

Yakeen NEET 2.0 2026

Physics By Saleem Sir

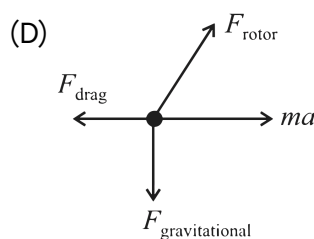
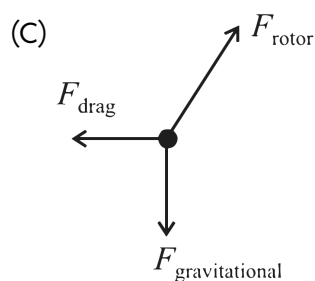
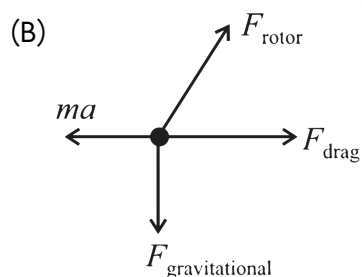
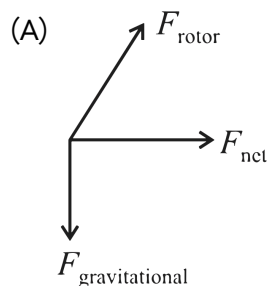
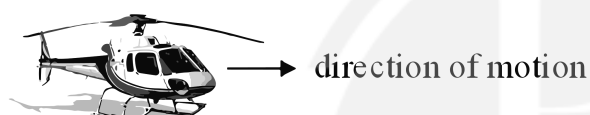
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Laws of Motion

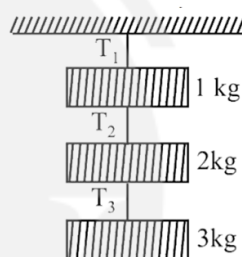
Q1 A helicopter is moving to the right at a constant horizontal velocity.

It experiences three forces $\vec{F}_{\text{gravitational}}$, \vec{F}_{drag} and force on it caused by rotor \vec{F}_{rotor} .

Which of the following diagrams can be correct free body diagram representing forces on the helicopter?

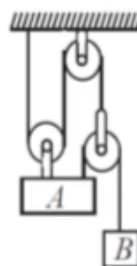


Q2 Find the tension T_2 for the system shown in figure.



- (A) 1 g N
(B) 2 g N
(C) 5g N
(D) 6g N

Q3 In arrangement shown the block A of mass 15 kg is supported in equilibrium by the block B. Mass of the block B is closest to

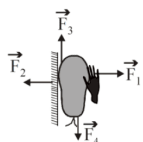


- (A) 2 kg
(B) 3 kg



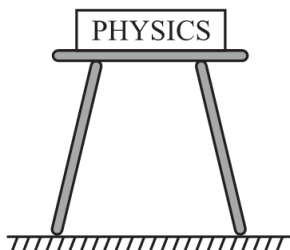
- (C) 4 kg
(D) 5 kg

Q4 In the figure shown, a balloon is pressed against a wall. It is in equilibrium and maximum compressed state. \vec{F}_1 = force of balloon on hand of man; \vec{F}_2 = force of balloon on wall; \vec{F}_3 = friction; \vec{F}_4 = weight of balloon. Choose the correct statement.



- (A) \vec{F}_1 and \vec{F}_2 are action reaction pairs.
(B) \vec{F}_3 and \vec{F}_4 are action reaction pairs
(C) \vec{F}_2 and \vec{F}_3 are action reaction pairs.
(D) \vec{F}_4 and gravitational force exerted by balloon on earth are action reaction pairs.

Q5 A book is lying on the table. What is the angle between the action of the book on the table and the reaction of the table on the book?



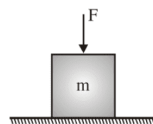
- (A) 0 rad
(B) $\frac{\pi}{4} \text{ rad}$
(C) $\frac{\pi}{2} \text{ rad}$
(D) $\pi \text{ rad}$

Q6

In order to jump off the floor, the floor must exert a force on you

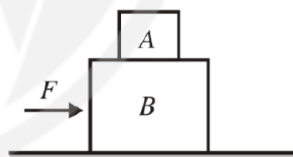
- (A) in the direction of and equal to your weight
(B) opposite to and equal to your weight.
(C) opposite to and less than your weight.
(D) opposite to and greater than your weight.

Q7 In the figure a block is placed on the horizontal surface. If \vec{F} is gradually increased, then



- (A) Normal reaction by surface on block decreases.
(B) Force applied by block on surface decreases.
(C) Action by block on surface and reaction by surface on block both increases.
(D) Action by block on surface increases but reaction by surface on block decreases.

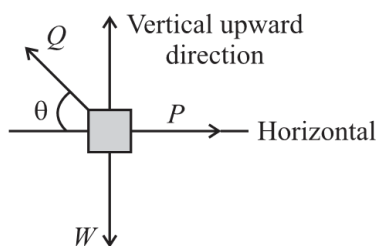
Q8 A 10 N force is applied on B. All surfaces are smooth. Mass of A & B are 5 kg each. What is the acceleration of A?



- (A) 0 m/s²
(B) 1 m/s²
(C) 2 m/s²
(D) 3 m/s²

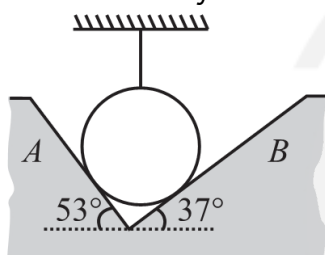
Q9 A block of weight W is kept in equilibrium by two forces P and Q as shown in the figure. Which of the following give the condition for the block to be in equilibrium?





- (A) $W = P \tan \theta$
 (B) $W = P \cot \theta$
 (C) $W = P \sin \theta$ and $P = Q \cos \theta$
 (D) $P = Q \sin \theta$ and $W = Q \cos \theta$

- Q10** In the system shown a 10 kg horizontal cylinder suspended from string from the ceiling and supported by two fixed frictionless slopes A and B. If normal reaction applied by slope A on the cylinder is 30 N, which of the following conclusion can you make? [$g = 10 \text{ m/s}^2$]

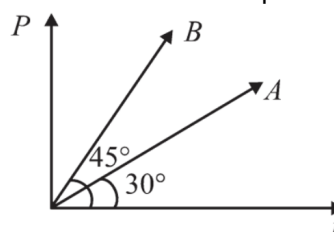


- (A) No tension force is applied by the string on the cylinder.
 (B) Tension force applied by the string on the cylinder is 50 N.
 (C) Normal reaction applied by the slope B on the cylinder is 60 N.
 (D) Normal reaction applied by the slope B on the cylinder is 30 N.
- Q11** Three forces \vec{F}_1 , \vec{F}_2 and \vec{F}_3 are acting on a particle of mass m such that $\vec{F}_1 + \vec{F}_2 + \vec{F}_3 = \vec{0}$. If the force \vec{F}_1 is now removed then the acceleration of the particle is:

(A)

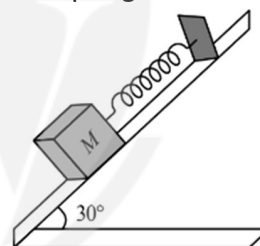
- (A) $(\vec{F}_1 - \vec{F}_3) / m$
 (B) \vec{F}_2 / m
 (C) \vec{F}_1 / m
 (D) $-\vec{F}_1 / m$

- Q12** For the given momentum time ($P-t$) graphs find the ratio of force on particles A and B.



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

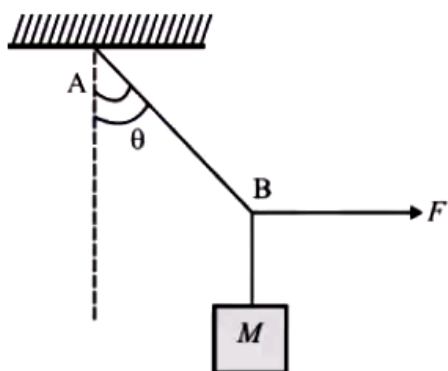
- Q13** A body of mass 5 kg is suspended by a spring balance on an inclined plane as shown in figure. The spring balance measure



- (A) 50 N
 (B) 25 N
 (C) 500 N
 (D) 10 N

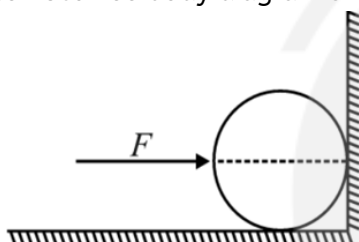
- Q14** A mass is suspended by a rope from a rigid support at A as shown in figure. Another rope is tied at the end B, and it is pulled horizontally with a force F . If the rope AB makes an angle θ with the vertical in equilibrium, then the tension in the string AB is :



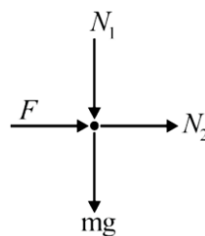


- (A) $F \sin \theta$
 (B) $F / \sin \theta$
 (C) $F \cos \theta$
 (D) $F / \cos \theta$

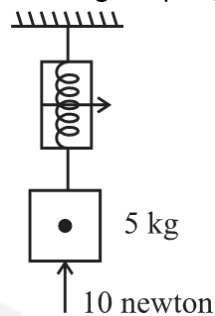
Q15 A ball of mass m kept at the corner as shown in the figure, is acted by a horizontal force F . The **correct** free body diagram of ball is:



- (A)
- (B)
- (C)
- (D)



Q16 Reading of spring balance is ($g = 10 \text{ m/s}^2$):-



- (A) 1 kg wt (B) 2 kg wt
 (C) 3 kg wt (D) 4 kg wt



Answer Key

Q1 (C)

Q2 (C)

Q3 (B)

Q4 (D)

Q5 (D)

Q6 (D)

Q7 (C)

Q8 (A)

Q9 (A)

Q10 (B)

Q11 (D)

Q12 (C)

Q13 (B)

Q14 (B)

Q15 (B)

Q16 (D)



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