

**Course Outline:**

1. **Shafts:** Types of shafts; Shaft design: Shaft design on the bases of strength, rigidity and vibration.
2. **Coupling and Clutches:** Coupling: Rigid couplings and flexible couplings; Clutches: Positive clutches and friction clutches.
3. **Brakes:** Materials for break lining; Types of breaks: Single block or shoe brake, Double block or shoe brake, Band brake, Internal expanding brake, Disc brake.
4. **Drives:** Friction drives; Belt drives: Flat belt drive, V-belt drive and rope drive; Chain drives; Gear drives: Introduction, Classification of gears, Gear geometry, Law of gearing, Tooth profile, Interference in involutes gears, Gear material, Design consideration for a gear derive, Types of gears, Design calculation of gears for strength and wear.
5. **Bearings:** Sliding contact bearing; Rolling contact bearing.
6. **Lubrications**