SNS COLLEGE OF TECHNOLOGY

COIMBATORE-35

DEPARTMENT OF MECHATRONICS ENGINEERING

19MCT203 MECHANICS OF MACHINES

UNIT – V

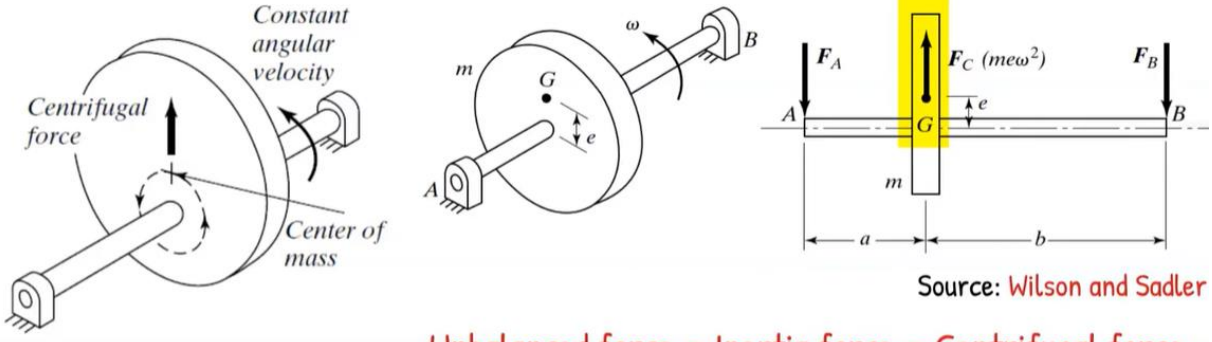
BALANCING

What is Balancing?

- Moving parts of a machine will have associated (i) applied forces/torques and (ii) inertia forces/inertia torques.
- The inertia forces and/or inertia torques primarily cause the unbalance in the rotating and reciprocating machines.
- Inertia forces = Shaking or rocking or unbalanced or disturbing forces
  Inertia moments = Shaking or rocking or unbalanced or disturbing moments

Definition: Balancing is the technique or process of correcting or eliminating unbalance due to inertia forces and moments.

Illustration: Unbalanced Force in a Revolving Rotor



Source: Wilson and Sadler

Unbalanced force = Inertia force = Centrifugal force

- The most common approach to balancing is:
  (i) by adding balancing mass; or
  (ii) by removing mass from the machine member.