6 A neutron decays by emitting a β^- particle.

(a) Complete the equation below for this decay.

$$ {}^{1}_{0}\mathrm{n} \rightarrow {}^{\cdots\cdots}_{\cdots\cdots}\cdots\cdots + {}^{\cdots\cdots}_{\cdots\cdots}\beta^- + {}^{\cdots\cdots}_{\cdots\cdots}\bar{\nu} $$

[2]

(b) State the name of the particle represented by the symbol $\bar{\nu}$.

..... [1]

(c) State the name of the class (group) of particles that includes β^- and $\bar{\nu}$.

..... [1]

(d) State

(i) the quark structure of the neutron,

..... [1]

(ii) the change to the quark structure when the neutron decays.

.....

..... [1]

[Total: 6]