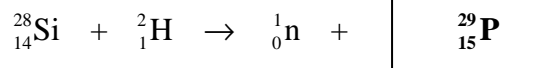
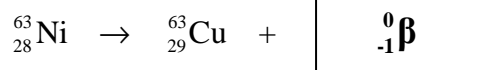
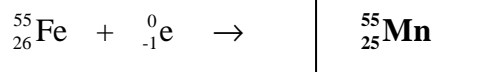


Marks
3

- Balance the following nuclear reactions by identifying the missing nuclide.


3

- Identify the decay mechanism for the following three unstable nuclides given that the only stable isotopes of Pr and Eu are ${}^{141}_{59}\text{Pr}$, ${}^{151}_{63}\text{Eu}$ and ${}^{153}_{63}\text{Eu}$. There are no stable isotopes of Rn.

Isotope	Nuclear Decay Mechanism
${}^{142}_{59}\text{Pr}$	Stable nucleus has fewer neutrons: <u>β^- decay</u>
${}^{150}_{63}\text{Eu}$	Stable nucleus has more neutrons: <u>β^+ decay or e^- capture</u>
${}^{222}_{86}\text{Rn}$	α decay