

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:
- Carbondioxide
 - 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? 0.055

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)
- $\text{H}_2(\text{g}) + \text{I}_2(\text{g}) \rightleftharpoons 2\text{HI}(\text{g})$
 - $\text{N}_2\text{O}_4(\text{g}) \rightleftharpoons 2\text{NO}_2(\text{g})$
 - $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightleftharpoons 2\text{NH}_3(\text{g})$
- (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)
- Methane
 - Ethene
 - 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)