

CLASS 16

Types of Replacement Models

1. **Replacement of items whose maintenance cost increases with time and the value of money remains the same**
 - Maintenance cost rises each year.
 - Value of money is assumed constant (no discounting).
 - Replacement decision is based on **minimum average cost per year**.

2. **Replacement of items whose maintenance cost increases with time but the value of money also changes with time**
 - Maintenance cost rises each year.
 - Future costs are **discounted to present value** to account for inflation or interest.
 - Replacement is based on **minimum present worth of total cost**.

3. **Selection of best items (machine) among alternatives**
 - Compare two or more machines with different purchase costs, maintenance costs, or life spans.
 - Decision is based on **lowest average cost per year** or **minimum present worth**.

4. **Replacement of items that fail suddenly**
 - Items fail without warning (like bulbs or batteries).
 - Policies: **individual replacement** (replace when failed) or **group replacement** (replace all at fixed intervals).