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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 2nd ANNUAL EXAMINATION, 2024

Name of Subject: CHEMISTRY PART - II Class: 11

Q. Nos	Paper Code 4481	Correct Answer	Paper Code 4483	Correct Answer	Paper Code 4485	Correct Answer	Paper Code 4487	Correct Answer
1	B	Magnesium	D	Heating ammonium acetate	D	NO_2^+	D	Calcium Hydroxide
2	D	Barium Sulphate	B	Polystyrene	C	Second	B	d-d transition of electron
3	B	$\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$	A	Seed	A	$\text{C}_2\text{H}_5\text{OH}$	C	sp^3
4	C	$\text{KNO}_3 + \text{H}_2\text{SO}_4$	D	Eyes	B	Nucleophilic addition	B	Unsaturation
5	D	Calcium Hydroxide	B	1000 km	D	Heating ammonium acetate	D	NO_2^+
6	B	d-d transition of electron	B	Magnesium	B	Polystyrene	C	Second
7	C	sp^3	D	Barium Sulphate	A	Seed	A	$\text{C}_2\text{H}_5\text{OH}$
8	B	Unsaturation	B	$\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$	D	Eyes	B	Nucleophilic addition
9	D	NO_2^+	C	$\text{KNO}_3 + \text{H}_2\text{SO}_4$	B	1000 km	D	Heating ammonium acetate
10	C	Second	D	Calcium Hydroxide	B	Magnesium	B	Polystyrene
11	A	$\text{C}_2\text{H}_5\text{OH}$	B	d-d transition of electron	D	Barium Sulphate	A	Seed
12	B	Nucleophilic addition	C	sp^3	B	$\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$	D	Eyes
13	D	Heating ammonium acetate	B	Unsaturation	C	$\text{KNO}_3 + \text{H}_2\text{SO}_4$	B	1000 km
14	B	Polystyrene	D	NO_2^+	D	Calcium Hydroxide	B	Magnesium
15	A	Seed	C	Second	B	d-d transition of electron	D	Barium Sulphate
16	D	Eyes	A	$\text{C}_2\text{H}_5\text{OH}$	C	sp^3	B	$\text{Ca}_2\text{B}_6\text{O}_{11} \cdot 5\text{H}_2\text{O}$
17	B	1000 km	B	Nucleophilic addition	B	Unsaturation	C	$\text{KNO}_3 + \text{H}_2\text{SO}_4$
18								
19								
20								
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	2 7 3 5		2 7 3 5		2 7 3 5		2 7 3 5	

سرٹیفکیٹ یافتہ/تفصیلی سوالیہ پرچہ/مارکنگ Key

ہم نے مضمون کیمسٹری پرچہ درس 1 گروپ: 1 انٹرمیڈیٹ دوسرا سالانہ امتحان 2024 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: 31 Oct 2024

S.#	Name	Designation	Institution	Mobile No	Signature
1	SHAHNAZ AQHA	AP.	Govt. Graduate College (W) Bosa Road Multan	03017411047	
2	Ghulam Akbar	SSS	QAED Bosa Road Multan	03007364240	
3	Dr. Muhammad Rashid	SS	Govt. Comp HSS Multan	03008865967	
4					
5					

Re-Checked By: 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۔

1	Dr. Nadia Anif	AP	Govt. Graduate College of Science Multan	03007189257	
2	M. AWAIS SAEED	A.P.	Govt. Alandaz Hussain Islamia Graduate College Multan	0333-6163457	

Paper Code Number: 4481		2024 (2 nd -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
CHEMISTRY PAPER-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	Ionization energy of calcium is lower than:	Strontium	Magnesium	Barium	Sodium
2	Which sulphate is not soluble in water?	Sodium sulphate	Potassium sulphate	Zinc sulphate	Barium sulphate
3	Chemical formula of colemanite is:	$Ca_2B_4O_7 \cdot 2H_2O$	$Ca_2B_6O_{11} \cdot 5H_2O$	$Na_2B_4O_7 \cdot 5H_2O$	$Ca_2B_6O_{11} \cdot 4H_2O$
4	In the laboratory, nitric acid is prepared by heating:	$NaNO_3 + H_2SO_4$	$Ca(NO_3)_2 + H_2SO_4$	$KNO_3 + H_2SO_4$	$KNO_2 + H_2SO_4$
5	Bleaching powder may be produced by passing chlorine over:	Calcium carbonate	Calcium sulphate	Calcium nitrate	Calcium hydroxide
6	The colour of transition metal complexes is due to:	Ionization	d-d transition of electron	Loss of s-electron	Paramagnetic nature of metals
7	The state of Hybridization of carbon atom in methane is:	sp	sp^2	sp^3	dsp^3
8	The presence of double bond in a compound is the sign of:	Saturation	Unsaturation	Supersaturation	Substitution
9	During nitration of benzene electrophile is:	NO	HNO_3	NO_2^-	NO_2^+
10	The order of a typical S_N2 reaction is:	Zero	First	Second	Third
11	Which compound is more soluble in water?	C_2H_5OH	C_6H_6	C_6H_5OH	$CH_3 - CH_2 - \overset{O}{\parallel} C - CH_2 - CH_3$
12	Acetone reacts with HCN to form cyanohydrin. It is an example of:	Electrophilic addition	Nucleophilic addition	Nucleophilic substitution	Elimination
13	Acetamide is prepared by:	Heating methyl cyanide	Hydrolysis of methyl cyanide	Heating ethyl acetate	Heating ammonium acetate
14	Which of these polymer is an addition polymer?	Nylon 6, 6	Polystyrene	Terylene	Epoxy resin
15	Phosphorous helps the growth of:	Seed	Leaves	Stem	Root
16	Peroxyacetyl nitrate is an irritant to human beings and it affects on:	Ears	Stomach	Nose	Eyes
17	Thickness of atmosphere is about how much kilometer above the surface of earth?	100 km	1000 km	10,000 km	10 km

Paper Code Number: 4483		2024 (2 nd -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
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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.				
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16	Which compound is more soluble in water?	C_2H_5OH	C_6H_6	C_6H_5OH	$\begin{array}{c} O \\ \\ CH_3-CH_2-C-CH_2-CH_3 \end{array}$
17	Acetone reacts with HCN to form cyanohydrin. It is an example of:	Electrophilic addition	Nucleophilic addition	Nucleophilic substitution	Elimination

Paper Code Number: 4485		2024 (2 nd -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
CHEMISTRY PAPER-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	During nitration of benzene electrophile is:	NO	HNO ₃	NO ₂ ⁺	NO ₂ ⁻
2	The order of a typical S _N 2 reaction is:	Zero	First	Second	Third
3	Which compound is more soluble is water?	C ₂ H ₅ OH	C ₆ H ₆	C ₆ H ₅ OH	$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_3 - \text{CH}_2 - \text{C} - \text{CH}_2 - \text{CH}_3 \end{array}$
4	Acetone reacts with HCN to form cyanohydrin. It is an example of:	Electrophilic addition	Nucleophilic addition	Nucleophilic substitution	Elimination
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6	Which of these polymer is an addition polymer?	Nylon 6, 6	Polystyrene	Terylene	Epoxy resin
7	Phosphorous helps the growth of:	Seed	Leaves	Stem	Root
8	Peroxyacetyl nitrate is an irritant to human beings and it affects on:	Ears	Stomach	Nose	Eyes
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12	Chemical formula of colemanite is:	Ca ₂ B ₄ O ₇ · 2H ₂ O	Ca ₂ B ₆ O ₁₁ · 5H ₂ O	Na ₂ B ₄ O ₇ · 5H ₂ O	Ca ₂ B ₆ O ₁₁ · 4H ₂ O
13	In the laboratory, nitric acid is prepared by heating:	NaNO ₃ + H ₂ SO ₄	Ca(NO ₃) ₂ + H ₂ SO ₄	KNO ₃ + H ₂ SO ₄	KNO ₂ + H ₂ SO ₄
14	Bleaching powder may be produced by passing chlorine over:	Calcium carbonate	Calcium sulphate	Calcium nitrate	Calcium hydroxide
15	The colour of transition metal complexes is due to:	Ionization	d-d transition of electron	Loss of s-electron	Paramagnetic nature of metals
16	The state of Hybridization of carbon atom in methane is:	sp	sp ²	sp ³	dsp ³
17	The presence of double bond in a compound is the sign of:	Saturation	Unsaturation	Supersaturation	Substitution

Paper Code Number: 4487		2024 (2 nd -A) INTERMEDIATE PART-II (12 th Class)		Roll No: _____	
CHEMISTRY PAPER-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.				
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3	The state of Hybridization of carbon atom in methane is:	<i>sp</i>	<i>sp</i> ²	<i>sp</i> ³	<i>dsp</i> ³
4	The presence of double bond in a compound is the sign of:	Saturation	Unsaturation	Supersaturation	Substitution
5	During nitration of benzene electrophile is:	<i>NO</i>	<i>HNO</i> ₃	<i>NO</i> ₂ ⁺	<i>NO</i> ₂ ⁺
6	The order of a typical <i>S</i> _N 2 reaction is:	Zero	First	Second	Third
7	Which compound is more soluble in water?	<i>C</i> ₂ <i>H</i> ₅ <i>OH</i>	<i>C</i> ₆ <i>H</i> ₆	<i>C</i> ₆ <i>H</i> ₅ <i>OH</i>	$\begin{matrix} \text{O} \\ \\ \text{CH}_3 - \text{CH}_2 - \text{C} - \text{CH}_2 - \text{CH}_3 \end{matrix}$
8	Acetone reacts with <i>HCN</i> to form cyanohydrin. It is an example of:	Electrophilic addition	Nucleophilic addition	Nucleophilic substitution	Elimination
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15	Which sulphate is not soluble in water?	Sodium sulphate	Potassium sulphate	Zinc sulphate	Barium sulphate
16	Chemical formula of colemanite is:	<i>Ca</i> ₂ <i>B</i> ₄ <i>O</i> ₇ . 2 <i>H</i> ₂ <i>O</i>	<i>Ca</i> ₂ <i>B</i> ₆ <i>O</i> ₁₁ . 5 <i>H</i> ₂ <i>O</i>	<i>Na</i> ₂ <i>B</i> ₄ <i>O</i> ₇ . 5 <i>H</i> ₂ <i>O</i>	<i>Ca</i> ₂ <i>B</i> ₆ <i>O</i> ₁₁ . 4 <i>H</i> ₂ <i>O</i>
17	In the laboratory, nitric acid is prepared by heating:	<i>NaNO</i> ₃ + <i>H</i> ₂ <i>SO</i> ₄	<i>Ca(NO</i> ₃ <i>)</i> ₂ + <i>H</i> ₂ <i>SO</i> ₄	<i>KNO</i> ₃ + <i>H</i> ₂ <i>SO</i> ₄	<i>KNO</i> ₂ + <i>H</i> ₂ <i>SO</i> ₄

INTERMEDIATE PART-II (12 th Class)		2024 (2 nd -A)	Roll No: _____
CHEMISTRY PAPER-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. Attempt any eight parts.			8 × 2 = 16
(i)	Define Halides. Write down the names of various classes of halides.		02
(ii)	Write down any two similarities of hydrogen with group VII-A elements.		02
(iii)	How is gypsum converted into Plaster of Paris?		02
(iv)	Mention any two properties of beryllium in which it does not resemble with its own family.		02
(v)	Why does damaged tin plated iron get rusted quickly?		02
(vi)	How interstitial compounds are formed?		02
(vii)	Elaborate the mechanism of E-1 reactions.		02
(viii)	How will you convert propyl chloride into propane?		02
(ix)	Define Saponification number. What is the Saponification number of glycerol tripalmitate?		02
(x)	Draw the structure of cholesterol.		02
(xi)	Write down any two biological importance of enzyme.		02
(xii)	Mention the name of any four Argillaceous material used for the manufacture of cement.		02
3. Attempt any eight parts.			8 × 2 = 16
(i)	How Baeyer's test is used to check the presence of carbon, carbon double bond? Give one example?		02
(ii)	How ethyne is converted into dicarboxylic acid?		02
(iii)	Compare the reactivity of alkane, alkene and alkyne.		02
(iv)	Justify that "NO" act as oxidizing agent.		02
(v)	How does P_2O_5 react with cold and hot water?		02
(vi)	Write the functional group with one example of alkyl halide and acid halide.		02
(vii)	Name all types of isomerism shown by the ketones with example.		02
(viii)	Write four physical properties of $HClO_4$.		02
(ix)	What will happen when bleaching powder does react with CO_2 .		02
(x)	What is the role of acid rain on earth		02
(xi)	How "CO" is poisonous gas?		02
(xii)	Justify that detergents are threat to aquatic life.		02
4. Attempt any six parts.			6 × 2 = 12
(i)	Prove that CO_2 is acidic in character.		02
(ii)	What is chemical garden?		02
(iii)	Write down the chemical formula of bauxite and tinal.		1+1
(iv)	How benzene is prepared from phenol?		02
(v)	What is Lucas test? Give example.		02
(vi)	How picric acid is produced? Give reaction.		02
(vii)	Write down the general mechanism of acid catalyzed Nucleophilic addition reaction.		02
(viii)	Write down the structures of (a) Alanine (b) Aspartic acid		1+1
(ix)	Why lower carboxylic acids are water soluble?		02
SECTION-II			
NOTE: Attempt any three questions.			3 × 8 = 24
5.(a)	How to classify the elements on the basis of their valence shell electronic configuration in blocks?		4
(b)	Mention the properties of beryllium in which it does not resemble with its own family.		4
6.(a)	How is bleaching powder prepared by using Beckmann's method?		4
(b)	What are the various stages involved in the manufacturing of Portland cement. Give processes of occurring in various heating and cooling zones?		4
7.(a)	Define the following terms, give one example for each:		4
(i)	Chain Isomerism		
(ii)	Metamerism		
(iii)	Functional Group Isomerism		
(iv)	Position Isomerism		
(b)	Write a note on Nucleophilic substitution Bimolecular (S_N2) reaction of Alkyl Halides.		4
8.(a)	How is ethyne prepared by Kolbe's electrolytic method? Give its mechanism also.		4
(b)	What type of aldehydes give Cannizzaro's reaction. Give its mechanism.		4
9.(a)	Describe the stability of benzene on the basis of heat of hydrogenation.		4
(b)	How Methanol is prepared on industrial scale? Why is it called wood spirit?		4