

Marks

Question 19 (5 marks)

(a) Describe the conditions under which a nucleus is unstable.

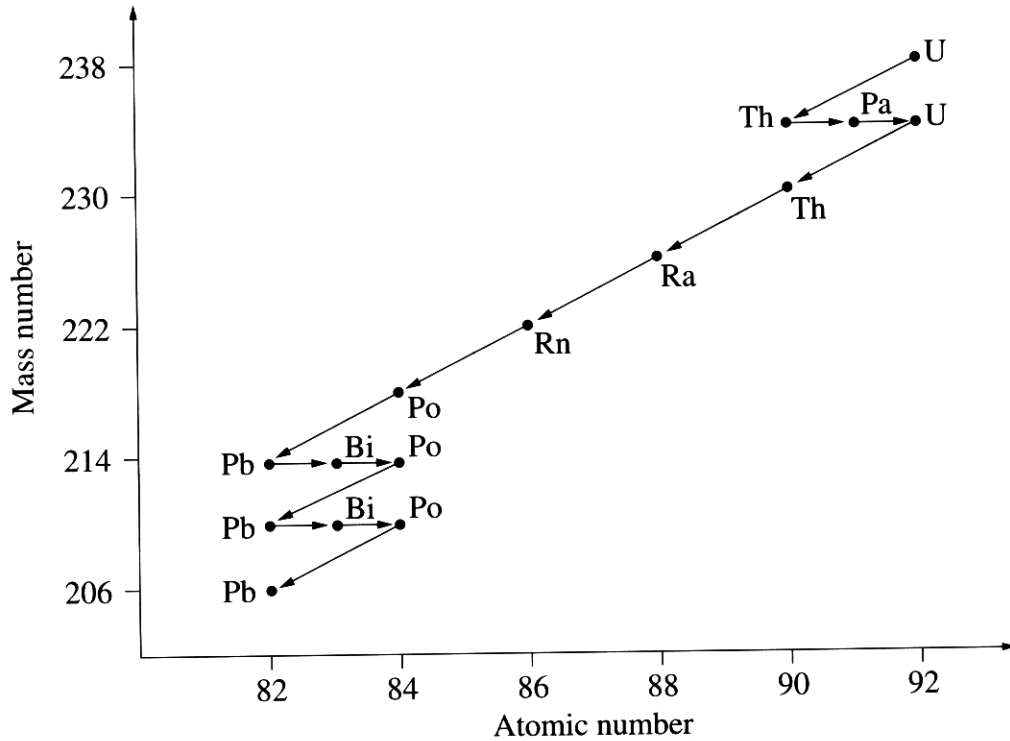
2

A nucleus is unstable if the atomic weight is not equal to that of the stable element, nor is it stable if the atomic number is not equal to the atomic number of the stable element.

Question 19 continues on page 14

Question 19 (continued)

- (b) The following is a flow diagram showing the sequence of products released during the decay of uranium. 3



Use examples from the flow diagram to describe processes by which an unstable isotope undergoes radioactive decay.

~~Uranium~~

 Unstable isotopes release radioactive emission to until they form a stable element. Uranium for example will release a neutron (0_1n) to stabilise.

End of Question 19