# SNS COLLEGE OF TECHNOLOGY

**COIMBATORE-35**

**DEPARTMENT OF MECHATRONICS ENGINEERING**

**19MCT203 MECHANICS OF MACHINES**

**UNIT – II**

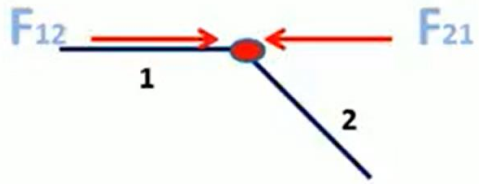
**FORCE ANALYSIS**

## CONSTRAINT AND APPLIED FORCES

A pair of action and reaction forces which constrain two connected bodies to behave in a particular manner depending upon the nature of connection are known as constraint forces whereas forces acting from outside on a system of bodies are called applied forces.

**Constraint forces**- As the constraint forces at a mechanical contact occur in pairs, they have no net force effect on the system of bodies. However, for an individual body isolated from the system, only one of each pair of constraint forces has to be considered.

- When two or more bodies are connected together to form a group or system, the pair of action and reaction forces between any two of the connecting bodies is called constrained forces.
- These forces constrain the connected bodies to behave in a specific manner defined by the nature of the connection.





**Applied forces**- Forces acting on the system of bodies from outside the system are called applied forces. These forces are applied through direct physical or mechanical contact. However forces like electric, magnetic and gravitational are applied without actual physical contact.