2002 HIGHER SCHOOL CERTIFICATE EXAMINATION Chemistry

Section I – Part B (continued)

Question 19 (5 marks)

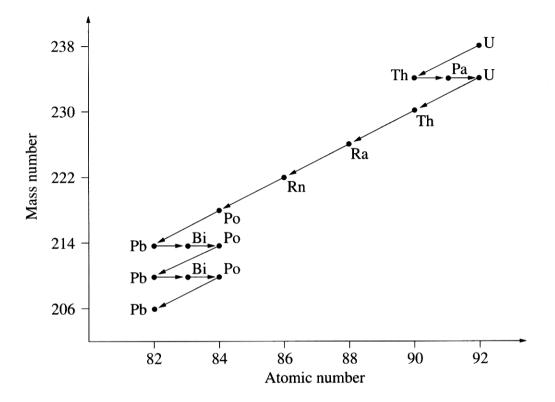
Marks

(a) Describe the conditions under which a nucleus is unstable. Nucleus <u>hurdens</u> is unstable when there are too many neutrons to the naturber of protons: or too many protons for number of neutrons; of too many protons and rentons which causes the nucleus to be unstable and becomes a radioactive element (release pt or n to become stable again)

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Question 19 (continued)

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



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