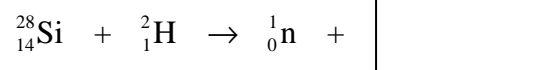
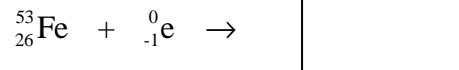
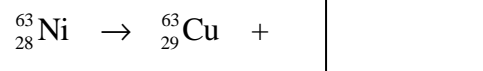


**Marks**  
**3**

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

**3**

- Calculate the energy (in J) and the wavelength (in nm) of the photon of radiation emitted when the electron in  $\text{Be}^{3+}$  drops from an  $n = 3$  state to an  $n = 2$  state.

Energy:

Wavelength: