MSN ACADEMY

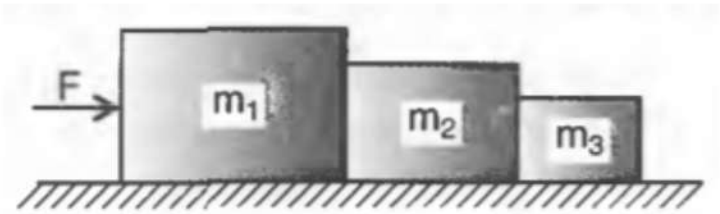
BELPAHAR, Jharsuguda, Odisha

NEWTON'S LAW OF MOTION

JEE main - Physics

Time Allowed: 3 hours **Maximum Marks: 100**

1. Three blocks of masses m_1, m_2 and m_3 kg are placed in contact with each other on a frictionless table. A force F is applied on the heaviest mass m_1; the acceleration of m_3 will be: **[4]**



a) $\frac{F}{(m_1+m_2+m_3)}$ b) $\frac{F}{(m_1+m_2)}$

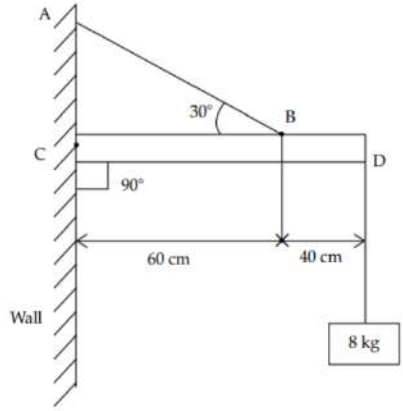
c) $\frac{F}{(m_2+m_3)}$ d) $\frac{F}{m_1}$

2. A string of length L and mass M is lying on a horizontal table. A force F is applied at one of its ends. Tension in the string at a distance y from the end at which the force is applied is: **[4]**

a) zero b) $\frac{F(L-y)}{L}$

c) $\frac{F(L-y)}{M}$ d) F

3. An object of mass 8 kg hanging from one end of a uniform rod CD of mass 2 kg and length 1 m pivoted at its end C on a vertical wall as shown in figure. It is supported by a cable AB such that the system is in equilibrium. The tension in the cable is: (Take $g = 10\ m/s^2$) **[4]**



a) 20 N b) 90 N