



A Level Physics A

H556/02 Exploring physics

Question Set 10

1 (a) Describe the nature of the *strong nuclear force*. [2]

(b) (i) Name a hadron found in the nucleus of an atom and state its quark combination.

name of hadron: quark combination: [1]

(ii) Write a decay equation in terms of a quark model for beta-minus decay. [2]

(c) The radius of a nucleus is directly proportional to $A^{1/3}$, where A is the nucleon number. The mass of a proton and a neutron are similar.

Explain why the mean density of all nuclei is about the same. [2]

Total Marks for Question Set 10: 7

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