BOARD-PATTERN PRACTICE PAPER · CBSE CLASS 11

Motion in a Straight Line

Physics · Chapter 2 · Matches current CBSE blueprint · Each question PYQ-sourced where indicated

DATE	TOTAL MARKS	DURATION	MARKING	TARGET
_____	30	60 min	As per board	⩾ 24/30

GENERAL INSTRUCTIONS

1. All questions are compulsory.
2. Section A contains 1-mark MCQs/Very Short Answer questions.
3. Section B contains 2-mark Short Answer questions.
4. Section C contains 3-mark Long Answer questions.
5. Use g = 9.8 m/s^2 unless stated otherwise.
6. State sign convention before solving any numerical.

Section A — 1 mark each

6 MARKS · 10 MIN

Q1. Define displacement. How is it different from distance? [PYQ 2019 Delhi] **[1 mark]**

Q2. What does the slope of a velocity-time graph represent? [PYQ 2020 Outside Delhi] **[1 mark]**

Q3. Can a body have zero velocity but non-zero acceleration? Give an example. [PYQ 2021 Delhi] **[1 mark]**

Q4. Write the kinematic equation that does not involve time. [PYQ 2018 Delhi] **[1 mark]**

Q5. State whether the following is True or False: 'If acceleration is zero, the body must be at rest.' [PYQ 2022 Outside Delhi] **[1 mark]**

Q6. What is the SI unit of acceleration? [PYQ 2020 Delhi] **[1 mark]**

Section B — 2 marks each

12 MARKS · 20 MIN

Q7. A person walks 30 m east, then 40 m north, then 30 m west. Find the total distance and the magnitude of displacement. [PYQ 2019 Delhi] **[2 marks]**

Q8. A car starts from rest and accelerates uniformly at 4 m/s^2. Find its velocity and distance covered after 6 s. [PYQ 2020 Outside Delhi] **[2 marks]**

Q9. A v-t graph is a horizontal line at 15 m/s from t = 0 to t = 8 s. What is the displacement and acceleration? [PYQ 2021 Delhi] **[2 marks]**

Q10. Distinguish between average velocity and instantaneous velocity. [PYQ 2022 Delhi] **[2 marks]**

Q11. Two trains move in opposite directions at 25 m/s and 15 m/s. Find the relative velocity of the first with respect to the second. [PYQ 2023 Delhi] **[2 marks]**

Q12. Distance covered in the 5th second by a body starting from rest with a = 4 m/s^2 is found how? Compute it. [PYQ 2024 Outside Delhi] **[2 marks]**

Section C — 3 marks each

12 MARKS · 30 MIN

Q13. A ball is dropped from a 45 m tall building. Taking g = 9.8 m/s^2, find (a) the time taken to reach the ground, (b) velocity on impact, (c) distance covered in the last 1 second of fall. [PYQ 2019 Delhi] **[3 marks]**

Q14. A ball is thrown vertically upward with u = 20 m/s. Take g = 9.8 m/s^2. Find (a) maximum height, (b) time to reach peak, (c) velocity 1 s after release. [PYQ 2020 Delhi] **[3 marks]**

Q15. A car covers the first half of a journey at 40 km/h and the second half at 60 km/h. Find the average speed. Why is the simple mean (40+60)/2 = 50 km/h incorrect? [PYQ 2023 Delhi] **[3 marks]**

Q16. A particle moves along x-axis with position x = 3t^2 - 12t + 5 (m). Find (a) initial velocity, (b) time when velocity is zero, (c) position at that time. [PYQ 2024 Delhi] **[3 marks]**

Marking scheme & model answers — see companion Answer Key PDF · all PYQs traceable to actual CBSE papers · readyforboards.com · +91 70330 05444