

- 7 A mass is attached to the lower end of a vertical spring and supported such that the spring is unstretched. The mass is then released from rest. It oscillates and eventually comes to rest.

Which of the following correctly relates the changes in the energy of the spring-mass system which may occur during this process?

- A loss in gravitational potential energy

$$\begin{aligned} & \text{loss in elastic potential energy} + \\ & = \text{gain in kinetic energy} + \\ & \quad \text{energy dissipated as heat} \end{aligned}$$

- B gain in gravitational potential energy

$$\begin{aligned} & \text{gain in elastic potential energy} + \\ & = \text{gain in kinetic energy} + \\ & \quad \text{energy dissipated as heat} \end{aligned}$$

- C loss in gravitational potential energy  
+ energy dissipated as heat

$$\begin{aligned} & \text{loss in elastic potential energy} + \\ & = \text{gain in kinetic energy} \end{aligned}$$

- D loss in gravitational potential energy

$$\begin{aligned} & \text{gain in elastic potential energy} + \\ & = \text{energy dissipated as heat} \end{aligned}$$