1.2 Robot Anatomy (Components):

The anatomy of robot is also known as structure of robot. The basic components or sections in anatomy of robots are as follows.

The RIA (Robotics Industries Association) has officially given the definition for Industrial Robots. According to RIA, "*An Industrial Robot* is a reprogrammable, multifunctional manipulator designed to move materials, parts, tools, or special devices through variable programmed motions for the performance of a variety of tasks."

The *Anatomy* of Industrial Robots deals with the assembling of outer components of a robot such as wrist, arm, and body. Before jumping into Robot Configurations, here are some of the key facts about robot anatomy.

- ***End Effectors*:** A hand of a robot is considered as end effectors. The grippers and tools are the two significant types of end effectors. The grippers are used to pick and place an object, while the tools are used to carry out operations like spray painting, spot welding, etc. on a work piece.
- ***Robot Joints*:** The joints in an industrial robot are helpful to perform sliding and rotating movements of a component.
- ***Manipulator*:** The manipulators in a robot are developed by the integration of links and joints. In the body and arm, it is applied for moving the tools in the work volume. It is also used in the wrist to adjust the tools.
- ***Kinematics*:** It concerns with the assembling of robot links and joints. It is also used to illustrate the robot motions.