Dr.SNS RAJALAKSHMI COLLEGE OF ARTS AND SCIENCE
(Autonomous)

Accredited by NAAC – UGC with 'A+ Grade (Cycle IV)
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Coimbatore- 49

DEPARTMENT OF MATHEMATICS

21UCR304: BUSINESS CALCULUS AND FINANCIAL COMPUTATION

CAPITAL BUDGETING TECHNIQUES

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- Capital budgeting helps in evaluating investment decisions
- Focuses on long-term projects
- Two important techniques:
  - Net Present Value (NPV)
  - Internal Rate of Return (IRR)

What is Net Present Value (NPV)?

- NPV is the difference between present value of cash inflows and outflows
- It considers the time value of money
- Helps determine profitability of a project

$$NPV = \sum_{t=1}^{n} \frac{C_t}{(1+r)^t} - C_0$$

Where:

- C_t = Cash inflow at time t
- r = Discount rate
- C_0 = Initial investment

NPV Decision Rule, Advantages & Limitations

- If NPV > 0 → Accept the project
- If NPV = 0 → Indifferent
- If NPV < 0 → Reject the project

- Considers time value of money
- Measures actual profitability
- Useful for comparing projects

- Requires accurate estimation of discount rate
- Complex calculations
- Not suitable when comparing different scale projects

What is Internal Rate of Return (IRR)?

- IRR is the discount rate at which NPV = 0
- It represents expected rate of return of a project

$$0 = \sum_{t=1}^{n} \frac{C_t}{(1+IRR)^t} - C_0$$

  - If IRR > Required rate of return → Accept
  - If IRR = Required rate → Indifferent
  - If IRR < Required rate → Reject

NPV vs IRR

Basis	NPV	IRR
Output	Absolute value	Percentage
Decision	Wealth maximization	Rate of return
Reliability	More reliable	Less reliable in some cases

THANK YOU