

- 30** Which of the following is a valid observation that leads to the prediction of the existence of the neutrino?
- A** There is a range of energies for the emitted  $\beta$ -particles during  $\beta$ -decay.
  - B** The total charge of the daughter nuclide and  $\beta$ -particle is not equal to the charge of the parent nuclide that undergoes  $\beta$ -decay.
  - C** There is loss in mass during  $\beta$ -decay.
  - D** The track for a particle, different from that of  $\beta$ -particles, can be observed in a cloud chamber for a radioactive  $\beta$ -emitter.

**End of Paper**