

15 A mass of 2 kg rotates at a constant speed in a horizontal circle of radius 5 m and the time for one complete revolution is 3 s. The centripetal force acting on the mass is

A $\frac{20\pi^2}{3}$ N

B $\frac{20\pi^2}{9}$ N

C $\frac{40\pi^2}{9}$ N

D $\frac{100\pi^2}{9}$ N