

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, PESHAWAR

Secondary School Certificate (S.S.C.) Examination 2023 · 10th (Fresh/Reappear)

Class 10th	CHEMISTRY	PR X (01) 23
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Time Allowed: 15 Minutes

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. Which one of the given decolourises Br ₂ - water?	☐ Ethane	☐ Ethene	☐ Propane	☐ Methane
2. Which one of the given is simple lipids?	☐ Phospholipide	☐ Fats	☐ Glycolipids	☐ Sulpholipids
3. The gas which protects the Earth surface from ultraviolet radiations is.....	☐ CO ₂	☐ N ₂	☐ O ₃	☐ O ₂
4. Composition of water by mass of Hydrogen and oxygen in water is.....	☐ 8 : 8	☐ 8 : 2	☐ 1 : 8	☐ 8 : 1
5. All are the water borne diseases except.....	☐ Hepatitis	☐ Malaria	☐ Typhoid	☐ Dysentery
6. All steps are used for the extraction of metals except.	☐ Roasting	☐ Smelting	☐ Evaporation	☐ Bessmiraization
7. Who proposed the Law of Mass Action for the 1 st time?	☐ Guldberg & Waage	☐ Lowery & Bronsted	☐ Lewis & Wholner	
8. Oxalic Acid is found in.....	☐ Apples	☐ Spinach	☐ Grapes	☐ Sour milk
9. Neutral solution has the pH-value of.....	☐ 3	☐ 5	☐ 7	☐ 14
10. CH $\equiv$ CH is the structural formula of.....	☐ Ethane	☐ Ethene	☐ Ethyne	☐ Propyne
11. Natural gas is mainly composed of.....	☐ CH ₄	☐ C ₂ H ₈	☐ C ₂ H ₆	☐ C ₂ H ₂
12. The functional group of Ethanoic acid is.....	☐ -CO-	☐ -CHO	☐ -OH	☐ -COOH

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

Section – B

Marks: 32

Answer any EIGHT parts. Each part carries FOUR marks.

- Q.1 Compare the different macroscopic characteristics of Forward and Reverse reactions.
- Q.2 Explain Acids – Bases concept of Arrhenius with a proper example.
- Q.3 Calculate the pOH and pH of 0.01 M solution of potassium hydroxide (KOH).
- Q.4 Distinguish between Aromatic and Hetrocyclic organic compounds with examples.
- Q.5 How organic compounds can be obtained from plants and animals?
- Q.6 Describe the oxidation of Ethene with KMnO_4 with proper chemical reaction.
- Q.7 Why addition reaction takes place in Ethene and Ethyne but not in Ethane?
- Q.8 Write any four functions of DNA.
- Q.9 Write down the formation of Acid rain due to:
 - (i) Carbondioxide
 - (ii) Nitrogen oxide with proper chemical reaction.
- Q.10 Mention the importance of water in light of Quran.
- Q.11 What is gangue and where it is found?

Section – C

Marks: 21

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

- Q.12** (a) Write down equilibrium constant expression " K_c " for the following reactions. (3)
 - (i) $\text{H}_2(\text{g}) + \text{I}_2(\text{g}) \rightleftharpoons 2\text{HI}(\text{g})$
 - (ii) $\text{N}_2\text{O}_4(\text{g}) \rightleftharpoons 2\text{NO}_2(\text{g})$
 - (iii) $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons 2\text{NH}_3(\text{g})$
- (b) Describe pH and pOH scale with proper derivation of relationship between pH and pOH. (4)
- Q.13** (a) Give any four characteristics of organic compound with suitable explanation. (4)
- (b) Write a balanced chemical equation for the complete combustion of the following: (3)
 - (i) Methane (ii) Ethene (iii) Ethyne
- Q.14** (a) What are carbohydrates? Discuss monosaccharides with examples. (4)
- (b) Discuss any three impacts of ozone layer depletion on living things. (3)
- Q.15** (a) What is soft water? How temporary hardness can be removed by Clark's method? (4)
- (b) Discuss the filtration of precipitate, calcination and recovery of ammonia in Solvay's process. (3)

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.

Verbatim board spellings: Phospholipide, Bessmiraization (Bessemerization), Lowery & Bronsted, Cavendish & Salvay, Lewis & Wholner, Hetrocyclic. Section A Q.11 prints C_2H_8 as an option.