

CHEMISTRY — CLASS 10

Complete Paper Guide & Exam Strategy 2026

Mirpur (AJK) Board | "One Shot" Selective Study Method

AT-A-GLANCE: CHAPTER OVERVIEW

Ch#	Chapter Title	Short Qs	Long Q?	Priority / Note
Ch 1	Chemical Equilibrium	3	Yes	High — K _c expressions, dynamic equilibrium
Ch 2	Acids, Bases & Salts	3	Yes	High — Arrhenius limitations as LQ; Salts focus
Ch 3	Organic Chemistry	2	HOT FAV.	HOT FAVOURITE for Long Question
Ch 4	Hydrocarbons	4	Yes	TOUGHEST section — board sets tricky Qs here
Ch 5	Biochemistry	4	Yes	High — DNA/RNA, amino acids, fats & oils
Ch 6	Environmental Chemistry	3	Yes	High — Greenhouse effect, pollutants (4-star)
Ch 7	Water	—	—	Refer to instructor notes
Ch 8	Analytical Chemistry	—	—	Refer to instructor notes

Green = Hot Favourite Long Q. Red tint = Toughest chapter (tricky board questions). Amber = Notes-only chapters (Ch 7 & 8).

Chapter 1 — Chemical Equilibrium

3 Short Questions

Priority	Key Question / Topic	Type
★★★★★	Conditions for Chemical Equilibrium	Theory / Definition
★★★★★	Writing K _c expressions + finding units (e.g. for PCl ₅ and NH ₃ reactions)	Numerical / Expression
★★★★	Difference between Forward & Backward rate constants and reactions	Comparison
★★★★	Difference between Equilibrium Stage and Time of Equilibrium	Comparison
★★★	Justifying why equilibrium in a reversible reaction is dynamic	Reasoning / Short Proof

Chapter 2 — Acids, Bases & Salts

3 Short Questions | Arrhenius Limitations = likely Long Q

Priority	Key Question / Topic	Type
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★★★★★	Limitations of the Arrhenius Concept (High priority — appears as Long Q)	Long Q / Theory
★★★★★	Salts: Types and Uses (Primary Long Question focus for this chapter)	Long Q / Theory
★★★★	Definitions of Acids/Bases: Arrhenius, Bronsted-Lowry, and Lewis concepts	Definitions
★★★★	Conjugate Acid-Base Pairs — identification and examples	Short / Example
★★★	Differences between Neutralisation and Stoichiometry	Comparison

Chapter 3 — Organic Chemistry

2 Short Questions | *HOT FAVOURITE* for Long Question

This chapter is the **HOT FAVOURITE** for a Long Question this year. Prepare all topics below thoroughly — do not treat this as a 2-short-Q chapter only.

Priority	Key Question / Topic	Type
★★★★★	Structural Formula vs. Molecular Formula — difference with examples	Comparison
★★★★★	Saturated vs. Unsaturated Hydrocarbons — definition, examples, properties	Comparison
★★★★	Why Alkanes are called "Paraffins" and Alkenes "Olefins" — reasoning	Short Reasoning
★★★★	Differences between Aldehydes and Ketones — structure & functional groups	Comparison

Chapter 4 — Hydrocarbons

4 Short Questions | *TOUGHEST* — board sets tricky questions here

WARNING: The board frequently sets tricky, application-based questions from this chapter. Do not rely only on definitions — practise structural formulas and reaction mechanisms.

Priority	Key Question / Topic	Type
★★★★★	Substitution vs. Elimination reactions — mechanism, conditions, examples	Comparison / Mechanism
★★★★★	Structural formulas for Butane, Pentane, and Pentyne — draw and name	Structural Drawing
★★★★	Halogenation reaction — conditions, equation, and product	Reaction
★★★★	Baeyer's Test — procedure, observation, and inference	Practical Test

Chapter 5 — Biochemistry

4 Short Questions

Priority	Key Question / Topic	Type
★★★★★	DNA vs. RNA — structure, components, and biological significance	Comparison / Diagram

★★★★★	Fats vs. Oils and the Hardening of Oils — process and significance	Comparison / Process
★★★★	Monosaccharides vs. Oligosaccharides — definition, examples, and differences	Comparison
★★★★	Essential vs. Non-essential Amino Acids — definition and examples	Comparison
★★★★	Peptide Linkage and Polypeptides — formation reaction and significance	Theory / Reaction

Chapter 6 — Environmental Chemistry I: Atmosphere

3 Short Questions | Pollutant oxides = 4-STAR priority

Priority	Key Question / Topic	Type
★★★★★	Harmful effects and sources of oxides of Carbon, Sulfur, and Nitrogen (4-STAR priority — prepare all three in detail)	Theory / Extended
★★★★★	Global Warming and the Greenhouse Effect — causes, gases, and impact	Theory
★★★★	Layers of the Atmosphere: Troposphere, Stratosphere, Mesosphere, Thermosphere — features and altitude ranges	Definitions / Diagram
★★★	Primary vs. Secondary Air Pollutants — definition, examples, and differences	Comparison

CHAPTERS 7 & 8 — USE INSTRUCTOR NOTES

Chapters 7 (Water) & 8 (Analytical Chemistry): The instructor directs students to his written notes for these chapters due to their concise scope. Obtain the "Education With Hamza" notes pack — these chapters are covered there and represent a small portion of the overall paper.

LONG QUESTION FOCUS — PREDICTED TOPICS

Chapter	Predicted Long Q Topic	Priority
Ch 3 — Organic	Organic Chemistry overview — functional groups, classification, structural formulas	HOT FAVOURITE
Ch 2 — Acids/Bases	Limitations of Arrhenius Concept OR Types and Uses of Salts	Very High
Ch 1 — Equilibrium	Kc expressions, dynamic equilibrium, conditions — extended answer	High
Ch 5 — Biochemistry	DNA vs. RNA OR Fats/Oils (Hardening) — extended comparison	High
Ch 6 — Environment	Oxides of C, S, N — sources, effects OR Greenhouse Effect	High (4-star)
Ch 4 — Hydrocarbons	Reactions of hydrocarbons — substitution/elimination/halogenation	Moderate

★ Ch 3 (Organic Chemistry) is the single **HOT FAVOURITE** for Long Q — prepare all its topics fully.

FINAL PREPARATION PRIORITY LIST

Rank	Task	Chapter	What to Prepare
1st	Organic Chemistry — Full Chapter	Ch 3	HOT FAVOURITE Long Q — structural/molecular formulas, saturated/unsaturated, aldehydes/ketones, paraffins/olefins
2nd	Hydrocarbons Short Qs (4)	Ch 4	Toughest chapter — substitution/elimination, structural formulas (Butane/Pentane/Pentyne), halogenation, Baeyer's Test
3rd	Biochemistry Short Qs (4)	Ch 5	DNA vs. RNA, fats/oils hardening, amino acids, peptide linkage, monosaccharides vs. oligosaccharides
4th	Pollutant Oxides (4-star)	Ch 6	Sources & harmful effects of oxides of C, S, N in detail + Greenhouse Effect
5th	Acids, Bases & Salts	Ch 2	Arrhenius limitations (likely Long Q), Bronsted-Lowry/Lewis definitions, conjugate pairs, types of salts
6th	Chemical Equilibrium	Ch 1	Kc expressions + units, conditions for equilibrium, dynamic equilibrium reasoning
7th	Atmosphere Short Qs (3)	Ch 6	Layers of atmosphere, primary vs. secondary pollutants
8th	Ch 7 & Ch 8	Ch 7, 8	Use instructor notes only — do not spend time on full textbook for these

QUICK REVISION CARD

Chapter	Short Qs	Long Q Risk	Must-Know Topic
Ch 1 — Equilibrium	3	Moderate	Kc expressions + equilibrium conditions
Ch 2 — Acids/Bases/Salts	3	High	Arrhenius limitations + types of salts
Ch 3 — Organic	2	HOT FAV.	Structural formulas, sat./unsat., aldehydes/ketones
Ch 4 — Hydrocarbons	4	Moderate	Structural drawings, substitution/elimination, Baeyer's
Ch 5 — Biochemistry	4	High	DNA/RNA, fats/oils, amino acids, peptide linkage
Ch 6 — Atmosphere	3	High	Oxides of C/S/N (4-star), greenhouse effect, layers
Ch 7 & 8	—	Low	Notes only — do not read full textbook