

BIOLOGY — CLASS 9

One-Shot Complete Paper Preparation 2026

AJK (Mirpur) Board | Total Marks: 60 | 100% Paper Coverage Guaranteed

PAPER PATTERN — TOTAL MARKS: 60

Section	Type	Total Qs	Attempt	Marks Each	Total Marks
Section A	MCQs (Objective)	12	12 (All)	1	12
Section B	Short Questions	20	10	3	30
Section C	Long Questions	5–6	3	6	18
				Grand Total	60

CHAPTER-WISE SLO DISTRIBUTION (Short · Long · Objective)

Ch#	Chapter Title	Short Qs	Long Qs	MCQs	Priority / Key Topics
Ch 1	Introduction to Biology	1–2	1	1	HIGH — Careers, Scientific Method
Ch 2	Cell Structure & Functions	1–2	1	2	HIGH — Leaf/Stomach tissues, Homeostasis
Ch 3	Cell Types & Tissues	2	1	1	HIGH — Prokaryotic vs Eukaryotic
Ch 4	Cell Cycle (Mitosis/Meiosis)	1	1	1	HIGH — Mitosis/Meiosis diagrams, Stem Cells
Ch 5	Bio-Molecules	2	—	2	Short Q + MCQ only — Lipids, Proteins
Ch 6	Enzymes (Metabolism)	1	1	1	Backup Long Q — Enzyme factors (Temp, pH)
Ch 7	Bio-energetics	3	—	1	HIGH for Shorts (3) — Photosynthesis, ATP
Ch 8	Plant Physiology	3	—	1	HIGH for Shorts (3) — paired in Long Qs
Ch 9	Reproduction in Plants	1	1	1	Long Q — Sexual reproduction, Seed structure
Ch 10	Biodiversity	2	—	1	Short Qs + MCQ — classification, kingdoms
Ch 11	Evolution	1	—	1	Short Q + MCQ — natural selection basics

Total	20	5–6 opts	12	
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■ Yellow = Medium (Short Qs / Backup

■ Green = Must-prepare (Long + Short Qs) Long)

■ Sage = Lower priority (Short Q + MCQ)

HIGH-PRIORITY TOPICS — CHAPTER BY CHAPTER

Chapter 1 — Introduction to Biology

Tag: HIGH PRIORITY

Long Q Topics: Careers in Biology (types and scope), Scientific Method (steps with examples)

Short Q Topics: Branches of Biology — definitions and links with other sciences (Biophysics, Biochemistry, etc.)

Chapter 2 — Cell Structure & Functions

Tag: HIGH PRIORITY — 2 MCQs

Long Q Topics: Leaf structure: tissue layers and functions; Human Stomach: tissue types and roles; Homeostasis: Maintenance of Temperature (mechanisms)

Short Q Topics: Organelle functions (mitochondria, ribosome, nucleus, ER); Cell membrane structure

Chapter 3 — Cell Types & Tissues

Tag: HIGH PRIORITY

Long Q Topics: Prokaryotic vs Eukaryotic cells — comparison table with examples; Plant vs Animal cell differences

Short Q Topics: Cell wall — composition and function; Plastids — types and roles; Nucleus — structure

Chapter 4 — Cell Cycle

Tag: HIGH PRIORITY

Long Q Topics: Phases of Mitosis (PMAT) with diagrams — significance; Phases of Meiosis — importance in sexual reproduction; Stem Cells — types and uses

Short Q Topics: Differences between Mitosis and Meiosis

Note: *Diagrams of cell division phases carry marks — practise labelled diagrams.*

Chapter 5 — Bio-Molecules

Tag: Medium — Short Q + MCQ only

Short Q Topics: Lipids: types, structure, functions; Proteins: amino acid structure, protein types; Carbohydrates: monosaccharides vs polysaccharides

Note: *No long question expected — use instructor notes for short Qs.*

Chapter 6 — Enzymes (Metabolism)

Tag: Backup Long Q

Long Q Topics: Characteristics of Enzymes; Factors affecting enzyme activity rate: Temperature, pH, substrate concentration

Short Q Topics: Lock-and-key model; Enzyme inhibition (competitive vs non-competitive)

Note: *Use as Long Q backup if Ch 1–4 are already prepared.*

Chapter 7 — Bio-energetics

Tag: HIGH for Shorts (3 SQs)

Short Q Topics: Photosynthesis — Light reactions (Photolysis, ATP formation) and Dark reactions (Calvin cycle); ATP as energy currency — structure and role; Cellular respiration overview

Chapter 8 — Plant Physiology

Tag: HIGH for Shorts (3 SQs)

Short Q Topics:	Transpiration — types and factors; Osmosis and diffusion in plants; Mineral nutrition — macro vs micronutrients; Stomatal opening and closing
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Chapter 9 — Reproduction in Plants Tag: Medium Long Q

Long Q Topics:	Sexual reproduction in flowering plants — pollination, fertilisation, seed formation; Structure of a Seed — labelled diagram and function of each part
Short Q Topics:	Asexual reproduction methods in plants

Chapter 10 — Biodiversity Tag: Lower Priority

Short Q Topics:	Classification systems; Five kingdoms overview; Characteristics of each kingdom
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Chapter 11 — Evolution Tag: Lower Priority

Short Q Topics:	Natural selection — mechanism and examples; Darwinian theory basics
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LONG QUESTION PAIRINGS (Section C — Attempt 3 of 5–6)

Pair	Chapters	Key Topics	Priority
Pair 1	Ch 1 + Ch 4	Ch 1: Careers in Biology, Scientific Method Ch 4: Mitosis / Meiosis phases with diagrams, Stem Cells	PRIMARY
Pair 2	Ch 6 + Ch 2	Ch 6: Enzyme characteristics and factors (Temp, pH) Ch 2: Leaf/Stomach tissues, Homeostasis	PRIMARY
Pair 3	Ch 3 + Ch 8 or Ch 9	Ch 3: Prokaryotic vs Eukaryotic cell comparison Ch 8: Plant physiology topics (if paired) Ch 9: Sexual reproduction in plants, Seed structure (if paired)	PRIMARY / Alt.

PREPARATION CHECKLIST — WHAT TO STUDY PER SECTION

Section	Key Chapters to Master	Can Skip for This Section
MCQs (12 marks)	Full book exercises — all chapter-end MCQs; Ch 2 and Ch 5 carry 2 MCQs each	No chapter can be fully skipped for MCQs
Short Qs (30 marks)	Ch 1, Ch 3, Ch 5, Ch 7, Ch 8, Ch 10, Ch 11 (these 7 chapters are the instructor's shortlist)	Ch 2, 4, 6, 9 — covered in Long Qs; high choice flexibility allows skipping
Long Qs (18 marks)	PRIMARY: Ch 1, Ch 2, Ch 3, Ch 4 BACKUP: Ch 6 ALTERNATIVE: Ch 9 (seed/reproduction)	Ch 5, 7, 8, 10, 11 — generally not Long Q sources

PASSING vs TOPPER STRATEGY

Target	What to Prepare	Focus Chapters
Passing (40+ marks)	<ul style="list-style-type: none"> Complete Long Q preparation for Ch 1, 2, 3, 4 Use instructor notes for Short Questions (all sections) Revise all chapter-end MCQs from textbook Attempt any 3 Long Qs you are strongest in 	Ch 1, 2, 3, 4 + Notes for Shorts

Topper (55–60 marks)	<ul style="list-style-type: none"> • All of the above PLUS: • Ch 7 and Ch 8 short questions in full (3 SQs each) • Ch 5 short questions (Lipids, Proteins) • Ch 6 as Long Q backup (enzyme factors) • Ch 9 seed structure and reproduction for extra Long Q option • Ch 10 and Ch 11 for short question flexibility 	Ch 1–11 (starred topics from each chapter)
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FINAL PREPARATION PRIORITY LIST

Rank	Task	Chapter	What to Prepare
1st	Long Q — Cell Cycle	Ch 4	Mitosis phases (PMAT) with labelled diagrams; Meiosis phases; significance of each; Stem Cells — types and importance
2nd	Long Q — Cell Types	Ch 3	Prokaryotic vs Eukaryotic comparison table; Plant vs Animal cell; Cell wall, Plastids, Nucleus
3rd	Long Q — Introduction	Ch 1	Careers in Biology (all types); Scientific Method steps with examples; Branches of Biology
4th	Long Q — Cell Structure	Ch 2	Leaf tissue layers and functions; Human Stomach tissue types; Homeostasis and temperature maintenance
5th	Short Qs — Bio-energetics	Ch 7	3 Short Qs — Light reactions (photolysis, ATP), Dark reactions (Calvin cycle), ATP as energy currency
6th	Short Qs — Plant Physiology	Ch 8	3 Short Qs — Transpiration, Osmosis/Diffusion, Mineral nutrition, Stomata
7th	Short Qs — Bio-Molecules	Ch 5	2 Short Qs + 2 MCQs — Lipids, Proteins, Carbohydrates; use instructor notes
8th	Backup Long Q — Enzymes	Ch 6	Enzyme characteristics; factors affecting rate (Temp, pH, substrate); lock-and-key model
9th	MCQ Revision	All Chapters	Every chapter-end exercise MCQ; Ch 2 and Ch 5 carry 2 MCQs each — prioritise
10th	Ch 10 + Ch 11 Shorts	Ch 10, 11	Biodiversity classification + Evolution basics — short Qs and MCQs only; quick wins

QUICK REVISION CARD

Section	Key Chapters	Skip for This Section
MCQs (12)	All chapters — Ch 2 & Ch 5 = 2 MCQs each	None — attempt all
Short Qs (30)	Ch 1, 3, 5, 7, 8, 10, 11	Ch 2, 4, 6, 9 (covered in Long Qs)
Long Qs (18)	PRIMARY: Ch 1, 2, 3, 4 BACKUP: Ch 6, 9	Ch 5, 7, 8, 10, 11
Diagrams	Ch 4 (Mitosis/Meiosis), Ch 9 (Seed structure)	Label all parts — marks given for accuracy

