13 A stationary anti-neutron decays by emitting a positron.

(a) Explain how energy is conserved in this decay.

(2)

(b) The equation shows the decay of an anti-neutron.

$$ {}^{1}_{0}\overline{\mathrm{n}} \rightarrow {}^{1}_{-1}\overline{\mathrm{p}} + {}^{0}_{1}\overline{\mathrm{e}} + \nu_e $$

Explain how this equation shows that the decay obeys three conservation laws.

(6)

(Total for Question 13 = 8 marks)