	Marks
• Glucose labelled with ^{11}C is used to monitor brain function in positron emission tomography (PET) scans. Identify the missing particles in the following nuclear reactions showing the synthesis and decay of ^{11}C.	**2**

$$^{14}_{7}N \ + \ ^{1}_{1}H \ \rightarrow \ ^{11}_{6}C \ + \ \boxed{^{4}_{2}He}$$

$$^{11}_{6}C \ \rightarrow \ \boxed{^{11}_{5}B} \ + \ ^{0}_{1}e$$