

MDCAT Physics Chapter 1 Force and motion Online Test

Sr	Questions	Answers Choice
1	If velocity time graph is a straight line parallel to time axis then body is	A. Moving with zero acceleration B. Moving with constant velocity C. Covering equal displacement in equal intervals of time D. All of these
2	At the highest point on the trajectory of a projectile, its	A. Potential energy is minimum B. Kinetic energy is maximum C. Total energy is maximum D. Kinetic energy is minimum
3	Two bodies are projected at angles θ and $(90^\circ - \theta)$ with the horizontal at the same speed. The ratio of their maximum heights is	A. 1 : 1 B. 1 : $\tan \theta$ C. 1 : $\tan^2 \theta$ D. $\tan^2 \theta$: 1
4	Speedometer of an automobile measures	A. Average velocity B. Instantaneous velocity C. Acceleration D. Instantaneous speed
5	If a body changes its momentum from 100 N s to 200 N s in 10 s then the unbalanced external force responsible to change the momentum is	A. 5 N B. 2.5 N C. 2 N D. 10 N
6	Swimming is possible on account of	A. 1 st law of motion B. 2 nd law of motion C. 3 rd law of motion D. Newton's law of Gravitation
7	The angle of projection, at which the range of projectile would become half of its maximum value.	A. 45 Degree B. 30 Degree C. 15 Degree D. 60 Degree
8	. Time rate of change of momentum is equal to	A. Force B. Impulse C. Velocity D. Both A and C
9	select Which one of the following is not performing projectile motion	A. A gas filled balloon B.) Bullet fired from gun C. A football kicked D. A baseball shot
10	A rider uses Motorcycle safety helmet that extends the time of collision during accident hence decreasing the	A. Change of collision B. Force acting C. Velocity D. Impulse
11	A boy is travelling from Lahore to Karachi with uniform velocity . Its	A. Speed changes B. Acceleration changes C. Direction of motion changes D. Displacement from origin changes
12	A man has weight 980 N in a stationary lift. What will be his weight if the lift starts moving up with an acceleration of 4.9 ms^{-2}	A. 980 N B. 1470 N C. 1980 N D. 1460 N
13	A monkey is accelerating down a string whose breaking strength is two third of his weight. The minimum acceleration of the monkey should be	A. $\frac{1}{3}g$ B. g C. $\frac{2}{3}g$ D. 0 m/s ²
14	Two astronauts in a satellite must have	A. Same masses B. Same real weights C. Same apparent weights D. None of these
15	The angular momentum of a body changes from 30 J-S to 50 J-S in 0.5 sec. The torque acting on it is	A. 40 N-m B. 100 N-m C. 50 N-m D. 150 N-m

D. 150 N·m

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As in linear motion force determines linear acceleration where as in circular motion torque determines its

- A. Angular acceleration
- B. Linear acceleration
- C. Vibratory acceleration
- D. Tangential acceleration

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A body is in translational equilibrium if

- A. $\Sigma P = 0$
- B. $\Sigma L = 0$
- C. $\Sigma F = 0$
- D. $\Sigma \tau = 0$

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The centre of gravity of a triangular plate is at

- A. On end of the plate
- B. The midpoint of any side of the plate
- C. The midpoint of any side of the plate
- D. The midpoint of any side of the plate

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Two railway trucks of masses m and $3m$ move towards each other in opposite directions with speeds $2v$ and v respectively. These trucks collide and stick together. What is the speed of the trucks after the collision?

- A. $\frac{v}{4}$
- B. $\frac{v}{2}$
- C. v
- D. $\frac{5v}{4}$

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The rate of change of momentum of a body falling freely under gravity is equal to its

- A. Impulse
- B. Kinetic energy
- C. Power
- D. Weight