

# PYQSide

## NEET MOTION IN A PLANE — MOTION IN A PLANE WITH CONSTANT ACCELERATION — PYQS

Max. Marks: 16

Questions: 4

### Section A (MCQ)

- Q.1** The x and y coordinates of the particle at any time are  $x = 5t - 2t^2$  and  $y = 10t$  respectively, where x and y are in metres and t in seconds. The acceleration of the particle at  $t = 2$  s is [NEET 2017]  
 (1)  $5 \text{ m s}^{-2}$  (2)  $-4 \text{ m s}^{-2}$  (3)  $-8 \text{ m s}^{-2}$  (4) 0

Scan or tap for the full solution



- Q.2** A particle is moving such that its position coordinates (x, y) are (2 m, 3 m) at time  $t = 0$ , (6 m, 7 m) at time  $t = 2$  s and (13 m, 14 m) at time  $t = 5$  s. Average velocity vector ( $\vec{v}_{av}$ ) from  $t = 0$  to  $t = 5$  s is

[AIPMT 2014]

- (1)  $\frac{1}{5}(13\hat{i} + 14\hat{j})$  (2)  $\frac{7}{3}(\hat{i} + \hat{j})$   
 (3)  $2(\hat{i} + \hat{j})$  (4)  $\frac{11}{5}(\hat{i} + \hat{j})$

Scan or tap for the full solution



- Q.3** A particle has initial velocity  $(2\hat{i} + 3\hat{j})$  and acceleration  $(0.3\hat{i} + 0.2\hat{j})$ . The magnitude of velocity after 10 seconds will be

[AIPMT 2012 (Prelims)]

- (1)  $9\sqrt{2}$  units (2)  $5\sqrt{2}$  units (3) 5 units (4) 9 units

Scan or tap for the full solution



- Q.4** A particle has initial velocity  $(3\hat{i} + 4\hat{j})$  and has acceleration  $(0.4\hat{i} + 0.3\hat{j})$ . Its speed after 10 s is

[AIPMT 2010 (Prelims)]

- (1) 7 units (2)  $7\sqrt{2}$  units (3) 8.5 units (4) 10 units

Scan or tap for the full solution



### ANSWER KEY

| Ques. | 1 | 2 | 3 | 4 |  |  |  |  |  |  |  |  |  |
|-------|---|---|---|---|--|--|--|--|--|--|--|--|--|
| Ans.  | 2 | 4 | 2 | 2 |  |  |  |  |  |  |  |  |  |