

XI Physics Worksheet

Time: 30 min

Chapter#5 : Laws of Motion-01

Full Marks: 20

Instructions:

1. All questions are compulsory.
2. Please give the explanation for the answer where applicable.

Q1 - Automobile tyres have generally irregular projections over their surfaces. Explain why?

(2 Marks)

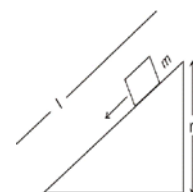
Q2 - Is large brake on a bicycle wheel more effective than a small one? Explain.

(2 Marks)

Q3 - A stone tied at the end of a string is whirled in a horizontal circle .When the string breaks, the stone flies away tangentially. Explain why.

(2 Marks)

Q4 -A body of mass m is released from the top of a rough inclined plane. If force of friction is f what will be the velocity at bottom.

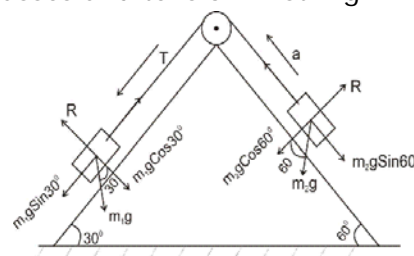


(3 Marks)

Q5 - A shell of mass 0.02 kg is fired from a gun of mass 100 kg . If the muzzle speed of the shell is 80 m/s , what is the recoil speed of the gun?

(3 Marks)

Q6 -Two blocks of mass $m_1 = 3\text{ kg}$ and $m_2 = (1/3)^{1/2}\text{ kg}$ are connected by a light inextensible string which passes over a smooth peg. The peg is fixed on top of wedge. Two masses m_1 and m_2 are inclined at 30° and 60° respectively with horizontal. Calculate the acceleration of masses and tension in string.



(5 Marks)

Q7 - A body is moving with uniform velocity. Is it in equilibrium?

(1 Mark)

Q8 - What is the maximum speed with which a vehicle can negotiate a curve?

(1 Mark)

Q9 - Define inertia.

(1 Mark)