D. [M⁻¹L¹T⁻¹]

13. Which of the following has the same dimension?

    A. Work & Energy

    B. Work and Power

    C. Force & Impulse

    D. Linear & Angular Momentum

14. Which of the following has the same dimensions?

    A. Potential energy and force

    B. Torque and Potential Energy

    C. Torque and force

    D. Planck's Constant and Momentum

15. The dimension formula for the Universal Gravitational constant is,

    A. $[M^1 L^3 T^{-1}]$

    B. $[M^{-1} L^3 T^{-2}]$

    C. $[M^{-1} L^3 T^{-1}]$

    D. $[M^1 L^3 T^{-2}]$

16. A physical quantity given by $P = P_o e^{-\beta t^2}$, where t is time and β is constant. The constant β:

    A. Is dimensionless

    B. has dimension $[T^{-2}]$

    C. has dimension $[T^2]$

    D. has a dimension of P

17. Find out the dimension of K in the equation: $E = \frac{1}{2} K x^2$, where E is energy and x is displacement:

    A. $[M^1 L^0 T^{-1}]$

    B. $[M^1 L^0 T^{-2}]$

    C. $[M^1 L^2 T^{-1}]$

    D. $[M^1 L^2 T^{-2}]$

18. The position x of a particle at time t is given by $x = \frac{b}{a}(1 - e^{at})$ where a & b are non-zero constants. The dimension of b is:

    A. $[M^0 L^1 T^2]$

    B. $[M^0 L^1 T^0]$

    C. $[M^0 L^0 T^{-1}]$