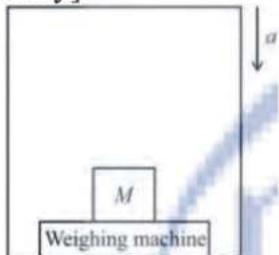




- 37) An elevator is descending with an acceleration a as shown in the figure. If block M exerts a force of $\frac{Mg}{5}$ on weighing machine, then value of a is [g = acceleration due to gravity]



- a) 0.3 g b) 0.1 g
c) 0.8 g d) 0.9 g
- 38) A ball of mass 0.5 kg is tied to one end of a string of length 1 m and rotated in a vertical circle. Find the minimum possible speed of ball at the lowest point of the circle. Acceleration due to gravity ($g = 9.8\text{m/s}^2$).
- a) 11 m/s b) 9 m/s
c) 7 m/s d) 14 m/s
- 39) The escape speed of a projectile on the earth's surface is 11.2 km s^{-1} . A body is projected out with thrice this speed. What is the speed of the body far away from the earth? Ignore the presence of the sun and other planets.
- a) 21.7 km/sec b) 51.7 km/sec
c) 31.7 km/sec d) 81.7 km/sec
- 40) A particle of mass m moving with velocity $3v$ north wards, collides with another particle of mass m moving with velocity $4v$ east wards. After the collision the two particles coalesce. The Speed of the new particle is :
- a) $5V$ b) $\frac{v}{\sqrt{2}}$
c) $2 v$ d) $2.5 V$
- 41) A body is suspended by a string from the ceiling of an elevator. It is observed that the tension in the string is doubled when the elevator is accelerated. The acceleration will be -
- a) 4.9 m/s^2 b) 9.8 m/s^2
c) 19.6 m/s^2 d) 2.45 m/s^2

- 42) The areal speed of a planet moving in an elliptical orbit around the sun is (All the symbols) have their usual meaning
- a) $\frac{L}{2m}$ b) $\frac{E}{2M}$
c) $\frac{[E \times L]}{m}$ d) $\frac{E}{L}$
- 43) Which of the following is self adjusting force :
- a) Static friction b) Limiting friction
c) Kinetic friction d) All of these.
- 44) Find the maximum velocity for not skidding for a car moved on a circular track of radius 100 m. The coefficient of friction between the road and tyre is 0.2:
- a) 0.14 m/s b) 140 m/s
c) 1.4 m/s d) 14.1 m/s
- 45) A projectile is thrown with an initial velocity of $\vec{V} = a\hat{i} + b\hat{j}$. If the range of the projectile is n -times of the maximum height reached by it, then :
- a) $a = \frac{4}{n} b$ b) $b = na$
c) $b = \frac{4}{n} a$ d) $a = nb$
- 46) A car is moving with a speed of 30m/s on a circular path of radius 500 m. If its speed is increasing at a rate of 5 m/s^2 , then the resultant acceleration at that instant is :
- a) 6.83 m/s^2 b) 8 m/s^2
c) 5.31 m/s^2 d) 4 m/s^2
- 47) The radius of gyration of a solid sphere about a tangent is given by :
- a) $\sqrt{\left(\frac{2}{3}\right)} R$ b) $\sqrt{\left(\frac{2}{5}\right)} R$
c) $\sqrt{\left(\frac{5}{3}\right)} R$ d) $\sqrt{\left(\frac{7}{3}\right)} R$
- 48) A player caught a cricket ball of mass 150 gm moving at a rate of 20 m/s. If the catching process be completed in 0.1 s, then the force exerted by the ball on the hand of player is :
- a) 0.3 N b) 0.4 N
c) 30 N d) 40 N

Answer Key for 20-04-2025 NEET MODEL QUESTION PAPER - PHYSICS

Q	25	26	27	28	29	30
A	B	A	A	A	A	B
Q	31	32	33	34	35	36
A	A	C	A	C	C	C

- தொடரும்

