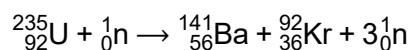


7 An induced nuclear fission reaction may be represented by the equation



The variation with nucleon number  $A$  of the binding energy per nucleon  $B_E$  is illustrated in Fig. 7.1.

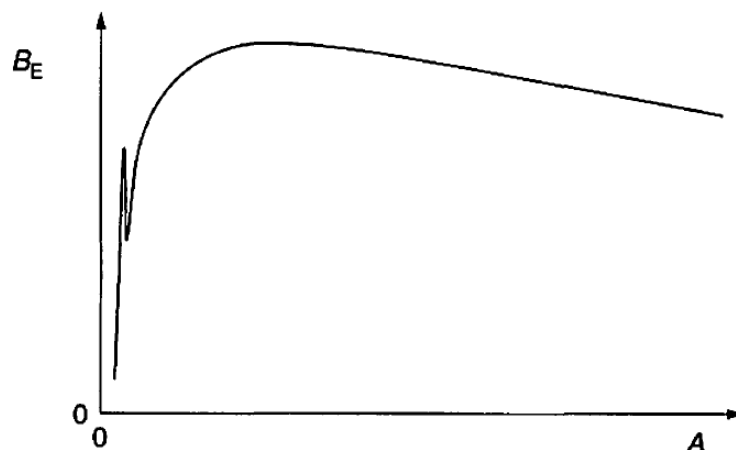


Fig. 7.1

(a) State an approximate value, in MeV, for the maximum binding energy per nucleon.

maximum binding energy per nucleon = ..... MeV [1]

(b) On Fig. 7.1, mark approximate positions for the nuclei of

- (i) uranium-235 (label the position U),
- (ii) barium-141 (label the position Ba),
- (iii) Krypton-92 (label the position Kr).

[3]

(c) By reference to binding energy per nucleon, explain why energy is released in this fission reaction.

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[3]

[Total: 7]

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