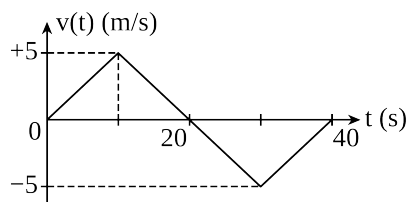


JEE MAIN MOTION IN A STRAIGHT LINE — POSITION–TIME, VELOCITY–TIME AND ACCELERATION–TIME GRAPHS — PYQS

Max. Marks: 20
Questions: 5

Section A (MCQ) — 5 questions

- Q.1** The velocity (v) versus time (t) plot of a particle is shown in the figure, for a time interval of 40 s. The total distance travelled by the particle and the average velocity during this period are, respectively _____. [JEE Main 2026 (Online) 5th April Evening Shift]

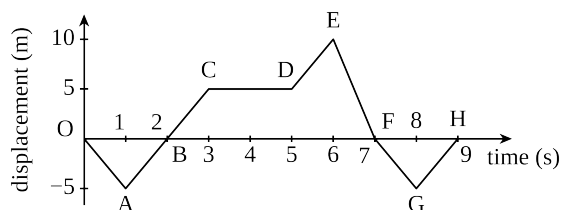


- (1) 25 m and zero (2) 50 m and zero
(3) 100 m and zero (4) 100 m and 2.5 m/s

Scan or tap for the full solution



- Q.2** The displacement x versus time graph is shown below.

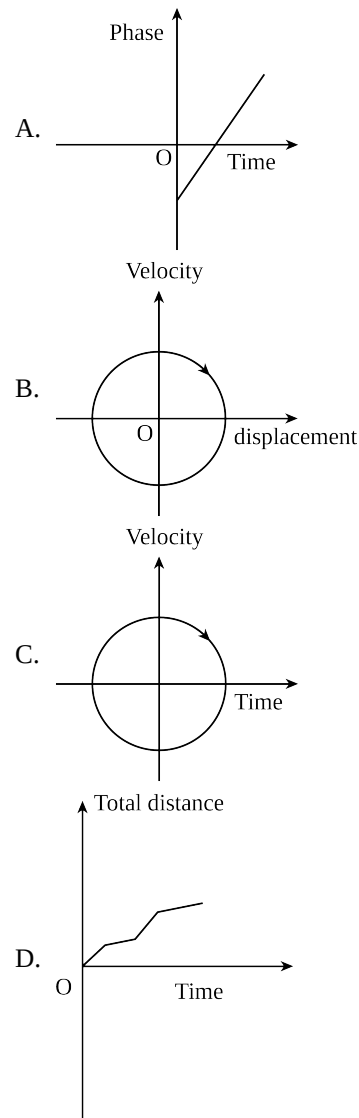


- A. The average velocity during 0 to 3 s is 10 m/s
B. The average velocity during 3 to 5 s is 0 m/s
C. The instantaneous velocity at $t = 2$ s is 5 m/s
D. The average velocity during 5 to 7 s and instantaneous velocity at $t = 6.5$ s are equal
E. The average velocity from $t = 0$ to $t = 9$ s is zero
Choose the correct answer from the options given below : [JEE Main 2025 (Online) 4th April Evening Shift]
(1) (B), (C), (D) only (2) (B), (D), (E) only
(3) (A), (D), (E) only (4) (B), (C), (E) only

Scan or tap for the full solution



- Q.3** Which of the following curves possibly represent one-dimensional motion of a particle?



Choose the correct answer from the options given below : [JEE Main 2025 (Online) 3rd April Morning Shift]

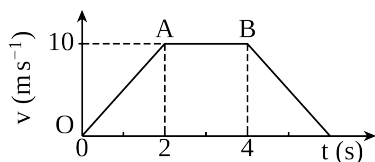
- (1) A, B and C only (2) A, C and D only
(3) A, B and D only (4) A and B only

Scan or tap for the full solution



- Q.4** The velocity-time graph of an object moving along a straight line is shown in the figure. What is the distance covered by the object between $t = 0$ to $t = 4$ s?

[JEE Main 2025 (Online) 28th January Evening Shift]



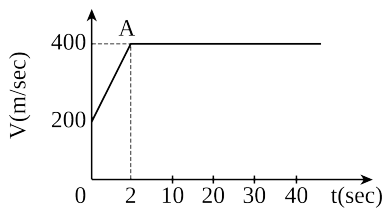
- (1) 11 m (2) 30 m (3) 13 m (4) 10 m

Scan or tap for the
full solution



Q.5 The motion of an airplane is represented by velocity-time graph as shown below. The distance covered by airplane in the first 30.5 second is _____ km .

[JEE Main 2025 (Online) 23rd January Morning Shift]



- (1) 12 (2) 6 (3) 3 (4) 9

Scan or tap for the
full solution



ANSWER KEY

Ques.	1	2	3	4	5						
Ans.	3	4	3	2	1						