

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, PESHAWAR

Secondary School Certificate (S.S.C.) Annual Examination 2024 · SLO Based

Class 10th	CHEMISTRY	PR - X (A-I-B5) (24)
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Time: 15 Min

SECTION - A

Marks: 12

Four circles are given against each question. Fill only the circle of the correct answer. Use a blue or black marker/pen. Filling more than one circle will be treated as a wrong answer.

1.	In which layer of atmosphere, weather balloons can fly;	☐ Troposphere	☐ Stratosphere	☐ Ozonosphere	☐ Mesosphere
2.	Rock weathering is a major source for the production of;	☐ Oxides of nitrogen	☐ Oxides of carbon	☐ Oxides of Sulphur	☐ Volatile organic compounds
3.	Which element is used for water disinfection?	☐ Fluorine	☐ Bromine	☐ Iodine	☐ Chlorine
4.	Which of the given is the best method for disposal of solid waste?	☐ Land filling	☐ Recycling	☐ Burning	☐ Sea dumping process
5.	Which of the given is the source of CO ₂ in manufacture of urea (NH ₂ CONH ₂)?	☐ Natural gas	☐ Coal	☐ Petroleum	☐ Coke
6.	Liquid form of petroleum is called as;	☐ Asphalt	☐ Crude oil	☐ Diesel	☐ Petrol
7.	Expression (K _c) for the given reaction is:	$3\text{NO}_2 + \text{H}_2\text{O} \rightleftharpoons 2\text{HNO}_3 + \text{NO}$			
		☐ $\frac{[\text{NO}_2]^3[\text{H}_2\text{O}]}{[\text{HNO}_3]^2[\text{NO}]}$	☐ $\frac{[\text{HNO}_3]^2[\text{NO}]}{[\text{NO}_2]^3[\text{H}_2\text{O}]}$		
		☐ $\frac{[\text{HNO}_3]^2 + [\text{NO}]}{[\text{NO}_2]^3 + [\text{H}_2\text{O}]}$	☐ $\frac{[\text{NO}_2]^3 + [\text{H}_2\text{O}]}{[\text{HNO}_3]^2 + [\text{NO}]}$		
8.	NH ₃ is a Lewis base because it:	☐ Accepts pair of electron	☐ Donates pair of electrons	☐ Donates a proton	☐ Produces OH ⁻ ion
9.	Which one of the given is an organic compound?	☐ Carbon monoxide	☐ Carbon dioxide	☐ Bicarbonates	☐ Phenol
10.	Which statement is true about organic compounds?	☐ Ionic in nature	☐ Conductor of electricity	☐ Thermally instable	☐ Thermally stable
11.	First three members of alkynes are:	☐ Solid	☐ Liquid	☐ Gas	☐ Plasma
12.	Two sugar units are linked to each other by;	☐ Peptide bond	☐ Glycosidic bond	☐ Sulphur bond	☐ Hydrogen bond

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Note: Time allowed for Section – B and Section – C is 2 Hours and 45 minutes.

SECTION – B**Q2:** Answer any EIGHT parts. Each part carries FOUR marks.

- Compare the Macroscopic characteristics of Forward Reaction and Reverse Reaction with reference to their mode of reaction.
- Calculate the pH and pOH of 0.079 M of HCl solution?
- Classify the given as saturated and unsaturated hydro carbons. CH_4 , C_5H_{12} , C_3H_6 and C_4H_6
- Convert Octane and Nonane to their alkyl group. Also write the name of alkyl groups formed.
- How pentene is prepared from pentyl alcohols. Write complete reaction.
- Write down the chemical equations for the addition of HBr and HI to C_2H_4 .
- How protein polymer is formed from amino acids. Give example.
- Complete the table below;

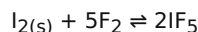
Vitamin	Source	Deficiency Symptom
i. Vitamin-D ii. Ascorbic Acid		

- How acid rain affects on plants and trees?
- Mention values of the following physical properties of water.
 - Latent heat of fusion
 - Latent heat of vaporization
 - Heat capacity
 - Density
- What do you know about enrichment of ore? Why it is necessary in metallurgical operations?

SECTION – C

Marks: 16

Note: Attempt any THREE questions. All questions carry equal marks.

Q3: (a) How equilibrium expression is written for given reaction. Derive its unit also.(b) What are the dissociation products of $\text{Mg}(\text{OH})_2$? Also categorize it as Arrhenius acid or base.**Q4:** (a) Explain two types of closed chain or cyclic organic compounds with examples.

(b) Write two steps involved in dehydrogenation of adjacent di-halides to prepare alkynes with conditions.

Q5: (a) How oils and fats are produced from fatty acids. Explain with the help of chemical reaction?

(b) How depletion of Ozone layer affect the marine life and amphibians?

Q6: (a) Explain Typhoid fever and dysentery as water born disease.(b) Which fraction is represented by Carbon atoms (C_{14} to C_{25}). Also write at least two uses.

Transcribed and typeset by Tayarri from a publisher's scan of the board paper. The scan arrived with the correct options already shaded in; every option is given here unmarked. No answer key is included.

Section A's instructions are printed in Urdu on the original sheet; they are given here in English.

Board spellings and wording are kept exactly as printed.

Section C prints "Marks: 16" with three questions of equal marks to be attempted, which does not divide evenly; the figure is reproduced as printed.

Section B prints no marks figure (eight parts $\times 4 = 32$). No per-part marks are printed in Section C.

Section A Q.7: the reaction is printed with a blank gap and no arrow between reactants and products; an equilibrium arrow is supplied here.

Verbatim board slips: "dehydrogenation of adjacent di-halides" in Q4(b) (the reaction meant is dehydrohalogenation), "water born disease" in Q6(a), "Thermally unstable" in Section A Q.10.