Yakeen NEET 2.0 2026

Physics by Manish Raj Sir

Laws of Motion

DPP: 1

Q1 A particle is in a straight line motion with uniform velocity. A force is not required
(A) To increase the speed
(B) To decrease the speed
(C) To maintain the same speed
(D) To change the direction

Q2 A body of mass 40 g is moving with a constant velocity of 2 cm/s on a horizontal frictionless table. The force on the body (in dynes) is
(A) zero (B) 39200
(C) 160 (D) 80

Q3 An aircraft is moving with a velocity of $300\ \mathrm{ms}^{-1}$. If all the forces acting on it are balanced, then
(A) It still moves with the same velocity
(B) It will be just floating at the same point in space
(C) It will fall down instantaneously
(D) It will lose its velocity gradually

Q4 A body of mass $2\ \mathrm{kg}$ is sliding with a constant velocity of $4\ \mathrm{m/s}$ on a frictionless horizontal table. The force required to keep the body moving with the same velocity is
(A) $8\ \mathrm{N}$
(B) $0\ \mathrm{N}$
(C) $2 \times 10^4\ \mathrm{N}$
(D) $12\ \mathrm{N}$

Q5 When a train stops suddenly, passengers in the running train feel an instant jerk in the forward direction because
(A) The back of seat suddenly pushes the passengers forward
(B) Inertia of rest stops the train and takes the body forward
(C) Upper part of the body continues to be in the state of motion whereas the lower part of the body in contact with seat remains at rest
(D) Nothing can be said due to insufficient data

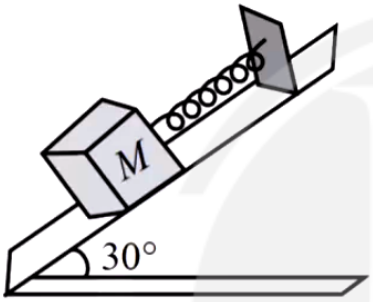
Q6 A man getting down a running bus falls forward because
(A) Due to inertia of rest, road is left behind and man reaches forward
(B) Due to inertia of motion upper part of body continues to be in motion in forward direction while feet come to rest as soon as they touch the road
(C) He leans forward as a matter of habit
(D) Of the combined effect of all the three factors stated in (1), (2) and (3)

Q7 There are two bodies $A \& B$ of same mass. Body A is at rest while body B is under going uniform motion,
which is correct statements?
(A) Inertia of $A >$ inertia of B
(B) Inertia of $B >$ inertia of A
(C) Inertia of $A =$ inertia of B

(D) Either 1^{st} , 2^{nd} or 3^{rd} depending upon the shape of body.

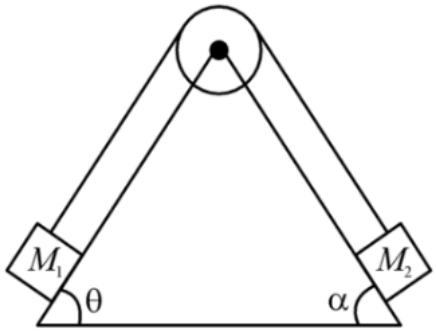
Q8 In a circus a horse rider takes a vertically jump on a moving horse, and falls back on the horse because
(A) the inertia of motion is present
(B) the length of the circus horse is large
(C) the motion is in circular path
(D) in reality the rider does not jump

Q9 A body of mass $5\ \text{kg}$ is suspended by a spring balance on an inclined plane as shown in figure. The spring balance measure



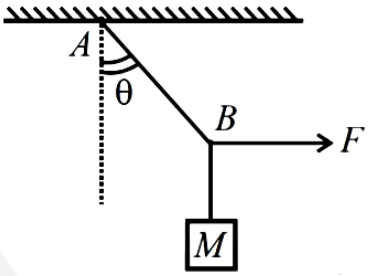
(A) $50\ \text{N}$
(B) $25\ \text{N}$
(C) $500\ \text{N}$
(D) $10\ \text{N}$

Q10 Two masses M_1 and M_2 connected by means of a string which is made to pass over light, smooth pulley are in equilibrium on a fixed smooth wedge as shown in figure. If $\theta = 60^\circ$ and $\alpha = 30^\circ$, then the ratio of M_1 to M_2 is:



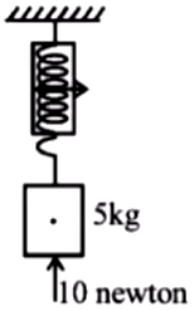
(A) $1 : 2$
(B) $2 : \sqrt{3}$
(C) $1 : \sqrt{3}$
(D) $\sqrt{3} : 1$

Q11 A mass is suspended by a rope from a rigid support at A as shown in figure. Another rope is tied at the end B, and it is pulled horizontally with a force F. If the rope AB makes an angle θ with the vertical in equilibrium, then the tension in the string AB is



(A) $F \sin\theta$
(B) $F/\sin\theta$
(C) $F\cos\theta$
(D) $F/\cos\theta$

Q12 Reading of spring balance is $\left(g = 10\ \text{m/s}^2\right)$



(A) $1\ \text{kg wt}$
(B) $2\ \text{kg wt}$
(C) $3\ \text{kg wt}$
(D) $4\ \text{kg wt}$

Q13 A block is placed on a table. The force of reaction will be
(A) Downwards by the table
(B) Upwards by the table
(C) No reaction force

(D) None of these

Answer Key

Q1	(C)
Q2	(A)
Q3	(A)
Q4	(B)
Q5	(C)
Q6	(B)
Q7	(C)
Q8	(A)
Q9	(B)
Q10	(C)
Q11	(B)
Q12	(D)
Q13	(B)