

**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**  $\frac{20\pi^2}{3} \text{ N}$

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

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

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