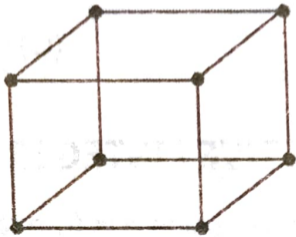Eight particles each having mass 0.5 kg are fixed at each corner of a cube having side length 1m. Moment of inertia of system of these particles about a body diagonal of cube in kg $-m^2$ is.

(4)

$$I = 1 \times \left(\frac{\sqrt{2}}{\sqrt{3}} \right)^2 \times 6 = 4\,\text{kg} - \text{m}^2$$