Question 10

An object of mass 10 kg is initially at rest on a rough plane inclined at an angle of 30^0 to the horizontal. The object is pulled up the plane by a force of 75 N acting up and parallel to the plane. A frictional force of 11 N acting parallel to the plane, opposes the motion. After the pulling force has acted for 2 seconds, the magnitude of the momentum of the particle in $\mathrm{kg\,ms^{-1}}$ is closest to

A.   10

B.   20

C.   30

D.   40

E.   50