

**29** Which of the following statements is / are true?

Statement 1: The greater the binding energy of a nucleus, the more stable it is.

Statement 2: When a stationary nucleus undergoes a  $\beta$  decay, the products always move off in opposite directions so as to conserve linear momentum.

Statement 3: Although the half-life of a radioactive substance is unaffected by changes in pressure, temperature and other external factors, we can still change the half-life by allowing the substance to react chemically to produce a new radioactive compound.

- A** 1 only
- B** 1 & 2
- C** All of the statements
- D** None of the statements