

7 (a) The names of four particles are listed below.

alpha beta-plus neutron proton

State the name(s) of the particle(s) in this list that:

(i) are not fundamental

.....[1]

(ii) do not experience an electric force when situated in an electric field

.....[1]

(iii) has the largest ratio of charge to mass.

.....[1]

(b) A hadron has a charge of $+e$ where e is the elementary charge. The hadron is composed of only two quarks. One of these quarks is an antidown (\bar{d}) quark. By considering charge, state and explain the name (flavour) of the other quark.

.....

.....[3]

[Total: 6]