# Introduction to THERMODYNAMICS

**THERMODYNAMIC SYSTEM:** An assembly of an extremely large number of particles (atoms or molecules) confined within certain boundaries, is called a thermodynamic system. Such a system may exist in the form of solid, a liquid or a gas or a combination of two or more states of matter.

**SURROUNDINGS:** Everything outside the system under consideration is called surroundings. The surroundings may or may not have a direct effect on the performance of the system.

**TYPES OF SYSTEM:**

(i) **Open System:** if it can exchange both energy and matter with its surroundings.

(ii) **Closed System:** if it can exchange only energy (not matter) with its surroundings.

(iii) **Isolated System:** if it can neither exchange energy nor matter with its surroundings.