

NUCLEAR BINDING ENERGY

DEFINITION:

Nuclear Binding Energy is the minimum energy that would be required to disassemble the nucleus of an atom into its component parts. These component parts are neutrons and protons, which are collectively called nucleons.

The binding energy is always a positive number, as we need to spend energy in moving these nucleons, attracted to each other by strong nuclear force, away from each other.

MASS DEFECT

The mass of an atomic nucleus is less than the sum of the individual masses of the free constituent protons and neutrons, according to Einstein's equation $E=mc^2$. This 'missing mass' is known as the mass defect, and represents the energy that was released when the nucleus was formed.

The mass defect of a nucleus represents the amount of energy mass equivalent to the binding energy of the nucleus ($E=mc^2$) which is the difference b.w the mass of a nucleus and the sum of the individual masses of nucleon of which it is composed.