

# Unit 2

# Kinematics

Sr. No.	Questions	A	B	C	D
1	The numerical ratio of displacement to distance is:	always less than one	always equal to one	always greater than one	equal to or less than one✓
2	If a body does not change its position with respect to some fixed point, then it will be in a state of:	rest✓	motion	uniform motion	variable motion
3	A ball is dropped from the top of a tower, the distance covered by it in the first second is:	5 m ✓	10 m	50 m	100 m
4	A body accelerates from rest to a velocity of $144 \text{ kmh}^{-1}$ in 20 seconds. The distance covered by it is:	100 m	400 m ✓	1400 m	1440 m
5	A body is moving with constant acceleration starting from rest. It covers a distance $S$ in 4 seconds. How much time does it take to cover one-fourth of this distance?	1 s	2 s ✓	4 s	16 s
6	The displacement time graphs of two objects A and B are shown in the figure. Point out the true statement from the following: 	The velocity of A is greater than B	The velocity of A is less than B	The velocity of A is equal to that of B	The graph gives no information in this regard
7	The area under the speed-time graph is numerically equal to:	velocity	uniform velocity	acceleration	distance covered✓
8	Gradient of the speed-time graph is equal to:	speed	velocity	acceleration✓	distance covered
9	Gradient of the distance-time graph is equal to the:	speed✓	velocity	distance covered	acceleration
10	A car accelerates uniformly from $20.5 \text{ kmh}^{-1}$ at $t = 0$ to $113 \text{ kmh}^{-1}$ at $t = 9 \text{ s}$ . Which graph best describes the motion of the car?				
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