

Q1  ${}^3_2\text{He}$  and  ${}^3_1\text{He}$  nuclei have the same mass number. Do they have the same binding energy?

**Solution** :- No,  $2\text{He}^3$  and  $1\text{He}^3$  nuclei have the same mass number, but the binding energy of  $1\text{He}^3$  is greater than that of  $2\text{He}^3$ . This is primarily because  $2\text{He}^3$  has 2p and 1n, whereas  $1\text{He}^3$  has 1 proton and 2 n. The repulsive force between protons is missing in  $1\text{He}^3$ .