5th SEM B.COM CO-OPERATION/ FINANCE/ BBA

CALICUT UNIVERSITY

ACCOUNTING FOR MANAGEMENT

2017 ADMISSION

Prepared by

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SYLLABUS

BCM5B07 ACCOUNTING FOR MANAGEMENT

Lectures Hours per week: 5, Credit – 4 Internal: 20,

External: 80, Examination 2.5 Hours

Objectives:

- To enable the students to understand the concept and relevance of Management Accounting.
- To provide the students an understanding about the use of accounting and costing data for planning, control, and decision making.

Module I Management Accounting: Nature and Scope - Difference between cost Accounting, Financial accounting and Management accounting - Recent trends in Management Reporting. **(05 Hours, 5 marks)**

Module II Analysis and Interpretation of Financial Statements: Meaning - Types and Methods of Financial Analysis - Comparative Statements - Trend Analysis - Common size Statements (a general discussion only). **(10 Hours, 10 marks)**

Module III Ratio Analysis: Meaning - Nature - uses and limitations of Ratios - Liquidity, Profitability, Turnover, Solvency, Leverage. Market test Ratios. Construction of Financial Statements from ratios - Judgment of financial stability through ratios - (Focus to be given to problems solving and Interpretation skills) **(25 Hours, 25 marks)**

Module IV Fund Flow and Cash Flow Analysis: A. Fund Flow Statements: Meaning and concept of Fund - Current and Non Current Accounts Flow of fund - Preparation of Fund Flow statement - Uses and Significance. B. Cash Flow Statement: Difference between Fund flow Statement and Cash flow Statement - Preparation of Cash Flow Statement as per AS - 3 Norms - Direct and Indirect methods (Stress to be given to Problems). **(25 hours, 25 marks)**

Module V Managerial Decision making with the help of CVP Analysis : Marginal Costing - Fixed CostVariable Cost - Contribution - P/V Ratio - Break Even Analysis - Algebraic and Graphic presentation - Decision making : Fixation of Selling Price - Exploring new markets - Make or Buy - Key Factor - Product Mix - Operate or Shutdown. **(15 Hours, 15 marks)**

(Theory and Problems may be in the ratio of 40% and 60% respectively).

Reference Books:

1. Dr. S.N. Maheswari : Management Accounting.
2. Saxena : Management Accounting.
3. Made Gowda : Management Accounting.
4. Dr. S. N. Goyal and Manmohan : Management Accounting.
5. B.S.Raman: Management Accounting.
6. R.S.N. Pillai and Bagavathi : Management Accounting.
7. Sharma and Gupta : Management Accounting.
8. J. Batty : Management Accounting.
9. Foster: Financial Statement Analysis, Pearson Education.
10. P.N. Reddy & Appanaiah : Essentials of Management Accounting

MODULE 1

INTRODUCTION TO ACCOUNTING FOR MANAGEMENT

Introduction to management accounting

- Management accounting provides all possible information required for managerial purposes
- It aims at providing information to managers for better decision-making
- Management accounting transforms accounting data into accounting information
- It is that system which helps management in carrying out its functions more efficiently

Meaning and definition

- It is the study of managerial aspects of accounting
- It is a tool which helps the management in planning and controlling various business activities.
- According to Robert Antony " Management accounting is concerned with accounting information that is useful to management
- According to Brown and Howard " The essential aim of management accounting should be to assist management in decision making and control"

Significance of management accounting

- Financial accounting
- Cost accounting
- Financial management
- Budgeting and forecasting
- Inventory control
- Reporting to management
- Interpretation of data
- Control procedures and data
- Internal audit
- Tax accounting
- Office services

Functions of management accounting

- Planning and forecasting
- Financial analysis and interpretation
- Facilitates managerial control
- Communication
- Use of qualitative information
- Co-ordination
- Helpful in taking strategic decision
- Supplying information to various levels of management

Difference between Management Accounting and Financial Accounting

Financial Accounting	**Management Accounting**
The purpose is to ascertain P&L and financial position	The purpose is to provide information to management for decision making
Records historical data relating to past	Concerned with future plans and operations
It is compulsory	It is optional
Lays more emphasis on accuracy	Lays more emphasis on quick and prompt reporting
Prepare for a particular period	No specific period
Limited scope	Wide scope
Audit is more or less compulsory	Audit is not compulsory
External parties are the users	Internal parties are the users

Difference between management accounting and cost accounting

Cost Accounting	**Management Accounting**
The purpose is to ascertain and control the cost of products or services	The purpose is to provide information to management for planning, controlling and decision making
Includes only cost ascertainment and control	Includes financial accounting, cost accounting, budgeting, tax planning and reporting to management
Uses only quantitative information	Uses both qualitative and quantitative information
Deals with cost	Deals with both cost and revenue
Based on both historical and current data	Concerned with transactions relating to the future
Precedes management accounting	Starts where cost accounting ends

Limitations of management accounting

- Based on accounting information
- Lack of knowledge
- Intuitive decisions
- Not an alternative to administration
- Top heavy structure
- Evolutionary stage
- Personal bias

- Psychological resistance

Tools and techniques of management accounting

- Financial policy and accounting
- Analysis of financial statements
- Historical cost accounting
- Budgetary control
- Standard costing
- Marginal costing
- Decision accounting
- Revaluation accounting
- Control accounting
- Management information systems

Functions of management accountant

- Analytical and advisory functions
  - Planning and control of operations
  - Measuring performance of the organisation
  - Evaluating policies and programmes
  - Reporting the operational performance
  - Protecting assets through internal control and proper insurance coverage
- Administrative and procedural functions
  - Installation of accounting system
  - Arranging audit
  - Making capital expenditure system
  - Management of cash
  - Inventory management

Recent trends in management accounting

- Cash flow reporting
- Segment reporting
- Financial reporting using IFRS
- Interim financial reporting
- Economic value added
- Value added statements
- Management discussion and analysis report
- Business responsibility report
- Environmental reporting
- Brand valuation
- Reporting information relating to group companies
- Vertical form of financial statements
- Use of charts, graphs and diagram

MODULE 2

ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENTS

Analysis and interpretation of financial statements

- It is the process of analysing the information contained in the financial statements to judge profitability and financial soundness of a firm.
- It may be defined as the process of identifying financial strengths and weakness of firm by establishing relationships between the items in the financial statements.
- It is he detailed study of financial statements.

Purposes/objects of financial analysis

- Help in economic decision making
- Assess financial position and financial performance of the business
- Ascertain operating performance of business
- Determine solvency and liquidity of business
- Determine debt paying capacity of the firm
- Judge the present and future profitability of firm
- Make inter firm comparison
- Measure managerial efficiency of firm
- Solve the internal problems of the business

Uses of financial statement analysis

- Importance to shareholders
- Importance to creditors
- Importance to management
- Importance to employees and trade unions
- Importance to Govt.

Types of financial analysis

a) On the basis of material used
- External analysis
- Internal analysis

b) On the basis objectives of the analysis
- Short term analysis
- Long term analysis

c) On the basis of modus of operation
- Horizontal analysis
- Vertical analysis

Procedure for financial analysis

1. Re arrangement of financial statements
2. Comparison
3. Analysis
4. Interpretation

Operating statement for the year ending ….

	Rs	Rs
Gross sales		…….
(-) S/R		…….
Net sales		……..
(-) COG		…….
Opening stock	……..	
(+) purchase	……..	
	…….	…….
(-) closing stock	…….	
		……..
G/P (net sales-COG)		
(-) operating expenses:	.....	
Administrative expenses	.....	
Selling and distribution expenses		.....
Operating N/P		.....
		.....
(+) non-operating income		.....
(-) non-operating expenses		.....
N/P before tax		
(-) provision for taxation		.....
N/P after taxation		

Statement of capital employed as on…..

	Rs	Rs	Rs
Capital employed			
Share capital	.....		
G/R	.....		
P & L A/C	.....		
Other reserves	.....		
Shareholder's fund	.....		
Debentures	.....		
Other long term liabilities	.....		
	.....		.....
Employment of capital			
Non- current assets:			
Goodwill	.....		
Land and building	.....		
Motor vehicles	.....		

Loose tools			
Furniture and	.....		
fixtures	.....	_____	
Investments	_____	.....	
Current assets:	.....		
Cash in hand	.....		
Cash at bank	.....		
Bills receivable	.....		
Sundry debtors(less			
provision)	.....		
Marketable trade	.....		
investment	_____		
Closing stock	.....		
	_____		
	.....		
Current liabilities:	.....		
Bills payable	.....		
Sundry creditors	.....		
Outstanding	.....		
expenses	.....		
Provision taxation			
Proposed dividend	_____		
Bank overdraft			
	.....		
	_____		
Working capital (CA-CL)		.....	.....
		_____	_____

Methods/ tools/ techniques of financial statement analysis

1. Comparative financial statements
2. Common size statements
3. Trend analysis
4. Ratio analysis
5. Funds flow analysis
6. Cash flow analysis

Comparative financial statements

- Compare the financial data for 2 or more years.
- This technique is also known as " inter period analysis"
- It can be prepared for both income statement and balance sheet

➢ Objectives/purposes

- To make the data simpler and understandable
- To ascertain the changes occurring year by year

- To find out strengths and weakness of liquidity, solvency and profitability
- To help management in forecasting and planning

➢ Comparative balance sheet

- Which shows assets, liabilities and owner's equity of a business at the beginning and at the end of period with increase or decrease in the data.

➢ Steps in the preparation of comparative balance sheet

1. First column is particulars, name of items are recorded
2. Second column, data of previous years balance sheet should be recorded
3. Third column, data of current year's balance sheet should be written
4. Fourth column, increase or decrease in the items (the difference between the amounts in the second and third column)
5. Last column, percentage of increase or decrease by the amount of the concerned item of the previous year's balance sheet and multiplying it by 100

Comparative income statement

- Explains the operating results for two periods and the amount as well as percentage increase or decrease in items
- It explains the relationship between sales and cost of goods sold and its effect on gross profit.

➢ Steps in preparation

1. First column showing particulars. The starting item is gross sales. From this, sales returns are deducted and net sales is obtained. From this cost of goods id deducted and gross profit is arrived. From this, other expenses are deducted to get net profit.

   Ie, gross sales
   (-) sales return
   Net sales
   (-) cost of goods sold
   Gross profit
   (-) Other expenses
   Net profit

2. Second column, amounts of previous year are recorded
3. Third column, amounts of current year are recorded
4. Fourth column is show increase or decrease in figures
5. Last column, the percentage of increase or decrease is shown.

➢ Advantages

- Provide necessary information for the study of financial and operational results over a period of time
- Disclose trends in sales, costs and profits.
- Facilitates to evaluate the financial position, efficiency and performance of a firm
- Comparison of various items of different periods can easily made
- Help to identify weakness

- Limitations
  - Price level changes reduce the reliability of comparative financial statements
  - If basic accounting principles are changed, comparative financial statements will lose its validity
  - Internal factors like products, manufacturing operations may be different from those of the prior periods.

Common size statement

- The statements in which terms are converted into percentages taking some common base
- These statements are called 100 percent statement/component percentage
- It include common size balance sheet and common size P&L a/c

a) Common size balance sheet

- A statement in which each asset is shown as a percentage of total asset and each liability and capital as a percentage of total liability and capital is called a common size balance sheet
- The balance sheet which is converted into percentage form is called common size balance sheet
- It is also known as percentage balance sheet

- Steps in preparation
  - Total asset are to be taken as 100. And liability and capital also are to be taken as 100
  - Each item on the asset side is divided by the total asset and then it is multiplied by 100. Thus each item of asset is expressed as a percentage of total assets
  - Each item on the liability side (including capital) is divided by the total of liabilities and capital and then it is multiplied by 100.

b) Common size income statement or P&L a/c

- A statement in which each expense item is shown as a percentage of net sales

- Steps in preparation
  - Net sales should be taken as 100 (net sales = gross sales – sales return)
  - Then cost of goods sold is taken. Ie; opening stock + purchase + wages + direct expenses – closing stock
  - The cost of goods sold converted into common size percentage. Ie; COG/Net sales *100
  - When COG is deducted from net sales, will get G/P
  - Then office and administrative expenses are taken and its percent on net sale is calculated as; office and administrative expenses/net sales*100
  - Selling and distribution expenses and its percentage of net sale are shown in statement
  - From G/P ,total operating expenses are deducted to get operating net profit
  - If other expenses and other incomes are given, they should also be shown in the common size statement. Other expenses are deducted from operating net profit and other incomes are added to it to get net profit.

- Limitations
- It is not suitable for horizontal analysis
- It doesn't disclose reasons for changes
- In this technique interpretation is difficult
- Establishment of standards of percentage is difficult.

Trend analysis

- Analysis of general tendencies is called trend analysis
- Analysing general tendencies in each item of the financial statement on the basis of the data of the base year
- Comparing the past data over a period of time with a base year is called trend analysis.
- Under this technique, information for a number of years is taken up and one year is taken as the base year.
- It helps in understanding the direction in which the organisation is moving
- Objectives
- To find the trend or direction of movement over a period of time
- To make comprehensive and comparative study of financial statements
- To have a better understanding of financial and profitability position
- Methods of trend analysis
  1. Trend percentage
  2. Trend ratios
  3. Graphic method
- Steps in preparation
- Select a base year, generally the first year is taken as base year
- Take the figures of base year as 100
- Calculate trend percentage in relation to base year. Each year's figure is divided by the base year's figure. If the amount of the same item in the other statement is more than that in the base statement, the trend percentage would be more than 100% and if the amount is less than the base amount, the trend percentage would be less than 100%.
- Advantages
- It is a simple technique
- It is an easy method to indicate the future trends
- It reduces the chances of errors because it is possible to compare the percentage with absolute figures
- Limitations
- The trend ratio of a single item has no significance unless it is compared with the trend ratio of related figures.
- If the accounting principles and practices are not uniform throughout the period of analysis
- Unscientific
- There may be no normal base year.

MODULE 3

RATIO ANLYSIS

Meaning

- Refers to one number expressed in terms of another number.
- According to J Batty, " the term accounting ratio is used to describe the significant relationship which exists between figures shown in a balance sheet, P&L A/c, in a budgetary control system or in any other part of the accounting organisation"

Forms of ratio

- Proportion
- Percentage
- Times
- Fraction

Objectives or purposes of ratio analysis

- To study the short term solvency of a firm
- To study the long term solvency of a firm
- To determine the profitability
- To measure the performance of a firm
- To facilitate The process of financial forecasting
- To financial comparison
- To communicate the strength and weakness of firm
- To enable managerial decision making

Advantages

- Advantage to management
- Advantages to shareholders and investors
- Advantages to creditors
- Advantages to employees
- Advantages to Govt.

Limitations

- Inherent limitations of accounting
- Non-monetary factors ignored
- Qualitative factors ignored
- Not a substitute for judgement
- Need for comparative analysis
- Lack of adequate standards
- Window dressing
- Price level changes

Classification

a) Classification according to financial statements
    - Balance sheet or financial ratios
    - Profit and loss ratios

- Combined or mixed ratios

b) Classification according to nature or functions
   - Liquidity ratios
   - Leverage ratios
   - Activity ratios
   - Profitability ratios
   - Market test ratios

Liquidity ratios

- Refers to the firm's ability to pay its current liabilities out of its current assets
- Used to measure the liquidity position or short term financial position of a firm
- Used to assess the short term debt paying ability of firm
- Important liquidity ratios are current ratio, quick ratio, super quick ratio etc.

➢ Current ratio
- It is defined as the ratio of current assets to current liabilities
- Shows the relationship between total current assets and total current liabilities
- It indicates the firm's capacity to pay its current liabilities in time
- It is an index of the strength of working capital
- Current ratio of 2:1 is considered satisfactory or ideal
- A very high current ratio indicates that too much of money is blocked in current assets
- A very low current ratio indicates that the liquidity position is not good and the firm will find it difficult to pay off its debts.
- Also called " working capital ratio"
- Current ratio= current assets/current liabilities

➢ Window dressing
- It is the practice of improving the current ratio through manipulation of accounts.
- It is an attempt to conceal the facts and present a better picture of the financial position of a firm than what is actual.
- It is an artificial improvement in the current ratio. It done in the following ways;
- Increasing the inventory values
- Postponement of purchase of fixed assets for cash
- Selling a fixed asset.
- Delaying purchase of inventory on credit
- Issuing new shares or debentures
- Paying off current liabilities
- Considering short term liabilities as long term debts

➢ Liquid ratio/quick ratio
- It is ration of liquid assets to current liabilities
- It is the measure of the instant debt paying ability of the business enterprise
- It is also called acid test ratio / near money ratio
- Liquid ratio= liquid assets/ current liabilities
- Quick assets include all current assets except inventories (or stocks) and prepaid expenses.ie, liquid assets= current assets-stock -prepaid expenses.
- A quick ratio of 1:1is considered to as satisfactory or ideal.
- It is considered as superior to current ratio in testing the liquidity position of a firm
- If the current ratio is 2:1 and quick ratio is 1:1, the liquidity position may be considered satisfactory.

Difference between current ratio and quick ratio

Current ratio	Quick ratio
It indicate whether the firm is able to pay Its current liabilities within a year	Indicates whether a firm is able to pay its Current liabilities quickly or within a month
It express the relationship between current Assets and current liabilities	It expresses the relationship between quick assets and Current liabilities.
Ideal standard is 2:1	Ideal standard is 1:1
Inventories are taking into consideration	Inventories are ignored

Leverage ratios/solvency ratios

- Used to analyse the long term financial position of a business.
- Used to analyse the capital structure of a firm
- Two types of ratios are there;
  a) Structural ratios/ capital structure ratios
  - Indicate the long term solvency of the firm
  - Measure the extend of debt financing in a firm
  - Examples are; debt equity ratio, total asset to debt ratio, proprietary ratio, solvency ratio etc.

➢ Debt equity ratio/External- internal Equity ratio/security ratio

- This ratio indicates the relative proportion of debt and equity in financing the assets of a firm.
- It Express the relationship between debt and equity.
- There are 2 forms;

a) Long term debt equity ratio
b) Total debt equity ratio

- Long term debt Equity ratio= long term debt/Equity
- Total debt equity ratio=total debt/equity
- This expresses the relationship between long term and Equity.
- Components of long term debt Equity ratio are long term and equity.
- Long term debts includes; debentures, mortgages, and all long term loans. (long term debt= debentures+ mortgages+ all long term loans)
- Equity includes; equity share capital, preference share capital, reserves and surpluses(equity/ shareholder's fund= equity capital+ preference capital+ all reserves and surpluses)
- When accumulated losses and fictitious assets (preliminary expenses) are deducted from the shareholder's fund, we get net worth.
- In calculating debt equity ratio, either shareholder's fund or net worth may be used.
- Treatment of preference share capital; it is advisable to be include preference share capital in in equity if they are redeemable or irredeemable after 12 years. If they are redeemable within 12 years, it may be included in debt. If nothing is mentioned in the question, it may be taken in equity.
- When you are asking to calculate merely debt equity ratio, you have to calculate long term debt equity ratio.
- Ideal ratio is 1:1

➢ Proprietary ratio/equity ratio/ net worth ratio

- Establishes the relation between shareholders' / proprietors' fund and total asset.
- Proprietary ratio = shareholders fund/total asset
- Proprietary ratio = shareholders fund/ total asset *100

- Shareholders fund include; s hare capital(equity and preference), all reserves and surpluses and undistributed profits (accumulated losses are deducted)
- Shareholders fund is also known as proprietors; fund or owners' equity or internal equity or net worth.
- Total assets include all current assets and non-current assets, realisable value of intangible assets(goodwill)
- Fictitious assets like preliminary expenses, discount on shares and debentures, underwriting commission etc. Are excluded
- Standard proprietary ratio is 0.5:1

➢ Ratio of total assets to total debts/solvency ratio
- Express the relationship between total assets and total liabilities of a firm
- Solvency ratio= total assets/total debt
- Total assets include total noncurrent assets and total current assets
- Total debt means total outside liabilities. Ie, it includes long term liabilities and short term liabilities
- It the total assets are more than outside liabilities, the firm is treated a solvent.

➢ Fixed assets to net worth/ fixed assets to proprietors fund ratio
- It establishes the relationship between fixed assets and proprietors fund
- Fixed assets to net worth = fixed assets/ proprietors fund
- If the ratio is less than 1, it will mean that all fixed assets are purchased out of proprietors fund and a part of proprietors fund is invested in working capital.

➢ Fixed asset ratio
- This ratio is used to know how fixed assets are financed.
- Fixed asset ratio=fixed assets (after depreciation)/long term funds
- Long term funds include shareholder's fund and long term borrowed funds
- Fixed assets + investments + current assets – current liabilities
- Share capital (both equity and preference) +reserves and surpluses +long term liabilities
- Standard fixed ratio is 1:1
- A higher position indicate that the financial position is not sound. Lower the ratio, better is the financial position.

➢ Capital gearing ratio
- It is used to analyse the capital structure of a company
- The term capital gearing or leverage refers to the proportion between fixed income bearing funds and equity shareholder's fund
- Fixed income bearing funds include debentures, other long term loans and preference share capital
- Capital gearing ratio=fixed income bearing funds/equity shareholder's funds
- I.e., preference share capital+debentures+6long term loans/equity shareholder's funds
- A company is highly geared of the proportion of preference share capital and debentures is high.
- A company is said to be low geared if the proportion of preference share capital and debentures is low.

b) Coverage ratios
- These ratios are computed from the statement of P&L A/c
- Ratios are used to test the firm's debt serving capacity
- Debt serving capacity means the ability of firm to make periodic payments of interest and preference dividend.
  Examples are; interest coverage ratio, dividend coverage ratio etc.

- Interest coverage ratio/debt service ratio
  - This measures the capacity of the firm to pay interest on loans and debentures regularly.
  - It establish relationship between operating profit and interest charges.
  - Interest coverage ratio= profit before interest tax/interest
  - It generally expressed in times.
  - The standard ratio is 6 to 7 times.
  - The higher the ratio, the stronger is the ability of a company to pay interest. But too high a ratio may imply unused debt capacity. A low ratio indicate excessive use of debt and the inability to offer assured payment of interest to creditors.
- Dividend coverage ratio
  - It measures the ability of a company to pay dividend on preference shares carrying a fixed rate of dividend
  - Dividend coverage ratio= earnings after tax(EAT) / preference dividend
  - The standard ratio is 2 times
  - The higher the ratio the better is from the point of view of preference shareholders.
- Total/ overall coverage ratio
  - It is also known as fixed charges coverage ratio
  - It measures the ability of a company to service all fixed regulations out of its earnings.
  - The fixed obligations include interest on loans and debentures, preference dividend, lease payment and loan repayment
  - Total coverage ratio = EBIT/total fixed charges

Activity ratios

- It show how effectively a firm uses its available resources or assets.
- It shows the efficiency in asset management
- It also known as efficiency ratios/ performance ratio/assets utilisation ratio/turnover ratio
- It shows the cash elasticity of current assets
- Higher turnover ratio means better use of resources
- It expressed in number of times
- Inventory turnover ratio/ stock turnover ratio
  - Shows the relationship between cost of goods sold and average inventory or stock
  - It is called merchandise turnover ratio
  - It indicates the number of times the stock is turned over or converted into sales
  - It measures the liquidity of inventory
  - High ratio is an indication of good inventory management. Low turnover ratio reflects over investment in inventories, accumulation of huge stock, dull business etc.
  - Stock turnover ratio = cost of goods sold/average stock
  - Cost of goods sold = opening stock+ purchases+ direct expenses (including wages) – closing stock
  - Cost of goods sold = sales – G/P, if it is G/L it should be added to sales
  - Average stock = opening stock +closing stock /2
  - Stock velocity
  - When the stock turnover ratio is expressed in days or months, then it is called stock velocity or stock turnover period
  - Stock velocity = no. Of days or months in a year/ stock turnover ratio (in times)
  - $\frac{\text{Average stock}}{\text{Cost of goods sold}}$ * no. Of days or months in a year
  - A ratio of 8 times is considered satisfactory

- Debtors turnover ratio/receivable turnover ratio
  - Explains the relationship between net credit sales and average debtors including bills receivable.
  - It shows how quickly debtors are realised or converted into cash
  - It indicates how efficiently the firm collects cash from debtors
  - Debtors arise in respect of credit sales
  - It shows how quickly debtors are converted into cash.
  - A higher ratio shows efficiency in collection from debtors
  - Debtors turnover ratio = net credit sales / debtors including B/R
  - Net credit sales = gross credit sales – sales returns
  - Gross credit sales = total sales – cash sales
  - Avg debtors = opening debtors + closing debtors/2
  - Avg B/R = Opening B/R + closing B/R
  - Debtors turnover ratio = $\frac{\text{net credits}}{\text{Avg debtors+ Avg B/R}}$
  - Average collection period
  - This ratio is related with and dependent upon debtors turnover ratio
  - It means the number of days or months for which debtors and B/R remain outstanding
  - It refers to debtors turnover ratio expressed id days or months
  - It also known as debtors velocity or Avg age of debtors
  - Avg collection period = $\frac{\text{360 or 12}}{\text{Debtors turnover ratio}}$

    Or = $\frac{\text{Avg debtors (including B/R)}}{\text{Credit sales per day}}$

    Or = $\frac{\text{Avg debtors (including B/R)}}{\text{Net credit sales}}$ *365 or 12
  - Credit sales per day = $\frac{\text{net credit sales}}{365}$

- Creditors turnover ratio
  - Shows the relationship between net credit purchase and avg creditors including B/P
  - It indicate the number of times the creditors are paid
  - It is also called payables turnover ratio
  - If there a higher ratio (lower credit period) it means early payment to creditors and the firm is not taking the full advantage of credit allowed by creditors.
  - Creditors turnover ratio = $\frac{\text{net credit purchase}}{\text{Avg creditors including B/P}}$

    Or = $\frac{\text{net credit purchase}}{\text{Avg creditors + avg B/P}}$
  - Net credit purchase = total credit purchase – purchase returns
  - Total credit purchase = total purchase – cash purchases
  - Avg creditors = opening creditors + closing creditors /2
  - Avg bills payable = $\frac{\text{opening B/P + closing B/P}}{2}$
  - Avg payment period = $\frac{\text{360 or 12}}{\text{Creditors turnover ratio}}$

    Or = $\frac{\text{avg creditors (including B/P)}}{\text{Credit purchase per day}}$

    Or = $\frac{\text{avg creditors (including B/P)}}{\text{Net credit purchase}}$ *365

- Credit purchase per day = $\frac{\text{net credit purchase}}{\text{365 or 12}}$

➢ Working capital turnover ratio
- The relation between sales and working capital
- It shows how many times the working capital is turned out
- Standard ratio is 7 or 8 times
- Working capital turnover ratio = $\frac{\text{net sales or cost of sales}}{\text{Working capital}}$
- Net sales = total sales – sales returns
- Total sales = cash sales + credit sales
- Working capital = current assets – current liabilities

➢ Fixed asset turnover ratio
- It establishes the relationship between net sales and fixed assets
- It measures the efficiency with which a firm is utilising its fixed assets in generating sales.
- Fixed assets turnover ratio = $\frac{\text{net sales}}{\text{Net fixed assets (ie, less depreciation)}}$
- Investment should not include in fixed asset
- A higher ratio indicates better utilisation of fixed assets

Profitability ratios

- Used to measure the profitability of a firm
- There are two types;

a) Profitability ratios based on sales

➢ G/P ratio
- This is the ratio of g/p to sales expressed as percentage
- Also known as gross margin
- G/p ratio = $\frac{\text{G/P}}{\text{Net Sales}}$
- Net sales = gross sales – sales returns
- Gross sales = cash sales + credit sales
- G/p = net sales – cost of goods sold
- Ideal ratio is 20% to 25%

➢ Operating ratio
- It expresses the relation between operating cost and sales
- It indicate the overall efficiency of the firm
- Usually expressed in %
- Operating ratio = $\frac{\text{cost of goods sold + operating expenses}}{\text{Net sales}} * 100$
- Operating expenses include office and administrative expenses, selling and distribution expenses, financial expenses (i.e. Interest on short term loans, bad debts, and discount allowed etc.)
- Financial expenses like interest on long term loans and debentures, provision for taxation, loss on sale of fixed assets, expenses on issue of shares and debentures, preliminary expenses, donations etc. Will not be included
- Standard ratio is 75% to 85%
- Lower the ratio is higher the efficiency

- Operating profit ratio
  - It explains the relationship between operating profit and net sales
  - It indicate the result of operation of business
  - Operating profit ratio = $\frac{\text{operating profit}}{\text{Net sales}} * 100$
  - Operating profit = net sales-cost of goods sold – operating expenses
    Or = G/P – operating expenses
    Or = N/P + non-operating expenses and interest on loan term loans and debentures – non operating incomes
- Expense ratio
  - It express the relationship between various expenses to net sales
  - It expressed in %
  - Cost of goods sold ratio = $\frac{\text{cost of goods sold}}{\text{Net sales}} * 100$
  - Office and administration expense ratio = $\frac{\text{office \& admn expenses}}{\text{Net sales}} * 100$
  - Selling & distribution expense ratio = $\frac{\text{selling \& distribution exp}}{\text{Net sales}} * 100$
  - Finance expense ratio = $\frac{\text{finance expenses}}{\text{Net sales}} * 100$
- N/P ratio
  - It measures the overall efficiency and profitability of firm
  - Higher the ratio better the is the profitability
  - Ideal ratio is 5% to 10%
  - N/p ratio = $\frac{\text{N/P}}{\text{Net sales}} * 100$
    Or = $\frac{\text{PBT}}{\text{Net sales}} * 100$
    Or = $\frac{\text{PAT}}{\text{Net sales}} * 100$
  - Operating N/P *****
    Add: non –operating incomes *****
    *****
    Less: non-operating expenses *****
    Net profit *****

b) Profitability ratios based on investment

- Return on investment (ROI)
  - It measures overall profitability
  - Usually expressed in %
  - It establish relationship between profit and investment
  - ROI = $\frac{\text{profit before interest and tax (PBIT)}}{\text{Capital employed}} * 100$
    Or = $\frac{\text{operating n/p}}{\text{Capital employed}} * 100$
  - Capital employed may be net/ gross capital employed
  - Gross capital employed = fixed assets + current assets
  - Net capital employed = fixed assets + current assets – current liabilities
    Or share capital + reserves + debentures + other long term loans
  - Fictitious assets and accumulated losses should be deducted

- Ideal ratio is 15%

➢ Return on share holders' fund
- Measures the profitability from shareholders' point of view
- It is called "mothers of all ratios"
- Higher ratio indicate better utilisation of owners' funds and higher productivity
- Return on shareholders 'fund = $\frac{\text{N/P after interest and tax (before pref. Dividend)}}{\text{Shareholders' fund}} * 100$

➢ Return on equity fund
- Return on equity fund = $\frac{\text{N/P after tax and preference dividend}}{\text{Equity shareholders' fund}} * 100$

Market test ratios

- Used to evaluating the shares and stocks which are traded in the market

➢ Earing per share (EPS)
- It indicate the profits available for each equity shares
- It measures the profitability of firm from the equity shareholders' point of view
- It helps to determine the market price of equity shares
- If EPS is higher, market value of share will be higher in the stock exchange
- EPS = $\frac{\text{N/P available to equity shareholders}}{\text{Number of equity shares}}$

➢ Dividend per share (DPS)
- DPS = $\frac{\text{dividend paid to equity shareholders}}{\text{Number of equity shares}}$

➢ Dividend pay- out ratio
- Measures the relationship between the dividend paid to equity shareholders and the earnings belonging to them
- Refers to the proportion of EPS which has been distributed by the company as dividend
- It shows number of times
- A dividend cover of 2 or 3 times is considered to be ideal
- Dividend pay-out ratio = $\frac{\text{dividend paid to equity shareholders}}{\text{N/P belonging to equity shareholders}}$

  Or $= \frac{\text{dividend per share}}{\text{Earnings per share}}$

➢ Price earnings ratio
- It is the ratio between market price per share and EPS
- It shows the number of times the EPS is covered by its market price
- Price earnings ratio = $\frac{\text{market price per share}}{\text{Earnings per share}}$
- Market price per share = PER*EPS
- High ratio considered high growth and it indicate that investors expect high dividend growth and are ready to pay a higher price for shares at present

Du pont control chart

- Du pont company of USA has developed a chart showing the various factors affecting ROI
- The chart shows the various forces or factors which affect ROI

- It shows the interaction of operating profit and capital turnover ratio

Inter –firm comparison

- It is a technique by which the operating and financial results of one firm is compared with another firm in the same industry
- Here costs, profits efficiency, performance and productivity of firms in the same line of business are compared and are then evaluated

Intra –firm comparison

- Comparison of two or more departments or divisions or plants of the same firm under the same management
- The objective is to identify the weakness or deficiencies of each of the departments or divisions

MODULE 4

FUND FLOW STATEMENT

Meaning and definition

- It is a statement of flows (inflows and outflows) of fund.
- It is a statement showing movement of funds between two dates.
- According to Antony, " the fund flow statement describes the sources from which additional funds were derived and the uses to which these sources were put"
- It is a statement of sources and uses of fund

Meaning of flow of fund

- The fund flow means changes in working capital
- The inflow of fund is called source of fund
- The outflow of fund is known as use or application of fund
- If the total sources are more than the use, it results in increase of working capital
- If the total uses are more than the total sources, it results in decrease of working capital

Objectives / purpose of fund flow statement

- To serve as a technique of managing working capital
- To know the changes in working capital and their causes
- To reveal the short term financial strength and weakness of business
- To anticipate the working capital position
- To reveal the most important changes that have taken place during a particular period
- To provide a basis for budgeting
- To assess the growth of a firm

Important / uses / benefits of fund flow statement

- Useful to shareholders
- Useful to long term creditors and debenture holders
- Useful to short term creditors, banks and financial institutions
- Useful to management

Limitations of fund flow statement

- It is only a rearrangement of data given in financial statements
- It cannot reveal continues changes
- It doesn't take into account those transactions which do not affect the working capital
- It is not a substitute for an income statement or balance sheet
- It is not as useful as cash flow statement
- It doesn't reveal the cash position of a firm

Difference between fund flow statement and balance sheet

Funds flow statement	Balance Sheet
1. It shows the working capital changes between two balance sheet data.	1. It shows the assets and liabilities position of the company on a particular date.
2. It shows the changes in the financial position of the company and dynamic in nature.	2. It is a statement of financial position of the company on a particular date and static in nature.
3. It does not deal with the personal accounts of the business.	3. The balance sheet contains the details of personal account also.
4. It shows the sources and uses of funds in a particular period of time.	4. It discloses the value of assets and liabilities at a particular point of time.
5. The flow of funds over a period of time is known from the funds flow statement.	5. The flow of funds cannot be find out on seeing balance sheet.
6. It is tool for financial analysis to the top management.	6. Balance sheet cannot be used as a tool for financial analysis to the top management.
7. A schedule of changes in working capital is prepared before preparing funds flow statement.	7. Profit and loss account is prepared before preparing balance sheet.
8. Funds flow statement is prepared whenever a need raised to the top management.	8. Balance sheet is prepared at the end of the accounting period.
9. Funds flow statement is not published.	9. Balance sheet is published.
10. Funds flow statement is used mostly by the top management.	10. Balance sheet is normally used by external parties.
11. Balance sheet is used to prepare funds flow statement.	11. Funds flow statement cannot be used for preparing balance sheet.
12. The information of balance sheet are used for preparing funds flow statement.	12. The information of trial balance are used for preparing balance sheet.
13. It is prepared only after the financial accounts are completed.	13. It is prepared soon after preparing profit and loss account.
14. Funds flow statement is prepared by the Management Accountant.	14. Balance Sheet is prepared by the Chartered Accountant

Preliminary techniques of funds flow statement

A. Classification of items into current and non-current

Current items

Current liabilities	Current assets
Sundry creditors	Stock in trade
B/P	Short term investment
Bank o/d	B/R
Outstanding expenses	Sundry debtors
Provision for doubtful debts	Advance tax
Income received in advance	Cash in hand and at bank
Tax payable	Prepaid expenses
Dividend payable	Accrued incomes

Non -current items

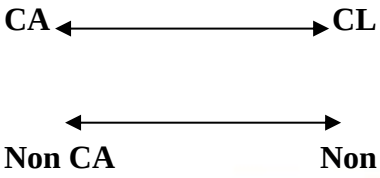
Equity share capital	Goodwill
Preference share capital	Land and building
G/R	Plant and machinery
P & L a/c	Furniture and fixture
Capital reserve	Vehicles
Capital redemption reserve	Patents and trade mark
Security premium	Long term investments
Security premium	Preliminary expenses
Debentures	P & L a/c
Long term loans	
Provision for depreciation	
Tax payable/ provision for tax	
Dividend payable	

B. Identification of transactions which cause flow of funds

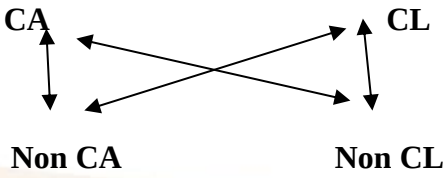
Guidelines for identification of transaction affecting flow of funds (rules)

1. All transactions involving current items
   a. Transactions involving two current assets
   b. Transactions involving two current liabilities
   c. Transactions involving a current asset and a current liability
2. All transactions relating to non-current items do not affect fund
3. All transactions involving one current item
   a. Transactions involving a current asset and non-current asset
   b. Transactions involving a current asset and non- current liability
   c. Transactions involving a current liability and non-current liability
   d. Transactions involving a current liability and non- current asset
   e. Transactions involving non-trading receipts

No flow funds



Flow of fund



Procedures:

1. Write the journal entry and find out the accounts involved
2. Decide whether the accounts are current
3. If both the accounts involved are current, it doesn't result in the flow of fund
4. If both the accounts are non-current, it doesn't result in the flow of fund
5. If one of the accounts is current and the other is non-current, it results in flow of fund

<u>Steps in the preparation of fund flow statement</u>

1. Prepare 'schedule of changes in working capital'
    - It shows the changes in individual items of current assets and current liabilities between 2 years
    - First names of current assets are written
    - Then amounts of previous year are recorded against each current assets
    - Next column amounts of the current year are recorded
    - After this, figures of the previous year are compared with those of the current year and increase or decrease in each of the current asset is noted
    - The increase in current asset means increase in working capital. Hence it is recorded in the increase column
    - Decrease in current assets means decrease in working capital. Hence it is noted in the decrease column
    - Then total of current assets of the previous year and that of current year are taken.
    - In the same manner current liabilities are recorded
    - Increase in current liability means decrease in working capital and vice versa
    - Working capital for the previous is calculated by taking out the difference between total current assets and liabilities of the previous year
    - In the same manner working capital of current asset year is calculated
    - By comparing the working capital of current year and previous year, increase or decrease in working capital is calculated
    - The net increase in WC is taken as use of funds and the net decrease in WC is taken as source of fund in the fund flow statement.
    - If the WC at the end of the period is more than that of the beginning, the difference is taken as increase in WC. And vice versa
    - Schedule of changes in WC is prepared with the help of only current assets and current liabilities appearing in B/S. Additional information and non- current assets and liabilities should be ignored

- Current assets may be shown either at their gross value, showing provisions as current liabilities, or at net values after deducting provisions. Such items include provisions for doubtful debts, provisions for discount on debtors, provisions for loss stock etc.

Statement of chenges in working capital

	Previous year	Current year	Increase in WC	Decrease in WC
Current assets:				
Cash				
Bank				
B/R				
Debtors				
Stock				
Marketable – securities				
Prepaid expenses				
Total (a)				
Current liabilities:				
Creditors				
B/P				
Outstanding expenses				
Bank o/d				
Total (b)				
Working capital (a-b)				
In/ Dec in Wc				

2. Prepare necessary ledger accounts to identify the hidden transactions from non-current assets and non-current liabilities
   - For identifying inflow or outflow of fund on account of non-current items, ledger accounts should be prepared. If there is no additional information, it is easy to find out the change in non-current items
   - If there is increase in intangible assets like goodwill, patent, copy right, trademarks etc. It should be treated as purchase. Accordingly it is treated as application of funds
   - If there is decrease in intangible and fictitious asset like goodwill, preliminary expenses, discount on issue of shares, underwriting commission etc, it should be assumed that the deficiency is written off in P&L a/c. So it should be added back to profit(debited to P&L adjustment a/c) for computing funds from operation. Funds from operation will increase
   - When there is increase in share capital, debentures etc, it may be treated as fresh issue of shares or debentures. It should be taken as source in the funds flow statement. Similarly increase in security premium is due to premium collected on new issue. It is treat as source

- Decrease in redeemable preference shares or debentures is due to redemption. It is taken as application in the funds flow statement. Similarly, increase in long term loan is source and decrease in loan is application
- When additional information are given in 2 B/S. Incorporate them while preparing funds flow statement. In such cases ledger accounts are required to be opened. These are prepared with the help of opening and closing values and relevant additional information. Ledger a/c are prepared for non-current assets and liabilities to find out hidden information which may affect flow of fund
- Fixed asset accounts

3. Compute the 'fund from operation' from revenue expenses and incomes
   - Methods of calculation of funds from operation are;
     1) Statement method

Calculation of funds from operation

N/P for the current year	**Rs**
(+) all non-fund and non-operating expenses debited to p&l	
Depreciation	
Goodwill written off	
Preliminary expenses written off	
Discount on issue shares written off	
Loss on sale of fixed assets	
Interim dividend	
Proposed dividend	
Transfer to reserves etc.	
(-) non fund and operating income credited to p&l	
Dividend received	
Interest on investment	
Profit on sale of fixed assets	
Profit on revaluation on assets	
Rent received	
Excess provision written off	
Premium on issue of shares	
Refund of tax	
Funds from operation	

     2) P&L a/c method

Adjusted P&L a/c

	Rs		Rs
Depreciation		Opening balance	
Provision for taxation		Dividend received	
Proposed dividend		Income from subsidiary	
Goodwill, patents etc written off		Profit on sale of fixed assets	

Preliminary exp. Written off Discount on issue of share and debentures Loss on sale of fixed assets Transfer to reserves Closing balance Fund lost in operation (blnc)		Income tax written back Rent received Funds from operation (blnc)	

4. Prepare 'fund flow statement'
   - It is a statement showing the sources and applications of funds
   - It shows the changes in financial position between 2 B/S
   - It prepared with the help of non -current assets and liabilities, capital and reserves appearing in B/S and with the additional information given after the B/S

Funds flow statement (T form)

Sources	**Rs**	**Uses/application**	**Rs**
Issue of shares Medium & long term borrowings Sale of fixed assets Sale of investment Funds from operation Non trading incomes Decrease in WC		Redemption of shrares Redemption of debentures Repayment of loans Purcahse of fixed assets Purchase of investment Non trading expenses Fund lost in operation Increase in WC	

Fund flow statement (Vertical form)

Sources	**Rs**
Issue of shares Issue of debentures Medium or long term borrowings Sale or fixed aseets Funds from operation Non trading incomes Decrease in WC **Total** **Uses or applications**: Redemption of shares Redemption of debentues Repayment of long term borrowings Purchase of fixed assets Purachse of investment	

Non trading expenses Increase in Wc **Total**	_____

Difference between schedule of changes in WC and fund flow statement

Schedule of changes in WC	**Fund flow statement**
It is prepared with current assets and current liabilities only	**It is prepared with non-current assets and non-current liabilities**
It shows changes in current assets and current liabilities individuality	It shows the sources and applications of funds of a firm as a whole
It is prepared with the help of balance sheet of two consecutive accounting periods	It is prepared with P& L a/c and balance sheet of a firm for two consecutive accounting periods
It is prepared to know the change in WC	It is prepared to know the overall operational efficiency of a firm
Fund from operation is not shown	Fund from operation is shown

Points to Remember

1. An increase in share capital is due to new issue of shares. Likewise an increase in security premium is due to premium collected on new shares. Both are treated as sources of funds.
2. A decrease in redeemable preference share capital implies redemption of share capital. So, it is shown as an application of fund.
3. An increase in debenture or any other long term loans indicates fresh borrowings made during the year. So it is taken as a source of fund.
4. A decrease in debenture or mortgage loan or bank loan implies repayment of debts. This should be shown as application of fund.
5. When debentures are redeemable at premium, such premium should be added back to profit (or debited to adjusted P/LA/c.) To find funds from operation. It is also treated as an application of fund separately (or added in the amount of nominal value of debentures redeemed). The effect is that the fund from operation (source) and application of fund are increased by the same amount (i.e., the amount of redemption premium)
6. Decrease in intangible and fictitious assets (goodwill, preliminary expenses etc.) Should be taken as amounts written off to P/LA/c. Hence, these are added back to current year profit or debited to P/L Adjustment A/c (for computation of funds from operation).
7. An increase in goodwill should be treated as new purchase. It is shown in the application side of fund flow statement.
8. Decrease in non-current or fixed asset is due to depreciation or sale. However, the decrease in fixed asset is generally treated as depreciation. If it is considered as depreciation, it is added back to profit (or debited to adjusted P/L A/c.) To find out funds from operation Le., source will increase). If it is taken as sale, it will appear on the source side of Fund Flow Statement.
9. Increase in fixed asset should be treated as purchase. Hence, it is an application of fund.
10. If any capital reserve is newly created and assets have been sold without specifying how much profit is made on sale, we can assume that the capital reserve is created from profit on sale of assets. In that case, profit on sale does not appear in the Adjusted P/L A/c to find out fund from operation (i.e., ignore it while calculating fund from operation).

11. Interim dividend is an appropriation of profit. Hence, it is added back to profit (or debited to Adjusted P/LA/c.) To find out funds from operation. It is also shown as application of fund. The effect is that source and application are increased by the same amount.
12. Sometimes amount of new profit or drawings (in case of proprietorship or partnership) is not mentioned. The missing item may be found out as below : We know that Opening Capital + N/P - Drawings = Closing Capital 9. N/P = Closing Capital + Drawings Opening Capital : Drawings = Opening Capital + N/P - Closing Capital
13. Increase in general reserves means transfer of profit from P/LA/c. It is added back to current year profit (or debited to P/L Adjustment A/c) to find out funds from operation.

CASH FLOW STATEMENT

- It refers to a statement of cash flows. It explains the reasons for inflow or outflow of cash
- It shows the flows of incoming cash and outgoing cash. Which showing the change in cash position from one period to another
- It explains the reasons for increase or decrease in the amount of cash between two B/s dates
- It is a financial statement that summarises the cash receipts and payments and net changes resulting from operating, financing and investing activities of an enterprise during a given period of time

Objectives of cash flow analysis

- To identify the reasons for the increase or decrease in the cash balances between two B/S dates
- To assess, monitor and control the liquid resources available in the enterprise
- To prevent holding of excessive or inadequate cash resources
- To help in capital budgeting decisions
- To maintain optimum level of cash resources

Difference between cash flow statement and fund flow statement

Cash flow statement	Fund flow statement
It is prepared on cash basis	It is prepared on WC basis
It shows the causes of change in cash	It shows the causes of changes in net WC
It is useful for short term financial analysis	It is useful for long term financial analysis
Only one statement is prepared	A statement of changes in WC is prepared together with FFS
Only cash receipts and disbursement of cash are recorded	Their net effect is recorded
Opening and closing balances of cash are shown	These are shown in statement of changes in WC
It is prepared on cash concept of accounting	It is prepared on accrual concept of accounting
It is more important for financial analysis	It is less important for financial analysis

Importance / managerial uses of CFS

- Helpful in short term planning
- Helpful in formulation of financial policies
- Provides a basis for cash budget
- Reveals liquidity and solvency
- Helps in efficient cash mgt
- Shows the causes of change in cash position
- Helpful in control
- Helpful in short term financial decisions

Limitations of cash flow statement

- Ignores non –cash transactions
- Not a substitute for income statement
- Historical in nature
- Limited scope
- Easily influenced by managerial decisions
- Does not present true picture of liquidity

Classification of cash flows

1. Cash flows from operating activities
   - Operating activities are activities relating to operations
   - These involve producing or acquiring goods and services and selling them
   - If an activity appears in the income statement, it is classified as an operating activity
   - The difference between cash inflows from operating activities and cash outflows caused by operating activities represents the net cash flow from operation
   - If the cash inflows are greater than the cash outflows, the difference is called net cash inflow from operating activities
   - If the cash outflows are more than the cash inflows, the difference is called net cash outflow from operation
2. Cash flows from investing activities
   - It include purchase and sale of non-current assets, and other investments
   - These are the activities relating to acquisition and disposal of non-current assets and investments
3. Cash flow from financing activities
   - Those activities which result in changes in size and composition of owner's capital and short term and long term borrowings.
   - These are the activities which cause changes in the capital structure
   - ➢ In case of financial enterprises such as bank or mutual fund company, cash outflow and cash inflow arising from the purchase and sale of securities will be treated as cash flow from operating activities
   - ➢ Cash flows from operating activities = cash received from sale of goods or services - cash paid for operating expenses

     Cash flows from investing activities = cash received from the sale of investment and fixed assets – cash paid for purchase of investments and fixed assets

Cash flows from financing activities = cash received from issue of securities and borrowing – cash paid for redemption of securities, repayment of loans and payment of dividend

- Procedure of preparing a cash flow statement
  a. Calculate the net cash flow provided/ used in operating activities either by direct method or indirect method
  b. Calculate the net cash flow from investing activities
  c. Calculate the net cash flows from financing activities
  d. Calculate the net cash flow by combining the result from operating, investing and financing activities
  e. Add cash and cash equivalents at the beginning to the net cash flows as determined in step 4
  f. The amount arrived in step 5. Ie, the sum of cash flows from all the activities taken together, along with the opening cash and equivalents must be equal to the cash and cash equivalents at the end of the period.

<u>Calculation of cash flow from operating activities</u>

- It means the cash generated in the business as a result of producing goods and services
- It can ascertained either by direct or indirect method

<u>Direct method</u>

- Under the direct method, cash receipts and cash payments related to operating activities
- The difference between the cash receipts and the cash payments is the net cash flow from operating activities
- In the direct method, operating cash receipts and payments are reported directly

<u>Form of cash flow statement</u>

- It contains sources of cash inflows and uses or applications of cash outflows

Cash flow statement (direct method)

	Cash flows from operating activities	**Rs**	**Rs**
	a. Operating cash receipts		
	Cash sales	.....	
	Cash received from debtors	.....	
	Commission, fees received	.....	
	Royalties received	.....	.....
	b. Operating cash payments		
	Cash purchases	.....	
	Cash paid to creditors	.....	
	Cash operating expenses	.....	.....
	c. Cash generated from operation (a-b)		
	d. Income tax paid		.....
	e. Cash flow before extra -ordinary items		.....
	f. Extra ordinary items (receipts/ payments)		.....
	g. Net cash flow from operating activities		.....
	Cash flow from investing activities		
	Sale of fixed assets	.....	
	Sale of investment	.....	
	Interest received	.....	
	Dividend received	.....	
	Purchase of fixed assets	.....	
	Purchase of investments	.....	
	Net cash from investing activities	.....	******
	Cash flow from financing activities		
	Proceeds from issue of shares	.....	
	Proceeds from debentures and long term borrowings	.....	
	Repayment of long term borrowing	.....	
	Redemption of shares and debentures	.....	
	Interest paid	.....	
	Dividend paid	.....	
	Net cash from financing activities	.....	
			.....
	Net increase / decrease in cash and cash equivalents		.....
	(+) cash and cash equivalents at beginning		.....
	Cash and cash equivalents at closing		.....

Adjustments for calculation of cash receipts and cash payments

1. Cash received from debtors
2. Cash paid to creditors
3. Cash operating expenses

Total debtors a/c

To balance b/d Credit sales	....	By cash received B/r received Discount allowed Bad debts Sales returns Balance c/d	....

B/R a/c

To balance b/d Debtors	....	By cash Bank Discount on b/r Balance c/d	....

Total creditors a/c

To cash (bln fig) Purchase return Discount received B/P issued Balance c/d	....	By balance b/d Credit purchase	....

B/P a/c

To cash Balance	....	By balance b/d Creditors a/c (blnc fig)	....

If purchases are not given (cost of sale is given), then purchases may be ascertained follows:
Purchases = Cost of Sales + Closing Stock - Opening Stock

Cash Operating Expenses:
To find out cash operating expenses, adjustments for outstanding and prepaid should be made.
Cash operating expenses are ascertained as follows:

Expenses as given in P/L A/c	XXX
Add: Outstanding in the beginning	

(because it is paid during the year)	xxx
Prepaid in the end (because it is paid during the year)	
	XXX
Less: Outstanding in the end (because it is not paid during the year)	XXX
Prepaid in the beginning (because it is not paid during the year)	XXX
Cash paid for Expenses	
	XXXX

Points to Remember (in Direct Method)

- In the direct method, all non-cash items such as depreciation, goodwill written off, preliminary expenses written off, discount on issue of shares and debentures, underwriting commission etc. Should be ignored
- All non- operating expenses such as interest paid and dividend paid should be excluded These should be considered for calculating cash flow from financing activities
- Loss on sale of non- current assets/investment should be excluded. This should be considered for calculating cash flow from investing activities
- All appropriations like transfer to reserve, proposed dividend, provision for tax etc. Should be ignored
- All non –operating incomes such as interest received, dividend received and profit on sale of non-current assets/investment excluded. These should be considered for calculating cash flow from investing activities. Interest received and dividend received are returns on investment. Profit on sale of non-current asset/investment is a gain related to investment in non-current assets/investment
- Only actual cash receipts and payments are important
- If operating receipts are more than operating payments, the difference is called net cash flow from operating activities
- If operating receipts are less than operating payments, the difference is known as net cash outflow from operating activities

<u>Indirect method</u>

- This method is also known as net profit method / reconciliation method
- It starts with net profit or net loss as per the P&L statement. Then suitable adjustments are made in the profit or loss to arrive at the cash flow from operating activities
- This method is specially used when the amount of sales is not given in the question
- The adjustments are;

a) Non–cash expenses (depreciation, provisions, deferred tax, amortisations)
b) Non-operating income and expenses (interest paid, interest received, dividend paid, dividend received, Profit or loss on sale of non-current asset/investment)
c) Accrual basis of accounting (increase or decrease in debtors, B/R , creditors, B/P, inventories, Prepaid expenses, outstanding expenses)

- The following items should be added back to n/p;
  - Depreciation

- Goodwill, preliminary expenses, discount on issue of securities etc. Written off
- Loss on sale of fixed assets
- Transfer to reserves
- Provisions created for doubtful debts, discount on debtors, taxation, proposed dividend etc.

➢ The following items should be deducted from net profit;
- Profit on sale of fixed assets
- Profit on sale of investments
- Reserves (depreciation, doubtful debts etc.)Written back
- Non-trading incomes such as dividend received, interest received, refund of taxes etc

➢ Decrease in current assets should be added to operating profit.it means inflow of cash and hence added to operating profit

➢ Increase in current assets should be deducted from operating profit. It means outflow of cash and hence deducted from operating profit

➢ Decrease in current liabilities should be deducted from operating profit. It means outflow of cash and hence deducted from operating profit

➢ Increase in current liabilities should be added to operating profit, it means inflow of cash and hence added to operating profit. The same treatment is made for the increase in other current liabilities

➢ Operating profit
Add: decrease in current assets
Add: increase in current liabilities } = cash flow from operating activities
Less: increase in current assets
Less: decrease in current liabilities
Operating profit means net profit after adjusting non-cash and non-operating items

➢ In the profit and loss statement, revenue is recorded on accrual basis irrespective of whether received or not.

➢ But in cash flow statement, the focus is on actual cash received and paid.

➢ The format for computing net cash from investing and financing activities is the same for both direct and indirect methods. In both methods, only the preparation of net cash flows from operating activity differs

Cash flow statement (indirect method)

Cash flow from operating activities		
Net profit before tax	.....	
(+) non cash and non- operating items	.....	
Depreciation	.....	
Preliminary expenses written off	.....	
Discount on issue of shares and debentures written off	.....	
Goodwill patents etc. Written off	.....	
Loss on sale of fixed assets	.....	
Provision for doubtful debts	.....	
Dividend paid	.....	
Underwriting commission written off	.....	
	.....	
(-) rent received		
Interest received		

Dividend received		
Profit on sale of fixed asset, investment		
Operating profit before WC changes		
(+) decrease in current assets		
Increase in current liabilities		
(-) increase in current assets		
Decrease in current liabilities		
Cash generated from operation		
(-) income tax paid		
Adjustments for extra ordinary items (+/-)		
Net cash from operating activities		
Cash from investing activities (same as direct method)		
Cash from financing activities (same as direct method)		
Net increase /decrease in cash and cash equivalents at beginning		
Cash and cash equivalents at the end		

- Calculation of net cash flow from investing activities
  - Investing activities refer to acquisition and disposal of long term assets and other investments not included in cash equivalents
  - Examples;
    Cash inflows
    1. Cash receipts from including intangibles disposal of non-current asset
    2. Cash receipts from the sale of shares, debt instruments etc.
    3. Cash receipts as repayment of loans and advances

    Cash outflows
    1. Cash payments for purchasing/acquiring non-current assets including intangibles
    2. Cash payments for acquiring shares, debt instruments etc.
    3. Cash advances and loans made to third parties
  - Cash outflows are indicated by giving the figures in brackets
  - If total inflows under investing activities are more than the total outflows under investing activities, the difference is known as net cash inflow from investing activities.
  - If total inflows under investing activities are less than total outflows, the difference is known as net cash outflow from investing activities
- Preparation of non-current asset account (refer text)
- Calculation of net cash flows from financing activities
  - All activities which bring changes in the size and composition of owners' equity as well as borrowing of the enterprise are known as financing activities

  - Cash inflows;
    1. Cash proceeds from the issue of equity or preference shares including premium

2. Cash proceeds from the issue of debentures, bonds or other short term and long term borrowings

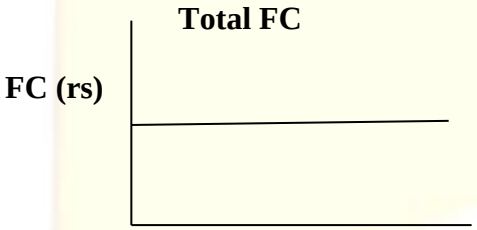
- Cash outflows;
    1. Repayment of loans and long term borrowings
    2. Redemption of debentures, bonds etc.
    3. Payment of dividend on shares
    4. Payment of interest on loans and debentures
- If total inflows under financing activities are less than total outflows, the difference is known as net cash outflow from financing activities
- If total inflow from financing activities are more than total outflows, the difference is known as net cash inflow from financing activities
- Whenever bonus shares are issued by capitalising reserves and surplus, there will be no cash flow
- Provision for income tax made during the year should be added back to profit under the heading cash flow from operating activities
- Tax pad during the year should be deducted under the heading cash flow from operating activities
- Interest receives and dividend received should be treated as cash flows from the operating activities
- Dividend paid should be treated as cash flow financing activities
- Proposed dividend shown as payment under the heading cash flow from financing activities
- Interim dividend should be added to current year profit to ascertain cash flow from operating activities
- Extraordinary items should be classified as operating or investing or financing activities and disclosed separately in the CFS
- Significant non-cash transaction should be excluded from CFS

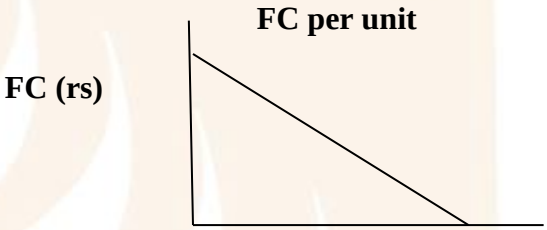
MODULE 5

MARGINAL COSTING AND CVP ANALYSIS

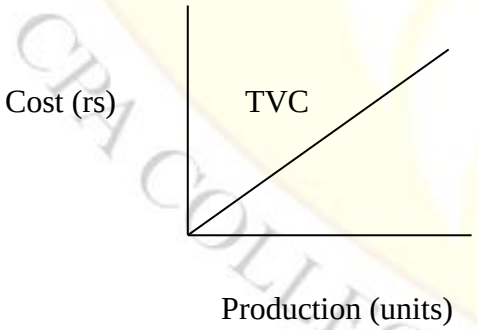
Costs

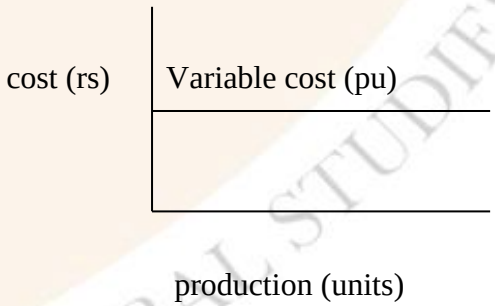
1. Fixed costs/ period cost/ time cost
   - Are those costs which do not change as the volume of production
   - When volume of production increases or decreases, the total fixed costs remain fixed
   - It may vary according to time
   - FC ill remain per unit will change with change in the volume of production
   - FC will remain fixed only up to a certain level of activity(it will remain fixed only in short period)
   - FC will vary in the long run
   - Examples, rent, salary and wage of permanent staff, insurance etc.





2. Variable cost/product cost
   - Are those cost which vary in proportion to changes in the volume of production
   - When the volume of production increases, total variable cost also increases proportionately and vice versa
   - VC per unit remains constant
   - Examples; direct material, direct labour, direct expenses and variable overheads





Marginal cost

- It is the additional cost of producing an additional unit
- According to ICMA "the amount at any given volume of output by which aggregate costs are changed if the volume of output is increased for decreased by one unit
- It is the amount by which total cost changes when there is a change in output by one unit
- It is change in total cost due to change in quantity of output by one unit

- It is also known as variable cost because an increase of one unit in production will cause an increase in variable cost only.
- Marginal cost = direct material cost
  + Direct labour cost
  + Direct expenses
  + Variable overheads
- Marginal cost is equal to prime cost plus variable overheads

Marginal costing/variable costing

- It is a technique of costing in which variable cost of product is given more importance as compared to fixed cost of the product
- According to ICMA " the ascertainment, by differentiating between fixed costs and variable costs, of marginal cost and of the effect on profit of changes in volume or type of output"
- It is the technique of presenting cost data wherein variable costs and fixed costs are shown separately for managerial decision making
- It is a technique of costing which differentiates between fixed costs and variable costs, and charging only variable costs to products

➢ Characteristics of marginal costing

- It is not a method of costing
- It is a technique for managerial decision making
- All costs are classified into fixed and variable
- Only variable costs are charged to products
- Fixed costs are charged against profits of the period in which they are incurred
- The stocks of finished product and work in progress are valued at marginal costs or variable cost
- Selling price is equal to variable cost plus contribution. Contribution is the difference between sales revenue and variable cost
- The profitability of product or department is based on contribution made by each production department

Absorption costing

- Here both fixed and variable costs are taken
- No difference is made between fixed costs and variable costs
- It is also known as full cost or total cost technique
- According to " absorption cost is a technique whereby fixed costs as well as variable costs are allotted to cost units"
- It is more suitable for small and medium sized firms producing a single product

➢ Limitations of absorption costing

- Here a portion of FC is carried over to subsequent accounting period as part of closing stock. This is not line with accounting period concept
- It depends on levels of output which may vary from period to period

- It is not helpful to the mgt in making decisions such as selection of product mix, make or buy, selection of best alternatives etc.
- It is not helpful in planning or controlling costs
- It is not useful in fixing responsibility for the incurrence of costs
- It doesn't help in preparing flexible budget, tender or quotation

Difference between marginal costing and absorption costing

Absorption costing	Marginal costing
All costs are charged	Only variable cost is charged to production
Stocks of finished goods and work in progress are valued at total cost	Stock and work in progress are valued at marginal cost only
Profit is the basis for decision making	The decisions are based on contribution
Suitable for external reporting	Suitable for internal reporting
When the production increases, cost per unit reduces	Cost per unit remains the same at all levels of production
Not useful for decision making	Useful for decision making

Direct costing

- Here all direct costs whether fixed or variable are taken into account for calculating the cost of products
- In direct costing all direct costs are included in the cost of products
- Direct fixed cost is included in direct costing

➢ Assumptions of marginal costing

- All costs can be divided into two categories fixed and variable
- Fixed costs remain constant at all levels of activity
- The total variable costs vary but variable cost per unit does not vary
- Selling price remains constant at different levels of activity
- Prices of material, rates of labour etc remain unchanged
- Volume of production is the only factor which influence the costs
- There is no stock

➢ Advantages

- Easy and simple
- Simple valuation of stock
- Better cost control
- No problem of under or over absorption of overhead
- Ascertainment of profitability
- Profit planning
- Decision making
- Pricing policy

➢ Disadvantages

- Difficulty in separation costs
- Difficult in application
- Under valuation of stock

- Short run analysis
- Time factor ignored
- Wrong basis for pricing
- More emphasis on sales

Cost volume profit analysis (CVP)

- It is used to evaluate how costs and profits are affected by changes in the volume of production
- The analysis of 3 factors-cost, volume and profit is known as cost volume profit analysis
- It is the study of the effects on future profit of changes in fixed cost, variable cost, sales price, quantity and mix
- It measures variations of costs and volumes and their impact on profit
- There is direct relationship between volume and indirect relationship between volume and cost

➢ Objectives/ uses of CVP analysis

- To forecast the profit accurately
- To help mgt in determining the pricing policies
- To evaluate the performance of the business
- To facilitate the preparation of flexible budgets
- To achieve cost control and cost reduction
- To help mgt in making decisions
- To determine break-even point

➢ Elements of CVP analysis

- Marginal cost analysis
- Contribution
- Break even analysis
- Margin of safety
- Profit volume ratio
- Break even chart
- Angle of incidence
- Marginal cost equation
- Contribution = sales – variable cost

Or

Contribution = FC + profit

FC = contribution – profit

Profit = contribution- FC

VC = sales – contribution

Contribution

- It is the profit in marginal costing. It is not the final profit. It is the marginal profit
- It refers to excess of sales over variable cost
- It is also known as 'contribution margin' or 'gross margin'
- Contribution covers fixed cost and profit
- If contribution is more than the fixed cost, there is a profit. If contribution is less than the fixed cost, there is a loss
- It can be expressed either as per unit or in total
- Contribution per unit is the difference between selling price per unit and variable cost per unit
- Total contribution is the difference total sales value and total variable cost

➢ Uses/ importance of contribution

- It helps in fixing the selling price
- It enables to determine break- even point
- It helps to find out the profitability of various products, departments etc.
- It indicates the profit potential of a business enterprise
- It highlights the relationship among cost, sales and profit
- It helps to determine key factor
- It helps mgt in taking 'make or buy' decision

Break even analysis

- It establishes the relationship between revenues and costs with respect to volume
- It indicate the level of sales at which total costs are equal to total revenues
- It is concerned with finding out the break- even point(BEP)
- BEP is the point at which total sales revenue is equal to total cost. It is the point of no profit no loss
- It is a system of analysis which is used to determine the probable profit at different levels of activity
- It is a method of studying the relationship amongst sales revenue, fixed cost and variable cost to determine the level of activity at which costs are equal to sales revenue
- It may be expressed in in graph such as break even chart or profit chart or in a statement as;

Marginal cost statement

Sales		******
(-) marginal cost:		
Direct material	*****	
Direct labour	*****	
Variable over head	*****	******

Contribution	*****
(-) FC	******
Profit	*******

- Assumptions of CVP analysis
  - All costs can be separated into fixed and variable elements
  - Variable costs vary in direct proportion to volume of output
  - Fixed cost will remain constant at all volumes of output
  - Selling price per unit remains constant
  - In the case of multiple products, sales mix remains constant
  - Productivity per worker and efficiency of plant etc. Remain unchanged
  - The general price level doesn't change
  - The firm is able to sell all the units produced
  - The only factor that affects costs and revenues is volume
- Advantages of CVP analysis
  - It is useful in forecasting sales and profit
  - It helps in the inter – firm comparison of profitability
  - It brings out the effect of increase or decrease in fixed and variable costs on profit
  - It helps to determine the selling price which gives a desired return on capital employed
  - It is used in profit planning
  - It is used to determine margin of safety
  - It assists in the formulation of price policies
  - It is applied in make or buy decision
- Limitations of CVP analysis
  - It is very difficult to separate costs into fixed and variable
  - It is assumed that fixed costs remain fixed for any level of production. But actually it will remain fixed only up to a certain level of activity
  - It assumes that variable costs vary in direct proportion to volume of production. But the variable cost need not necessarily vary in direct proportion of output
  - The assumption that selling price remains constant is not valid
  - Break even analysis completely ignores the capital employed in business
  - It has limited application in the long range planning

<u>Break-even point (B.E.P)/ bread earning point</u>

- It is the point or level of activity at which the total cost is equal to total revenue
- It is the point of no profit no loss
- It is an equilibrium point, it is the point at which losses cease and profits begin
- If sales go up beyond the BEP , firm makes a profit, if sales come down, firm incurs a loss

- Calculation of break -even point
  a) Algebraic method
  - Here BEP is ascertained by using mathematical formula
  - BEP can be computed in terms of unis or in terms of rupee value or as a percentage of installed capacity
  - BEP output (units) $= \frac{\text{fixed expenses}}{\text{Contribution per unit}}$ or $\frac{F}{\text{Cp.u.}}$
  - BEP sales (rupees) $= \frac{\text{fixed expenses} * \text{sales}}{\text{Contribution}}$ or $\frac{F*S}{C}$
- Calculation of output to earn a desired amount of profit

  No. Of units to be sold to earn a certain amount of profit $= \frac{F+P}{\text{C per unit}}$

  Here, P is the desired amount of profit
- Calculation of sales value (rupees) to earn a desired profit

  Sales value required to earn a desired profit = $\frac{(F+P)}{C}$ *s

<u>Margin of safety</u>

- It is the excess of actual or present sales over the BEP sales
- It refers to the amount by which sales revenue can fall before a loss is incurred
- It is the volume of sales beyond break even sales
- It indicates the strength or weakness of an enterprise
- A large margin of safety indicates the soundness of the business
- It may be expressed in unit, sales revenue or as a percentage of sales
- Margin of safety = present sales – BEP sales
- (in %) $\frac{\text{actual sales} - \text{BEP Sales}}{\text{Actual sales}}$ *100 or $\frac{\text{profit}}{\text{total contribution}}$ *100

<u>Profit volume ratio (P/V ratio)</u>

- It is a technique of cost volume profit analysis.
- It is the ration of contribution to sales
- It shows the relationship between contribution and sales
- P/V ratio = contribution / sales or
- P/v ratio = $\frac{\text{contribution}}{\text{Sales}}$ * 100
- Contribution = sales * p/v ratio
- Sales = $\frac{\text{contribution}}{\text{P/v ratio}}$

- Uses of p/v ratio
  - It helps in comparing the profitability of various products
  - With this the mgt can estimates sales, profit and variable cost of future operations
  - It is useful in determining pricing policy and other managerial policies when there are 'key factors'

- It is an important tool in managerial decision making
- It helps in the determination of BEP

$$BEP = \frac{\text{fixed expenses}}{\text{P/v ratio}}$$

Fixed expenses = BEP * p/v ratio

- It helps in determining sales volume required to earn a given profit

$$= \frac{\text{fixed expenses + profit}}{\text{P/v ratio}}$$

- It helps in calculating margin of safety

$$\text{Margin of safety} = \frac{\text{profit}}{\text{P/v ratio}} \quad \text{or} \quad \frac{\text{profit * sales}}{\text{contribution}}$$

Margin of safety * p/v ratio = profit

- It helps in calculating profit at any volume of sales

Profit = sales volume * p/v ratio = contribution – fixed cost

- It helps in determining the required selling price per unit

$$\text{Selling price} = \frac{\text{VC per unit}}{\text{100- p/v ratio}}$$

- It helps in ascertaining the variable cost for any volume of sales
- P/v ratio can be improved by;
  i. Reducing the variable cost per unit
  ii. Increasing the selling price per unit
  iii. Switching the production to more profitable products having high p/v ratio

➢ P/v ratio when sales and profits for two periods are given

- $\text{P/v ratio} = \frac{\text{change in profits in two periods}}{\text{Changes in sales in two periods}}$

Or

$$= \frac{\text{change in contribution in two periods}}{\text{Changes in sales in two periods}}$$

➢ $\text{Break even ratio} = \frac{\text{break even sales}}{\text{Actual sales}} * 100$

➢ Change in p/v ratio

If selling price is reduced, p/v ratio gets reduced. As a result, BEP becomes higher and margin of safety becomes lower

➢ Cash break- even point

- It is the level of output or sale at which the cash inflows will be equal to cash total cost
- It is the level of output where there is no cash profit and no cash loss

- For this purpose fixed costs are divided into cash fixed costs and non- cash fixed costs
- Cash break -even point = $\frac{\text{cash fixed cost}}{\text{Cash contribution per unit}}$
- Cash break-even point (rs) = $\frac{\text{cash fixed cost}}{\text{P/v ratio}}$

➢ Cost break -even point
- It is calculated when two or more alternative plans or methods of production are considered
- It is the point where the costs of operating two alternatives is equal
- Cost break- even point = $\frac{\text{D/f in FC of two alternatives}}{\text{D/f in per unit contribution of two alternatives}}$

➢ Composite break-even point
- Composite BEP (rs) = $\frac{\text{total FC}}{\text{Composite p/v ratio}}$
- Composite p/v ratio = $\frac{\text{total contribution from all products}}{\text{Total sales of all products}}$

b) Graphic method/ break even chart

- It is a graphical presentation of break- even analysis
- It is used for studying the cost volume profit relationship
- It indicates BEP and also shows the estimated profit or loss at different levels of production
- BEP is the point at which total sales line cuts the total cost line

➢ Assumptions of break- even chart
- Cost can be classified into fixed and variable cost
- Fixed cost remaining fixed at all levels of activity
- Variable costs directly change in proportion to output
- Selling price per unit remains constant
- No change in sales mix
- Entire units produced are sold
- Level of efficiency and mgt policy do not change

➢ Advantages
- It is used to stud the cost volume profit relationship
- It shows BEP and also the estimated profit or loss at varying levels of activity
- It presents the information in an easily understandable manner
- It indicates profitability of products
- It shows the figures of optimum output
- It serves as a tool of cost control
- It determines break -even point
- It determines profit path of a product mix

➢ Limitations
- The assumption that fixed cost remain constant will not hold good in long run
- Assumption that all units produced are sold is wrong
- Selling price may change with volume

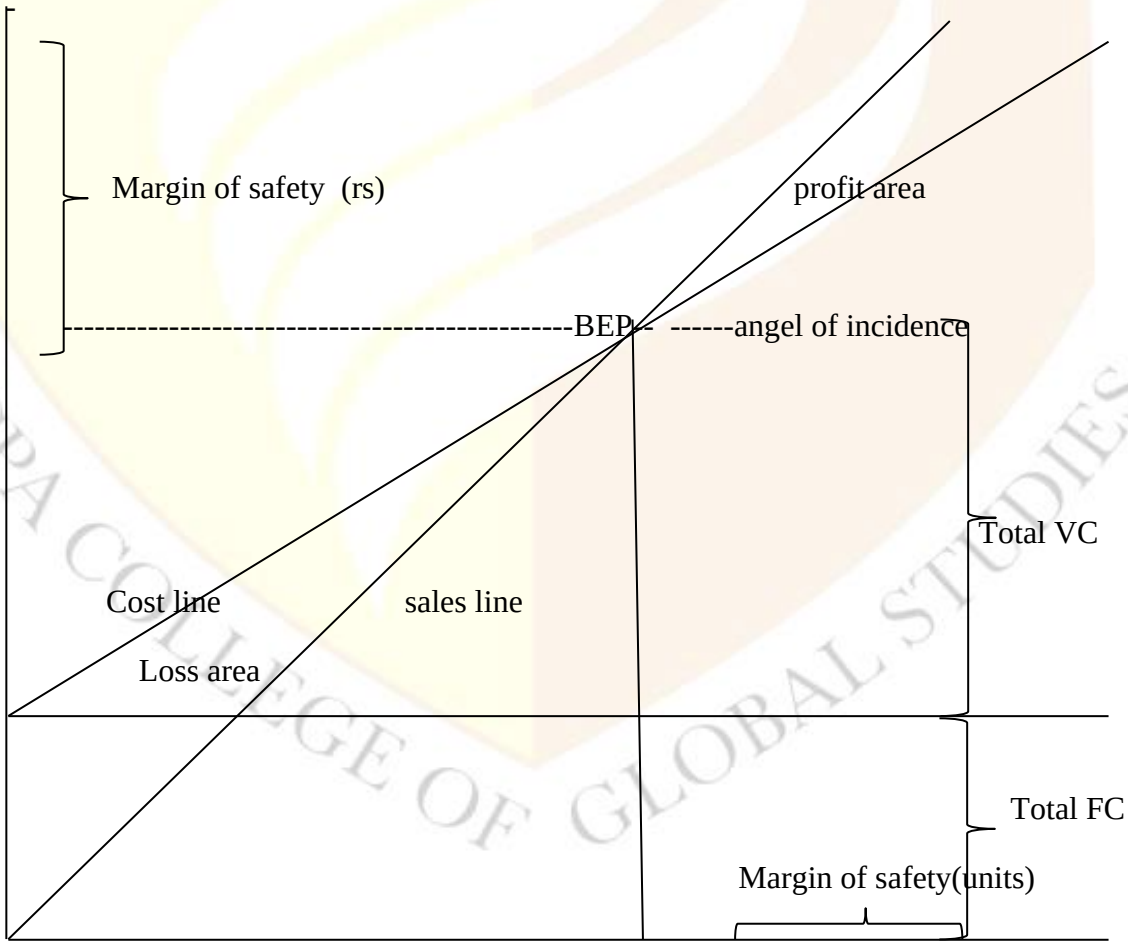
- Assumption that product mix remains same may not hold good in long run
- Only limited information can be shown in a single break even chart
- It doesn't consider the capital employed, market conditions etc.
- It represent a static picture of the business operations

➢ Types of break- even charts

1) Simple break even chart

➢ Construction of break- even chart

- Sales volume is plotted on x axis
- Costs and revenue are plotted on y axis
- Draw the fixed cost line parallel to the horizontal axis
- Draw the total cost line starting from the point on the y axis which represent fixed cost
- Draw the sales line starting from the point of origin
- The point at which the total sales line cuts the total cost line is BEP
- The area between total cost line and total sales line below the BEP, represents loss and above the point represent profit

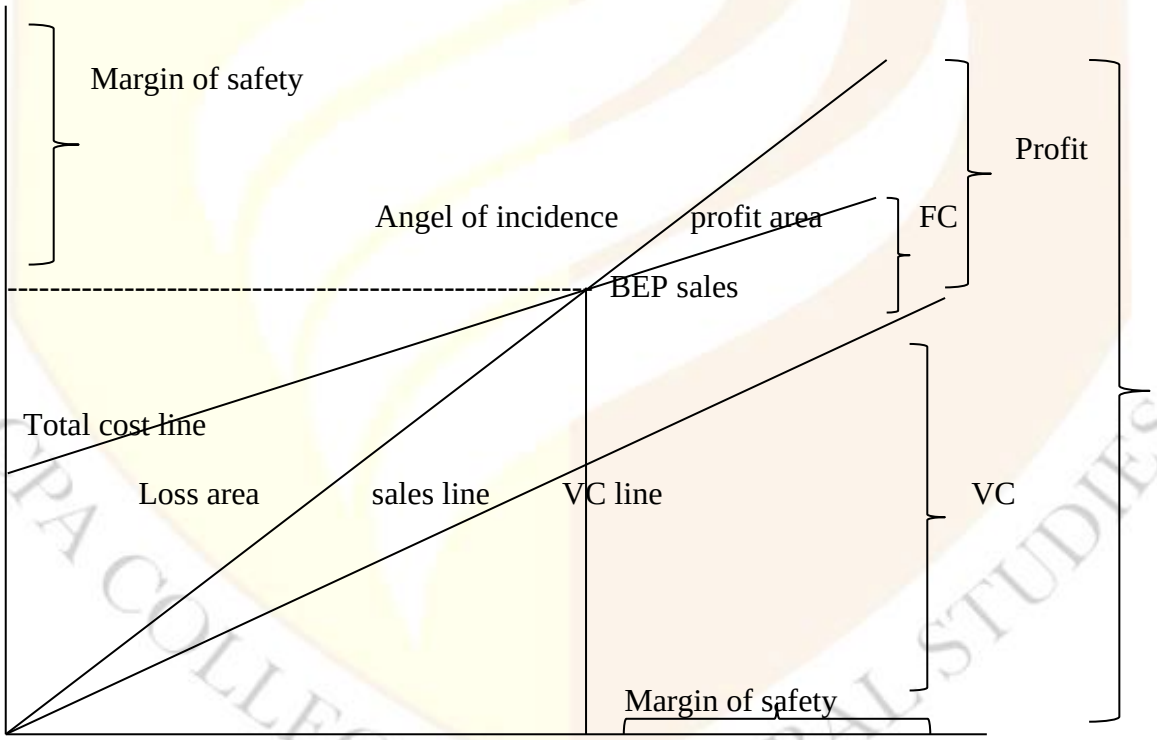


X axis cost and revenue, y axis output

- Angel of incidence/ theta
  - It is the angel formed at BEP
  - It is the angel between sales line and total cost line at the BEP
  - It indicates the rate at which profits are being made
  - Large angel indicates higher rate of profit and lower BEP
  - At lower BEP is an indication that the firm can withstand even if the sales fall
  - Small angel indicates a lower rate of profit and higher BEP
  - To improve this angel, contribution should be increased either by raising the selling and or by reducing VC

2) Contribution break even chart

- It is a modified form of simple break even chart
- Here, sales line variable cost lines are drawn
- The difference between sale line and variable cost line represents the contribution at different levels of activity
- Total cost line is drawn parallel to the variable cost line.
- Difference between the variable cost line and total cost line shows the fixed cost



X axis- cost and revenue, y axis- output

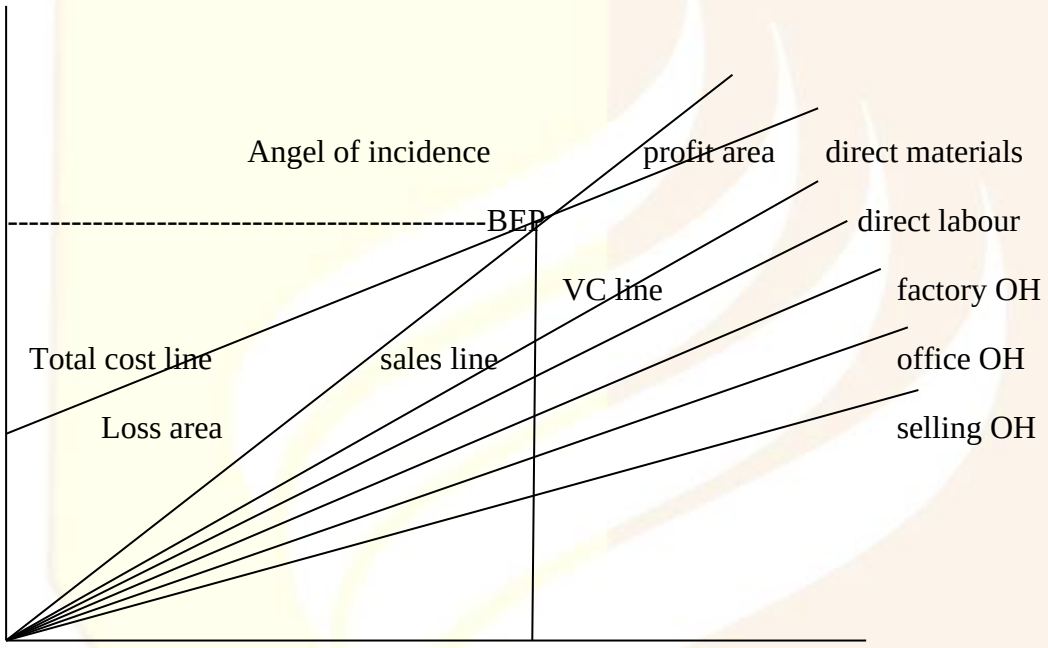
3) Control break-even chart

- It used by mgt for control purpose
- It is prepared when budgetary control system is followed by the enterprise
- The main purpose of preparing this chart is to show comparison between actual data and budgeted data in respect of sales, cost and profits

- It is prepared with actual sales with budgeted sales, actual cost with budgeted cost, actual BEP with budgeted BEP and actual profit with budgeted profit
- It reveals budget variances at a glance

4) Analytical break even chart

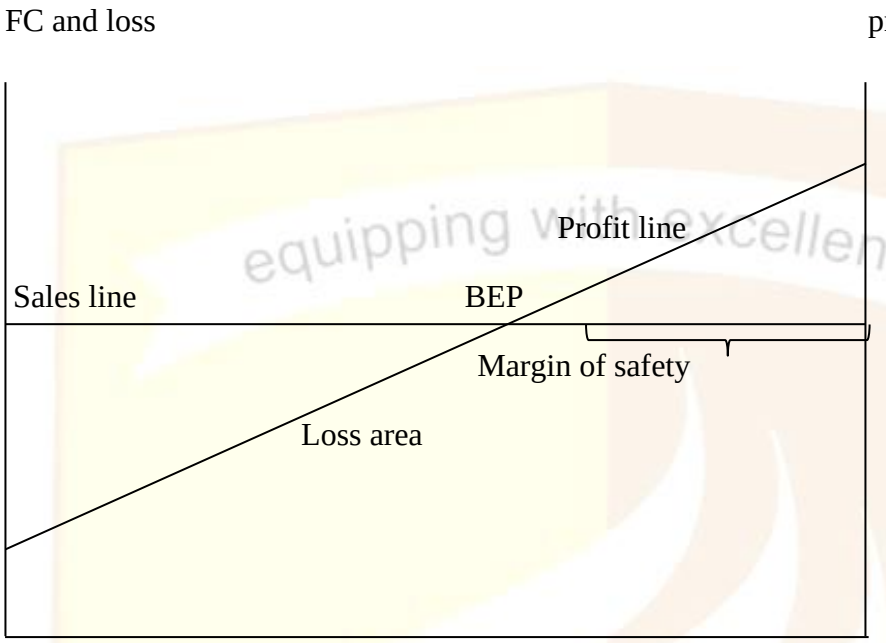
- It analyses the VC under different elements such as direct material, direct wages, variable factory over heads, variable office overheads and variable selling and distribution overheads
- The point where total cost line and total sales line intersect each other gives the break - even point



X axis- cost and revenue, y axis- output

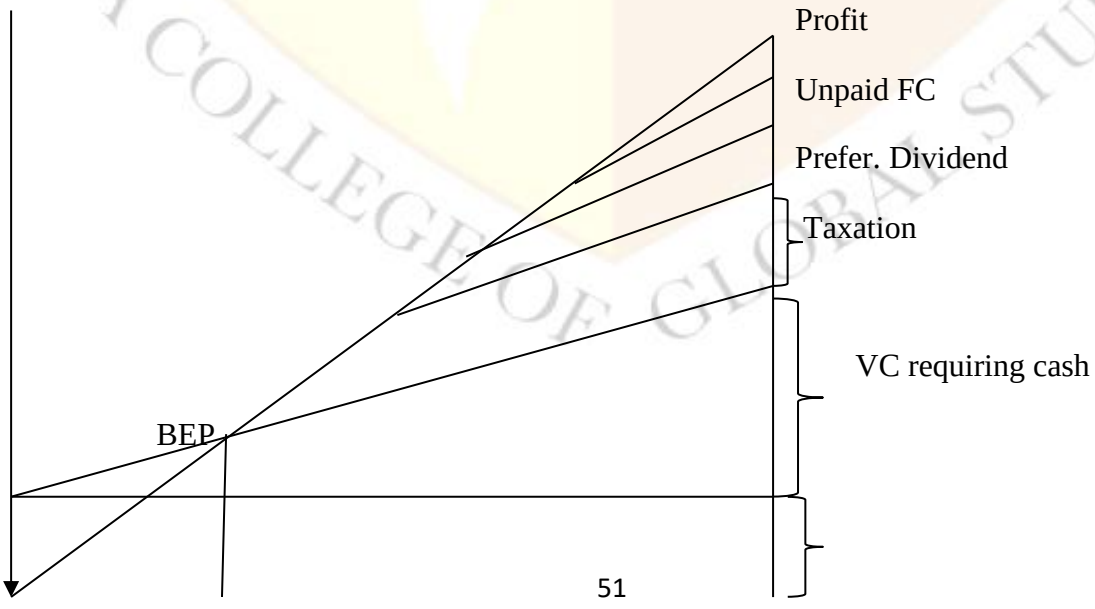
5) Profit volume chart/ profit break even chart

- It is used in the place of break even chart or along with break even chart
- The profit graph shown the relationship of profit to volume of sales
- It shows how profit changes in response to change in the sales volume
- It is prepared on the basis of same information as necessary for the construction of break even chart



6) Cash break -even chart

- It show the cash break even point
- It is the point at which cash sales are equal to cash expenses
- The expenses are divided into two cash expenses and non cash expenses
- Here cash total cost line are drawn along with the sales line
- Cash fixed cist are shown at the base level
- Non cash fixed cost are shown after the cash total cost line
- The point at which the sales line intersects the cash total cost line is the cash break even point



FC requiring cash

X axis- revenue and cost, y axis- sales

- Construction of profit graph
  - Profits and fixed costs are represented on the vertical axis
  - Sales are represented on the horizontal axis
  - The sales line divides the graph horizontally into two parts. The area above the sales line is the profit area and the area below the sales line is loss area
  - The profit and losses at various sales are plotted and connected by a line called profit line.
  - The profit line is drawn from the fixed cost point to the point of maximum profit. At zero sales the loss will be equal to fixed cost
  - The BEP is where the profit line cuts the horizontal sales line
  - In case more than one product, a separate profit line for each product may be drawn

Relationship between CV analysis and BE analysis

- CVP and BE analysis are one and the same both can be synonymously used
- BE analysis is the most widely used technique CVP analysis
- The CVP analysis is broader than BE analysis
- BE analysis lays more emphasis on BEP and all other calculations are centred around the NEP
- In CVP analysis the emphasis is on profit
- BE analysis considers the costs , price etc. At a particular level of activity
- CVP incorporates into BE analysis, the changes in determinants of profit and studies the effects of these changes on profit
- CVP includes study of BE analysis and the study of the effects of changes in price, VC , FC , volume and other relevant factors on profit

Impact of selling price, FC and VC on BEP

- An increase in selling price increases contribution, results to improve p/v ratio
- An increase in VC per unit will reduce the contribution, results in decrease of p/v ratio
- A decrease in VC per unit will result in increase of contribution. P/v ratio will also increase
- Increase in p/v ratio means lower BEP and higher margin of safety
- Decrease in p/v ratio means higher BEP and lower margin of safety
- Decrease in selling price of a product results in decrease in contribution and lowering the p/v ratio
- Increase or decrease in FC doesn't affect p/v ratio.

Marginal costing and decision making

1) Fixation of selling price
   a) Pricing under normal condition
      Selling price per unit = VC per unit + FC per unit + desired profit per unit

If desired profit is expressed as % of investment, the formula is;

$$\text{VC per unit} + \text{FC per unit} + \frac{\%\text{investment}}{\text{Sales volume}}$$

b) Selling price below the marginal cost
   - To introduce a new product in the market
   - To popularize a product
   - To avoid the loss of future sales
   - To sell goods of perishable nature
   - To push up the sale of joint products
   - To eliminate the competitor from the market
   - To utilise idle capacity

c) Pricing under stiff competition and trade depression

2) Selection of a suitable sale mix
3) Problem of key factor/limiting factor/critical factors/governing factors
4) Make or buy decision
5) Shut down decision
6) Accepting bulk orders, additional orders, export orders and exploring new markets

THE END