

7 (a) Give one example of

a hadron:

a lepton:

[1]

(b) Describe, in terms of the simple quark model,

(i) a proton,

.....[1]

(ii) a neutron.

.....[1]

(c) Beta particles may be emitted during the decay of an unstable nucleus of an atom. The emission of a beta particle is due to the decay of a neutron.

(i) Complete the following word equation for the particles produced in this reaction.

neutron \rightarrow + + [1]

(ii) State the change in quark composition of the particles during this reaction.

.....[1]

[Total: 5]