

Financial Concepts - Formula Sheet (Unit-5 BFSI)

1. Future Value (FV)

- Single Cash Flow (Compounding): $FV = PV \times (1 + r)^n$
- Uneven Cash Flow: $FV = \sum [CF_t \times (1 + r)^{(n-t)}]$
- Annuity (Ordinary): $FV = A \times [(1 + r)^n - 1] / r$
- Annuity Due: $FV_{AD} = A \times [(1 + r)^n - 1] / r \times (1 + r)$

2. Present Value (PV)

- Single Cash Flow (Discounting): $PV = FV / (1 + r)^n$
- Uneven Cash Flow: $PV = \sum [CF_t / (1 + r)^t]$
- Annuity (Ordinary): $PV = A \times [1 - (1 + r)^{-n}] / r$
- Annuity Due: $PV_{AD} = A \times [1 - (1 + r)^{-n}] / r \times (1 + r)$
- Perpetuity: $PV = A / r$

3. Sinking Fund Formula

- $A = (FV \times r) / [(1 + r)^n - 1]$

4. Loan Amortization / EMI

- $EMI = [P \times r \times (1 + r)^n] / [(1 + r)^n - 1]$

5. Doubling Period Rules

- Rule of 72: $T = 72 / r$
- Rule of 70: $T = 70 / r$
- Rule of 69: $T = 0.35 + (69 / r)$