite) + H_{2(g)} \rightarrow \frac{1}{2}C_2H_{4(g)}$	$2C(diamond) + 4H_{(g)} \rightarrow C_2H_{4(g)}$
12	Which one of the given has greatest mass?	0.5 mol of N_2	0.5 mol of NH_3	0.5 mol of He	0.5 mol of CO_2
13	The calorie content of food, often expressed in Calories(kcal), is fundamentally related to which thermodynamic quantity during its metabolism or combustion?	Entropy change (ΔS)	Gibbs free energy change (ΔG)	Enthalpy change (ΔH)	Specific heat capacity (c)
14	Consider two reactions with different activation energies at the same temperature. The reaction with the lower activation energy will have:	A smaller rate constant	A larger rate constant	The same rate constant	A rate constant that depends on the enthalpy change
15	For which system, does the equilibrium constant, K_c has units of (concentration) ⁻¹ ?	$N_2 + 3H_2 \rightleftharpoons 2NH_3$	$H_2 + I_2 \rightleftharpoons 2HI$	$2NO_2 \rightleftharpoons N_2O_4$	$2HF \rightleftharpoons H_2 + F_2$
16	The pH of $10^{-3} \text{ mol dm}^{-3}$ of an aqueous solution of H_2SO_4 is:	3.0	2.7	2.0	1.5
17	$4OH^-_{(aq)} \rightarrow O_{2(g)} + 2H_2O_{(l)} + xe^-$ (electrons) The x electron in above equation are:	1	3	2	4

PAPER CODE: 2488		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (NEW COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Consider two reactions with different activation energies at the same temperature. The reaction with the lower activation energy will have:	A smaller rate constant	A larger rate constant	The same rate constant	A rate constant that depends on the enthalpy change
2	For which system, does the equilibrium constant, K_c has units of (concentration) ⁻¹ ?	$N_2 + 3H_2 \rightleftharpoons 2NH_3$	$H_2 + I_2 \rightleftharpoons 2HI$	$2NO_2 \rightleftharpoons N_2O_4$	$2HF \rightleftharpoons H_2 + F_2$
3	The pH of 10 ⁻³ mol dm ⁻³ of an aqueous solution of H ₂ SO ₄ is:	3.0	2.7	2.0	1.5
4	$4OH^-_{(aq)} \rightarrow O_{2(g)} + 2H_2O_{(l)} + xe^-$ (electrons) The x electron in above equation are:	1	3	2	4
5	Which of the given half-reactions represents the oxidation process occurring in the disproportionation of Cu ⁺ ?	$Cu^+_{(aq)} \rightarrow Cu^{2+}_{(aq)} + e^-$	$Cu^+_{(aq)} + e^- \rightarrow Cu_{(s)}$	$Cu^{2+}_{(aq)} + 2e^- \rightarrow Cu_{(s)}$	$2Cu^+_{(aq)} \rightarrow Cu^{2+}_{(aq)} + Cu_{(s)}$
6	Halogenation of alkanes is an example of:	Electrophilic substitution	Nucleophilic substitution	Free-radical substitution	Oxidation
7	In a catalytic converter, the conversion of nitrogen oxides (NO _x) into nitrogen gas (N ₂) and oxygen gas (O ₂) is a process of:	Oxidation	Reduction	Combustion	Neutralization
8	What is the Proton number of Iodine?	53	35	79	126
9	Which pollutant binds irreversibly to haemoglobin, causing suffocation?	SO ₂	NO ₂	O ₃	CO
10	Which property increases as we go down a group in the periodic table?	Ionization energy	Electron affinity	Electronegativity	Atomic radius
11	Which is the correct general trend in the variation of electron affinity in a group?	It becomes less negative from top to bottom	It becomes more negative from top to bottom	It remains the same	It has no definite trend and changes irregularly
12	When 3d subshell is completely filled, the next entering electron goes into:	4f	4s	4p	4d
13	The numbers of σ (Sigma) and π (Pi) bonds in the N ₂ molecules are:	One σ and one π bond	One σ and two π bonds	Three π bonds only	Two σ and one π bond
14	When the vapour pressure of a liquid equals the external pressure, what phenomenon occurs?	Sublimation	Condensation	Boiling	Freezing
15	Which of the given equations represents standard heat of formation of C ₂ H ₄ ?	$2C(\text{diamond}) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$2C(\text{graphite}) + 2H_{2(g)} \rightarrow C_2H_{4(g)}$	$C(\text{graphite}) + H_{2(g)} \rightarrow \frac{1}{2}C_2H_{4(g)}$	$2C(\text{diamond}) + 4H_{(g)} \rightarrow C_2H_{4(g)}$
16	Which one of the given has greatest mass?	0.5 mol of N ₂	0.5 mol of NH ₃	0.5 mol of He	0.5 mol of CO ₂
17	The calorie content of food, often expressed in Calories(kcal), is fundamentally related to which thermodynamic quantity during its metabolism or combustion?	Entropy change (ΔS)	Gibbs free energy change (ΔG)	Enthalpy change (ΔH)	Specific heat capacity (c)

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2026

Name of Subject: Chemistry (old Course) Group: I

Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
	6481		6483		6485		6487	
1	D	24g of O ₂	A	1.69×10^{-3}	C	Enhanced EN...	B	stark effect
2	A	5	B	14	D	Mol. crystal	D	BF ₃
3	B	Partition chr.	B	1.8 dm^3	C	Degenerated orb.	A	154 pm
4	D	127°C & 1 atm	D	No react.	B	stark effect	C	Decreases
5	A	Both a & b are	B	Dec. as...	D	BF ₃	A	1.69×10^{-3}
6	C	small Enhanced chr.	D	24g of O ₂	A	154 pm	B	14
7	D	Mol. crystal	A	5	C	Decreases	B	1.8 dm^3
8	C	Degen. orb.	B	Partition chr.	A	1.69×10^{-3}	D	No Reaction.
9	B	stark effect	D	127°C & 1 atm	B	14	B	Dec. as react.
10	D	BF ₃	A	Both a & b...	B	1.8 dm^3	D	24g of O ₂
11	A	154 pm	C	Enhanced...	D	No reaction takes	A	5
12	C	decreases	D	Mol. crystals	B	Dec. as react.	B	Partition chr.
13	A	1.69×10^{-3}	C	Degenerate	D	24g of O ₂	D	127°C & 1 atm
14	B	14	B	stark effect	A	5	A	both a & b are.
15	B	1.8 dm^3	D	BF ₃	B	partition chr.	C	Enh. EN charact.
16	D	No reaction.	A	154 pm	D	127°C & 1 atm	D	Mol. crystal
17	B	Dec. as react.	C	Decreases	A	Both a & b are.	C	Degenerate orb.
18	/	/	/	/	/	/	/	/
19	/	/	/	/	/	/	/	/
20	/	/	/	/	/	/	/	/
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	4 5 3 5		4 5 3 5		4 5 3 5		4 5 3 5	

سرٹیفکیٹ مابین سوالات پرچہ اور مارکس

ہم نے مشمولہ Chemistry پرچہ I (اولاؤکس) پرچہ I انٹرمیڈیٹ پہلا سالانہ امتحان 2026 کا سوالیہ پرچہ انتہائی معروضی (Subjective & Objective) کو مدنظر 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 اسکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 19-06-26

S.#	Name	Designation	Institution	Mobile No	Signature
1	Dr. Nadia Arif	Asst. Prof.	Govt. Graduate College of Science Multan	03007189257	Cesar
2	M. AWAIS SAEED	A.P.	Govt. Abanadar Hussain Islamia Graduate College Multan	0333-6143457	Imdad
3	SHAHNAZ ARIFA	A.P.	Govt. Graduate College (CN) Ch. No. 6 Multan	03017411047	af
4	MUHAMMAD RAMZAN	SSS (CA)	CoHSS 138/10R Jahamian	03007333192	M.R. Langar
5					

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

1	Dr. M. Tariq Shehad	Associate Prof.	Govt. Graduate College of Science Multan	0334-6070969	
2	Dr. Tahira Saleem	Assistant Prof.	Govt. Graduate College (CN) Munirabad - Multan	0331-7262796	

تاریخ

2026 (1 st -A)		Roll No: _____
INTERMEDIATE PART-I (11 th Class)		
CHEMISTRY (OLD COURSE)	PAPER-I	GROUP-I
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68
NOTE: Write same question number and its parts number on answer book, as given in the question paper.		
SECTION-I		
2. Write answers of any eight parts.		8 × 2 = 16
(i)	Define relative atomic mass and isotope.	1+1
(ii)	Many chemical reactions taking place in our surroundings involve limiting reactant. Comment on any one.	2
(iii)	What is Stoichiometry? What are its two assumptions?	1+1
(iv)	How can rate of filtration be increased?	2
(v)	What is chromatography? Write its two uses.	1+1
(vi)	What is Dalton's law and partial pressure?	1+1
(vii)	Differentiate between diffusion and effusion.	2
(viii)	What is Joule-Thomson effect?	2
(ix)	What is galvanic cell?	2
(x)	How anodized aluminum is prepared?	2
(xi)	What is rate determining step?	2
(xii)	What is catalytic poisoning?	2
3. Write answers of any eight parts.		8 × 2 = 16
(i)	Evaporation causes cooling. Give reason.	2
(ii)	Heat of sublimation of iodine is very high. Why?	2
(iii)	Differentiate between crystalline and amorphous solids.	2
(iv)	Define Allotropy. Give an example.	1+1
(v)	Why are the +ve rays called canal rays?	2
(vi)	Give two postulates of Planck's Quantum Theory.	1+1
(vii)	What is Zeeman's effect?	2
(viii)	State $n + l$ rule.	2
(ix)	Define common ion effect. Give example.	1+1
(x)	What are acidic buffer. Give example.	1+1
(xi)	Write down K_c units for the given reaction: $PCl_5 \rightleftharpoons PCl_3 + Cl_2$	2
(xii)	Discuss effect of pressure change on reaction $2SO_2 + O_2 \rightleftharpoons 2SO_3$	2
4. Write answers of any six parts.		6 × 2 = 12
(i)	What is co-ordinate covalent bond?	
(ii)	Draw the structure of H_2O and NH_3 with respect to VSEPR theory.	
(iii)	Define Covalent bond. Give two examples.	
(iv)	Discuss Orbital Hybridization.	
(v)	State thermochemical reaction with one example.	
(vi)	Differentiate between system and surrounding.	
(vii)	What are non-ideal solutions? Give one example?	
(viii)	Define parts per million, PPM, in chemical solutions.	
(ix)	How would you define molarity? Give one example.	
SECTION-II		
NOTE: Write answers of any three questions.		3 × 8 = 24
5.(a)	A sample of liquid consisting of carbon, hydrogen and oxygen was subjected to combustion analysis. 0.5439g of the compound gave 1.039g of CO_2 , 0.6369g of H_2O . Determine the empirical formula of the compound.	4
(b)	Define vapour pressure. Write a method for determination of vapour pressure of a liquid.	1 + 3 = 4
6.(a)	What is Plasma? Give its application in daily life.	1 + 3 = 4
(b)	Discuss Chadwick's experiment for the discovery of neutron. Write down its properties.	2 + 2 = 4
7.(a)	Define Bond order. Discuss N_2 molecule on the basis of MOT.	4
(b)	Explain the construction and working of glass calorimeter.	4
8.(a)	Define electrolytic process and give electrolysis of aqueous sodium chloride solution.	1 + 3 = 4
(b)	The given reaction was allowed to reach the state of equilibrium $2A_{aq} + B_{aq} \rightleftharpoons C_{aq}$ The initial amounts of the reactants present in 1dm ³ of solution were 0.50 mole of A 0.60 mole of B. At equilibrium, the amounts were 0.20 mole of A and 0.45 mole of B and 0.15 mole of C. Calculate the K_c .	4
9.(a)	Define solubility curve. Explain different types of solubility curves with the help of graph.	4
(b)	Explain half-life method and method of large excess to find out order of reaction.	2 + 2 = 4

PAPER CODE: 6481		2026 (1 st -A)		Roll No:	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	27g of Al will react completely with how much mass of O ₂ to produce Al ₂ O ₃ :	8 g of oxygen	16 g of oxygen	32 g of oxygen	24 g of oxygen
2	The number of isotopes of nickel are:	5	7	6	3
3	Paper chromatography is a technique of:	Thin layer chromatography	Partition chromatography	Adsorption chromatography	Gas chromatography
4	The molar volume of CO ₂ is maximum at:	273°C and 2 atm	STP	0°C and 2 atm	127°C and 1 atm
5	A real gas obeying van der Waals equation will resemble ideal gas if:	Both 'a' and 'b' are small	Both 'a' and 'b' are large	'a' is small 'b' is large	'a' is large 'b' is small
6	NH ₃ shows a maximum boiling point among the hydrides of V th group elements due to:	Very small size of nitrogen	Lone pair of electrons present on nitrogen	Enhanced electronegative character of nitrogen	Pyramidal structure of NH ₃
7	The molecules of CO ₂ in dry ice form:	Ionic crystal	Covalent crystal	Any type of crystal	Molecular crystal
8	Orbitals having same energy are called:	Hybrid orbitals	Valence orbitals	Degenerate orbitals	f-orbitals
9	Splitting of spectral lines when atoms are subjected to strong electric field is called:	Zeeman effect	Stark effect	Photoelectric effect	Compton effect
10	Which of the given molecules has zero dipole moment:	NH ₃	CHCl ₃	H ₂ O	BF ₃
11	The bond length of C – C bond in ethane is:	154 pm	133 pm	120 pm	110 pm
12	If an endothermic reaction is allowed to takes place very rapidly in the air, the temperature of surrounding air:	Remains constant	Increases	Decreases	Remains unchanged
13	The K _{sp} value of PbSO ₄ is:	1.69 × 10 ⁻⁸	1.96 × 10 ⁻¹⁰	1.35 × 10 ⁻⁵	3.2 × 10 ⁻¹¹
14	The sum of pK _a and pK _b at 25°C is:	7	14	10 ⁻⁷	10 ⁷
15	A solution of glucose is 10% w/v, the volume in which its 1gm mole is dissolved will be:	1 dm ³	1.8 dm ³	200 cm ³	900 cm ³
16	If a strip of Cu metal is placed in a solution of FeSO ₄ :	Cu will be deposited	Fe is precipitated out	Cu and Fe both dissolve	No reaction takes place
17	The rate of reaction:	Increases as the reaction proceeds	Decreases as the reaction proceeds	Remains the same as the reaction proceeds	May decrease or increase as the reaction proceeds

PAPER CODE: 6483		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The K_{sp} value of $PbSO_4$ is:	1.69×10^{-8}	1.96×10^{-10}	1.35×10^{-5}	3.2×10^{-11}
2	The sum of pK_a and pK_b at $25^\circ C$ is:	7	14	10^{-7}	10^7
3	A solution of glucose is 10% w/v , the volume in which its 1gm mole is dissolved will be:	$1 dm^3$	$1.8 dm^3$	$200 cm^3$	$900 cm^3$
4	If a strip of Cu metal is placed in a solution of $FeSO_4$:	Cu will be deposited	Fe is precipitated out	Cu and Fe both dissolve	No reaction takes place
5	The rate of reaction:	Increases as the reaction proceeds	Decreases as the reaction proceeds	Remains the same as the reaction proceeds	May decrease or increase as the reaction proceeds
6	27g of Al will react completely with how much mass of O_2 to produce Al_2O_3 :	8 g of oxygen	16 g of oxygen	32 g of oxygen	24 g of oxygen
7	The number of isotopes of nickel are:	5	7	6	3
8	Paper chromatography is a technique of:	Thin layer chromatography	Partition chromatography	Adsorption chromatography	Gas chromatography
9	The molar volume of CO_2 is maximum at:	$273^\circ C$ and 2 atm	STP	$0^\circ C$ and 2 atm	$127^\circ C$ and 1 atm
10	A real gas obeying van der Waals equation will resemble ideal gas if:	Both 'a' and 'b' are small	Both 'a' and 'b' are large	'a' is small 'b' is large	'a' is large 'b' is small
11	NH_3 shows a maximum boiling point among the hydrides of V th group elements due to:	Very small size of nitrogen	Lone pair of electrons present on nitrogen	Enhanced electronegative character of nitrogen	Pyramidal structure of NH_3
12	The molecules of CO_2 in dry ice form:	Ionic crystal	Covalent crystal	Any type of crystal	Molecular crystal
13	Orbitals having same energy are called:	Hybrid orbitals	Valence orbitals	Degenerate orbitals	f-orbitals
14	Splitting of spectral lines when atoms are subjected to strong electric field is called:	Zeeman effect	Stark effect	Photoelectric effect	Compton effect
15	Which of the given molecules has zero dipole moment:	NH_3	$CHCl_3$	H_2O	BF_3
16	The bond length of $C - C$ bond in ethane is:	154 pm	133 pm	120 pm	110 pm
17	If an endothermic reaction is allowed to takes place very rapidly in the air, the temperature of surrounding air:	Remains constant	Increases	Decreases	Remains unchanged

PAPER CODE: 6485		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	NH_3 shows a maximum boiling point among the hydrides of V th group elements due to:	Very small size of nitrogen	Lone pair of electrons present on nitrogen	Enhanced electronegative character of nitrogen	Pyramidal structure of NH_3
2	The molecules of CO_2 in dry ice form:	Ionic crystal	Covalent crystal	Any type of crystal	Molecular crystal
3	Orbitals having same energy are called:	Hybrid orbitals	Valence orbitals	Degenerate orbitals	f-orbitals
4	Splitting of spectral lines when atoms are subjected to strong electric field is called:	Zeeman effect	Stark effect	Photoelectric effect	Compton effect
5	Which of the given molecules has zero dipole moment:	NH_3	$CHCl_3$	H_2O	BF_3
6	The bond length of C – C bond in ethane is:	154 pm	133 pm	120 pm	110 pm
7	If an endothermic reaction is allowed to take place very rapidly in the air, the temperature of surrounding air:	Remains constant	Increases	Decreases	Remains unchanged
8	The K_{sp} value of $PbSO_4$ is:	1.69×10^{-8}	1.96×10^{-10}	1.35×10^{-5}	3.2×10^{-11}
9	The sum of pK_a and pK_b at 25°C is:	7	14	10^{-7}	10^7
10	A solution of glucose is 10% w/v, the volume in which its 1gm mole is dissolved will be:	1 dm ³	1.8 dm ³	200 cm ³	900 cm ³
11	If a strip of Cu metal is placed in a solution of $FeSO_4$:	Cu will be deposited	Fe is precipitated out	Cu and Fe both dissolve	No reaction takes place
12	The rate of reaction:	Increases as the reaction proceeds	Decreases as the reaction proceeds	Remains the same as the reaction proceeds	May decrease or increase as the reaction proceeds
13	27g of Al will react completely with how much mass of O_2 to produce Al_2O_3 :	8 g of oxygen	16 g of oxygen	32 g of oxygen	24 g of oxygen
14	The number of isotopes of nickel are:	5	7	6	3
15	Paper chromatography is a technique of:	Thin layer chromatography	Partition chromatography	Adsorption chromatography	Gas chromatography
16	The molar volume of CO_2 is maximum at:	273°C and 2 atm	STP	0°C and 2 atm	127°C and 1 atm
17	A real gas obeying van der Waals equation will resemble ideal gas if:	Both 'a' and 'b' are small	Both 'a' and 'b' are large	'a' is small 'b' is large	'a' is large 'b' is small

PAPER CODE: 6487		2026 (1 st -A)		Roll No:	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-I			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Splitting of spectral lines when atoms are subjected to strong electric field is called:	Zeeman effect	Stark effect	Photoelectric effect	Compton effect
2	Which of the given molecules has zero dipole moment:	NH ₃	CHCl ₃	H ₂ O	BF ₃
3	The bond length of C – C bond in ethane is:	154 pm	133 pm	120 pm	110 pm
4	If an endothermic reaction is allowed to takes place very rapidly in the air, the temperature of surrounding air:	Remains constant	Increases	Decreases	Remains unchanged
5	The K _{sp} value of PbSO ₄ is:	1.69 × 10 ⁻⁸	1.96 × 10 ⁻¹⁰	1.35 × 10 ⁻⁵	3.2 × 10 ⁻¹¹
6	The sum of pK _a and pK _b at 25°C is:	7	14	10 ⁻⁷	10 ⁷
7	A solution of glucose is 10% w/v, the volume in which its 1gm mole is dissolved will be:	1 dm ³	1.8 dm ³	200 cm ³	900 cm ³
8	If a strip of Cu metal is placed in a solution of FeSO ₄ :	Cu will be deposited	Fe is precipitated out	Cu and Fe both dissolve	No reaction takes place
9	The rate of reaction:	Increases as the reaction proceeds	Decreases as the reaction proceeds	Remains the same as the reaction proceeds	May decrease or increase as the reaction proceeds
10	27g of Al will react completely with how much mass of O ₂ to produce Al ₂ O ₃ :	8 g of oxygen	16 g of oxygen	32 g of oxygen	24 g of oxygen
11	The number of isotopes of nickel are:	5	7	6	3
12	Paper chromatography is a technique of:	Thin layer chromatography	Partition chromatography	Adsorption chromatography	Gas chromatography
13	The molar volume of CO ₂ is maximum at:	273°C and 2 atm	STP	0°C and 2 atm	127°C and 1 atm
14	A real gas obeying van der Waals equation will resemble ideal gas if:	Both 'a' and 'b' are small	Both 'a' and 'b' are large	'a' is small 'b' is large	'a' is large 'b' is small
15	NH ₃ shows a maximum boiling point among the hydrides of V th group elements due to:	Very small size of nitrogen	Lone pair of electrons present on nitrogen	Enhanced electronegative character of nitrogen	Pyramidal structure of NH ₃
16	The molecules of CO ₂ in dry ice form:	Ionic crystal	Covalent crystal	Any type of crystal	Molecular crystal
17	Orbitals having same energy are called:	Hybrid orbitals	Valence orbitals	Degenerate orbitals	f-orbitals

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2026

Name of Subject: Chemistry (old Course) Group: II

Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
	6482		6484		6486		6488	
1	C	1.12 dm ³	B	these are monoatomic gases with complete	A	Subliming	C	q/p > q/v
2	B	Three	C	N ₂	B	Cubic	A	1.8 dm ³
3	A	116 torr	A	2.89	D	0.33 nm	A	sec cells
4	D	Intermolecular attractive forces	D	MgCO ₃	D	E _x - E _i	D	Inc. in no. of effective collisions
5	C	O and H atoms	A	Subliming	C	q/p > q/v	C	1.12 dm ³
6	B	these are monoatomic gases with complete parent shell.	B	Cubic	A	1.8 dm ³	B	Three
7	C	N ₂	D	0.33 nm	A	Sec. Cells	A	116 torr
8	A	2.89	D	E _x - E _i	D	Inc. in no. of effective collisions	D	Intermolecular attractive forces.
9	D	MgCO ₃	C	q/p > q/v	C	1.12 dm ³	C	O and H atoms
10	A	subliming	A	1.8 dm ³	B	Three	B	There are monoatomic gases with comp. parent shell.
11	B	Cubic	A	sec cells	A	116 torr	C	N ₂
12	D	0.33 nm	D	Inc. in no. of effective collision.	D	Intermolecular attractive forces.	A	2.89
13	D	E _x - E _i	C	1.12 dm ³	C	O and H atoms	D	MgCO ₃
14	C	q/p > q/v	B	Three	B	There are monoatomic gases with comp. parent shell.	A	Subliming
15	A	1.8 dm ³	A	116 torr	C	N ₂	B	Cubic
16	A	sec. cell	D	Intermolecular attractive forces	A	2.89	D	0.33 nm
17	D	Inc. in no. of effective collision	C	O and H atoms	D	MgCO ₃	D	E _x - E _i
18	/	/	/	/	/	/	/	/
19	/	/	/	/	/	/	/	/
20	/	/	/	/	/	/	/	/
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	5 3 4 5		5 3 4 5		5 3 4 5		5 3 4 5	
	(17)		(17)		(17)		(17)	

سرٹیفکیٹ بابت تفصیلی سوال پرچہ مارکنگ Key

ہم نے مضمون Chemistry پرچہ Paper-I گروپ II انٹرمیڈیٹ پہلا سالانہ امتحان 2026 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: 19-06-2026

S.#	Name	Designation	Institution	Mobile No	Signature
1	Dr. Nadia Anif	Asst. Prof.	Govt. Graduate College of Science Multan	03007189257	ceat
2	SHAHNAZ ACHHA	A.P.	Govt. Graduate College (M) Chaf No. 6 Multan	03017411047	af Asha
3	M. AWAIS SAEED	A.P.	Govt. Alimdar Hussain Islamia Graduate College Multan	0333-6143457	Ingund
4	MUHAMMAD RAMZAN	SSS	Govt. Higher Secondary School 138/102	03007333192	M. Ramzan
5					

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

1	Dr. M. Tariq Shehad	Associate Professor	Govt. Graduate College Civil Lines, Multan	0334-670969	
2	Dr. Tahira Saleem	Associate Professor	Govt. Graduate College Civil Lines, Multan	0331-7262796	

2026 (1 st -A)		Roll No:
INTERMEDIATE PART-I (11 th Class)		
CHEMISTRY (OLD COURSE)	PAPER-I	GROUP-II
TIME ALLOWED: 2.40 Hours	SUBJECTIVE	MAXIMUM MARKS: 68
NOTE: Write same question number and its parts number on answer book, as given in the question paper.		
SECTION-I		
2. Write answers of any eight parts.		8 × 2 = 16
(i)	23g of sodium and 238g of uranium have equal number of atoms in them. Justify.	2
(ii)	Calculate the percentage of nitrogen and phosphorus in $(NH_4)_3PO_4$	1+1
(iii)	The actual yield of reaction is always less than theoretical yield. Give reason.	2
(iv)	Give main characteristics of the solvent used for crystallization.	2
(v)	Differentiate between adsorption and partition chromatography.	1+1
(vi)	What is Joule Thomson effect? Give its significance.	1+1
(vii)	SO_2 is comparatively non-ideal at 273K but behaves ideally at 327°C. Why?	2
(viii)	Define Avogadro's law of gases.	2
(ix)	Calculate oxidation number of Cr in $Cr_2(SO_4)_3$ and $K_2Cr_2O_7$	1+1
(x)	Impure Cu can be purified by electrolytic process. Justify.	2
(xi)	What is autocatalysis? Give one example.	1+1
(xii)	Radioactive decay is always first order reaction. Justify.	2
3. Write answers of any eight parts.		8 × 2 = 16
(i)	Evaporation takes place at all temperatures. Explain with reason.	
(ii)	Heat of sublimation of iodine is very high. Explain with reason.	
(iii)	In the closest packing of atoms of metals, only 74% space is occupied.	
(iv)	Sodium chloride and caesium chloride have different structures.	
(v)	The e/m value for positive rays is different for different gases.	
(vi)	Compare line emission and line absorption spectra.	
(vii)	What are X-rays?	
(viii)	Distribute electrons in orbitals of $_{57}La$ and $_{29}Cu$	
(ix)	The change of volume disturbs the equilibrium position for some of the gaseous phase reactions but not the equilibrium constant.	
(x)	What is justification for the increase of ionic product with temperature?	
(xi)	What happens to the acidic and basic properties of aqueous solutions when pH varies from zero to 14?	
(xii)	Define Lowry Bronsted and Base concept.	
4. Write answers of any six parts.		6 × 2 = 12
(i)	What is the cause of chemical combination?	2
(ii)	What is electron affinity? How it varies in periodic table?	1+1
(iii)	Why bond energy of multiple bonds is greater than single bond?	2
(iv)	Why reactions of ionic compounds are fast?	2
(v)	Prove that $\Delta H = q_p$	2
(vi)	What is enthalpy of combustion?	2
(vii)	What is molarity?	2
(viii)	Why relative lowering of vapour pressure is independent of temperature?	2
(ix)	What are hydrates? Give example.	1+1
SECTION-II		
NOTE: Write answers of any three questions.		3 × 8 = 24
5.(a)	Magnesium metal reacts with HCl to give hydrogen gas. What is the minimum volume of HCl solution (27% by weight) required to produce 12.1g of H_2 . The density of HCl solution is $1.14g/cm^3$. $Mg(s) + 2HCl(aq) \longrightarrow MgCl_2(aq) + H_2(g)$	4
(b)	What are liquid crystals? Give their uses in daily life.	1 + 3 = 4
6.(a)	Define Boyle's law. Also give its experimental verification.	1 + 3 = 4
(b)	Describe the discovery of electron by discharge tube experiment.	4
7.(a)	Write four postulates of valence shell electron pair repulsion theory.	1 × 4 = 4
(b)	Define Enthalpy of reaction. How enthalpy of reaction is measured by glass calorimeter? Draw diagram too.	1+2+1=4
8.(a)	The solubility of CaF_2 in H_2O at 25°C is found to be 2.05×10^{-2} mole dm^{-3} . What is the value of K_p at this temperature?	4
(b)	Explain Standard Hydrogen Electrode(SHE).	4
9.(a)	Describe Beckman's Method for the determination of Depression in Freezing point.	4
(b)	What is catalysis? Write down its types and explain one type in detail.	1+1+2=4

PAPER CODE: 6482		2026 (1 st -A)		Roll No:	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The volume occupied by 1.4g of N_2 at S.T.P is:	$2.24 dm^3$	$22.4 dm^3$	$1.12 dm^3$	$11.2 dm^3$
2	The number of isotopes in oxygen is:	One	Three	Two	Four
3	The partial pressure of O_2 in the lungs is:	116 torr	159 torr	560 torr	760 torr
4	Observed pressure of gas in van der Waals equation on the walls of container is less than actual pressure due to:	Haphazard motion	Elastic motion	Repulsive force	Inter molecular attractive forces
5	In protein Hydrogen bonding link one spiral to the other, the hydrogen bonding is; between:	C and H atoms	N and H atoms	O and H atoms	O and N atoms
6	Noble gases are most stable of all other elements because:	These gases react with one another	These are mono atomic gases, with complete parent shell	Their ionization energies are low	Their s and p orbitals not completely filled
7	Triple bond is present in:	O_2	H_2	N_2	Cl_2
8	pH of 0.1M CH_3COOH is:	2.89	4.74	7.44	4.92
9	Which has the highest K_{sp} ?	$CaCO_3$	$BaSO_4$	$BaCO_3$	$MgCO_3$
10	Solid which have vapour pressure at a temperature below their melting points when heat start, it is:	Subliming	Melting	Decomposing	Condensing
11	Grey tin crystals belong to crystals system:	Tetragonal	Cubic	Orthorhombic	Rhombohedral
12	When electron moves with velocity of $2.188 \times 10^6 ms^{-1}$ then its wavelength in nanometer will be:	3.3 nm	333 nm	33.3 nm	0.33 nm
13	The energy of ionization of an atom is the energy difference between orbital:	$E_2 - E_1$	$E_1 - E_2$	$E_\infty - E_n$	$E_\infty - E_1$
14	For a given process the heat changes at constant pressure q_p and at constant volume q_v are related to each other:	$q_p = q_v$	$q_p < q_v$	$q_p > q_v$	$q_p = \frac{q_v}{2}$
15	A solution of glucose is 10% w/v, the volume in which its 1 gram mole is dissolved will be:	$1.8 dm^3$	$1.0 dm^3$	$200 cm^3$	$900 cm^3$
16	Those cells which can be recharged:	Secondary cells	Primary cells	Dry cells	Alkaline cells
17	With increase of $10^\circ C$ temperature the rate of reaction doubles, due to:	Decrease in activation energy of reaction	Decrease in the number of collisions between reactant molecules	Increase in E_a	Increase in number of effective collisions

PAPER CODE: 6484		2026 (1 st -A)		Roll No:	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Noble gases are most stable of all other elements because:	These gases react with one another	These are mono atomic gases, with complete parent shell	Their ionization energies are low	Their s and p orbitals not completely filled
2	Triple bond is present in:	O_2	H_2	N_2	Cl_2
3	pH of 0.1M CH_3COOH is:	2.89	4.74	7.44	4.92
4	Which has the highest K_{sp} ?	$CaCO_3$	$BaSO_4$	$BaCO_3$	$MgCO_3$
5	Solid which have vapour pressure at a temperature below their melting points when heat start, it is:	Subliming	Melting	Decomposing	Condensing
6	Grey tin crystals belong to crystals system:	Tetragonal	Cubic	Orthorhombic	Rhombohedral
7	When electron moves with velocity of $2.188 \times 10^6 ms^{-1}$ then its wavelength in nanometer will be:	3.3 nm	333 nm	33.3 nm	0.33 nm
8	The energy of ionization of an atom is the energy difference between orbital:	$E_2 - E_1$	$E_1 - E_2$	$E_\infty - E_n$	$E_\infty - E_1$
9	For a given process the heat changes at constant pressure q_p and at constant volume q_v are related to each other:	$q_p = q_v$	$q_p < q_v$	$q_p > q_v$	$q_p = \frac{q_v}{2}$
10	A solution of glucose is 10% w/v , the volume in which its 1 gram mole is dissolved will be:	1.8 dm ³	1.0 dm ³	200 cm ³	900 cm ³
11	Those cells which can be recharged:	Secondary cells	Primary cells	Dry cells	Alkaline cells
12	With increase of 10°C temperature the rate of reaction doubles, due to:	Decrease in activation energy of reaction	Decrease in the number of collisions between reactant molecules	Increase in E_a	Increase in number of effective collisions
13	The volume occupied by 1.4g of N_2 at S.T.P is:	2.24 dm ³	22.4 dm ³	1.12 dm ³	11.2 dm ³
14	The number of isotopes in oxygen is:	One	Three	Two	Four
15	The partial pressure of O_2 in the lungs is:	116 torr	159 torr	560 torr	760 torr
16	Observed pressure of gas in van der Waals equation on the walls of container is less than actual pressure due to:	Haphazard motion	Elastic motion	Repulsive force	Inter molecular attractive forces
17	In protein Hydrogen bonding link one spiral to the other, the hydrogen bonding is; between:	C and H atoms	N and H atoms	O and H atoms	O and N atoms

PAPER CODE: 6486		2026 (1 st -A)		Roll No: _____	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	Solid which have vapour pressure at a temperature below their melting points when heat start, it is:	Subliming	Melting	Decomposing	Condensing
2	Grey tin crystals belong to crystals system:	Tetragonal	Cubic	Orthorhombic	Rhombohedral
3	When electron moves with velocity of $2.188 \times 10^6 \text{ ms}^{-1}$ then its wavelength in nanometer will be:	3.3 nm	333 nm	33.3 nm	0.33 nm
4	The energy of ionization of an atom is the energy difference between orbital:	$E_2 - E_1$	$E_1 - E_2$	$E_\infty - E_n$	$E_\infty - E_1$
5	For a given process the heat changes at constant pressure q_p and at constant volume q_v are related to each other:	$q_p = q_v$	$q_p < q_v$	$q_p > q_v$	$q_p = \frac{q_v}{2}$
6	A solution of glucose is 10% $\frac{w}{v}$, the volume in which its 1 gram mole is dissolved will be:	1.8 dm ³	1.0 dm ³	200 cm ³	900 cm ³
7	Those cells which can be recharged:	Secondary cells	Primary cells	Dry cells	Alkaline cells
8	With increase of 10°C temperature the rate of reaction doubles, due to:	Decrease in activation energy of reaction	Decrease in the number of collisions between reactant molecules	Increase in E_a	Increase in number of effective collisions
9	The volume occupied by 1.4 g of N_2 at S.T.P is:	2.24 dm ³	22.4 dm ³	1.12 dm ³	11.2 dm ³
10	The number of isotopes in oxygen is:	One	Three	Two	Four
11	The partial pressure of O_2 in the lungs is:	116 torr	159 torr	560 torr	760 torr
12	Observed pressure of gas in van der Waals equation on the walls of container is less than actual pressure due to:	Haphazard motion	Elastic motion	Repulsive force	Inter-molecular attractive forces
13	In protein Hydrogen bonding link one spiral to the other, the hydrogen bonding is; between:	C and H atoms	N and H atoms	O and H atoms	O and N atoms
14	Noble gases are most stable of all other elements because:	These gases react with one another	These are mono atomic gases, with complete parent shell	Their ionization energies are low	Their s and p orbitals not completely filled
15	Triple bond is present in:	O_2	H_2	N_2	Cl_2
16	pH of 0.1M CH_3COOH is:	2.89	4.74	7.44	4.92
17	Which has the highest K_{sp} ?	$CaCO_3$	$BaSO_4$	$BaCO_3$	$MgCO_3$

PAPER CODE: 6488		2026 (1 st -A)		Roll No:	
CHEMISTRY (OLD COURSE)		INTERMEDIATE PART-I (11 th Class)			
PAPER-I		GROUP-II			
TIME ALLOWED: 20 Minutes		OBJECTIVE		MAXIMUM MARKS: 17	
Q.No.1	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, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	For a given process the heat changes at constant pressure q_p and at constant volume q_v are related to each other:	$q_p = q_v$	$q_p < q_v$	$q_p > q_v$	$q_p = \frac{q_v}{2}$
2	A solution of glucose is 10% w/v , the volume in which its 1 gram mole is dissolved will be:	1.8 dm ³	1.0 dm ³	200 cm ³	900 cm ³
3	Those cells which can be recharged:	Secondary cells	Primary cells	Dry cells	Alkaline cells
4	With increase of 10° C temperature the rate of reaction doubles, due to:	Decrease in activation energy of reaction	Decrease in the number of collisions between reactant molecules	Increase in E_a	Increase in number of effective collisions
5	The volume occupied by 1.4g of N_2 at S.T.P is:	2.24 dm ³	22.4 dm ³	1.12 dm ³	11.2 dm ³
6	The number of isotopes in oxygen is:	One	Three	Two	Four
7	The partial pressure of O_2 in the lungs is:	116 torr	159 torr	560 torr	760 torr
8	Observed pressure of gas in van der Waals equation on the walls of container is less than actual pressure due to:	Haphazard motion	Elastic motion	Repulsive force	Inter molecular attractive forces
9	In protein Hydrogen bonding link one spiral to the other, the hydrogen bonding is; between:	C and H atoms	N and H atoms	O and H atoms	O and N atoms
10	Noble gases are most stable of all other elements because:	These gases react with one another	These are mono atomic gases, with complete parent shell	Their ionization energies are low	Their s and p orbitals not completely filled
11	Triple bond is present in:	O_2	H_2	N_2	Cl_2
12	pH of 0.1M CH_3COOH is:	2.89	4.74	7.44	4.92
13	Which has the highest K_{sp} ?	$CaCO_3$	$BaSO_4$	$BaCO_3$	$MgCO_3$
14	Solid which have vapour pressure at a temperature below their melting points when heat start, it is:	Subliming	Melting	Decomposing	Condensing
15	Grey tin crystals belong to crystals system:	Tetragonal	Cubic	Orthorhombic	Rhombohedral
16	When electron moves with velocity of $2.188 \times 10^6 ms^{-1}$ then its wavelength in nanometer will be:	3.3 nm	333 nm	33.3 nm	0.33 nm
17	The energy of ionization of an atom is the energy difference between orbital:	$E_2 - E_1$	$E_1 - E_2$	$E_\infty - E_n$	$E_\infty - E_1$