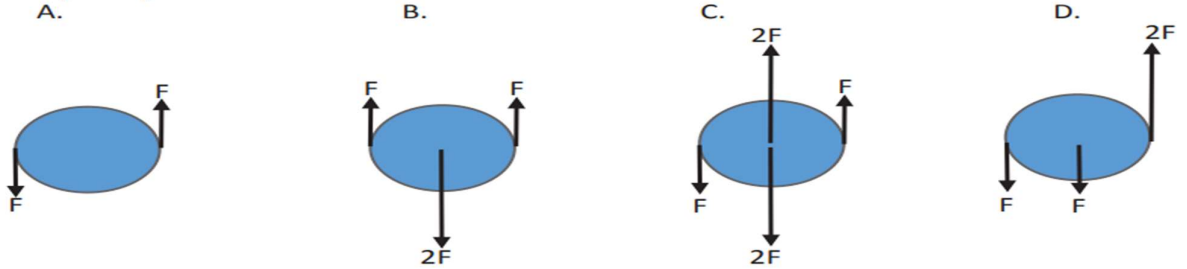
CHAPTER: DYNAMICS EXAM MODEL QUESTIONS

MCQs:

1. If the external force applied is zero, then which of the following is conserved?
   a. Linear momentum c. Torque
   b. Angular momentum d. Time period
2. No force is required for a body moving with,
   a. Constant velocity c. Constant speed on the circular path
   b. Constant acceleration d. Variable acceleration
3. A bullet of mass $10g$ is fired from a gun of mass $1kg$ with recoil velocity of gun $5m/s$. The velocity of the of bullet will be,
   a. $30km/min$ b. $60km/min$ c. $30m/s$ d. $500m/s$
4. Gravel is dropped onto a conveyer belt at the rate of $0.5kg/s$. The extra force required to keep the belt moving at $2m/s$ is,
   a. $1N$ b. $2N$ c. $0.5N$ d. $4N$
5. When a man weighing $10kg$ in the lift is accelerated download with the acceleration of $1m/s^2$ then apparent weight is:
   a. $98N$ b. $88N$ c. $72N$ d. $68N$
6. A $2kg$ block moves at constant acceleration of $2m/s^2$ when it is pulled horizontally by $10N$. If it is pulled by $20N$ force on the same surface then acceleration will be:
   a. $4m/s^2$ b. $5m/s^2$ c. $7m/s^2$ d. $10m/s^2$
7. A block of $2kg$ slides at a constant velocity of $20m/s$ on a horizontal surface if it is pulled horizontally by $8N$. Then coefficient of sliding friction will be.
   a. 0.2 b. 0.4 c. 0.5 d. 1
8. A block is sliding down a 30^0 in an inclined plane. Then coefficient of sliding friction will be,
   a. $\frac{1}{\sqrt{3}}$ b. $\frac{\sqrt{3}}{2}$ c. $\frac{1}{2}$ d. $Zero$
9. If the normal force is doubled, the coefficient of friction is,
   a. Halved b. Tripled c. Doubled d. Not changed
10. A block of mass m is placed on a smooth inclined plane of inclination θ with the horizontal. The force exerted by the plane on the block has a magnitude,
    a. mg b. $\frac{mg}{\cos\theta}$ c. $mg\cos\theta$ d. $mg\tan\theta$
11. An athlete runs some distance before taking a long jump because:
    a. He gains energy to take him through long distance. c. It helps to apply large force.
    b. By running action and reaction force increases. d. By running he gives himself a larger inertia of motion.
12. Choose the correct statement
    a. A body can be accelerated by frictional force c. There can be zero friction
    b. Kinetic friction is greater than limiting friction d. Frictional depends on area of contact
13. Forces are applied to a rigid body. The forces all act in the same plane. In which diagram is the body in equilibrium?



Simplified Note