

**Mathematics Questions by Topics**

Motion and Force

Question 15

Source: K15SM2Q15

**Question 15**

The position vector of a 2 kg moving particle is given by  $\vec{r}(t) = 4\sin(t)\vec{i} + \cos(2t)\vec{j}$  where the position is measured in metres and  $t \geq 0$  is the time in seconds. The maximum momentum in kg-m/s of the particle is

- A. 8
- B. 4
- C. 2
- D. 1
- E.  $2\sqrt{5}$