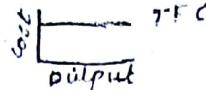


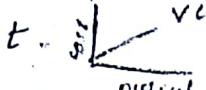
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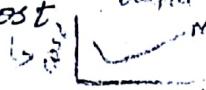
9/08/14

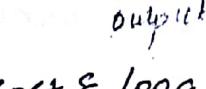
## TYPES OF COSTS:

(W)

1) Fixed cost - 

2) Variable cost - 

3) Marginal cost -  Change in the total cost  
Change in output

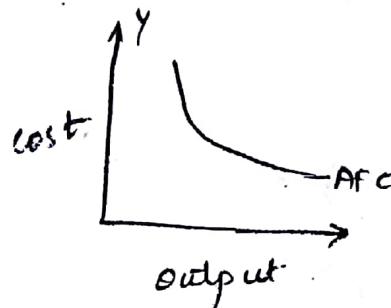
4) Total cost - 

5) short run cost & long run cost.

⇒ FIXED COST :

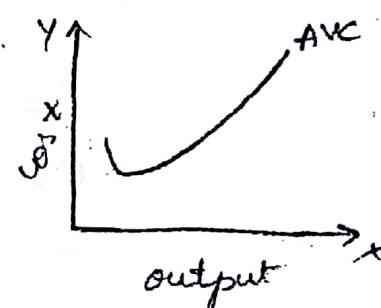
i) Average Fixed Cost :

$$AFC = \frac{TFC}{Q}$$



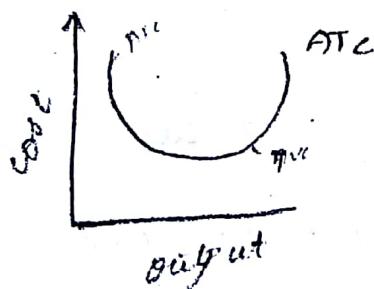
ii) Average Variable Cost

$$AVC = \frac{TVC}{Q}$$



3) Average Total Cost:

$$ATC = \frac{TC}{Q}$$



⇒ Total Fixed Cost  
No. of units of output)  $\times AFC$

$$ATC = \frac{TFC + TVC}{Q}$$

$T_C = F + V_C$

$\Rightarrow \text{Total cost} = \text{Fixed cost} + \text{Variable cost}$  ( $T_C = F_C + V_C$ )

$\Rightarrow$  Short run cost : In this Fixed cost doesn't change  
But variable cost can be change for taking  
decision of making additional unit.

$\Rightarrow$  Long run cost : Here Fixed and variable cost can also  
be change with requirement of the production  
level.

$\Rightarrow$  Marginal cost : It is incurred for the production  
of additional units.

COST FUNCTION :  $C = f(P_s, Q, P, T)$

$P_s$  = Plant size

$Q$  = Quantity of output

$P$  = Price of Inputs

$T$  = Technology.

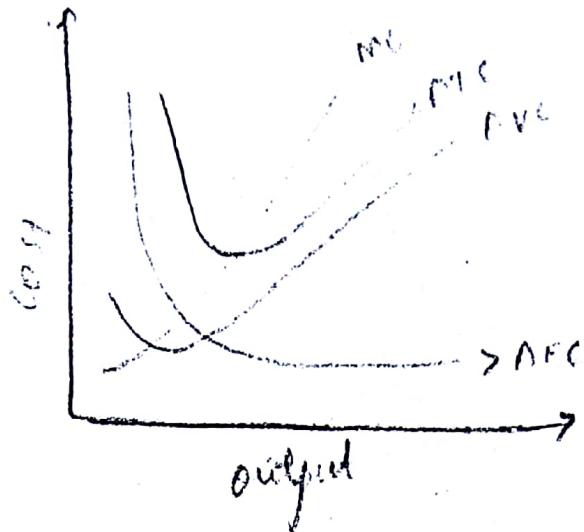
It explains the relation b/w cost and factors  
effecting the cost.

COST AND OUTPUT RELATIONSHIP : It can be determined

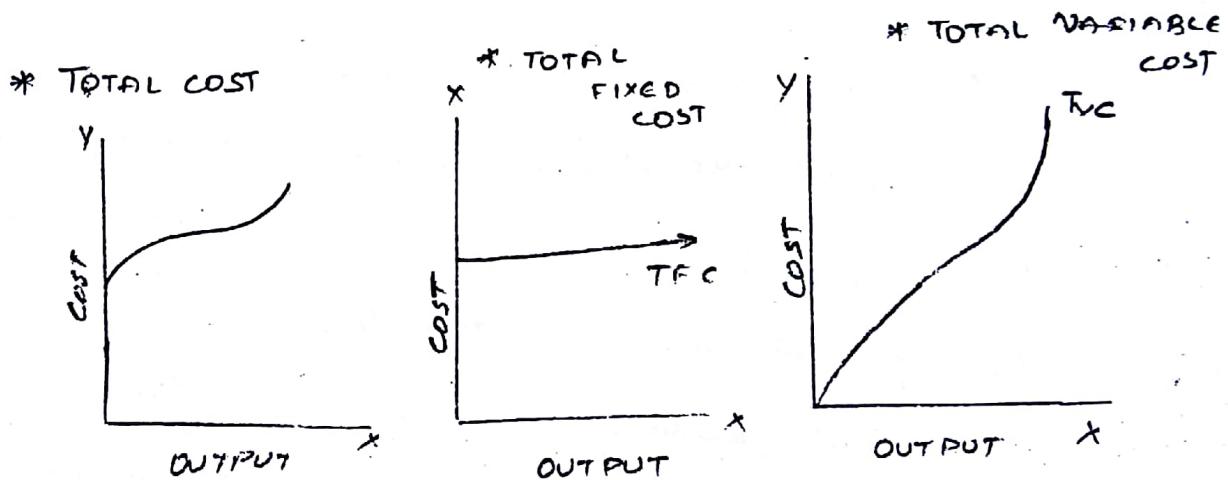
by  $\Rightarrow$  Short run cost -  $ATC, AVC, MC$  are used to study SRC.  
 $\Rightarrow$  Long run cost.

# SHORT RUN COST RELATIONSHIP:

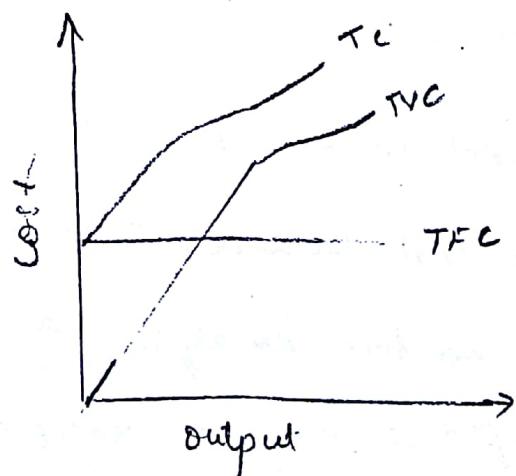
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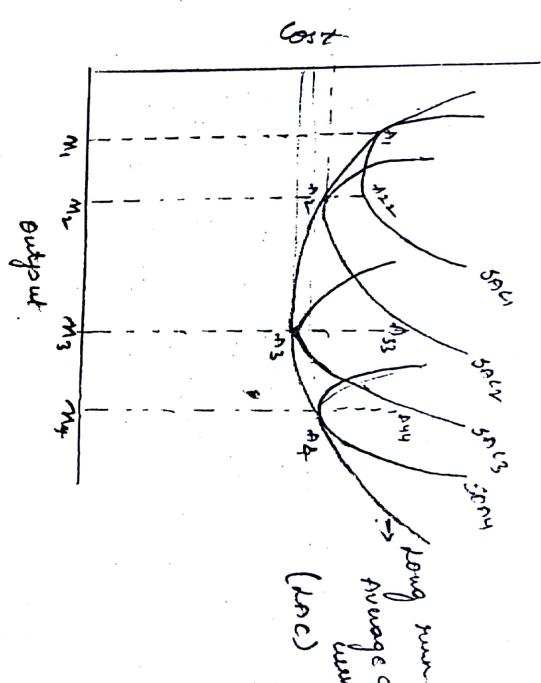
- ⇒ If  $mc \leq AVC$  then  $AVC$  curve decline
- ⇒ If  $mc = AVC$  then  $AVC$  curve reaches minimum value
- ⇒ If  $mc > AVC$  then  $AVC$  curve raises.



$$TC = TFC + TVC$$



## COST IN LONG RUN :



→ Long run refers to that period of time over which all factors are variable (Fixed & Variable). The firm has more time at its disposal to make any change in the production depending on its requirement.

- nt. Thus long run cost refers to the cost of producing different levels of output by changing scale of production.

### \* Break Even Analysis / Point :

[CVP]  $\rightarrow$  Cost, Volume, Profit, Analysis.

- It refers to the analysis of break even point.
- It is defined as no profit (or) no loss point.

- A firm is said to attain BGP when its total revenue is equal to total cost [ $TR = TC$ ] it is also called as cost volume profit Analysis
- BEP is imp bcz the minimum Volume of production to be undertaken to ab avoid loss.
- It also points out how much minimum is to produce to have profits. It is a technique of profit planning and control.
- It is considered as valuable managerial tool.

#### DETERMINATION OF BREAK EVEN POINT:

$$1. \text{BEP in units} = \frac{\text{Fixed cost}}{\text{Contribution margin per unit}}$$

Contribution margin per unit = selling price - variable cost.

$$2. \text{BEP in value} = \frac{\text{Fixed cost}}{\text{Contribution margin ratio}}$$

$$\text{Contribution margin ratio} = \frac{\text{Selling price} - \text{Variable cost}}{\text{Selling price}}$$

→ A Firm has fixed cost of ₹ 10,000/- selling price per unit is ₹ 5/- and variable cost per unit is ₹ 3/-

1. Determine BEP in terms of volume and sales value

2. calculate margin of safety considering actual production is 8000 units

Sol  $\text{BEP in units (vol)} = \frac{\text{Fixed cost}}{\text{CMFU}}$

$$\text{CMFU} = 5 - 3 = 2$$

Analysis of Break even point

$$BEP = \frac{10000}{2} = 5000 \text{ units}$$

$$BEP \text{ in value} = \frac{\text{fixed cost}}{C.M.R}$$

$$C.M.R = \frac{SP-VC}{SP} = \frac{5-3}{5} = \frac{2}{5}$$

$$BEP = \frac{10,000}{2/5} = 25000 \text{ Rs.}$$

↳ margin of safety = estimated sales - sales at BEP

The excess of actual sales over Break even sales is known as margin of safety.

$$\text{margin of safety} = 8000 - 5000 \\ = 3000 \text{ units.}$$

Another formula:

$$\text{margin of safety} = \frac{\text{Profit}}{P/V \text{ ratio}} \times 100.$$

P/V ratio (or) contribution ratio: This ratio establishes the relationship b/w contribution and sales value.

→ P/V ratio is useful to calculate BEP in terms of rupees.

$$P/V \text{ ratio} = \frac{\text{contribution per unit}}{\text{selling price per unit}} \times 100$$

$$(or) \frac{\text{change in profit}}{\text{change in sales}} \times 100.$$

ABC limited produces single product and its selling price is Rs 40/- Its variable cost per unit £ 32/- Fixed costs are £ 2,40,000/- what is its BEP in units and rupees.

$$\text{SOL} \quad \text{CMR} = S.P - V.C \\ = 40 - 32 \\ = 8$$

$$\text{BEP in units} = \frac{\text{Fixed cost}}{\text{CMR}} \\ = \frac{2,40,000}{8} \\ = 30,000 \text{ units}$$

$$\text{BEP in rupees} = \frac{\text{Fixed cost}}{\text{CMR}}$$

$$\text{CMR} = \frac{S.P - V.C}{S.P} = \frac{8}{40}$$

$$= \frac{2,40,000}{8/40} = £ 1200,000/-$$

Find out BEP & P/V ratio

Fixed cost - £ 60,000/-

Variable cost - £ 1,20,000/-

Net profit - £ 20,000/-

Sales - £ 2,00,00/-

$$\text{SOL} \quad \text{P/V ratio} = \frac{\text{Contribution Per unit}}{\text{Selling price per unit}} \times 100$$

Contribution = Sales - VC.

$$= 2,00,000 - 1,20,000$$

$$= 80,000$$

$$P/V \text{ ratio} = \frac{80,000}{2,00,000} \times 100$$

$$= 40\%$$

$$\text{BEP in units} = \frac{\text{Fixed cost}}{P/V \text{ ratio}}$$

$$= \frac{60,000}{40\%}$$

$$= 150,000$$

→ Arun manufacturing company has following info

Sales is ₹ 10,00,000/-

V.C is ₹ 6,00,000/-

F.C is ₹ 50,000/-

units cost ₹ 100/-

calculate margin of safety in rupees and Break even sales in rupees and also P/V ratio.

Q1) Statement of profit

Sales - ₹ 10,00,000/-

V.C - ₹ 6,00,000/-

$$\text{Contribution} = S.P - V.C$$

$$= 40,000$$

F.C - ₹ 50,000/-

Profit = ₹ 3,50,000/-

$$(1) P/V ratio = \frac{\text{contribution Per unit}}{\text{S.P per unit}} \times 100$$

$$= \frac{40,000}{10,00,000} = 40\%$$

$$(2) Margin of Safety in rupees = \frac{\text{Profit}}{\text{P/V}} \times 100$$

$$= \frac{8,50,000}{40\%}$$

$$= 8,75000$$

$$\text{Margin of safety in units} = \frac{\text{margin of safety in Rupees}}{\text{S.P per unit}}$$

$$= \frac{8,75,000}{100} = 8,750 \text{ units}$$

$$\text{BEP in rupees} = \frac{F-C}{P/V} = \frac{50,000}{40\%} = 1,25,000.$$

owning info

nd Breaks

## INTRODUCTION TO ACCOUNTANCY

ACCOUNTANCY: According to American Institute of Certified public Accountant (AICPA) defined as Accounting is the art of recording, classifying and summarising in significant manner and in terms of money transactions and events which are in atleast of financial character and Amt. interpreting the results there off".

## Principles of Accountancy:

(or) or Postulates  
Accounting concepts & Conventions:

Accounting Concept is an opinion. It is the base for evolving a set of rules & guidelines to record business transactions.

Accounting concepts may be considered as Postulates i.e., basic assumptions & conditions upon which science of accountancy is based.

- CONCEPTS:
- 1) Business entity concept
  - 2) Money measurement concept
  - 3) Going concern concept
  - 4) Accounting period concept

- 5) cost concept
- 6) Realisation concept
- 7) matching concept
- 8) dual aspect concept.

11091A  
CONVENTIONS: (customs & tradition followed for accountancy)

- 1) convention of consistency:

→ maintaining the same model of accountancy for infinite no. of times. (no. change in Accountancy practice.)

- 2) convention of materiality: Material facts and which are concerned concerned with money are also be recorded in the Accountancy. [transaction of company only]

- 3) convention of full disclosure: Each and every data has to be taken and tabulate the data and full disclosure should be given to all customers, company management [e.g. profits, <sup>names</sup> of <sub>etc.</sub> CEO]

- 4) convention of conservatism: As the company has losses and it's playing sayth they says there is no loss in the company

## RULES OF ACCOUNTANCY: AND TYPES OF ACCOUNTANCY:

### 1) Debit Rule: 2) CREDIT RULE

→ Receiver	Given.
→ What comes in	What goes out
All Expenses (And) losses.	All Incomes & Gains.

1) Personal A/C  
→ Object opened with name of firm (or) person

2) Real A/c :  
→ It relates to Assets & cash of firm (It maybe tangible or intangible)  
↓  
feel, touch we can't touch

3) Nominal A/C: They really doesn't exist but only name sake Nominal A/C's are opened.  
like salary account, Advertising A/c's.

A  
→  
→  
\*

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DEC

DEC

\* Books KEEPING: It is mainly concerned with recording of financial data relating to the business operations in significant and orderly manner.

\* DOUBLE ENTRY SYSTEM: Every transaction has 2 aspects one is giving and the other is receiving. Thus for every transaction 2 accounts take place at same time and same amount. Double entry is a system that recognize and records both the aspects of transaction.

ADV:

- Accuracy of financial data
- To interpret final accounts easy.

\* JOURNAL : Derived from French word Jour it means a day. Then Journal means daily activities.

→ Journal entry : The term Journal is derived from a French word called Jour which means a day. It means Journal records all the transactions on a daily basis. It is a book in which the transactions are recorded, first under double entry system. Thus Journal is the book of original entry.

#### PROFORMA OF JOURNAL ENTRIES :

DATE	PARTICULARS	LF	DEBIT	CREDIT	
DEC 1 <sup>st</sup> 2006	Cash a/c Debit To Capital a/c  [Being Business started with cash in form of capital ₹ 40,000]		40,000	40,000	LF - Ledged Folder
DEC 2 <sup>nd</sup> 2006	BANK a/c Debit To Cash a/c  [Being amount paid into the bank by cash ₹ 2,000]		2,000	2,000	

12 log 14

→ Journalise the following transactions and also state the nature each account involved in the journal entry.

- 1) Dec 1<sup>st</sup> 2006, Ajith started business with cash ₹ 40,000
- 2) Dec 3<sup>rd</sup> 2006, He paid into the bank ₹ 2,000
- 3) Dec 5<sup>th</sup> 2006, He purchased goods for cash, ₹ 15,000
- 4) Dec 8<sup>th</sup> 2006, He sold goods for cash ₹ 6,000
- 5) Dec 10<sup>th</sup> 2006, He purchased Furniture and paid by Cheque ₹ 5,000
- 6) Dec 12<sup>th</sup> 2006, He sold goods to Arvind ₹ 4,000
- 7) He purchased goods from Amruth ₹ 10,000
- 8) Dec 15<sup>th</sup> 2006, He returned goods to Amruth ₹ 5,000 (Purchase return comes in credit rule).
- 9) Dec 16<sup>th</sup> 2006, He received from arvind ₹ 3,900 in full settlement.
- 10) Dec 18<sup>th</sup> 2006, He withdraw goods for Personal use ₹ 1,000/-
- 11) He withdraw cash for personal use rupees ₹ 2,000/-
- 12) Dec 24<sup>th</sup> 2006 He paid telephone charges ₹ 1,000/-
- 13) Dec 26<sup>th</sup> cash paid to Amruth in full settlement ₹ 4,900
- 14) Dec 31<sup>st</sup> paid for stationary ₹ 200/- rent for ₹ 500, and salaries to staff ₹ 2,000/-
- 15) Dec 31<sup>st</sup> goods distributed by way of free sample ₹ 1,000/-

DATE	PARTICULARS	LF	DEBIT	CREDIT
Dec 1 <sup>st</sup> 2006	Cash A/C Dr TO Capital A/C [Being Business Started with cash ₹ 40,000/-]		40,000	40,000
Dec 3 <sup>rd</sup> 2006	Bank A/C Dr TO Cash A/C [Being paid cash into Bank]		2,000	2,000.
Dec 5 <sup>th</sup> 2006	Purchases A/C Dr TO Cash A/C [Being the Goods purchase with cash]		15000	15,000
Dec 8 <sup>th</sup> 2006	Cash A/C Dr TO Sales A/C [Being Goods sold for cash]		6,000	6000
Dec 10 <sup>th</sup> 2006	Furniture A/C Dr TO Bank A/C [Being purchased furniture & paid by cheq]		5000	5000
Dec 12 <sup>th</sup>	Aravind A/C Dr TO Sales A/C [Being goods sold to Aravind]		4,000	4000

Date	Particulars	Dr	Credit	Date
		Debit	LF	
Dec 14 <sup>th</sup> 2006	Purchases A/c Dr To Amruth A/c	10,000	10,000	Dec 26 <sup>th</sup> 2006 Dr
	[Being goods purchased from Amruth]			Dec
Dec 15 <sup>th</sup> 2006	Amruth A/c Dr TO Purchase return [Being goods returned to Amruth]	5,000	5,000	Dec 31 <sup>st</sup> 2006 Dr
				Dec
Dec 16 <sup>th</sup> 2006	Cash A/c Dr Discount A/c Dr TO Amruth account	3760 40	4,000	Dec 31 <sup>st</sup> 2006 Dr
	[Being cash received from Amruth on full settlement]			Dec
Dec 18 <sup>th</sup> 2006	Drawing A/c Dr TO cash A/c	1000 1000		
	[Being goods withdrawn for personal use]			
Dec 20 <sup>th</sup> 2006	Drawing A/c Dr TO cash A/c	2000 2000		
	[Being cash withdrawn for personal entry]			
Dec 24 <sup>th</sup> 2006	Telephone charges on ac @ TO cash A/c	1000 1000		
	[Being telephone bill paid for telephone]			

DATE	PARTICULARS	LF	DEBIT	CREDIT
Dec 26 <sup>th</sup> 2006	Ammuth a/c Dr TO cash a/c TO Discount		5000 4900 100	
	[Being cash paid in full settlement to Ammuth]			
Dec 31 <sup>st</sup> 2006	Stationary A/c Dr Rent A/c Dr Salaries A/c Dr TO cash a/c		200 500 2,000	2,700
	[Being salaries paid to Stationary, Rent, staff]			
Dec 31 <sup>st</sup> 2006	Advertising exp A/c Dr TO cash A/c		1000	1000
	[Being distribution of goods by the way of free sample.]			

18/09/17

of LEDGERS Ledger is a book that contains several accounts, the process of preparation of account from Journal into Ledger is called posting in the ledger.

The format of ledger accounts is 2 parts, the left hand side is called debit side and right hand side is called credit side.  
Debit side starts with the word TO and credit side starts with the word BY.

examples of ledger account are :  
1) Purchaser account  
2) Sales account  
3) Cash account  
4) Debtors a/c  
5) Creditor a/c

Dr

Cash A/c

Cr

DATE	PARTICULARS	AMT/RS	DATE	PARTICULARS	RS.
Dec 1 <sup>st</sup> 2006	To Capital a/c	40,000	Dec 3 <sup>rd</sup> 2006	By Bank a/c	2000
Dec 8 <sup>th</sup> 2006	To Sales a/c	6,000	Dec 5 <sup>th</sup> 2006	By Purchase a/c	15,000
Dec 16 <sup>th</sup> 2006	To Arvind A/c	3960	Dec 18 <sup>th</sup> 2006	By drawing a/c	1000
			49,960	Dec 20 <sup>th</sup> By Drawing a/c	2000
D.				Dec 24 <sup>th</sup> 2006 By Telephone charges	1000
				Dec 26 <sup>th</sup> 2006 By Amrutha/c	4900
				Dec 31 <sup>st</sup> 2006 By Stationary a/c	200
				By Rent a/c, 500	
				By salaries a/c 2,000	
				Dec 31 <sup>st</sup> 2006 By Advertising expy 1,000	
				Dec 31 <sup>st</sup> 2006 <del>By bank/c/d</del> 20,360	
		49,960			20,360
1 <sup>st</sup> Jan 2007	To balance a/c	20,360			

Dec 31<sup>st</sup> 2006 By Balance Credited  
By amount 20,360

	Bank a/c		
DEC 3 <sup>rd</sup> 2006	To Cash a/c	2000	Dec 10 <sup>th</sup> 2006 By Furniture a/c 5000
		3000	Dec 20 <sup>th</sup> 2006 - 8.
Dec 31 <sup>st</sup> 2006	To Bal c/d	5000	
	<u>1<sup>st</sup> Jan 2007 To balance b/d 3000</u>		



DATE	PARTICULARS	AMT/Rs	DATE	PARTICULARS	Rs/A/R
Dec 5th 2006	To cash A/c	15,000	Dec 31st 2006	By Balance c/d	25,000
Dec 14th 2006	To Amruth A/c	10,000			
		25,000			25,000
Jan 1st 2007	To Balance b/d	25,000			
	Amruth A/c				
Dec 15th 2006	Purchase returns Amruth A/c	5,000	Dec 14th 2006	Purchases By Amruth A/c	10,000
Dec 26th 2006	<sup>Cash</sup> To Amruth A/c To Discount A/c	8900 100 10,000			10,000
	PURCHASE RETURN A/c				
Dec 31st 2006	To Balance c/d	5,000	Dec 15th 2006	Amruth By Purchase 5,000 returns A/c.	5000
	DISCOUNT A/c	5000			
Dec 16th 2006	To Arvind A/c	40	Dec 26th 2006	By Amruth a/c	100
Dec 31st 2006	To balance c/d	60			100
	100		Jan 1st 2007	By Balance b/d	100

DATE	PARTICULARS	AMT	DATE	PARTICULARS	AMT.
Dec 18 <sup>th</sup> 2006	To Cash A/c	1000	Dec 31 <sup>st</sup> 2006	By Balance c/d	3000
Dec 20 <sup>th</sup> 2006	To Cash A/c	2000			
		3000			3000
Jan 1 <sup>st</sup> 2007	To balance c/d	3000			
				TELEPHONE EXPENSES.	
Dec 24 <sup>th</sup> 2006	To Cash A/c	1000	Dec 31 <sup>st</sup> 2006	By Balance c/d	1000
		1000			1000
Jan 1 <sup>st</sup> 2007	To Balance b/d	1000			
				STATIONERY	
Dec 31 <sup>st</sup> 2006	To cash A/c	200	Dec 31 <sup>st</sup> 2006	By balance c/d	200
		200			200
Jan 1 <sup>st</sup> 2007	To balance b/d	200	DEC 31 <sup>st</sup> 2006		
				RENT	
Dec 31 <sup>st</sup> 2006	To Cash A/c	500	Dec 31 <sup>st</sup> 2006	By balance c/d	500
		500			500
Jan 1 <sup>st</sup> 2007	To balance b/d	500			
				SALARIES	
Dec 31 <sup>st</sup> 2006	To Cash A/c	2000	Dec 31 <sup>st</sup> 2006	By balance c/d	2000
		2000			
Jan 1 <sup>st</sup> 2007	To balance b/d	2000			
				ADVERTISING	
Dec 31 <sup>st</sup> 2006	To Cash A/c	1000	Dec 31 <sup>st</sup> 2006	By balance c/d	1000
		1000			1000
Jan 1 <sup>st</sup> 2007	To balance b/d	1000			

19/08/17

\* **TRAIL BALANCE:** It contains a debit and credit balances of various accounts taken out from ledger books as on particular date. The Trail balance must agree as on that day.

The total of debit balances must be equal to total of credit balances on a given date, then we can say trail balance is agreed.

Suppose trail balance doesn't agree means there are certain Arithmetical errors in the books of accounts.

\* **PREPARATION OF TRAIL BALANCE:** For preparation of trial balance it should be understood which every the accounts goes on debit & credit balances.

⇒ Accounts showing debit Balance:

Debit balance of T/B :

Discount (or) allows.

1) Debtor a/c

2) Asset a/c - Plan, furniture, fixtures, building etc..

3) All expenses A/c - Rent, salaries, Bills etc..

4) Purchases

5) Sales returns (Returns inwards)

6) Drawings A/c

7) Cash a/c, cash in hand & cash in bank.

⇒ ACCOUNTS SHOWING CREDIT BALANCE:

Discount received.

1). Creditors A/c

2) Liabilities A/c

3) Income A/c

4) Gains A/c

- 5) Profit A/c  
 6) Loan A/c  
 7) Bank over draft A/c  
 8) Sales A/c  
 9) Purchase Returns A/c ~~>Returns~~ (Return Outwards)  
 10) Provision A/c - For provision for doubtful debts, provision for discount on debts  
 11) Reserve funds A/c - Such as general reserve (or) fund work man compensation funds.  
 12) Capital A/c

\* PREPARATION OF TRAIL BALANCE FROM THE BOOKS OF  
 NIKRAM COMPANY LTD  
 BURRAKAT AS ON 31<sup>st</sup> March 2003.

TRAIL BALANCE			
DEBIT PARTICULARS BALANCE	AMT	CREDIT PARTICULARS BALANCE	AMT.
1. To Electricity [P.L = Dr]	14,000	By Interest (received) [P.L = Cr]	₹ 6,000
2. To Land	1,40,000	By Discount [P.L = Cr]	6,000
3. To Interest [P.L = Dr]	16,000	By Sales	8,00,000
4. To Wages	50,000	By Returns	10,000
5. Opening stock	20,000	By Sundry Creditors	60,000
6. To Rent [P.L = Dr]	24,000	By Capital	3,00,000
7. Purchases	3,00,000	By Bills payable	15,000
8. Office expenses [P.L = Dr]	30,000		
9. Buildings	4,00,000		

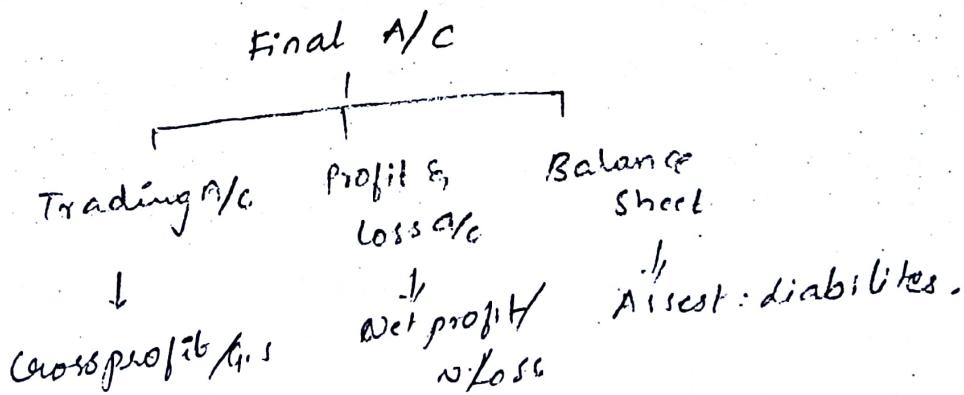
## PARTICULARS

10 Salaries <small>(EX-EMPLOYEE)</small>	
To power gas & water	30,000
To returns <del>EX-EMPLOYEE</del>	20,000
Furniture	15,000
10 Sundry Debtors	60,000
	<hr/>
	12,09000
	<hr/>
	12,09000
	<hr/>

## FINAL ACCOUNTS

\* FINAL ACCOUNTS  
→ Final accounts are prepared after the preparation of Trial balance only. These are prepared to know Business, Profit or loss, financial position of the firm at the right time and right way.

→ final account consists of:



TRADING A/C: Trading A/c Shows gross Profit or Gross loss for given Accounting period.

PROFORMA OF TRADING A/C FOR THE YEAR \_\_\_\_\_ IN THE BOOKS

DR

OF \_\_\_\_\_

a

PARTICULARS DEBIT BALANCE	Rs	Rs	PARTICULARS CREDIT BAL	Rs	Rs.
To opening stock		XXX	By Sales, less Sales Returns	XXX	
To purchases	XXX		By closing	-XXX	
less; purchase Returns	XX X				XXX
To wages		XXX			
To carriage inward		XXX			
To fuel & power		XXX			
To direct expenses		XXX			
To factory rent		XXX			
To Freight exp		XXX			
To Gross profit					

NOTE: Outstanding wages is given in Adj. If appears

Dr of Trading & added to Wages A/c

Closing Stock - Trading A/c - Cr side -

Expenses (or) factory expenses - Dr of Trading .

Cr > Dr  $\rightarrow$  Cr. p - Tr - Dr

Cr < Dr  $\rightarrow$  Cr. L  $\rightarrow$  Tr - Cr

TRADING A/C FOR THE YEAR ENDING 2003 IN THE BOOKS OF  
VIKRAM CO-LTS..

CONTIT OF TRAL BALANCE WITH ADJUSTMENTS

- 1) OUTSTANDING SALARIES - 20,000
- 2) closing stock - 80,000
- 3) Depreciate buildings - @ 10% per annum
- 4) Interest received in advance - 2,000
- 5) write off bad debts - 10,000

DR PARTICULARS DEBIT BALANCE	Rs	Rs	CR PARTICULARS CREDIT BALANCE	Rs	Rs
To opening stock		20,000	By sales less sales return	8,000,00 - 20,000	7,80,000
To purchases less ; Purchase return	3,00,000 50,000	2,90,000	By closing		80,000
To wages		50,000			
To power gas		30,000			
g water		4,70,000			
To Gross profit (transferred to P&LAC)		8,60,000			8,60,000

\* PROFIT AND LOSS A/C : It is prepared with the help of all indirect expenses like office expenses, selling and distribution and maintenance and Administration expenses, financial expenses etc. And all Indirect expenses are debited in Profit and Loss A/c debit side.

All Indirect incomes are debited in profit and loss A/c credit side.

when we have balance on a debit side of a Profit A/c we get net profit, If balance appeared on a credit side we get net loss

### PROFORMA OF

PROFIT AND LOSS FOR THE YEAR ENDING \_\_\_\_\_ IN THE BOOKS  
OF \_\_\_\_\_

Dr

Credit

Particulars	Rs	Rs	Particulars	Rs	Rs
To salaries		XXX	By Gross profit (transferred from Tr. A/c)		XXX
To rent		XXX			XXX
To Insurance		XXX	By discount received		XXX
To carriage outward			By commission received		XXX
To Telephone			By reduction in provision for bad debts		XXX
To provision for depreciation		XXX			
To bad debts written off	XXX		By profit on sale of fixed assets		
Add increase in bad debts	XXX				
To cost of samples					
To Advertisement					
To Heating and lighting	XXX				
To Interest on Loan					
To discount allowed					

To Net profit

[Transfer to  
Capital A/c]

XXX

XX

PROFORMA OF  
PROFIT AND LOSS FOR THE YEAR ENDING 31<sup>ST</sup> MARCH 2003 IN  
THE BOOK OF VIKAAP

PARTICULARS	AMT	AMT	PARTICULARS	AMT	AMT
To Salaries	90,000		By Gross profit		4,70,00
+ O/S salaries	10,000		By discount received		6000
		1,00,000	By Interest	16000	
To Electricity		14000	Less Int received in Advance	-2000	
To Interest		16000			14000
To Rent		24,000			
To Office expenses		30,000			
To Depreciation of building (40000/-) 10% (Adj.)		40,000			
To Writing		10,000			
To Bad debts (Adj.)					
To Net profit (Transfer to Capital A/c)		2,56,000			
		4,90,000			
					4,90,00

rough: Cr - receipts & Income

Dr - Exp & losses

$$Cr = 4,90,000$$

$$Dr = 2,34,000$$

$$\text{Net profit} = \underline{\underline{2,56,000}}$$

BALANCE SHEET: Balance Sheet is a Statement off assets and liabilities of a business and fair view of financial statement as on a given date. A balance sheet has 2 sides, left hand side is called liabilities side and right hand side is called assets side. Under the double entry system the assets must be equal to liabilities.

### FORMAT FOR BALANCE SHEET

LIABILITIES	AMT	AMT	ASSETS	AMT	AMT
• Long term Liabilities			• Fixed Assets		
Owners capital	XXX	XXX	Plant & M/C dep	XXX	
Add, + net profit	XXX	XXX	dep P/m	XXX	
total	XXX				
less Drawings	XXX	XXX	• Furniture & fixture	XXX	
			Land & Building	XXX	
Bank overdraft		XXX	Premises	XXX	
• Current Liabilities			• Current Assets		
Sundry creditors		XXX	Closing Stock	XXX	
Bills payable		XXX	Sundry debtors	XXX	
outstanding exp		XXX	less Bad debts	XXX	
			Cash in hand	XXX	
			Cash at bank	XXX	
			Bill receivable	XXX	
			Repaid expenses	XXX	
		XXX			

at off arrests  
tree

\* BALANCE SHEET FOR THE YEAR ENDING, 31<sup>st</sup> MARCH 2003  
IN THE BOOKS OF VIKRAM (P) LTD.

**SUBSIDIARY BOOKS:** Subsidiary books provide a short cut for posting Journal entries into ledger account, particularly where transactions are of similar type.

- In case of large business organization, the Journal is divided into 8 categories as a path of subsidiary books. They are purchase book (where all credit purchases are recorded), 2) sales book (where all credit sales are recorded), 3) purchase return books (where all particulars of goods returned are recorded), 4) sales return book (where particulars of goods returned by the customer are recorded), 5) Bills receivable book (where details of bills received are recorded), 6) Bills payable book (details of bills payable <sup>(or)</sup> and acceptance given against bill are recorded), 7) Cash book (where all the transactions, relating to cash purchases, cash sale, cash expenses, cash income are recorded), 8) Journal proper ~~f. A. post~~.

**PURCHASES BOOK:** The transactions of credit purchases are recorded in purchases books. From the invoice received and at the end of the day (or) week (or) month and the total is transferred to purchases account.

### PROBLEMS:

- Jan 2<sup>nd</sup> 2003 brought a books worth Rs 5000/- from Kamal. the invoice no is 678.
- Jan 1<sup>st</sup> 2003 brought goods worth Rs 20,000/- from Samuel, the invoice no is 435.
- Jan 16<sup>th</sup> 2003 brought goods worth Rs 12,000/- from Radha, her invoice no is 542.

### **PURCHASES BOOK:**

DATE	PARTICULARS	INVOICE	LEDGER FOLIO	RS
Jan 2 <sup>nd</sup> 2003	Kamal	678	PL-300	5000/-
Jan 1 <sup>st</sup> 2003	Samuel	435	PL-301	20,000/-
Jan 16 <sup>th</sup> 2003	Radha	542	PL-305	12,000/-
Jan 31 <sup>st</sup> 2003	Total for the month			37,000/-

DATE	PARTICULARS	C/F	AMT	DATE	PARTICULARS	C/F	AMT.
Jan 31 2003	To balance c/d	KAMA	A/C	5000	Jan 2	By Purchase	5000
			<u>5000</u>				<u>5000</u>
				Feb 1	By Bal b/d		5000
					PURCHASE A/C		
Jan 31	Sundries as per purchase BOOK		37000				<u>37000</u>
			<u>37000</u>				

## CAPITAL BUDGETING

Capital Budgeting is defined as rational allocation of firms' scarce resources among the competing investment opportunities, with a view to maximize the market value of the firm in long run.

Long term investment decisions are also known as capital budgeting decision (or) capital expenditure decisions.

⇒ Capital budgeting decisions are related to allocation/investment of funds among long term assets. And they have long term implications which affect the future growth and profitability of the firm.

⇒ Capital budgeting involves current outflow of funds followed by future inflows

## TYPES OF C.B DECISIONS

- 1) Replacement
- 2) Expansion
- 3) Diversification
- 4) R & D
- 5) Miscellaneous.

## Importance of C.B:

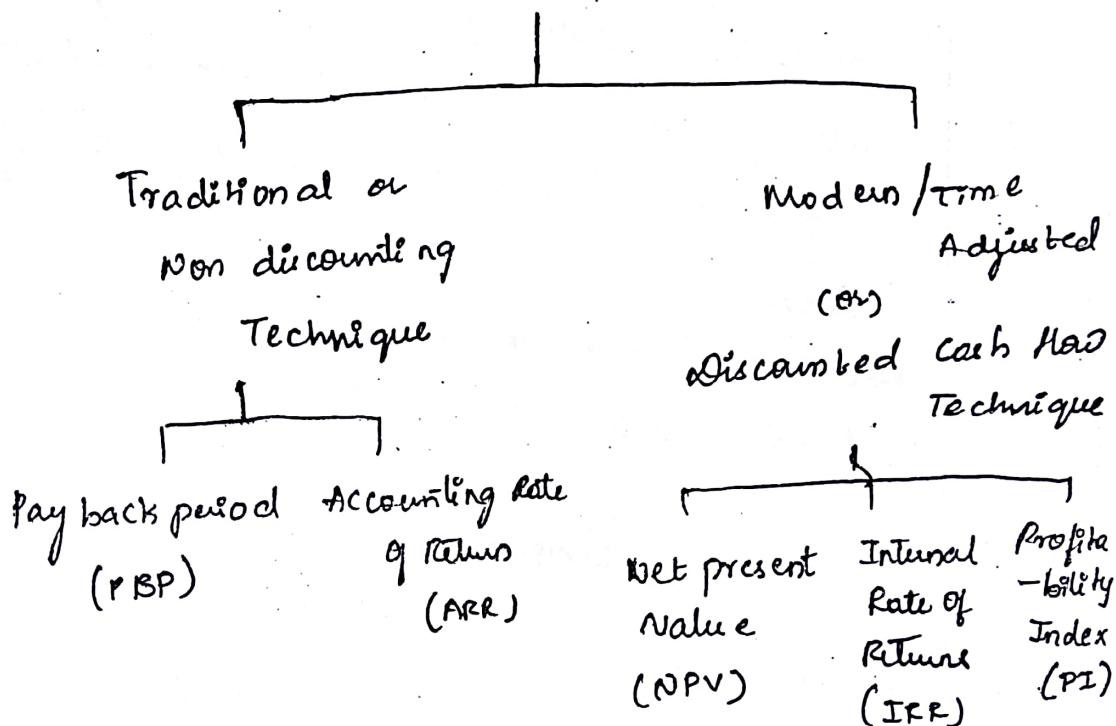
- Substantial capital outlay / outflow.
- Long term implication
- Strategic in nature
- Irreversible

## CLASSIFICATION OF CAPITAL INVESTMENT DECISIONS

- Independent proposal
- Dependent proposal
- Mutually exclusive proposal.

glolit

## CAPITAL BUDGETING TECHNIQUES



Pay back period refers to the time period within which the original cost of the project is recovered. Under this method the decision do

App. accept or reject is based on its pay back ;

Period  
⇒ When cash inflows are even

$$PBP = \frac{\text{Cost of the project}}{\text{Annual cash inflow}}$$

(or)

$$\frac{\text{Initial Investment} - \text{Scrap/salvage value}}{\text{Annual cash inflow}}$$

### Problems

where cash inflows are even

The cost of the project is Rs. 50,000 the annual cash inflows for the next 4 years are 25,000 what is PBP for the project.

E01  $PBP = \frac{50000}{25000} = 2 \text{ yrs.}$

⇒ The cost of the project requires an initial investment of Rs. 1,20,000 & And yield of annual cash inflows, 12,000 for 12 years.

E01  $PBP = \frac{1,20,000}{12000} = 10 \text{ yrs.}$

## For In.

### UN EVEN CASH FLOWS 6

→ A project require \$20,000 as Initial Investment and annual cash inflows for 5 years, 6000, 8,000, 5000, 4000, 4000, find PBP

YEARS	CASH IN FLOW	CUMULATIVE CASH IN FLOW
1	6000	6000
2	8000	14000
3	5000	19000
4	4000	23000
5.	4000	27000

$$PBP = A + \frac{B}{C}$$

$$PBP = \frac{\text{uncovered cost at start of the year}}{\text{cash flow during the given year}}$$

Years before full recovery +

$$= 3 \text{ yr} + \frac{1000}{4000} = 3.25 \text{ years}$$

For calculation of payback period we need to cash inflows after Tax (C.F.A.T).

Investment

6000

Cash  
out

start

the  
year

PARTICULARS	Rs
Sales Revenue	XXX
- less variable cost	XXX
contribution	XXX
- less fixed cost	XXX
Earning before Depreciation & Tax (EBDT) - less Depreciation	XXX XXX
Earning Before Taxes (EBT)	XXX
- less Taxes	XXX
Earning After Tax (EAT)	XXX XXX
Add + Depreciation	=
Cash flow After Tax (CFAT)	XXX

A limited firm has considering of expansion of its production. It can go by automatic machine costing 2,24,000/- with an estimated life of 5 yrs (or) an ordinary m/c costing of 60,000 with an estimated life of 8 yrs. The annual sales are estimated as flows with the tax rate of 50%.

PARTICULARS	AUTOMATIC M/C	ORDINARY M/C
Sales	1,50,000	1,50,000
• <u>Costs</u>		
Material	50,000	50,000
Labour	12,000	60,000
Variable overhead	24,000	20,000

Calculate the PBP and advise the management.

Sol Calculation of PBP needs C.F.A.T hence we need to calculate C.F.A.T.

$$\text{Dep} = \frac{\text{Original Investment} - \text{Scrap value}}{\text{Life period}}$$

$$\text{For A/m} = \frac{2,24,000}{5}, \quad \text{for O/m} = \frac{60,000}{8}$$

$$= 44,800 \quad = 7,500$$

PARTICULARS	AUTOMATIC	ORDINARY
Sales	1,50,000	1,50,000
- less variable (m+l+o)	86000	130,000
Contribution	64000	90,000
- less depreciation	44800	7500
Earning before taxes (EBT)	19200 9600	12,500 6,250
less Taxes @ 80%		
Earning After Tax (EAT)	9600	6,250
Add Depreciation	44800	7500
Cash flow After Tax (CFAT)	54,400	13,750

$$\rightarrow PBP = Am = \frac{2,24,000}{54,400} = 4.11$$

$$\rightarrow PBP = Om = \frac{60,000}{13,750} = 4.36$$

Advice the management to selected automatic machine whose payback period is 4.11 less than 4.36 of ordinary machine.

Hence it is preferable to select the ordinary machine.

~~10.01/2~~ ACCOUNTING AND RATE RETURNS It is the method of Evaluating proposed capital expenditure and is also known as average rate of return.

ARR method uses accounting information as data revealed by financial information to measure the profitability of Investment Proposal. It is also known as return on investment [ROI]

$$ARR = \frac{\text{Average Income}}{\text{Average Investment}} \times 100$$

(Or)

$$ARR = \frac{\text{Average Annual Earnings After tax}}{\text{Original Avg Investment}} \times 100$$

$\therefore$  Original/Avg Investment = salvage value +

$$\frac{1}{n} (\text{cost of machine} - \text{salvage value})$$

$$\text{Average Investment} = \frac{(\text{Org Investment} - \text{Scrap Value})}{\text{Additions working} + \text{Scrap value}}$$

$\Rightarrow$  Determine ARR from the following data of 2 machines A and B.

PARTICULARS	MACHINE A	MACHINE B.
Cost :	60,000	60,000
Annual estimated Income after depreciation and tax.		
1	3,500	11,500
2	5,500	9,000
3	7,500	7,500
4	9,000	5,500
5	11,500	3,500
	37,000	34,000.
Estimated Life	5 years	5 years
Estimated Salvage Value	3,000	3,000
Average Income of machine A and B is		

Sol Average Income of machine A and B is

$$= \frac{37,000}{5} = 7,400$$

$$ARR = \frac{7400}{31500} \times 100 = 23.5\%$$

$\Rightarrow$  ARR in case of both machines A and B are

same, although machine B should be preferred since its <sup>returns in earlier of life</sup> ~~life~~ is high - So select machine B..

$\Rightarrow$  'A' limited firm has considering 2 projects their details are as follows

PARTICULARS	X Project	Y project
Working capital	10,000,00	15,000,00
Life <del>working cap</del>	4 years	6 years
Scrap value of machinery %	10 %	10 %
Tax rate in %	50 %	50 %

Income before depreciation and tax <sup>at the</sup> before end of year.

Years	X	Y
1	8,000,00	15,000,00
2	8,000,00	9,000,00
3.	8,000,00	15,000,00
4.	8,000,00	8,000,00

5	-	6,000,00
6	-	3,000,00

Ans.  $\therefore \text{Avg. IRR} = \$6,000,00 / 6$

Calculate Avg rate of return and suggest which Project to be preferred.

Depreciation  
25,000

(2)

## MODERN TECHNIQUES / DISCOUNTING TECHNIQUES:

→ Net present value (NPV) & It is also known as discounted cash flow method and time adjusted method. In this model cash inflows are converted into present value using discounting factors (discounting factor consider as cut off rate (R)) rate of return) and is determined on the bases of cost of capital adjusted for risk element.

Definition:  
NPV can be defined as present value of benefits - present value of cost. It is the difference b/w present value of cash flow and present value of cash outflow.

Accept:  $NPV > 0$ ; reject  $NPV < 0$ ; consider  $NPV = 0$

Steps for calculating NPV:

- Cash inflows associated with project are calculated
- cash inflows are converted into present values
- using a discounting factor
- Present value = cash Inflow  $\times$  PV factors.
- Present value of total cash Inflow is compared with present value of cash outflow.
- $NPV = \text{present value of cash Inflow after tax} - \text{Present value of cash outflow}$

$$NPV = PVCPAT - PVCD$$

$$NPV = \left[ \frac{C_1}{(1+k)^1} + \frac{C_2}{(1+k)^2} + \frac{C_3}{(1+k)^3} + \dots + \frac{C_n}{(1+k)^n} \right] - C_0$$

$C_1, C_2$  to  $C_n$  are the net cash inflows for the 1st, 2nd, nth year

$k$  is the discounting factor

$C_0$  is cash outflows (or) Initial investment (or),  
Original

Net present value in case of uneven cash inflow

→ calculate NPV of 2 projects with discount rate at the rate of 10%. Suggest which project should be accepted.

PARTICULARS	PROJECT A	PROJECT B
Initial Investment	40,000	50,000
Estimated life	6,000	5,000
Scrap value	4,000	2,000
<u>Cash Inflows:</u>		
1.	35,000	18,000
2	12,000	4,000
3	4,000	25,000
4	7,000	5,000
5.	9,000	12,000

Project - A

Years	Cash In Flow	PV@ 10%	Total PV
1.	35000	0.909	31,815
2	12000	0.826	9,912
3.	4000	0.751	3004
4.	-1000	0.683	4481
5.	9000	0.621	5589
		PVCFAT	55,101
		Less PVCO	40,000
		NPV	15,101

Project - B

Years	Cash Inflow	PV@ 10%	Total PV
1.	18000	0.909	16,362
2.	12000	0.826	3,304
3.	25000	0.751	18,775
4.	5000	0.683	3,415
5.	12000	0.621	7,452
		PVCFAT	49,308
		less PVCO	80,000
		NPV	-692

As the project B has -ve value, reject project B and accept project A of NPV = 15,101

**PROFITABILITY INDEX:** It is also known as cost benefit ratio of present value of cash inflow to present value of cash outflow.

$$\text{Profitability Index} = \frac{\text{Present value of cash inflow}}{\text{Present value of cash outflow}}$$

$$\text{Project A} = \frac{55101}{40,000} = 1.337$$

$$\text{Project B} = \frac{49308}{50,000} = 0.98$$

- ② The financial manager has to make a choice between 2 competing proposals which has an equal amount of 50,000.

and also calculated P.I

Years	Project A	Project B
1	25,000	10,000
2	15,000	12,000
3	10,000	18,000
4	-	25,000
5	12,000	8,000
6	6,000	4,000

Project -A

Years	Cash inflow	P.V @ 10%	Total P.V
1	25000	22,725	-
2	15000	12390	
3	10000	7510	
4	NIL	-	
5	12000	7452	
6	6000	3384	

Years	Cash inflow	P.V @ 10%	Total A.V
1			
2			
3			
4			
5			
6			

16/10/18

\* INTERNAL RATE OF RETURN:

IRR is that rate at which sum of the discounted cash inflow equals the sum of the discounted cash outflows.

It is the rate at which NPV of investment is zero if it is called internal rate of return. In this method, discount rate is not known but cash inflows.

UNEVEN CASH FLOWS:

→ A firm with required rate of return of 10% is considering a project that requires an initial outlay of 15500 and cash inflows as follows

Years	Cash inflow
1	3000
2	4000
3	6000
4	5000
5	4000

Calculate IRR and suggest whether the project is acceptable or not -

Sol Sum of cash inflows of the project is  
20,000 ( $3000 + 4000 + 6000 + 5000 + 4000$ )

- When divided by the life of project 5 years it results in fake annuity of 4,400 ( $\frac{20000}{5}$ )
- Divide initial Investment or Outlay with fake annuity.
- $$P.B.P = \frac{15,500}{4,400} = 3.523 \text{ years}$$
- In the annuity table the factor closest to 3.523 for the 5 years is 3.517 for rate of 13%
- Taking IRR 13% the present value of cash inflows are calculated and compared with outlays as follows.

Years	Cash in flow	Pv @ 13%	Total Pv c=arb
1.	3000	0.885	2,655
2	4000	0.783	3132
3.	6000	0.693	4158
4.	5000	0.693	3065
5.	4000	0.543	2172
		Total of Pv = 15,182	
		Pv of cashflow = 15,500	
		NPV	- 318

Since NPV is -ve at discount rate of 13%, then the discount rate ~~should~~ should be decreased to 12%.

Years	Cash in flow	@ 12%	Total PV C=a×b
1	3000	0.893	2,679
2	4000	0.797	3188
3	6000	0.712	4272
4	5000	0.636	3180
5	4000	0.567	2268
		PV of cash in flow	15,587
		less. PV of cash out flow	15,500
		NPV	87.

Since 13% and 12% are consecutive discount rates that gives positive and negative NPV, interpolation method can be applied to find actual IRR which will be inbetween 12% and 13%.

$$\begin{aligned}
 IRR &= 12 - \left[ \frac{PVCO - PVCFAT}{\Delta PVCFAT} \right] \times \Delta\%
 \\
 &= 12 - \left[ \frac{15500 - 15,587}{15587 - 15,182} \right] \times (13 - 12) \\
 &= 12.12\%
 \end{aligned}$$

## EVEN CASH FLOW:

→ A firm with required rate of return of 10% is considering a project that involves the investment of ₹ 16,000 and is expected to generate cash inflow of ₹ 4,000 each for 5 years. calculate IRR.

Sol PBP =  $\frac{16000}{4000} = 4 \text{ years.}$

→ The rate which gives present value of Annuity of 4 for 5 years is the project IRR.

→ Look into the present value of annuity factor table across the years, we find (upper) at 8% column

→ In order to calculate IRR we need to find a value closest to payback period one is higher & the other one is lower than it

→ According to the annuity table, discount factor closest to PBP for 4 years to 5 yrs are 3.983 at 8% and 4.100 at 7%.

→ The actual value of IRR which lies between 7% and 8% can be determined by Interpolation method. Then .

$$IRR = r - \left[ \frac{PBP - DF_r}{DF_{r_L} - DF_{r_H}} \right]$$

PBP = Pay back Period

$DF_r$  = discount factor for interest rate

$DF_{r_L}$  = discount factor for lower interest

$DF_{r_H}$  = discount factor for higher interest rate

$r$  = either of 2 interest rates used in formulae.

$$IRR = 7 - \left[ \frac{4 - 4.100}{4.100 - 3.993} \right] = 7.93\%$$

$$IRR = 8 - \left[ \frac{4 - 3.993}{4.100 - 3.993} \right] = 7.93\%$$

IRR for investors is 7.9% which is less than 10%, required rate of return so project is rejected.

NPV is use of ... ...

$$NPV = \frac{PVCFAT - PVCOF}{}$$

→ calculate a NPV of a project which requires initial investment 20,000 and net cash inflows of 6000 for each year for 6 years and the cost of fund is 8%.

Yr	Net cashflow	Pv @ 8%	Pv
1 to 6	6000	4.683	27738
		PV CFT	27,738
		LESS PVCOF	20,000
		NPV	7,738.

→ The project costing 40,000/- has annual cash inflow 20,000/- after tax for a period of 6 years, what is the net present value, if the firm expects 15% per annum (15% - 3.784).

Yrs	Net cash inflow	Pv @ 15%	Pv
1 to 6	20,000	3.784	75680
		PV CFT	75,680
		LESS PVCOF	40,000