

**Mathematics Questions by Topics**

Motion and Force

Question 26

Source: K13SM2Q22

**Question 26**

A particle of mass  $m$  kg is acted upon by a variable force, so that its velocity  $v$  m/s when the particle is  $x$  m from the origin is given by  $v = e^{cx}$ , where  $c$  is a non-zero real constant. The force acting on the particle when  $x = \frac{1}{c}$ , in newtons, is

- A.  $mc^2$
- B.  $mec$
- C.  $me$
- D.  $me^2$
- E.  $mce^2$