

PHYSICS — CLASS 9

Paper Pairing Scheme & Exam Strategy 2026

Federal Board (FBISE) | AJK (Mirpur) Board

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

Ch#	Chapter Title	Short Qs	Long Q	MCQs	Key Focus
Ch 1	Physical Quantities & Measurements	3	—	1	Scalar vs Vector guaranteed; significant figures; prefix vs notation
Ch 2	Kinematics	2	1	2	Long Q: Types of Motion + Speed-Time/Velocity-Time graphs
Ch 3	Dynamics I	1	1	1	Long Q: Newton's Laws, Equilibrium types, Friction; Orbital Velocity MUST
Ch 4	Dynamics II	3	1	1	Long Q + Numericals expected; paired with Ch 5
Ch 5	Pressure & Deformation	5	1	None	Highest SQ count (5); Hooke's Law, Pascal's Law, Hydraulic Press for LQ
Ch 6	Work & Energy	None	1	2	Long Q: KE proof, PE proof, Conservation of Momentum, Forms of Energy
Ch 7	Density & Temperature	2	None	1	Thermometer vs thermocouple; temperature characteristics; sensitivity range
Ch 8	Magnetism	3	1	2	Long Q + Domain Theory; induced magnetism; ferromagnetic substances; paired with Ch 2
Ch 9	Nature of Physics	1	None	2	Hypothesis vs Theory vs Law; branches of Physics; 2 MCQs
Total		20	6 opts	12	

■ Blue = HIGH priority (Short + Long Qs)

■ Green = Ch 5 — highest SQ count

■ Amber = Lower priority (Short Q + MCQ)

LONG QUESTION PAIRINGS (Attempt 3 of 6)

Numericals Notice: Chapters 4 and 5 are expected to include numerical problems in the Long Question section. Practise all textbook examples and exercises from both chapters.

Pair	Chapters	Topics to Prepare	Numericals ?
Pair 1	Ch 2 + Ch 8	Ch 2 (Kinematics): Types of motion (uniform, non-uniform, random); Speed-Time and Velocity-Time graphs — drawing, interpretation, area under graph; equations of motion Ch 8 (Magnetism): Domain Theory of magnetism; induced magnetism; ferromagnetic substances; permanent vs temporary magnets	Ch 2: Yes (Exercises 1–5)
Pair 2	Ch 3 + Ch 6	Ch 3 (Dynamics I): Newton's 3 Laws with examples and proofs; Equilibrium — static and dynamic; types of equilibrium (stable, unstable, neutral); Friction — types, advantages, disadvantages, methods to reduce; Orbital Velocity ★ Ch 6 (Work & Energy): Mathematical proof of $KE = (1/2)mv^2$; proof of $PE = mgh$; Forms of Energy; Principle of Conservation of Momentum	Ch 6: Yes (KE/PE proofs)
Pair 3	Ch 4 + Ch 5	Ch 4 (Dynamics II): Momentum, impulse, Newton's 2nd Law in detail; circular motion; centripetal force derivation; gravitational force — problems Ch 5 (Pressure & Deformation): Hooke's Law — spring constant and graph; Pascal's Law and proof; Hydraulic Press — working principle; atmospheric pressure; compression/stretching/bending/twisting	BOTH — Heavy Numericals

★ *Orbital Velocity (Ch 3) is specifically flagged as a must-prepare topic by the instructor.*

CHAPTER-SPECIFIC IMPORTANT TOPICS & NUMERICALS

Chapter	Short Q Topics	Numericals / Long Q Specifics
Ch 1 Physical Quantities	<ul style="list-style-type: none"> • Prefix vs Scientific Notation — difference with examples • Base vs Derived quantities — full lists • Error types (random vs systematic) • Precision vs Accuracy — definitions and difference • Significant Figures — rules and application • Scalar vs Vector — GUARANTEED question (graphical + symbolic representation) 	Numericals: Examples 1.3, 1.4, 1.6 Exercises: Q2, Q3, Q4, Q5 (Unit conversion, significant figures, scientific notation)
Ch 2 Kinematics	<ul style="list-style-type: none"> • Speed, Velocity, Acceleration — definitions and types • Gravity and free fall • Uniform vs Non-uniform motion 	Long Q: Types of Motion + Speed/Velocity-Time Graphs Numericals: Examples 1–4, Exercises 1–5 (Highly emphasised by instructor)
Ch 3 Dynamics I	<ul style="list-style-type: none"> • Mass vs Weight • Centripetal Force — definition and formula • Gravitational Field Strength • Centre of Mass vs Centre of Gravity 	Long Q: Newton's Laws, Equilibrium types, Friction methods MUST PREPARE: Orbital Velocity derivation and concept

Ch 5 Pressure & Deformation	<ul style="list-style-type: none"> • Compression vs Stretching vs Twisting vs Bending • Atmospheric Pressure — measurement, units, factors • Pressure in liquids — formula and applications 	Long Q: Hooke's Law (spring constant, $F = kx$, graph) Pascal's Law proof + Hydraulic Press working Numericals expected from this chapter
Ch 6 Work & Energy	<ul style="list-style-type: none"> • No short questions expected from this chapter 	Long Q ONLY: • Mathematical derivation: $KE = (1/2)mv^2$ • Mathematical derivation: $PE = mgh$ • Forms of Energy (kinetic, potential, thermal, electrical, etc.) • Principle of Conservation of Momentum with proof
Ch 7 Density & Temperature	<ul style="list-style-type: none"> • Characteristics of temperature • Sensitivity range of different thermometers • Difference between thermometer and thermocouple • Clinical vs laboratory thermometer 	No Long Q; 2 Short Qs + 1 MCQ only
Ch 8 Magnetism	<ul style="list-style-type: none"> • Induced magnetism — process and examples • Ferromagnetic substances — definition and examples • Domain Theory of magnetism — detailed explanation 	Long Q: Domain Theory + ferromagnetism Paired with Ch 2 in Section C
Ch 9 Nature of Physics	<ul style="list-style-type: none"> • Difference between Hypothesis, Theory, and Law OR branches of Physics — definitions • 2 MCQs from this chapter 	No Long Q; 1 Short Q + 2 MCQs

FINAL PREPARATION PRIORITY LIST

Rank	Task	Chapter(s)	What to Prepare
1st	Dynamics I — Long Q + Newton's Laws	Ch 3	Newton's 3 Laws with proofs + examples; Equilibrium types; Friction methods; Orbital Velocity derivation (MUST)
2nd	Pressure & Deformation — Short Qs (5) + Long Q	Ch 5	Highest SQ count — Hooke's Law, Pascal's Law, Hydraulic Press; compression/stretching/bending/twisting; atmospheric pressure + numericals
3rd	Kinematics — Short Qs + Long Q + Numericals	Ch 2	Types of motion; Speed/Velocity-Time graphs (draw + interpret); Examples 1–4 + Exercises 1–5
4th	Work & Energy — Long Q + Proofs	Ch 6	$KE = (1/2)mv^2$ derivation; $PE = mgh$ derivation; Forms of Energy; Conservation of Momentum proof
5th	Dynamics II — Long Q + Numericals	Ch 4	Momentum, impulse, circular motion; paired with Ch 5 — both carry numericals; practise all textbook exercises

6th	Physical Quantities — Short Qs + Numericals	Ch 1	Scalar vs Vector (guaranteed); base/derived quantities; significant figures; precision vs accuracy; Examples 1.3, 1.4, 1.6
7th	Magnetism — Short Qs + Long Q	Ch 8	Domain Theory; induced magnetism; ferromagnetic substances; paired with Ch 2 in Long Qs
8th	Short Q Chapters	Ch 7, Ch 9	Ch 7: Thermometer vs thermocouple; temperature characteristics Ch 9: Hypothesis vs Theory vs Law; 2 MCQs
9th	MCQ Revision	All Chapters	All chapter-end exercise MCQs; Ch 2, 6, 8, 9 carry 2 MCQs each — prioritise these four

QUICK REVISION CARD

Section	Best Chapters	Skip / Low Priority
Short Qs	Ch 5 (5 SQs) ★★, Ch 4 & Ch 8 & Ch 1 (3 each), Ch 2 & Ch 7 & Ch 9 (1–2 each)	Ch 6 has no Short Qs
Long Qs	Pair 1: Ch2+8 Pair 2: Ch3+6 Pair 3: Ch4+5 (numericals)	Ch 1, 7, 9 — no Long Qs
MCQs	Ch 2, 6, 8, 9 (2 each); Ch 1, 3, 4, 7 (1 each); Ch 5 = 0	Ch 5 has no MCQs
Numericals	Ch 4 & Ch 5 (Pair 3 — heavy); Ch 2 (Exercises 1–5); Ch 1 (Examples 1.3, 1.4, 1.6)	Ch 7, 8, 9 — mainly theory
MUST topics	Orbital Velocity (Ch 3) ★ Scalar vs Vector (Ch 1) guaranteed KE & PE proofs (Ch 6) Domain Theory (Ch 8)	All flagged by instructor