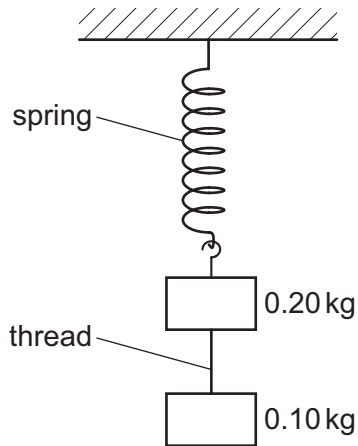


- 12** A mass of 0.20 kg is suspended from the lower end of a light spring. A second mass of 0.10 kg is suspended from the first mass by a thread. The arrangement is allowed to come into static equilibrium and then the thread is burned through.



At this instant, what is the upward acceleration of the 0.20 kg mass? (Assume $g = 10\text{ ms}^{-2}$.)

- A** 5.0 ms^{-2} **B** 6.7 ms^{-2} **C** 10 ms^{-2} **D** 15 ms^{-2}

- 13** An object of mass m travelling with speed v has a head on collision with another object of mass