

Unit - 7

Introduction

(a) What is Business?

A business is an economical activity. An economic activity involves money transaction. An activity or a firm (organization) which involves in manufacturing and purchasing raw materials, conversion of input into finished goods, transporting, advertisement, marketing and selling is said to be a business organization.

An business is carried out to make profits.

$$\boxed{\text{Profit} = \text{Revenue} - \text{Expenses}}$$

Revenue: Amount generated by selling all the goods

$$\boxed{\begin{aligned} \text{Revenue} &= \text{Price} \times \text{No. of units sold} \\ &= 20 \times 100 \\ &= 2000 \end{aligned}} \quad \begin{array}{ll} \text{cost of Market} & - 10 \\ \text{Price} & - 20 \\ \text{Total produced} & - 100 \end{array}$$

$$\boxed{\begin{aligned} \text{Expenditure} &= \text{Cost of Production} \times \text{No. of units produced} \\ &= 10 \times 100 \\ &= 1000 \end{aligned}} \quad \begin{array}{ll} \text{Total Sold} & - 100 \\ \text{units produced} & \end{array}$$

Expenditure is the amount spent for producing the units.

$$\begin{aligned} \text{Profit} &= 2000 - 1000 \\ &= 1000 \end{aligned}$$

A farm is manufacturing 80 AC. cost of manufacturing 1 AC is 37500. The farm priced each AC at 46000. The farm sold 75 AC. Calculate the Revenue

$$\begin{aligned} \text{Revenue} &= 46000 \times 75 \\ &= 34,50,000 \end{aligned}$$

Business involves no. of activities and transactions.

Business transactions are 2 types

1) Financial transactions (money involved)

2) Non-financial transactions (no money involved)

1) Financial transactions :-

Eg:- i) Rent paid to Ramesh

iii) Salaries paid

ii) Telephone bill paid.

2) Non-financial transactions

Eg:- i) Putting down the strike

ii) Planning to start the new branch

iii) Decision to promote an employee

iv) Decision making

v) Consulting

Meaning of financial Accounting:

* It is the process of recording financial transactions related to the business.

* Financial transactions are recorded in books of accounts.

Record - chronological order
(Date wise)

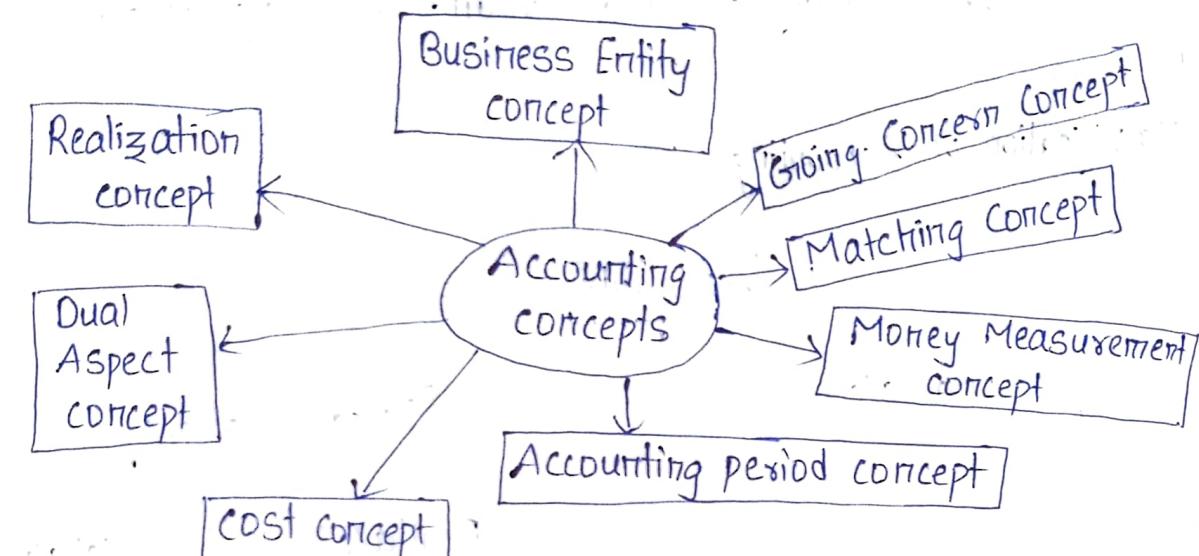
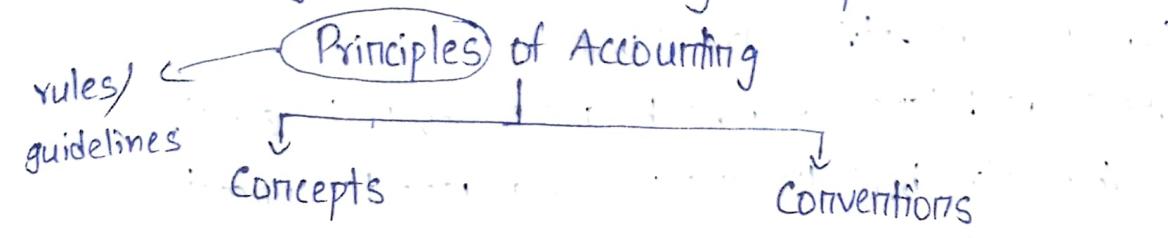
Jan 23, 2024

Objectives of Accounting

- 1) To maintain a systematic record of business transactions.
- 2) To ascertain profit and loss.
- 3) To determine the financial position.
- 4) To provide information to various users.
- 5) To assist the management.
- 6) To know the Solvency position

Basic Concepts of Accounting

GAAP - Generally Accepted Accounting Principles



Conventions

- Full Disclosure
- Materiality
- Consistency
- Conservatism

Business Entity Concept :- It treats Business & owner as separate.

Money invested = Capital

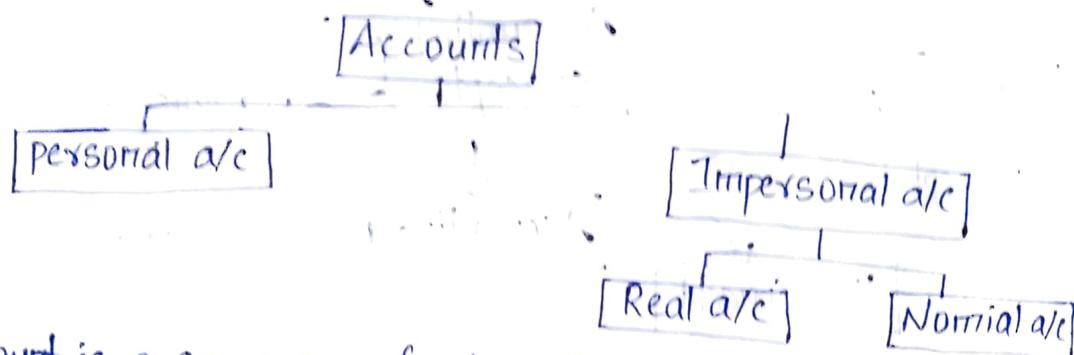
Money taken from the
Business and used by the = Drawings
Owner for personal needs

- * Double entry accounting refers to the method of recording financial transactions in dual aspects.
- * Debit & credit entries are shown.
- * The credit balances & debit balances should be equal.
- * Double entry book keeping uses dual aspects concept.
- * Dual aspects includes debit & credit.

Debit = Giving aspect & Credit = receiving aspect

Jan 30, 2024

Classification of Accounting



Account is a summary of relevant transactions at one place relating to the particulars ahead.

Personal account :- Accounts related to individuals, banks, firms, companies etc., are known as personal accounts.

Rules of personal account :- Debit - Receiver
Credit - Giver

Personal a/c

Real Persons

- Ram a/c
- Shyam a/c

Artificial persons

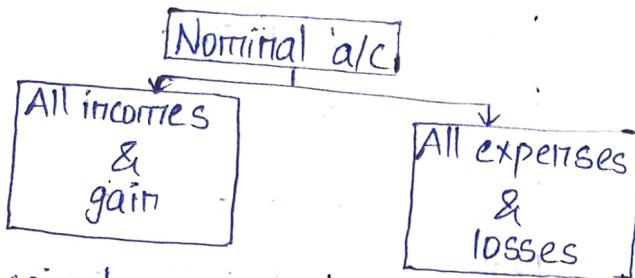
- > ABC company
- > Wipro Pvt Ltd

Real account :- Real account is related to tangible or intangible assets. Tangible assets are one which we can see and touch such as buildings, plant, cash etc. Intangible are one which we can see and touch such as good will, trademarks, etc.

Rules of Real account :- Debit - What comes into organization

Credit - What goes from the organization

Ex:- Stock machinery, goods



Ex:- Rent received

commission received

interest received

- wages
- Rent paid
- electricity Bill paid
- Stationary paid
- interest paid
- commission paid

Rules of Nominal account :- Debit - All Expenses and losses
credit - All incomes and gains

- 1) Ram started business with cash 50,000
- 2) Purchased ^{Purchases} for machinery
- 3) Purchased goods for cash
- 4) Sold goods for cash
- 5) Sold goods to Sampoorna
- 6) Purchased goods from ram

Transaction	Account involved	Type of account	How effected	Debit/Credit
1.	Ram (capital)	Personal	Giver	Credit
	cash	Real	Receiver	Debit
2	Machinery	Real	what comes in	Debit
	cash	Real	what goes out	Credit
3	Purchases	Real	what comes in	Debit
	cash	Real	what goes out	Credit
4	Sales	Real	what goes out	Credit
	cash	Real	what comes in	Debit
5	Sales	Real	Giver	Credit
	Samipoorna	Personal	Receiver	
6	Purchases	Real	Receiver	Debit
	Ram	Personal	Giver	Credit

Jan 31, 2024

Transactions are 2 types

1) Cash transaction 2) Credit transaction

1) Cash transaction Examples :- Machinery purchased for cash, purchased goods for cash, sold goods, purchased goods, purchased stationary, sold Machinery.

2) Credit transaction Examples :- Machinery purchased from Nikesh, Machinery sold to sattvik, Goods sold to krishna, Goods purchased from siddharth, sold goods to Abc company.

Journals

- 1) A Journal is a day book.
- 2) This is the first step in the accounting cycle.
- 3) The process of systematically recording financial transactions in the journal book is called as journalising.

Proforma for Journal Entry

Date	Particulars	LF	Debit	Credit
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LF means Ledger folio

Feb 3, 2024

Problem on Journal Entries

Generalize the following transactions

Date 2022	Transactions	Amount
Jan 1	Ramu Started Business with cash	50,000
Jan 2	Paid cash into Bank	10,000
Jan 8	Purchased goods for cash	2,000
Jan 9	Purchased machinery for cash	10,000
Jan 14	Sold goods for cash	12,000

solution:-

credit capital personal
debit cash Real
Debit should write first

In the Book of Ramu

Journal Entries

Date 2022	Particulars	LF	Debit	Credit
Jan 1	cash A/c to capital A/c Dr (Being Ramu started Business with cash)	Dr	50,000	50,000
Feb 6, 2024				
Jan 2	Bank A/c to cash A/c	Dr	10,000	10,000
Jan 8	Purchases A/c to cash A/c	Dr	2,000	2,000
Jan 9	Machinery A/c to cash A/c	Dr	10,000	10,000
Jan 14	Sales A/c to cash A/c	Dr	12,000	12,000

Eg:- Paid Rent - Paid Rent in Cash

expenses
 ↓
 Nominal
 ↓
 Debit - All exp & losses
 Rent a/c Real a/c
 to Cash A/c what goes out (ex)

Eg:- Paid Salaries - Paid salaries in Cash

Nominal Real
 ↓ ↓
 Debit credit
 Salaries A/c
 to Cash A/c

Eg:- Sold goods for cash

Sales cash → real Debit
 ↓ ↓
 Real credit
 Cash A/c
 to Sales A/c

Eg:- Purchased Machinery for cash

real real
 ↓ ↓
 Debit credit

Machinery A/c
 to Cash A/c

2020

Jan 1 Raju started Business with 50,000

Jan 4 Purchased goods for cash 5000

In the Book of Raju

Journal Entries

Date	Particulars	LF	Debit	Credit
2020				
Jan 1	Cash A/c Dr (Being to Capital A/c Raju started Business with cash)	Dr	50,000	5000
Jan 4	Purchases A/c Dr (Being goods purchased to Cash A/c for cash)	Dr	5000	5000

Q) Feb 1 Sheela started Business with cash 80,000

Feb 3 Purchased goods for cash 10,000

In the Book of Sheela

Journal Entries

Date	Particulars	LF	Debit	Credit
Feb 1	Cash A/c Dr to Capital A/c Dr (Being Sheela started Business with cash)	Dr	80,000	80,000
Feb 3	Purchases A/c Dr to Cash A/c Dr (Being goods purchased for cash)	Dr	10,000	10,000

Q)

2023

March 1	Ramu started Business with cash	50,000
March 3	Paid Cash into Bank	20,000
March 8	Purchased goods for cash	5,000
March 14	Sold goods for cash	8,000

In the Book of Ramu
Journal Entries

Date	Particulars	Dr	Debit	Credit
March 1 2023	Cash A/c to Capital A/c (Being Ramu started Business with cash)	Dr	50,000	50,000
March 3	Bank A/c to Cash A/c (Being cash paid into Bank)	Dr	20,000	20,000
March 8	Purchases A/c to Cash A/c (Being goods purchased for cash)	Dr	5,000	5,000
March 14	Cash A/c to Sales A/c	Dr	8000	8000

Feb 7, 2024

Transactions - Generalize the following transaction in the books
ABC Ltd

Date	Transaction	Amount
March 1	Business started with cash (cash)	80,000
March 3	Paid into Bank (cash)	15,000
March 8	Purchased goods for cash (cash)	4,000
March 10	Purchased goods from Shanti (credit)	6,000
March 12	Purchased Machinery for cash (cash)	5,000
March 18	Sold goods to Ramu (credit)	8,000
March 19	Sold goods to Vivek for cash (cash)	4,000

March 20	Rent Paid (cash)	5,000
March 24	Interest Paid (cash)	2,000
March 25	Received cash from Ramu in full settlement (cash)	7,500
March 30	Salaries Paid (cash)	8,000

Journal Entries

Date	Particulars	IF	Debit	Credit
March 1	Cash A/c to Capital A/c (Being Business started with cash.)	DR	80,000	80,000
March 3	Bank A/c to Cash A/c (Being cash paid into Bank)	DR	15,000	15,000
March 8	Purchases A/c to Cash A/c (Being goods purchased for cash)	DR	4,000	4,000
March 10	Purchases A/c to Sharm A/c (Being goods purchased from Sharm)	DR	6,000	6,000
March 12	Pa Machinery A/c to Cash A/c (Being Machinery purchased for cash)	DR	5,000	5,000
March 18	Ramu Sales A/c to Ramu Sales A/c (Being goods sold to Ramu)	DR	8,000	8,000

March 19	Sales A/c to Cash A/c (Being goods sold to Vivek for cash)	DR	4,000	4,000
March 20	Rent A/c to Cash A/c (Being Rent Paid for cash)	DR	5,000	5,000
March 24	Interest A/c to Cash A/c (Being interest paid for cash)	DR	2,000	2,000
March 25	Cash Ramu A/c to Ramu to Cash A/c to discount, discount (Being received cash from Ramu in full settlement)	DR	7,500 500	7,500 500
March 30	Salaries A/c to Cash A/c (Being Salaries Paid in cash)	DR	8,000	8,000

Feb 9, 2024

Generalize the following transactions:

- 1) Business started with cash 70,000 Jan 1
- 2) Purchased goods from Dinesh 8,000 Jan 9
- 3) Paid to ~~Ramu~~ Dinesh 7,850 Jan 25
- 4) Sold goods to Deepa (credit) 3,000 Jan 26
- 5) Received from Deepa in full settlement 2,500 Jan 28

Date	Particulars	DR	Debit	Credit
Jan 1	Cash Capital A/c to Capital A/c (Being Business started with cash.)	DR	70,000	70,000
Jan 8	Purchases A/c to Dinesh A/c (Being purchased goods from Dinesh)	DR	6000	6000
Jan 25	Dinesh A/c to Cash A/c to discount Received A/c (Being paid to Dinesh in full settlement)	DR	8000 150	7,850
Jan 26	Deepa Cash A/c to Sales A/c (Being goods sold to Deepa)	DR	80,000	3000
Jan 28	Cash A/c Discount A/c to Deepa A/c	DR DR	2500 500	3,000

Feb 12, 2024

Ledgers

- 1) Second step in the accounting cycle.
- 2) The process of transferring journal entries into ledger is called as "posting".
- 3) In ledgers we have two columns. Ledgers represent the head & accounts.

Eg: Capital Cash Rent

categories of accounts

* In ledgers we use the terms b/d & c/d

B/d = Brought down

C/d = Carried down

B/d = represented by the prefix 'By'

Left side = Debit
Right side = credit

C/d = represented by the prefix 'to'

Proforma of Ledgers

Capital A/c

Dr

Date	Particulars	IF	Amount	Date	Particulars	IF	Amount

- Capital A/c
- 1) Sita started Business RS 5000
 - 2) Purchased goods for cash RS 200
 - 3) Sold goods for cash RS 700
 - 4) Purchased goods from Greetra RS 600
 - 5) Paid Rent RS 800
- 1) Capital
 - 2) Cash
 - 3) Purchases
 - 4) Sales
 - 5) Greetra
 - 6) Rent

		Capital A/c				
Date	Particulars	Dr	Credit	Date	Particulars	Credit
Jan 1	To cash				By Bal	
		5000			c/d	5000
		<u>5000</u>				<u>5000</u>
Debit	<u>cash A/c</u>	DR				
credit	<u>to Capital A/c</u>					
Debit	<u>Purchases A/c</u>	DR				
credit	<u>to cash A/c</u>					

Feb 14, 2024

Transactions

- 1) Started Business with cash RS 1,00,000
- 2) Purchased goods from Mahesh 50,000

March 1	cash A/c	DR			
			1,00,000		
		to Capital A/c			
March 2	purchases A/c	DR			
			50,000		
		to Mahesh A/c			
				50000	

Dr

Cash A/c

Date	Particulars JF	Amount	Date	Particulars JF	Amount
Mar 1	To capital A/c	100000	Mar 31	By Bal c/d	100000
		<u>100000</u>			<u>100000</u>

April 1 To Bal B/d 1,00,000

Dr

Capital A/c

Date	Particulars JF	Amount	Date	Particulars JF	Amount
Mar 31	To Bal c/d	100000	Mar 1	By cash A/c	100000
		<u>100000</u>			<u>100000</u>

April 1 By Bal B/d 100000

Dr

Purchases A/c

Date	Particulars JF	Amount	Date	Particulars JF	Amount
Mar 2	To Matresh A/c	50000	Mar 31	By Bal c/d	50000
		<u>50000</u>			<u>50000</u>

April 1 To Bal B/d 50,000

Dr

Matresh A/c

Date	Particulars JF	Amount	Date	Particulars JF	Amount
Mar 31	To Bal c/d	50000	Mar 2	By Purchases A/c	50000
		<u>50,000</u>			<u>50,000</u>

April 1 By Bal B/d 50,000

Method-1

Trial Balance

Debit Balance	Amount	Credit Balance	Amount
Cash	100000	Capital	100000
Purchases	50000	Mathesh	50,000
	<u>150000</u>		<u>150000</u>

Method-2

Particulars	Debit	Credit
Cash	100000	
Purchases	50000	
Capital		100000
Mathesh		50000
	<u>150000</u>	<u>150000</u>

* In trial Balance is a statement which shows debit and credit balances.

Debit Balances :- All assets are debit

Assets - Land, Building, Plant, Machinery, equipment, furniture, etc.

All expenses and losses are debit

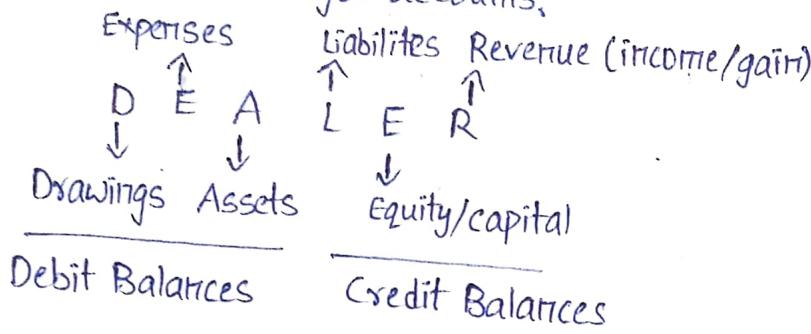
Bills receivables, Debtors, Baddebt, Cash in hand, drawings, cash at Bank.

Credit Balances :- All incomes and gains

Creditors, Capital, Bills payable, bank overdraft, loan

Feb 16, 2024

Trial Balance :- It is a statement that shows the summary of debit & credit balances of all ledger accounts.



From the following balances, taken from the books of Dawarka Prashad & Son's as on March 31st 2017. Prepare a trial balance

Name of Accounts	Rs	Name of Accounts	Rs
Cash in Hand (Dr)	4,500	Machinery (Dr)	24,000
Bank overdraft (Cr)	8,000	Land & Buildings (Dr)	50,000
Opening Stock (Dr)	20,000	Debtors (Dr)	18,400
Purchases (Dr)	80,000	Creditors (Cr)	9,500
Purchases returns (Cr)	2,000	Bills receivable (Dr)	2,850
Sales (Cr)	139,000	Bills Payable (Cr)	1,650
Sales returns (Dr)	5,000	Capital (Cr)	60,000
Travelling Expenses (Dr)	1,800	Drawings (Dr)	6,000
Discount allowed (Dr)	600	Rent (Dr)	3,700
Discount received (Cr)	1,500	Salaries (Dr)	3,600
		Loan (Cr)	10,000
		Interest on loan (Dr)	1,200

Trial balance

Particulars	Debit	Credit
Cash in Hand	4,500	
Bank overdraft		8,000
Opening Stock	20,000	
Purchases	80,000	
Purchases returns		2,000
Sales		130,000
Sales returns	5,000	
Travelling Expenses	1,800	
Discount allowed	600	
Discount received		1,500
Machinery	24,000	
Land & Buildings	50,000	
Debtors	18,400	
Creditors		8,500
Bills receivable	2,850	
Bills payable		1,650
Capital		60,000
Drawings	6,000	
Rent	3,700	
Salaries	3,600	
loan		10,000
Interest on loan	1,200	
	<u>221,650</u>	<u>221,650</u>

Unit - II

Final Accounts

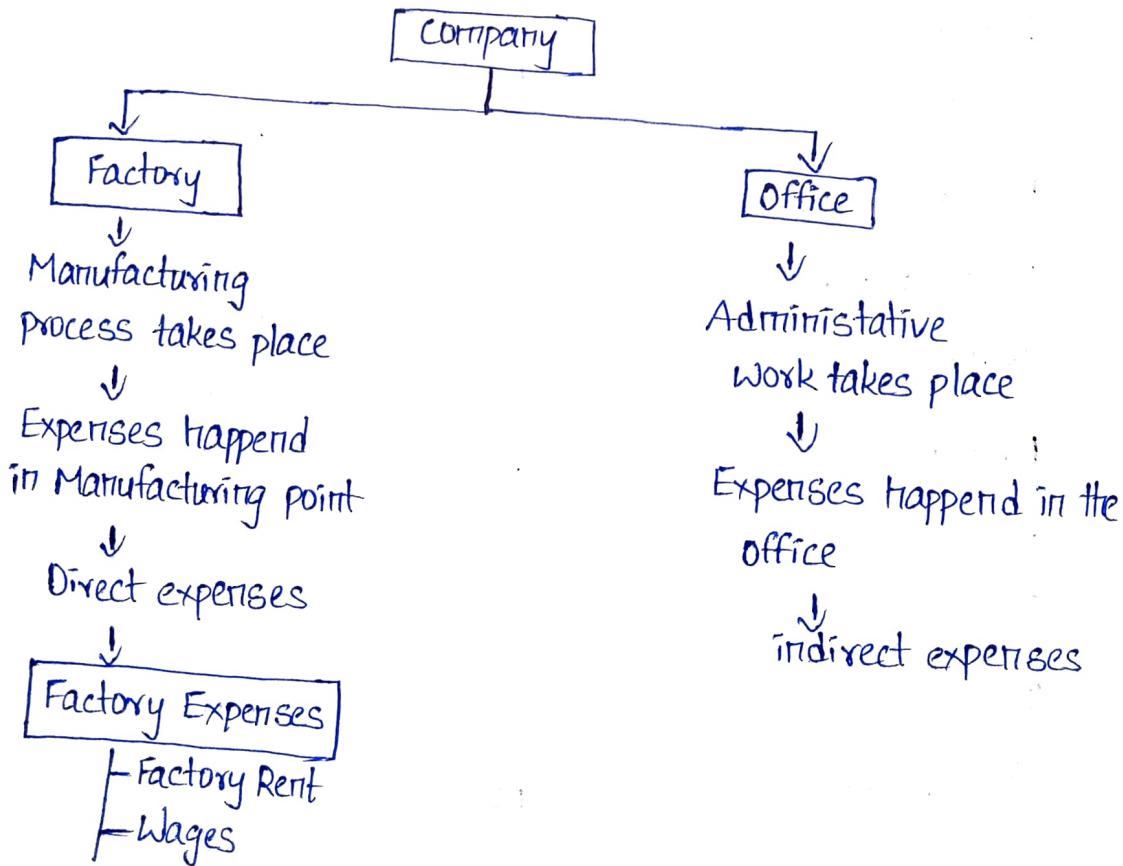
- * This is the last step in the accounting cycle. Final accounts include
 - 1) Trading account
 - 2) Profit & loss account
 - 3) Balance sheet

Trading account :-

- * It is one of the final statement.
- * It is prepared to know the gross profit or gross loss incurred by the business in an accounting period.
- * It records all direct expenses (incurred) spent by a firm.

Gross Profit \rightarrow The total expenses + profit
 \downarrow
 Total (Direct ~~expenses~~)

Gross Loss \rightarrow Total Expenses + Loss
 \downarrow
 (Direct ~~expenses~~)



Feb 20, 2024

Trading Account Format :-

Trading account of XYZ company for the period ending Dec 2019

Dr	C/y
To opening stock xxx	By Sales xxx
To purchases xxx	(-) Sales returns xxx
(-) purchases returns xxx	—————
Direct expenses	xxx
To Factory rent	By closing stock xxx
To Wages	By Gross loss
To fuel & wages power	c/d
To carriage Inward	Transferred to P&L
To Gross profit	A/c
Transferred to P&L	A/c
	xxxx
	xxxx

Q) Prepare Trading account for the year end 30 June 2010 from the following trial balance.

Trial balance of ABC company

Particulars	Amount	Particulars	Amount
Opening stock (T)	1,00,000	Sales (T)	6,42,000
Purchases (T)	4,00,000	Purchases returns (T)	10,000
Wages (T)	40,000	Interest received (P&L)	8000
Sales return (T)	20,000	Creditors (C)	2,40,000
Salaries (P&L)	60,000	Bills payable (C)	12,000
Rent (P&L)	30,000	Capital (C)	2,00,000
Bad Debts (P&L)	14,000		

Printing & stationary (P&L)	16,000		
Insurance (P&L)	24,000		
Office & expenses (P&L)	20,000		
Drawings	48,000		
Debtors	3,00,000		
Furniture	40,000		
Total	11,12,000	Total	11,12,000

Trading Account of ABC company for the period ending 30 June 2010

Dr

Cy

To opening stock	1,00,000	By sales	6,42,000
To Purchases	4,00,000	(-) Sales returns	20,000
(-) Purchases returns	10,000		
			6,22,000
<u>Direct expenses</u>			
To wages	40,000		
To gross profit	92,000		
c/d			6,22,000
			6,22,000

a) Prepare trading account for the year ending 21st March from the following trial balance

Particulars	Amount	Particulars	Amount
Opening stocks (T)	80,000	Purchase returns (T)	24,000
Purchases (T)	4,00,000	Sales return (T)	40,000
Sales (T)	10,00,000	Carriage Inward (T)	16,000
Carriage Inward (T)	30,000	Carriage outward 20,000	20,000
Wages (T)	60,000	Factory rent (T)	24,000
Factory lighting (T)	21,600	Office rent	15,000
Coal, gas & water (T)	4,400	Import Duty (T)	64,000

Trading Account for the year ending 21st march

Dr

C.Y

To opening stocks	80,000	By Sales	10,00,000
To Purchases	4,00,000	(-) Sales	40,000
(-) purchases	24,000	returns	
returns			
			9,60,000
	3,76,000		

Direct expenses

To carriage inward	30,000
To Wages	60,000
To Factory lighting	21,600
To Coal, gas & water	4,400
To carriage inward	16,000
To carriage outward	28,000
To Factory rent	24,000
To Import Duty	64,000
To gross profit	2,84,000
C/d	2,84,000
	9,60,000

9,60,000

Feb 21, 2024

Profit & Loss Account :- (Income statement)

- * It is a second financial statement. In this statement all indirect expenses and losses which are related to the office are recorded.
- * It helps to

* It helps to know the net profit or net loss the format or P&L account is :

Dry

- Particulars
- To Gross Loss b/d
- To Salaries
- To office rent
- To Printing & stationery
- To taxes
- To Postage
- To Discount allowed
- To insurance
- To electricity charges
- To Repairs
- To Depreciation
- To Advertisement
- To Carriage outward
- To Bad Debts
- To Net profit
- To Interest on loans

Profit & Loss Account for the period ending

Profit & loss account of ABC company for the period ending 30 June,
2010.

Dr

To Salaries	60,000	By Gross profit B/d	95,000
To Rent	30,000	By interest received	8,000
To Bad Debts	14,000		
To printing & stationary	16,000		
To insurance	24,000	By Net Loss	
To office Expenses	20,000	(Transferred to capital A/c)	64,000
	1,64,000		
			1,64,000

A) Prepare trading and profit & loss account from following trial balance

Particulars	Amount	Particulars	Amount
Drawing account (L)	7,500	Capital (L)	1,50,000
Plant & machinery (A)	1,31,250	^{Purchases returns} Returns outward (T)	1,250
Stock (1.4.2014) (T)	19,250	Sundry creditors (L)	22,500
Purchases (T)	1,02,500	Sales (T)	2,00,000
^{Sale returns} Returns inward (T)	2,500	Provision for bad debts (P&L)	500
Sundry debtors (A)	25,750	Discount received (P&L)	1,000
Furniture (A)	6,200	Rent received (P&L)	1,500
Freight inward (T)	12,500		
Carriage outward (P&L)	625		
Rent, rates & taxes (P&L)	5,750		
Printing and stationery (P&L)	1,000		
Trade expenses (P&L)	500		
Insurance charges (P&L)	875		
Salaries and Wages (P&L)	26,625		

May 5, 2024

a) From the following balances, extracted from the books of M/s. Laxmi Sons, prepare a Trading account for the year ended on 31st March, 2012.

Particulars	Amount (Rs.)
Opening stock	6,500
Purchases	105,000
Sales	75,000
Purchases Returns	500
Sales returns	1,800
Carriage	1,200
Wages	4,800
Fuel & Power	3,200
Closing stock	8,000

Trading Account for the year 31st March, 2012 from the books of
M/s Laxmi & Sons Cr

Particulars	Amount	Particulars	Amount
To Opening stock	6,500	By Sales	75,000
To Purchases	45,000	By Sales returns	1,800
To Purchases returns	500		
	44,500	By closing stock	8,000
To Carriage	1,200		
To Wages	4,800		
To Fuel & power	3,200		
To gross profit c/d	18,200		
	78,500		78,500

From the following Balance's sheet of M/s Pawan Sales on 31/3/2012, Prepare a Trading and profit & Loss Account and a Balance sheet as on that date.

Particulars	Amount	Particulars	Amount
Drawings (B)	6,000	Sales (T)	2,58,000
Capital (B)	48,000	Return Inwards (T)	2,000
Sundry creditors (B)	80,000	Return Outwards (T)	2,200
Sundry Debtors (B)	1,26,000	Office Salaries (P&L)	18,000
Bills Receivable (B)	10,000	Manufacturing in wages (T)	5,000
Opening stock (T)	90,000	Commission (P&L)	9,000
Fixtures and fittings (B)	13,000	Trad expenses (P&L)	5,000
Cash in hand (B)	2,000	Rent (P&L)	4,400
Machinery (B)	24,800	Discount received (P&L)	8,000
Bank overdraft (B)	10,000	Bills payable (B)	14,000
Purchases (T)	1,00,000		
Closing stock	1,04,000		

Trading Account of M/s Pawan Sales on 31/3/2012

Dr	Cy
Particulars	Amount
To Opening Stock	90,000
To Purchases	1,00,000
(To purchases) return	2,200
To Manufacturing Wages	8,000
To Gross Profit c/d	1,64,200
	3,60,000
Particulars	Amount
By Sales	2,58,000
(-) Sales returns	2,000
By Closing Stock	2,56,000
	1,04,000
	3,60,000

Profit and loss A/c M/s Pawan for the year ended March 31, 2012

Dr		Cr	
Particulars	Amount	Particulars	Amount
To office expenses	16,000	By Gross profit b/d	1,64,200
To Commission	9,000	By Discount received	8,000
To Trade Expenses	5,000		
To Rent	4,400		
To Net Profit	1,35,800		
	<hr/>		<hr/>
	1,72,200		1,72,200

Balance Sheet as on March 31, 2012

Liabilities	Amount	Assets	Amount
Bills Payables	14,000	Cash in Hand	2,000
Sundry Creditors	80,000	Bills Receivable	10,000
Bank Overdraft	10,000	Sundry Debtors	1,26,000
Capital	48,000	Stock	1,04,000
(-) Drawings	8,000	Fixtures and Fittings	13,000
	<hr/>		<hr/>
40,000			
(+) Net profit	1,35,800		
	<hr/>		<hr/>
	1,75,800		2,79,800
	<hr/>		<hr/>
	2,79,800		

May 13, 2024

Depreciation

- * Depreciation means deduction in the value of an assets.
- * Depreciation is calculated only on fixed assets.
- * Depreciation is calculated due to normal wear or tear of the asset.

Objectives of Depreciation:

- * It helps to find out true profitability of the Business.
- * It is calculated to know the financial position of the company.
- * It is calculated for the provision of the replacement of the asset.

Characteristics

- * Depreciation is calculated on the life period of an asset.
- * Depreciation is based on the cost of the asset or book value of the asset but not on the market value.

Methods for calculating Depreciation:-

- 1) Straight Line Method (fixed installment Method)
- 2) Diminishing Balance Method (written down value method)
- 3) Annuity Method

1) Straight Line Method :- As per SLM, depreciation is calculated only one's and same is followed every year.

Depreciation

$$\text{Depreciation} = \frac{\text{cost of Asset} + \text{Installation charges} - \text{scrap value}}{\text{Useful life of Asset}}$$

cost of asset = price of asset

Installation charges = set up / Repair Maintenance

Scrap value = value of the Asset at the end of the life.

Useful life of Asset = Life period

Mar 19, 2024

Q:- ① XYZ purchased a machinery worth rupees 1 lakhs with an estimated salvage value of rupees 20,000 & useful life of the asset is 5 years.

- i) Calculate Annual depreciation amount, as per SLM
- ii) Calculate Rate of depreciation
- iii) Show planted machinery account for 5 years.
- iv) Show Depreciation Table for 5 years
- v) Calculate Dep. Amount :-

$$\text{Annual Dep.} = \frac{\text{cost of asset} + \text{Installation charge} - \text{scrap value}}{\text{useful life of Asset}}$$

$$\text{cost of Asset} = 1,00,000$$

$$\text{useful} = 5 \text{ years}$$

$$\text{Salvage value} = 20,000$$

$$AD = \frac{1,00,000 - 20,000}{5} = \frac{80,000}{5}$$

$$\boxed{\text{Annual Depreciation} = 16,000}$$

- ii) calculate Rate of Dep :-

$$\text{Dep. Rate} = \frac{\text{Dep. Amount}}{\text{cost of Asset}} \times 100$$

$$= \frac{16,000}{80,000} \times 100$$

$$= 20\%$$

- iv) Show Dep. table :-

Year	Book value in ₹	Dep. Amount in ₹	Book value at the end of the year in ₹
1	1,00,000	16,000	84,000
2	84,000	16,000	68,000
3	68,000	16,000	52,000
4	52,000	16,000	36,000
5	36,000	16,000	20,000

iii) Show P&M A/c for 5 years

Machinery Account

Date	Particulars	Dr Amount	Date	Particulars	Cr Amount
Jan 1, 2015	To Bank	1,00,000	Dec 31, 2015	By Dep	16,000
				By Bal c/d	84,000
		<u>1,00,000</u>			<u>1,00,000</u>
Jan 1, 2016	To Bal B/d	84,000	Dec 31, 2016	By Dep c/d	16,000
				By Bal c/d	68,000
		<u>84,000</u>			<u>84,000</u>
Jan 1, 2017	To Bal B/d	68,000	Dec 31, 2017	By Dep c/d	16,000
				By Bal c/d	52,000
		<u>68,000</u>			<u>68,000</u>
Jan 1, 2018	To Bal B/d	52,000	Dec 31, 2018	By Dep c/d	16,000
				By Bal c/d	36,000
		<u>52,000</u>			<u>52,000</u>
Jan 1, 2019	To Bal B/d	36,000	Dec 31, 2019	By Dep c/d	16,000
				By Bal c/d	20,000
		<u>36,000</u>			<u>36,000</u>

At end of 5 years, the machine value or book value of the asset is equal to its scrap value. Hence, a manager has to make a decision to replace the existing asset & plan for producing procuring funds to buy new asset.

The Machinery purchased on 1st Jan 2015. Depreciation is calculated at end of the year that is books are closed on 31st Dec every year.

Transactions :- 2015

- 1) Purchased Machinery on 1st Jan 2015
- 2) Depreciation on Machinery on Dec 31st 2015 RS. 16,000

2016

- 1) Depreciation on Machinery RS 16,000 - Dec 31st.

2017

- 1) Depreciation on Machinery RS 16,000 - Dec 31st

2018

- 1) Depreciation on Machinery RS 16,000 - Dec 31st

2019

- 1) Depreciation on Machinery RS 16,000 - Dec 31st

Journals :-

Date	Particulars	LF	Debit	Credit
2015 Jan 1	Machinery A/c Dr to Bank A/c		1,00,000	1,00,000
Dec 31 2015	Dep. A/c Dr to Machinery A/c		16,000	16,000
Dec 31 2016	Dep. A/c Dr to Machinery A/c		16,000	16,000
Dec 31 2017	Dep. A/c Dr to Machinery A/c		16,000	16,000
Dec 31 2018	Dep. A/c Dr to Machinery A/c		16,000	16,000
Dec 31 2019	Dep. A/c Dr to Machinery A/c		16,000	16,000

2) ABC company purchased a machinery worth ₹ 50,000. On 1st July 2010. The useful life of machinery is 5 years. Salvage value is ₹ 5000. Depreciation is calculated at end of the year & books are closed on ~~Aug 30th~~, June 30th.

- Calculate annual Dep.
- Calculate rate of Dep.
- Draw Dep. Table for 5 years
- Show Planted machinery Account for 5 years

i) Calculate annual Dep.:-

$$\text{Annual Dep.} = \frac{\text{Cost of asset} + \text{Installation charge} - \text{scrap value}}{\text{Useful life of asset}}$$

cost of asset = ₹ 50,000

useful = 5 years

Salvage value = ₹ 5000

$$AD = \frac{50,000 - 5000}{5} = \frac{45,000}{5}$$

$$\boxed{\text{Annual Depreciation} = 9,000}$$

ii) rate of Dep.:-

$$\begin{aligned} \text{Dep. Rate} &= \frac{\text{Dep. Amount}}{\text{cost of asset}} \times 100 \\ &= \frac{9,000}{45,000} \times 100 = 20\% \end{aligned}$$

iii) Dep. Table:-

Year	Book value in ₹	Dep. Amount in ₹	Book value at the end of the year in ₹
1	50,000	9,000	41,000
2	41,000	9,000	32,000
3	32,000	9,000	23,000
4	23,000	9,000	14,000
5	14,000	9,000	5,000

Transactions :-

2010

1) Purchased machinery on 1st July 2010.

June 30, 2011
Dec 31st 2010.

2) Depreciation on machinery RS 9,000 on

2011

1) Depreciation on machinery RS 9,000 - June 30th

2012

1) Depreciation on machinery RS 9,000 - June 30th

2013

1) Depreciation on machinery RS 9,000 - June 30th

2014

1) Depreciation on machinery RS 9,000 - June 30th

Journals :-

Date	Particulars	IF	Debit	Credit
July 1, 2010	Machinery A/c Dr to Cash A/c		50,000	50,000
June 30, 2011	Dep. A/c Dr to Machinery A/c		9,000	9,000
June 30, 2012	Dep. A/c Dr to Machinery A/c		9,000	9,000
June 30, 2013	Dep. A/c Dr to Machinery A/c		9,000	9,000
June 30, 2014	Dep. A/c Dr to Machinery A/c		9,000	9,000
June 30, 2015	Dep. A/c Dr to Machinery A/c		9,000	9,000

iv) Show P&M A/c for 5 years

Plant and Machinery Account

Dr

Credit

Date	Particulars	LF Amount	Date	Particulars	LF Amount
July 1, 2010 (1 st year)	To cash	50,000	Aug 31, 2010 June 30, 2011	By Depreciation By Bal c/d	9000 41000
		<u>50,000</u>			<u>50,000</u>
July 1, 2011 (2 nd year)	To Bal B/d	41,000	Aug 31, 2011 June 30, 2012	By Dep c/d By Bal c/d	9,000 32,000
		<u>41,000</u>			<u>49,000</u>
July 1, 2012 (3 rd year)	To Bal B/d	32,000	June 30, 2013	By Dep c/d By Bal c/d	9,000 23,000
		<u>32,000</u>			<u>32,000</u>
July 1, 2013 (4 th year)	To Bal B/d	23,000	June 30, 2014	By Dep c/d By Bal c/d	9,000 14,000
		<u>23,000</u>			<u>23,000</u>
July 1, 2014 (5 th year)	To Bal B/d	14,000	June 30, 2015	By Dep c/d By Bal c/d	9,000 5,000
		<u>14,000</u>			<u>14,000</u>

At end of 5 years, the machine value or book value of the asset is equal to its scrap value. Hence, a manager has to make a decision to replace the existing asset & plan for procuring funds to buy new asset.

Mar 22, 2024

Dominishing (decreasing) balance method :-

In this method depreciation is calculated on the return down value of the asset but, not on the original cost of asset.

* Return down value means value after deducting depreciation amount.

Q):-

1) A machine is purchased for 50,000 rate of depreciation is 20%. calculate asset value for 3 years.

year 1	$50,000 \times \frac{20}{100} = 10,000$ Dep $50,000 - 10,000 = 40,000$
year 2	$40,000 \times \frac{20}{100} = 8,000$ Dep $40,000 - 8,000 = 32,000$
year 3	$32,000 \times \frac{20}{100} = 6400$ Dep $32,000 - 6400 = 25,600$

Mar 27, 2024

* Show Dep. table for 5 years.

* Show plant & Machinery for 5 years.

Machinery is purchased on Jan 1, 2012. Books are closed on 31st Dec every year.

Dep. Table:-

Year	Book value in ₹	Dep. Amount in ₹	Book value at the end of the year in ₹
2012	50,000	10,000	40,000
2013	40,000	8,000	32,000
2014	32,000	6400	25,600
2015	25,600	5120	20,480
2016	20,480	4096	16,384

- i) From the above table it is understood that, the Dep. amount is decreasing ~~year~~ every year by ~~per~~ year.
- ii) The amount of Dep. is calculated on the ~~written down~~ written value of the asset.
- ~~Ex:-~~
- Written down value of 2013 is 32,000.

Q:-

~~Machinery is purchased on~~
Show plant & machinery Account for 5 years.

Plant and Machinery Account					
Date	Particulars	Amount	Date	Particulars	Amount
Jan 1, 2012 (1 st year)	To Bank	50,000	Dec 31, 2012	By Dep $50,000 \times \frac{20}{100}$	10,000
		<u>50,000</u>		By Bal c/d	<u>40,000</u>
					<u>50,000</u>
Jan 1, 2013 (2 nd year)	To Bal B/d	40,000	Dec 31, 2013	By Dep $40,000 \times \frac{20}{100}$	8,000
		<u>40,000</u>		By Bal c/d	<u>37,000</u>
					<u>40,000</u>
Jan 1, 2014 (3 rd year)	To Bal B/d	37,000	Dec 31, 2014	By Dep $37,000 \times \frac{20}{100}$	6,400
		<u>37,000</u>		By Bal c/d	<u>25,600</u>
					<u>37,000</u>
Jan 1, 2015 (4 th year)	To Bal B/d	25,600	Dec 31, 2015	By Dep $25,600 \times \frac{20}{100}$	5,120
		<u>25,600</u>		By Bal c/d	<u>20,480</u>
					<u>25,600</u>
Jan 1, 2016 (5 th year)	To Bal B/d	20,480	Dec 31, 2016	By Dep $20,480 \times \frac{20}{100}$	4,096
		<u>20,480</u>		By Bal c/d	<u>16,384</u>
					<u>20,480</u>

Q:
 Q) JK company purchased Machinery on 1st April, 2016 for a cost of £1,00,000. Depreciation as per DBM is 10%, books are closed on 31st Dec every year.

i) Show plant & machinery for 3 years.

ii) Show Depreciation table for 3 years.

Dep. Table :-

Year	Book value in £	Dep. Amount in £	Book value at the end of the year in £
2016	1,00,000	7500	92,500
2017	92,500	9250	83,250
2018	83,250	8325	74,925

Machinery purchased on 1st April, 2016
 Books closed on 31st Dec 9 months

$$1,00,000 \times \frac{10}{100} \times \frac{9}{12} = \frac{90,000}{12} = 7500$$

$$92,500 \times \frac{10}{100} = 9250$$

$$83,250 \times \frac{10}{100} = 8325$$

Plant and Machinery Account

Date	Particulars	Amount	Date	Particulars	Amount
April 1, 2016 (1 st year)	To Bank	1,00,000	Dec 31, 2016	By Dep $(1,00,000 \times \frac{10}{100} \times \frac{9}{12})$ By Bal c/d	7500 92500
Jan 1, 2017 (2 nd year)	To Bal B/d	92500	Dec 31, 2017	By Dep $(92,500 \times \frac{10}{100})$ By Bal c/d	9250 83250
Jan 1, 2018 (3 rd year)	To Bal B/d	83250	Dec 31, 2018	By Dep $(83,250 \times \frac{10}{100})$ By Bal c/d	83250 74,925 83,250

Apr 2, 2024

Inventory Valuation Methods

- * Inventory means stock.
- * There are 3 methods of stock valuation
 - i) FIFO → First In First Out
 - ii) LIFO → Last In First out
 - iii) WAM → Weighted Average Method

i) FIFO:-

i) Record the following transactions in stores ledger pricing the materials issued according to FIFO method.

Jan 1st Balance 100 units at Rs 10 per unit.

Purchases:-

Date	Purchase Order No.	Units	Rate
Jan 15	5	40	11
Feb 25	6	60	12
March 25	7	50	10

Issues

Date	Requisition No.	Units
Jan 20	24	80
Feb 10	25	30
Mar 10	26	40

Stores Ledger (FIFO Method)

Purchases				Issues				Balance		
Date	Quantity	Unit cost(rs)	Total	Quantity	Unit cost(rs)	TOTAL	Quantity	Unit cost(rs)	Total	
Jan 1	-	-	-	-	-	-	100	10	1000	
Jan 15	40	11	440	-	-	-	100	10	1000	
							40	11	440	
Jan 20	-	-	-	80	10	800	20	10	200	
							40	11	440	
Feb 10	-	-	-	20	10	200	30	11	330	
				10	11	110				
Feb 25	60	12	720	-	-	-	30	11	330	
							60	12	720	
Mar 10	-	-	-	30	11	330	50	12	600	
				10	12	120				
Mar 25	50	10	500	-	-	-	50	12	600	
							50	10	500	
								100	1100	

2) Record the following transactions in the stores ledger.

March 1 Balance is 500 units at Rs 10 per unit

Purchases -

Date	Purchase Order No	Units	Rate
Mar 12	4	100	10
Apr 12	5	50	12
May 15	6	150	10

Issues

Date	Requisition No	Units
Mar 20		200
Apr 14		400
Apr 25		50

Stores Ledger (FIFO Method)

Purchases

Issues

Balance

Date	Quantity	Unit cost (Rs)	Total	Quantity	Unit cost (Rs)	Total	Quantity	Unit cost (Rs)	Total
MAY 1	-	-	-	-	-	-	500	10	5000
MAY 12	100	10	1000	-	-	-	500	10	5000
							100	10	1000
MAY 20	-	-	-	200	10	2000	300	10	3000
							100	10	1000
APR 12	50	12	600	-	-	-	300	10	3000
							100	10	1000
							50	12	600
APR 14	-	-	-	400	10	4000	50	12	600
APR 25	-	-	-	50	12	600	0	0	0
MAY 15	150	10	1500	-	-	-	150	10	1500
							150	10	1500

Apr 3, 2024

LIFO Method :-

Jan 1 Balance 100 units at Rs 10 per unit
Purchases

Date	Purchase order no.	Units	Rate
Jan 15	5	40	11
Feb 25	6	60	12
Mar 25	7	50	10

Issues

Date	Requisition no.	Units
Jan 20	24	60
Feb 10	25	30
Mar 10	26	40

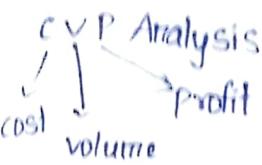
Stores Ledges (LIFO Method)

Purchase				Issue				Balance		
Date	Quantity	Unit cost (Rs)	Total	Quantity	Unit cost (Rs)	Total	Quantity	Unit cost (Rs)	Total	
Jan 1	-	-	-	-	-	-	100	10	1000	
Jan 15	40	11	440	-	-	-	100	10	1000	
							40	11	440	
Jan 20	-	-	-	40	11	440	60	10	600	
				40	10	400				
Feb 10	-	-	-	30	10	300	30	10	300	
Feb 25	60	12	720	-	-	-	30	10	300	
							60	12	720	
Mar 10	-	-	-	40	12	480	30	10	300	
							20	12	240	
Mar 25	50	10	500	-	-	-	30	10	300	
							20	12	240	
							50	10	500	
								<u>100</u>	<u>1040</u>	

Stores Ledger (LIFO Method)

Break Even Analysis

→ It helps to study the cost volume profit relationship



COSTS	
fixed cost (FC)	variable cost, (VC)

COSTS :-

Cost is defined as the total amount or expenditure spent on the producing a product.

Ex:- To produce a ~~wood~~ desk

1 kg of wood → RM → VC

Chapenter charge wage → VC

Power cost → FC

Packaging cost → VC

Transportation - VC

* Costs are of two types

1) Fixed cost

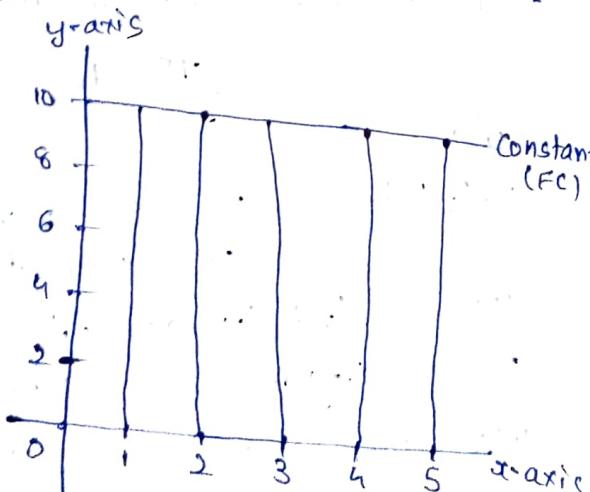
2) Variable cost

* Fixed Cost (FC): The cost is constant with level of output.

* It remains the same even when no. of units produced increases or decreases.

* It is represented as a straight line parallel of x-axis.

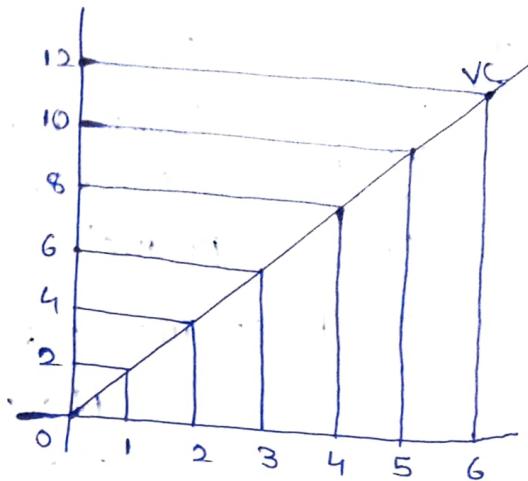
No. of Units	FC in ₹
0	10
1	10
2	10
3	10
4	10
5	10



Variable Cost (VC):

- * These costs vary with level of the output.
- * These costs increases with increase in the production.
- * It is represented as upward sloping curve.

No. of Units	VC in ₹
0	0
1	2
2	4
3	6
4	8
5	10



Total Cost (TC)

- * It includes both fixed costs and variable costs.

It is calculated as

$$TC = FC + VC$$

Break Even Analysis:-

- * It explains about the total no. of sales required to cover all the costs.

Volume \rightarrow No. of units produced / sold

Break even point (BEP):-

- * The point where total Revenue is equal to total cost

$$TR = TC$$

Formulas:-

Contribution \rightarrow $C = \text{Sales} - \text{variable cost (VC)}$

$$C = FC + \text{profit}$$

CPU = Contribution per unit.

SPU = Selling price per unit (SPU)

VCU = Variable cost per unit (VCU)

$$CPU = SPU - VCU$$

$$BEP \text{ in units} = \frac{FC}{\text{contribution}}$$

Q) A company furnished the following information for a period.

Period	Sales	Profit
I	10,000	2,000
II	15,000	4,000

Calculate the P/V Ratio (profit volume), Fixed cost, BEP

Apr 16, 2024

Companies calculate break even point in sales or units to identify the income from sales to cover all the fixed costs to generate profit.

$$BEP \text{ (in units)} = \frac{FC}{\text{contri. per unit (CPU)}}$$

$$\begin{aligned} & \text{Contribution per unit (CPU)} \\ &= SPU - VCU \end{aligned}$$

* Contribution per unit means, what is the F.C. that is increased incurred on 1 unit
 \rightarrow spent

Q) Sales = 10,000 SPU = 20/- VCU = 10/- F.C = 80,000 calculate BEP in units.

$$BEP \text{ in units} = \frac{FC}{\text{contribution per unit}}$$

$$\text{Total Revenue} = \text{Sales} \times SPU \Rightarrow 10,000 \times 20 = 200,000$$

$$\text{Total variable cost} = \text{Sales} \times VCU \Rightarrow 10,000 \times 10 = 100,000$$

$$CPU = SPU - VCU$$

$$= 20 - 10 = 10$$

$$BEP = \frac{80,000}{10} = 8000 \text{ units}$$

$$\begin{aligned} & 8000 \text{ units} \times 20 \\ &= 160,000 \end{aligned}$$

Calculate P/V ratio

P/V ratio stands for profit value ratio. It is used to measure the company profits and its sales relationship.

$$\boxed{P/V \text{ ratio} = \frac{\text{CPU}}{\text{SPU}}}$$

$$= \frac{10}{20} = 0.5$$

Q) i) Fixed cost = 12,000 & P/V ratio SPU = 12/- VCU = 9/- calculate BEP in units
Total revenue =

$$\text{BEP} = \frac{\text{F.C}}{\text{CPU}} \Rightarrow \frac{12000}{3} = 4000$$

$$\text{CPU} = \text{SPU} - \text{VCU}$$

$$= 12 - 9$$

$$= 3$$

$$P/V \text{ ratio} = \frac{\text{CPU}}{\text{SPU}}$$

$$= \frac{3}{12} = 0.25$$

$$\text{Total revenue} = 4000 \times 12 = 48,000 \text{ (sales)}$$

ii) What will be the profit when the sales are 1,60,000/- 2) 1,80,000
Desired profit

$$\boxed{S = \frac{\text{FC} + \text{DP}}{\text{P/V ratio}}}$$

$$1) 60,000 = \frac{12000 + \text{DP}}{0.25}$$

$$60,000 \times 0.25 - 12,000 = \text{DP} \Rightarrow \text{DP} = 3,000$$

$$2) 1,00,000 = \frac{12000 + \text{DP}}{0.25}$$

$$1,00,000 \times 0.25 - 12,000 = \text{DP} \Rightarrow \text{DP} = 13,000$$

a) What will be the amount of sales $\text{DP} \rightarrow 1) 6,000 \text{ €}, 15,000$

$$6000 = \frac{12000 + \text{DP}}{0.25}$$

$$\text{DP} = 72000$$

$$S = \frac{12000 + 6000}{0.25} = 72000 \text{ units}$$

$$S = \frac{12000 + 15000}{0.25} = 1,08,000 \text{ units}$$

Margin of Safety (M/S) = Actual Sales - BEP Sales

Capital Budgeting

* Capital Budgeting is a process of investing money in fixed asset such as land, building, machinery and long term projects.

Capital Budgeting Techniques :-Capital Budgeting TechniquesTraditional Techniques

(Non-discounting cashflow Techniques)

→ Pay Back period (PBP)

→ Accounting Rate of Return (ARR)

Modern Techniques

(Discounting cashflow Techniques)

Net present value (NPV)

Internal Rate of Return (IRR)

Probability Index

Non-discounting Cashflow Techniques :-

* These techniques does not consider the time value of money

Payback Period :-

The time require to recover the initial investment

$$PBP = \frac{\text{Cost of project initial investment}}{\text{Annual Cashflow}}$$

Q1:-

Year

Cashflow

1 5000

2 5000

3 5000

4 5000

$$PBP = \frac{20000}{5000}$$

= 4 years

Accounting Rate of Return (ARR):

- * It is also known as average rate of return.
- * It is used to calculate rate of Return on investment (ROI)
- * ARR is calculated as

$$ARR = \frac{\text{Profit after tax (PAT)}}{\text{Average investment}} \times 100$$

$$PAT = \frac{\text{Total profits}}{\text{No. of years}}$$

$$\text{Average Investment} = \text{Working capital} + \text{Scrap value} + \frac{1}{2}(\text{cost of project} - \text{Scrap value})$$

- Rule :-
- i) Accept if $ARR > \text{cost of capital}$
 - ii) Reject if $ARR < \text{cost of capital}$

Apr 23, 2024

Payback Period :-

To calculate payback period two types

- a) Even cashflows
- b) Uneven cashflows

* Given cashflows are cashflows which have same amount every year.

* Cashflows means amount which is expected to be earned.

Eg:- Cost of Capital is 85,000 \rightarrow even cf

year	cashflows
1	2000
2	2000
3	2000

Uneven cf

Eg:- Cost of Capital is 1,20,000

year	cashflows
1	10,000
2	12,000
3	13,000

From the following information calculate payback period.

Cost of capital = 1,00,000, annual cashflows = 20,000,

estimated life of project = 5 years, standard payback period = 4 years

Suggest whether the project should be accepted or rejected.

Even cashflows

$$PBP = \frac{\text{cost of capital / initial investment}}{\text{Annual cashflow}}$$

$$= \frac{100000}{20000} = 5 \text{ years}$$

Reject the project as PBP is > standard PBP

Uneven cashflows

ABC company purchased two machines

	M-I	M-II
Life	3 yrs	3 yrs
initial investments	10,000	10,000
Net earnings	1) 8000 2) 6000 3) 4000	2000 7000 10000

You are requested to calculate payback period and suggest which machine has to be referred.

Step-I :- Calculate cumulative cashflows

Year	Cashflow	Cumulative cashflows
1	8000	8000
2	6000	14000
3	4000	18000

Step-II :- Payback year = Base year + $\frac{AYTR}{\text{next year cashflow}}$
AYTR = amount yet to be recovered.

AYTR = Cost of Capital - amount to be recovered upto base year

$$AYTR = 10000 - 8000 \\ = 2000$$

$$\text{Pay back period} = 1 + \frac{2000}{6000} = 1.33 \text{ years}$$

M-II

Year	Cashflow	Cumulative cashflow
1	2000	2000
2	7000	9000
3	10000	19000

$$\text{Payback period (PBP)} = \text{Base year} + \frac{AYTR}{\text{Next year cashflow}} \\ = 1 + \frac{1000}{10000} = 2.1 \text{ years}$$

$$AYTR = 10000 - 9000 \\ = 1000$$

$\therefore M-I$ to be selected

Q:- Calculate payback period for the following projects initial investment is 1,00,000. Which project is acceptable if the standard PBP is 5 years.

Cashflows

Year	Project A	Project B	Project C
1	30,000	30,000	10,000
2	30,000	40,000	20,000
3	30,000	20,000	30,000
4	30,000	10,000	40,000
5	30,000	5,000	0

Project-A

Year	Cashflow	Cumulative cashflow
1	30,000	30,000
2	30,000	60,000
3	30,000	90,000
4	30,000	1,20,000
5	30,000	1,50,000

$$\text{AYTR} = 100000 - 90000 \\ = 10000$$

$$\text{PBP} = \frac{\text{AYTR}}{\text{next year cashflow}} \\ = 3 + \frac{10000}{30000} = 3.33 \text{ years}$$

Project-B

Year	Cashflow	Cumulative CF
1	30,000	30,000
2	40,000	70,000
3	20,000	90,000
4	10,000	100,000
5	5,000	105,000

$$\text{AYTR} = 100000 - 90000 \\ = 10000$$

$$\text{PBP} = \text{Base year} + \frac{\text{AYTR}}{\text{next year CF}} \\ = 3 + \frac{10000}{10000} = 4 \text{ years}$$

Project C

Year	Cashflow	Cumulative CF
1	10,000	10,000
2	20,000	30,000
3	30,000	60,000
4	40,000	100,000
5	0	100,000

$$\text{AYTR} = 100000 - 60000 \\ = 40000$$

$$\text{PBP} = \text{Base year} + \frac{\text{AYTR}}{\text{next year CF}} \\ = 3 + \frac{40000}{40000} = 4 \text{ years}$$

∴ Project-A is to be selected

Apr 24, 2024

Accounting rate of return (ARR):

- * It is also known as average rate of return.
- * It is used to calculate rate of return on investment.

* ARR is calculated as:

$$ARR = \frac{\text{Profits After tax (PAT)}}{\text{Avg. investment}} \times 100$$

$$\text{Avg PAT} = \frac{\text{Total Profits}}{\text{No. of years}}$$

$$\begin{aligned}\text{Avg investment} &= \text{Working capital} + \text{Scrap value} + \\ &\quad \frac{1}{2} (\text{cost of project} - \text{scrap value})\end{aligned}$$

Acceptance rules:

- 1) Accept the project if $ARR > \text{cost of capital}$.
 - 2) Reject the project if $ARR < \text{cost of capital}$.
 - 3) In case of mutual project accept the project which is having higher ARR.
- Q1) From the following data calculate ARR for a given project and suggest whether the project is accepted or rejected if cost of capital is 10%.

$$\text{Cost of Capital} = 10,00,000$$

$$\text{Estimated life} = 5 \text{ years}$$

$$\text{Scrap value} = 2,00,000$$

$$\text{Working capital (WC)} = 1,00,000$$

$$\text{Annual profits after tax} = 2,00,000$$

SOL: ARR for Event

$$ARR = \frac{\text{Avg PAT}}{\text{Avg investment}} \times 100$$

$$\text{Avg PAT} = 2,00,000$$

$$\begin{aligned}\text{Avg investment} &= 1,00,000 + 2,00,000 + \frac{1}{2}(1,00,000 - 2,00,000) \\ &= 3,00,000 + \frac{1}{2}(8,00,000) \\ &= 7,00,000\end{aligned}$$

$$ARR = \frac{2,00,000}{7,00,000} \times 100 = 28.57$$

∴ Accept the project as ARR is $>$ cost of capital i.e., $28\% > 10\%$

ARR for Uneven cashflow

Calculate ARR from the following information

Profit After tax

Years	Machine I	Machine II
1	1,50,000	2,00,000
2	3,00,000	3,00,000
3	1,50,000	2,50,000
4	—	1,50,000

$$\text{Cost of Machine} = 3,00,000$$

Estimated life Machine-I 3 years

Machine-II 4 years

$$\text{Estimated scrap value} = 60,000 \text{ each}$$

$$\text{Working Capital} = 2,50,000 \text{ each}$$

Suggest whether to accept or reject with proper explanation.

SOL:
M-I

$$ARR = \frac{\text{Avg PAT}}{\text{Avg investment}} \times 100$$

$$\text{Avg PAT} = \frac{\text{Total Profits}}{\text{No. of years}}$$

$$= \frac{1,50,000 + 3,00,000 + 1,50,000}{3}$$

$$\boxed{\text{Avg PAT} = 2,00,000}$$

$$\begin{aligned}\text{Avg investment} &= 2,50,000 + 60,000 + \frac{1}{2}(3,00,000 - 60,000) \\ &= 3,10,000 + \frac{1}{2}(2,40,000) \\ &= 4,30,000\end{aligned}$$

$$ARR = \frac{2,00,000}{4,30,000} \times 100 = 46.5$$

M-II

$$ARR = \frac{\text{Avg PAT}}{\text{Avg investment}} \times 100$$

$$\text{Avg PAT} = \frac{\text{Total profits}}{\text{No. of years}}$$

$$= \frac{2,00,000 + 3,00,000 + 2,50,000 + 1,50,000}{4}$$

$$\boxed{\text{Avg PAT} = 2,25,000}$$

$$\begin{aligned}\text{Avg investment} &= 2,50,000 + 60,000 + \frac{1}{2}(3,00,000 - 60,000) \\ &= 4,30,000\end{aligned}$$

$$ARR = \frac{2,25,000}{4,30,000} \times 100$$

$$= 52.3$$

∴ M-II is accept because M-II ARR is > M-I ARR

Pr 26, 2024

Discounting Cashflow Techniques :-

Net Present Value (NPV) :-

It is calculated as

$$\boxed{NPV = \text{Total Present value cashinflows} - \text{Total Present value cashoutflows}}$$

Evaluation of NPV :-

Step-1 :- Calculate Pvif (Present value interest factor)

$$Pvif = \frac{1}{(1+r)^n}$$

r = rate of return

n = no. of years

Step-2 :- Calculate PVCFs (Present value cash inflows)

$$\boxed{PVCFs = \text{cashinflows} \times \text{pvif}}$$

Q:- Calculate NPV for the following data and suggest to accept or reject project. Cost of project = 10,00,000, estimated life = 5 years, rate of return = 10%.

Year	Cashflows
1	2,00,000
2	3,00,000
3	2,00,000
4	2,50,000
5	3,00,000

Sol:-
Step-1 :-

Years	Cashflows	Pvif	PVCF
1	2,00,000	0.909	1,81,800
2	3,00,000	0.826	2,47,800
3	2,00,000	0.751	1,50,200
4	2,50,000	0.683	1,70,750
5	3,00,000	0.620	1,86,000
	12,50,000	3.789	9,36,550

$$PVIF = \frac{1}{(1+0.1)^1} = 0.909 = \frac{1}{(1+0.1)^5} = 0.683$$

$$\begin{aligned} & \cdot \frac{1}{(1+0.1)^2} = 0.826 \\ & \cdot \frac{1}{(1+0.1)^3} = 0.751 \end{aligned} = \frac{1}{(1+0.1)^5} = 0.620$$

$$\begin{aligned} PVCFs &= 2,00,000 \times 0.909 \Rightarrow 2,00,000 \times 0.683 \\ &= 1,81,800 \\ &= 1,70,756 \end{aligned}$$

$$\begin{aligned} & \Rightarrow 3,00,000 \times 0.826 \Rightarrow 3,00,000 \times 0.620 \\ &= 2,47,800 \\ &= 1,86,200 \end{aligned}$$

$$\Rightarrow 2,00,000 \times 0.751 = 1,50,200$$

\therefore Reject the Project

$NPV < \text{cost of capital}$

$TPVC \text{ inflows} - TPVC \text{ outflows}$

$$\begin{aligned} 9,36,550 - 10,00,000 \\ = -63,450 \end{aligned}$$

Q:- Project X and Project Y cost 50,000 & 25,000 respectively their cashflows are given below. You're required to calculate NPV required rate of return is 18% for Project X & 22% for Project Y.

Years	Cashflows	
	Project X	Project Y
1	5000	10,000
2	15000	10000
3	30000	10000
4	20000	10000
5	10000	-

Project X:-

Years	Cashflows	Prif	Pvcf
1	5000	0.84	4,200
2	15,000	0.71	10,650
3	30,000	0.60	18,000
4	20,000	0.51	10,200
5	10,000	0.43	4,300
	<hr/>		<hr/>
	80,000		47,350

$$NPV = 47,350 - 50,000 \\ = -2,650$$

\therefore Reject the Project-X

$NPV < \text{cost of Capital}$

Project Y:-

Years	Cashflows	Prif	Pvcf
1	10,000	0.81	8,100
2	10,000	0.67	6,700
3	10,000	0.55	5,500
4	10,000	0.45	4,500
	<hr/>		<hr/>
	40,000		24,800

$$NPV = 24,800 - 25000 \\ = -200$$

\therefore Reject the Project-Y

$NPV < \text{cost of Capital}$

May 1, 2024

- * Accept the project if $NPV > \text{cost of capital}$ and $NPV = +ve$
- * Reject the project if $NPV < \text{cost of capital}$ and $NPV = -ve$

Q:- From the following information, calculate Net Present value of the 2 projects and suggest which project should be accepted assuming the discount rate of 10%.

Details	Project X	Project Y
Initial investment	20,000	80,000
Estimated life	5 years	5 years
Scrap value	1000	2000

Years	Cashflows	
	Project -X	Project -Y
1	5000	20,000
2	10000	10000
3	10000	5000
4	3000	3000
5	2000	2000

Project-X

Year	Cashflows	Pvif	Pvcf
1	5000	0.909	4545
2	10000	0.826	8260
3	10000	0.751	7510
4	3000	0.683	2049
5	2000	0.600	1240
	30000		

$$28604 + 1000 (\text{Scrap value}) \\ 34604$$

TPVC inflows - TPVC outflows

$$24604 - 20000$$

$$= 4604$$

Project-X

Year	Cashflows	Rif	Pvif
1	20000	0.909	18,180
2	10000	0.826	8260
3	5000	0.751	3755
4	3000	0.683	2049
5	2000	0.620	1240
	40000		

$$33484 + 2000 \text{ (scrap value)}$$

$$\underline{\underline{35484}}$$

TPVC inflows - TPVC outflows

$$35484 - 30000$$

$$= 5,484$$

∴ Accept the project-X