

- 12** An object is displaced from its equilibrium position and the oscillating system undergoes heavy damping.

Which of the following is true for the system?

- A** The object does not return to its equilibrium position for a very long time.
- B** The object oscillates with its amplitude decreasing exponentially with time.
- C** The object oscillates with its amplitude varying linearly with time.
- D** The object returns to its equilibrium position in the shortest possible time.

- 13** A particle moves such that its acceleration a is related to its displacement x from a fixed