Past Paper Questions

Unit 1 — Physical Quantities and Measurement

Paper	Source
2025 (B)	Footer code 1SA-I 25004 (B) · Standard
2025 (D)	Footer code 1SA-I 25004 (D) · Standard
2025 (Old Curriculum)	Footer code 1SA-I 25004 (OLD) · Curriculum 2006
2025 (II)	Footer code 1SA-II 25004 · Standard · stamped 10/02/2026
2026 (B)	Footer code 1SA-I 26004 (B) · Inclusive 2024
2026 (D)	Footer code 1SA-I 26004 (D) · Inclusive 2024
2026 (M)	Footer code 1SA-I 26004 (M) · Inclusive 2024
Model Paper 2026 (48 marks)	FBISE Model Paper · Inclusive Scheme of Studies
Model Paper 2026 (50% MCQs)	FBISE Model Paper · 60 MCQs (0.5 mark each) + 30 marks descriptive

Marks shown in teal brackets. “(OR)” marks the alternative question in a choice pair. Questions are given without answers.

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2025 (B)

Footer code 1SA-I 25004 (B) · Standard

Section A — MCQ

Q1. 1 picogram =

A) 10^{-3} g B) 10^{-6} g C) 10^{-12} g D) 10^{-15} g

Section B — Short Questions (Q2)

(i) Differentiate between scalar and vector quantities. Give two examples of each. **[3]**

(vi) Show 2000 nano-grams in micro grams. **[3]**

Section C — Long Questions

Q3 (OR) What is meant by Base Physical Quantities and Derived Physical Quantities? Give three examples of each with symbol and their SI units. **[2+3]**

2025 (D)

Footer code 1SA-I 25004 (D) · Standard

Section A — MCQ

Q1. 1 milligram =

A) 10^{-3} g B) 10^{-6} g C) 10^{-12} g D) 10^{-15} g

Section B — Short Questions (Q2)

(i) Enlist the steps to represent a vector in a coordinate system. **[1×3]**

(x) Show 4000 nano grams in milli grams. **[1+2]**

Section C — Long Questions

Q5 What is meant by Base Physical Quantities and Derived Physical Quantities? Give three examples of each with their symbol and SI units. **[2+3]**

2025 (Old Curriculum)

Footer code 1SA-I 25004 (OLD) · Curriculum 2006

Section A — MCQ

Q1. Least count of a Screw gauge is:

A) 1 mm B) 0.1 mm C) 0.01 mm D) 0.001 mm

Q2. The prefix giga is equal to:

A) 10^{12} B) 10^{9} C) 10^{6} D) 10^{3}

Q6. Magnitude of resultant vector F is:

A) $F = F_x + F_Y$ B) $F = \sqrt{(F_x^2 + F_Y^2)}$ C) $F = F_x - F_Y$ D) $F = \sqrt{(F_x - F_Y)}$

Section B — Short Questions (Q2)

(i) Express the following quantities in prefix micro: (a) 0.00002 g (b) 0.0000000081 m (c) 0.000004 s **[3]**

(ii) What are base quantities? Enlist any two base quantities with SI units along with their symbols. **[3]**

(vi) Determine the magnitude and direction of a force F from its perpendicular components. Draw diagram. **[3]**

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(x) (OR) Your hair grow at the rate of 1 mm per day. Find their growth rate in nms^{-1} and μms^{-1}. **[3]**

(xi) (OR) A chocolate wrapper is 7.6 cm long and 4.5 cm wide. Calculate its area up to reasonable number of significant figures. **[3]**

2025 (II)

Footer code 1SA-II 25004 · Standard · stamped 10/02/2026

Section A — MCQ

Q2. Which one is a scalar quantity?

A) velocity B) force C) energy D) weight

Section B — Short Questions (Q2)

(i) (OR) Justify that displacement is a vector quantity. Also draw diagram. **[2+1]**

(ii) (OR) Compare scalar and vector quantities. (Any three points) **[1.5+1.5]**

(iii) (OR) How many kilometers are there in 25 micrometers? **[3]**

(vii) Show that prefix micro is thousand times smaller than prefix milli. **[3]**

(xi) (OR) Express the following using prefixes: a. 29.3×10^{-10} m b. 0.00034×10^{-7} s **[3]**

2026 (B)

Footer code 1SA-I 26004 (B) · Inclusive 2024

Section A — MCQ

Q1. A device measures a charge of 3000 nC. Convert it into microcoulombs (µC).

A) 0.03 µC B) 3 µC C) 30 µC D) 300 µC

Q4. What is a reasonable estimate for the mass of a physics textbook?

A) 2 mg B) 1 kg C) 10 kg D) 1 g

Q5. Which unit belongs to a derived quantity?

A) Second (s) B) Kelvin (K) C) Meter (m) D) Newton (N)

Section B — Short Questions (Q2)

(i) (OR) Briefly describe scalar and vector quantities with one example each. **[1.5+1.5]**

(ix) A digital balance gives slightly different readings each time a stone is placed on it: a. Identify the error. b. How can this error be fixed? **[1+2]**

(x) (OR) Compare precision and accuracy in measurements. **[3]**

2026 (D)

Footer code 1SA-I 26004 (D) · Inclusive 2024

Section A — MCQ

Q1. Which of the following is a derived quantity?

A) Mass B) Speed C) Length D) Temperature

Section B — Short Questions (Q2)

(iii) A digital balance gives slightly different readings each time same stone is placed on it: a. Identify the error. b. How can this error be fixed? **[1+2]**

(v) (OR) Differentiate between precision and accuracy. **[3]**

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(viii) (OR) What is meant by base and derived quantities? Give one example for each. **[1.5+1.5]**

2026 (M)

Footer code 1SA-I 26004 (M) · Inclusive 2024

Section A — MCQ

Q1. Which pair correctly shows base quantity and its unit?

A) Temperature – kg B) Time – m C) Mass – kg D) Speed – s

Q6. Which statement best explains why displacement is a vector quantity?

A) It has only magnitude B) It depends on path length C) It has magnitude and direction D) It is measured in meters

Section B — Short Questions (Q2)

(i) Convert the following using appropriate prefixes: a. 0.002 m into mm b. 5×10^{-6} s into ns c. 3000 g into kg **[1+1+1]**

(ii) What is meant by precision? How a measurement can be precise but not accurate? (Explain with one example.) **[1+2]**

Model Paper 2026 (48 marks)

FBISE Model Paper · Inclusive Scheme of Studies

Section A — MCQ

Q7. Which of the followings is a greatest prefix?

A) Deca B) Deci C) Milli D) Nano

Section B — Short Questions (Q2)

(i) Differentiate between precision and accuracy. **[3]**

(iv) (OR) How a vector is represented graphically and symbolically? **[3]**

(x) What steps would you take to minimize random error from measurement? **[3]**

Model Paper 2026 (50% MCQs)

FBISE Model Paper · 60 MCQs (0.5 mark each) + 30 marks descriptive

MCQs (0.5 mark each)

Q1. Which of the following is a base quantity?

A) Velocity B) Mass C) Force D) Momentum

Q6. Which of the following is a scalar quantity?

A) Force B) Displacement C) Energy D) Velocity

Q16. A file size is 2 gigabytes (GB). If expressed in megabytes (MB), what is the correct value?

A) 2 MB B) 20 MB C) 200 MB D) 2000 MB

Q29. Vector X points towards east and vector Y points towards north. In which direction does the resultant vector lie?

A) North-East B) South-East C) North D) East

Q34. In scientific notation, 0.005 is written as:

A) 5×10^{-3} B) 5×10^{3} C) 5×10^{-2} D) 5×10^{-4}

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Q37. What is a reasonable estimate for the mass of an apple?

A) 2 kg B) 200 g C) 2 mg D) 20 kg

Section B — Short Questions

Q1 Differentiate between base quantities and derived quantities with one example of each. **[3]**

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