TOPIC
Engineering Mechanics (Statics and Dynamics) – Section VII – Question 9

QUESTION
A body is traveling in a straight line. The equation of motion is given by
$$x(t) = 5t^3 + 3t^2 - 6t$$
where
      x is given in meters, and
      t is given in seconds.
The acceleration of the body in m/s² at $t = 5.25$ seconds most nearly is
   (A) 6.000
   (B) 163.5
   (C) 436.8
   (D) 752.9

HINT
Acceleration$=\frac{d^2 x}{dt^2}$. So differentiate the expression of location x, twice with respect to time to get the expression for acceleration.

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