

**UNIT I**

**Meaning**

Management accounting is a system of presentation of information. It involves various accounting methods and techniques that assist the management to get the maximum profit.

**Definitions**

The Association of certified and corporate accounts has defined management accounting as “(i) The application of accounting and statistical technique (ii) To the specified purpose of producing and interpreting information & (iii) Designed to assist the management in its function. (iv) Promoting maximum efficiencies”.

“Any form of accounting which enables a business to be conducted more efficiently can be regarded as Management Accounting”

- The Institute of Chartered Accountants of England and Wales

**Objectives:**

- i. To assist the management in promoting efficiency. Efficiency includes best possible service to its investors ,employees and customers.
- ii. To Formulate policy and planning: Management accounting provides information to the management to formulate the plan for the future. It assists the management by furnishing statements of future probabilities.
- iii. To control the performances effectively: The actual work done is compared with standard. For this standard costing technique is used. It enables the management to control the performance effectively.
- iv. To know the operating performances: Management accounting present to the management at regular intervals operating statements like fund flow and cash flow statements. This enables to know the operating performance of the company.

- v. To evaluate the past performance: Management accounting interprets the financial statements. For this accounting ratios are used. It enables the management to evaluate the past results.
- vi. For Price fixation: Management accounting by using marginal costing technique enables the management in price fixation.

### **Scope of management accounting:**

The scope of management accounting is wide. The areas included with the origin of the subject are as follows:

- i. General Accounting: This includes a) Recording of external transactions covering purchases, sales, cash receipts and cash payments. b) Preparation of regular financial statements.
- ii. Cost Accounting: It consists of the application of double entry techniques to internal transactions. It means application of costs to job, operation, processes and product.
- iii. Budgeting and forecasting: It consists of forming budgets. In preparation of budgets, standard measures are used for amounts included in the budget.
- iv. Cost Control Procedures: It provides for internal reports which compare the actual and decide performance. It includes the reporting mechanism.
- v. Statistics: It concerned with management accounting makes uses of statistical tool like average, standard deviation, time series etc.
- vi. Taxation: In taking management decisions, The management accountant calculates incomes in accordance with income tax loss.
- vii. Auditing: Management accounting needs a system of internal control. It requires establishment of internal audit for all operating units.

### **Advantages of Management Account:**

- i. It increases efficiency in business operations.
- ii. It installs the efficient system of planning & budgeting. Hence the activities of the business are well regulated.
- iii. It enables the actual performance to be measured by a comparison with the budget.
- iv. It enables the business to get maximum return on capital employed.

- v. It enables the management to improve its service to its customers.

## **Management Accounting VS Financial Accounting**

<b>S.No</b>	<b>Basis of Distinction</b>	<b>Financial Accounting</b>	<b>Management Accounting</b>
1.	Objectives	Designed to find out the profit or loss and the values of assets and liabilities for a particular period.	Designed to project the future, using the data from financial records.
2.	User	External parties like share holders, Banks, Investors etc, are interested in receiving the information. Hence it is called External Reporting Process.	Exclusively used by Management for the internal Purpose. Hence it is called 'Internal Reporting Process'
3.	Analysing Performance	Portrays the performance of the business as whole highlights the overall performance.	The data is split into minute details. The overall performance is segregated and analysed.
4.	Data Used	Uses only monetary data	Uses both monetary and qualitative data.
5.	Nature of information	Historical or Post - mortem of past activities	Engineered to project the future.
6.	Periodicity of reporting	Reports are submitted at the regular but in longer intervals usually at the end of each year.	Information is supplied quickly and at very short intervals; as and when the management needs.
7.	Precision	The data revealed by financial accounting is accurate, as it follows double entry principle.	Cent Percent precision cannot be expected as it used qualitative information also.
8.	Legal Compulsion	Every Business house is legally bound to maintain financial accounting system.	Maintaining management accounting system is optional.
9.	Flexibility	It has to follow the set rules and principles. Fixed formats & double entry procedures are to be followed, hence rigid.	Management accounting is not bound by the accounting principles. No strict formats and hence highly flexible.
10	Disclosure of accounts	Copies of the accounts and other related statements are to be circulated and published.	Auditing of the informed supplied by management account system is not possible.

## Management Accounting Vs Cost Accounting

S.No	Basis of Distinction	Cost Accounting	Management Accounting
1	Objective	To determine the cost per unit.	To supply the cost data for efficient performance management
2	Data Used	Past and Present facts and figures are used	Figures are used to project the future
3	Coverage	It restrict itself for cost computation and cost control	It Covers costing principle accounting principles and qualitative information.
4.	Flexibility	Certain fixed rules, regulations, and formats are followed.	No strict formats or procedures are designed suit the management.
5.	User	Both external and internal parties are interested.	Engineered to meet the internal needs only.

## Financial Statements

A Financial statement is an organised collection of data according to logical and consistent accounting procedures. Its purpose is to convey an understanding of some financial aspects of a business firm.

Types of Financial Statements:

- Income Statement
- Balance Sheet
- Statement of Retained earnings
- Statement of changes in financial position.

## **1. Income Statement:**

The Income statement explains what has happened to a business as a result of the operations between two balance sheet dates. For this purpose it matches the revenues and costs incurred in the process of earning revenue and shows the net profit earned or net loss suffered during a particular period especially for one accounting year. It is nothing but the profit and loss account.

## **2. Balance Sheet:**

It is statement of financial position of a business at a specified moment of time. It represents all assets owned by the owners and all liabilities owes by the outsiders against those assets at time. The main difference between Income statement and Balance sheet is Income statement prepared for over a particular period of time say one accounting year whereas Balance sheet is prepared for as on particular date say closing date of account.

## **3. Statement of Retained Earnings:**

The term retained earnings means the accumulated excess of earnings over losses and dividends. The Balance shown by the Income statement is transferred to the balance sheet through his statement after making necessary appropriation.

## **4. Statement of changes in Financial Position:**

Income Statement shows the overall period results -> B/s as on date from position however for a better understanding of the affairs of the business it is essential to identify the movement of working capital or cash in and out of the business. The Statement may emphasize any of the following aspects relating to change in financial position of the business.

- i. Change in working capital position. In such a case the statement is termed as Funds flow statement.
- ii. Change in cash position. In such a case the statement is termed as cash flow statement.
- iii. Change in overall financial position. In such a case the statement is termed as statement of changes in financial position.

### **Analysis of Financial Statements is indicators of the two significant factors:**

- i. Profitability
- ii. Financial soundness

### **Uses of Financial Statement Analysis:**

- i. To the shareholder.
- ii. To the Management
- iii. To the creditor
- iv. To the employees
- v. To the Government
- vi. Stock Exchanges and Trade Associability.

### **Tools for Financial Statement Analysis**

- Comparative Statement
- Common - size statement
- Trend & Percentage analysis
- Ratio Analysis
- Fund Flow & Cash flow analysis

### **Comparative Statement:**

Comparison of financial position of the same firm for different years. One year with other year. Increase and decrease **of** each item are shown.

### **Common-size Statement:**

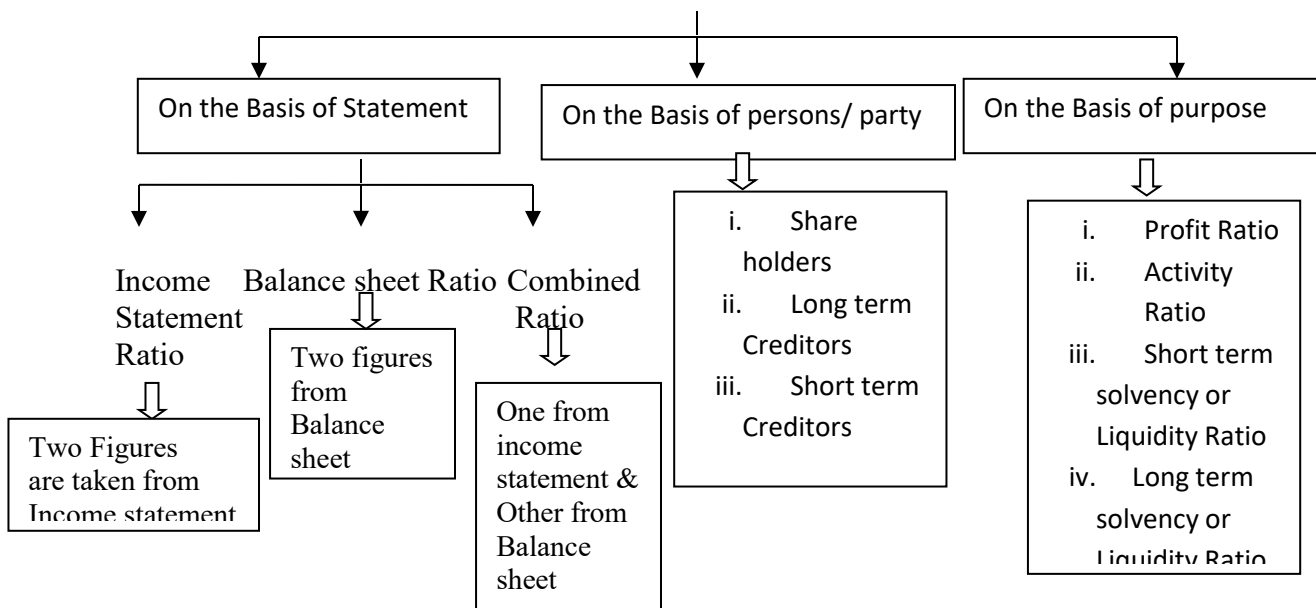
Sales in the income statement or Total assets or Total liabilities in the Balance sheet are assumed as 100%. Each item in the income statement is compared with sales as a percentage of sales. (Or) Each item of assets and liabilities are compared with total assets. Relationship of each item with other item are studied.

## UNIT II

### Accounting Ratios

- i. One of the technic to analyse the financial statements.
- ii. It means studying the relationship between two figures. the term Accounting ratio refers to studying the relation between any two figures from financial statement(Trial Balance). By studying the relationship it will focus on the efficiency or inefficiency of the firm.

#### Types of Accounting Ratios



#### Shareholder's Ratio

1. Earning Per Scheme[E.P.S] = 
$$\frac{\text{Net Income after Performance Dividend}}{\text{No of Equity Schemes}}$$
2. Price Earning Ratio[P/E Ratio] = 
$$\frac{\text{Market Price per Share}}{[\text{Earning per share}]E.P.S}$$
3. Payout Ration = 
$$\frac{\text{Dividend per Share}}{[\text{Earning per share}]E.P.S}$$
4. Dividend yield Ratio = 
$$\frac{\text{Dividend per share}}{\text{Market price per share}} \times 100$$

## A Profit Ratios:

$$\text{i) Gross Profit Ratio (G.P)} = \frac{\text{G.P}}{\text{Sales}} \times 100$$

$$\text{ii) Net Profit Ratio (N.P)} = \frac{\text{N.P}}{\text{Sales}} \times 100$$

$$\text{iii) Operating Profit Ratio} = \frac{\text{Operating Net Profit}}{\text{Sales}} \times 100$$

$$\text{Operating Net Profit} = \text{Net Profit} - \text{Non Operating Income} + \text{Non- Operating Expenses}$$

$$\text{iv) Operating Ratio} = \frac{\text{Total Operating Expenses}}{\text{Sales}} \times 100$$

$$\text{Total Operating Expenses} = \text{Cost of goods sold} + \text{Other operating expenses in P\& L A/c}$$

## v) Return on investment [R.O.I]

$$\text{i) ROI} = \frac{\text{NP before interest \& Tax}}{\text{Capital Employed}} \times 100$$

$$\text{Capital employed} = \text{Fixed Assets} + \text{Working capital}$$

$$\text{ii) Return on Proprietor's Fund} = \frac{\text{Net Profit after Tax}}{\text{Proprietors Funds}} \times 100$$

$$\text{iii) Return on Equity Share Capital} = \frac{\text{Net Profit after Preference Dividend}}{\text{Equity share capital}} \times 100$$

## B. Activity Ratios:

$$\text{1. Fixed assets turnover ratio} = \frac{\text{Cost of goods sold or sales}}{\text{Fixed assets}}$$

$$\text{Cost of goods sold/sales} = \text{Sales} - \text{G.P} \text{ or } [\text{Direct Material} + \text{Direct Labour} + \text{Other Direct Expenses} + \text{Factory Over Heads}]$$

$$\text{2. Working capital turnover ratio} = \frac{\text{Cost of goods sold or sales}}{\text{Working Capital}}$$

$$[\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}]$$

## C. Short Term Creditors (or) Short term solvency ratio:

$$\text{1. Current Ratio or Working Capital ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

The Standard Ratio is 2:1



$$2. \text{ Liquid Ratio (or) Quick Ratio (or) Acid test Ratio} = \frac{\text{Quick Current Assets}}{\text{Quick Current Liabilities}}$$

$$\text{Quick Current Assets} = \text{Current Assets} - \text{Stock \& Prepaid expenses}$$

$$\text{Quick Current Liabilities} = \text{Current Liabilities} - \text{Over Draft}$$

The Standard Ratio is 1:1

$$3. \text{ Debtors turnover Ratio} = \frac{\text{Net credit sales}}{\text{Average Debtors(including B/R)}}$$

$$\text{Average Debtors} = \frac{\text{Open Drs+Closing Drs}}{2}$$

$$\text{Debtors Turnover Ratio (in Period)} = \frac{12 \text{ or } 365}{\text{Debtors turnover ratio}}$$

[ie., Collection period]

$$4. \text{ Stock Turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Average stock}}$$

$$\text{Average Stock} = \frac{\text{Op.Stock+clo.stock}}{2}$$

$$\text{Stock Velocity (in periods)} = \frac{12 \text{ or } 365}{\text{Stock turnover ratio}}$$

$$5. \text{ Creditors turnover Ratio} = \frac{\text{Purchases}}{\text{Average Creditors(including B/p)}}$$

$$\text{Average Creditors} = \frac{\text{Open Crs+Closing Crs}}{2}$$

$$\text{Creditors turnover ratio (in period)} = \frac{12 \text{ or } 365}{\text{C.T.R}}$$

#### **D. Long Term Creditors (or) Long Term Solvency Ratio**

$$1. \text{ Interest Coverage ratio (or) Net income to Debt service ratio} = \frac{\text{Net Profit before Interest statement}}{\text{Periodic Interest Payable}}$$

$$2. \text{ Proprietary Ratio} = \frac{\text{Proprietors Funds}}{\text{Total Assets}}$$

$$\text{Proprietors Fund} = \text{Equity share capital} + \text{Preference share capital} + \text{Reserves \& surplus} + \text{P/L}$$

$$3. \text{ Debt - Equity Ratio (or) Internal - External Equity Ratio} = \frac{\text{Outside Liabilities}}{\text{Proprietors Funds}}$$

$$\begin{aligned} & \text{(or)} \\ & = \frac{\text{Long term Liabilities}}{\text{Proprietors fund}} \end{aligned}$$

1. The capital of Everest Ltd is as follows:-

9% Prof. shares of Rs. 10/- each	3,00,000
Eqs shares of Rs.10/- each	8,00,000
	11,00,000

The account has ascertained the following

- i. Profit after tax @ 60% Rs. 2,70,000/-
- ii. Depreciation Rs. 60,000
- iii. Equity dividend is paid @ 20%
- iv. Market Price of Eq share Rs.40/-

You are required to calculate the following a) EPS b) P/E Ratio c) Dividend yield Ratio on Equity shares d) Cover for Preference Dividend & Equity dividend

$$\text{a) (EPS) Earning Per Share} = \frac{\text{NP after Preference dividend}}{\text{No of Equity shares}}$$

$$= \frac{2,43,000}{80,000} = 3.04 \text{ Per share}$$

$$\text{b) (P/E) Price Earnings Ratio} = \frac{\text{Market price per share}}{\text{EPS}} = \frac{40}{3.04} = 13.17 \text{ times}$$

$$\text{c) Dividend yield ratio on Equity share} = \frac{\text{Dividend per share}}{\text{market price}} \times 100 = \frac{2}{40} \times 100 = 5\%$$

$$\text{d) i) Cover for Preference dividend} = \frac{\text{NP before preference dividend}}{\text{Preference dividend}} = \frac{2,70,000}{27000} = 10 \text{ times}$$

$$\text{ii) Cover for Equity dividend} = \frac{\text{NP after preference dividend}}{\text{Equity dividend pament}} = \frac{2,43,000}{1,60,000} = 1.52 \text{ times}$$

2. Following is the Trading, P&L A/c of Ram Ltd, for year dated 30/06/1994

To Opening stock	76,250	By Sales	5,00,000
To Purchases	3,15,250	By closing stock	98,500
To Carriage	2,000		
To wages	5,000		
To Gross Profit	2,00,000		
	5,98,500		5,98,500

Profit & Loss A/C for the year dated 30/06/1994

To Administration expenses	1,01,000	By Gross Profit	2,00,000
To Financial expenses(Interest Payment)	7,000	By Non -Operating Incomes	
To Selling & Distribution Expenses	12,000	By Profit on sales on Interest 750 & Profit on Revaluation of P & M 5250	6,000
To Non-Operating Expense			
Loss on Sales of F&F 350 & Loss on fire 1650	2,000		
To Net Profit	84,000		
	2,06,000		2,06,000

You are required to Calculate: i) G/P Ratio ii) N/P Ratio iii) Operating Profit Ratio iv) Operating Ratio v) Stock turnover ratio

$$\text{i) Gross Profit Ratio} = \frac{G/P}{Sales} \times 100 = \frac{2,00,000}{5,00,000} \times 100 = 40\%$$

$$\text{ii) Net Profit Ratio} = \frac{N/P}{Sales} \times 100 = \frac{84,000}{5,00,000} \times 100 = 16.8\%$$

$$\text{iii) Operating Profit Ratio} = \frac{\text{Operating Profit}}{Sales} \times 100 = \frac{80,000}{5,00,000} \times 100 = 16\%$$

$$\text{Operating Profit} = \text{N/P} - \text{Non -Operating Incomes} + \text{Non -operating Expenses}$$

$$= 84,000 - 6000 + 2000 = 80,000$$

$$\text{iv) Operating Ratio} = \frac{\text{Total Operating Expenses}}{Sales} \times 100 = \frac{4,20,000}{5,80,000} \times 100 = 84\%$$

$$\text{Total Operating Expenses} = \text{Cost of Goods sold} + \text{Other Operating Expenses in P\&LA/C}$$

$$= (\text{Sales} - \text{G/P}) + \text{Other Operating Expenses}$$

$$= 3,00,000 + 1,20,000 = 4,20,000$$

$$\text{v) Stock turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}} = \frac{3,00,000}{87,375} = 3.43 \text{ times}$$

$$\text{Stock Velocity} = \frac{365 \text{ days}}{3.43 \text{ times}} = 106.41 \text{ days}$$

3. Following is the Balance Sheet of XYZ Ltd., as on 31.12.94

Liabilities		Assets	
Equity Share Capital	1,00,000	Cash in hand	2,000
6% Preference share capital	1,00,000	Cash at Bank	10,000
7% Debentures	40,000	Bills Receivable	30,000
8% Public Deposits	20,000	Investments(Short Term)	20,000
Bank over Draft	40,000	Debtors	70,000
Creditors	60,000	Stock	40,000
Creditors Expenses	7,000	Furniture & Fittings	30,000
Proposed Dividend	10,000	Machinery	1,00,000
Reserve	4,50,000	Land&Buliding	2,20,000
P&L A/c	90,000	Goodwill	45,000
Provision for tax	20,000		
Total	5,67,000	Total	5,67,000

During the year Provision for tax was Rs.20,000. Proposed dividend Rs. 10,000. Profit carried forwarded from last year Rs. 15,000. Sales during the year Rs. 3,00,000.

You are required to calculate i) Current ratio b) Liquid ratio c) Fixed assets turnover ratio d) Working capital turnover ratio e) Debt-Equity ratio

Ans:

$$1. \text{ Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{1,72,000}{1,37,000} = \frac{172}{137} = 1.26 \text{ times}$$

**Total Current Assets** = Cash in hand +Cash at Bank+ Bills Receivable + Investments (Short Term) + Debtors+ Stock (2000+10000+30000+20000+70000+40000=**1,72,000**)

**Total Current Liabilities** =Bank over Draft +Creditors +Creditors Expenses +Proposed Dividend+ proposed tax (40000+60000+7000+10000+20000= **1,37,000**)

$$2. \text{ Liquid ratio} = \frac{\text{Quick Current Assets}}{\text{Current Liabilities}} = \frac{1,32,000}{1,37,000} = 1.36 \text{ times}$$

$$3. \text{ Fixed Assets Turnover ratio} = \frac{\text{Sales}}{\text{Fixed Assets}} = \frac{3,00,000}{3,95,000} = \frac{300}{395} = \frac{60}{79} = 0.76 \text{ times}$$

Total Fixed Assets = Furniture & Fittings+ Machinery+ Land & Building + Goodwill

$$= 30000+100000+220000+45000= \mathbf{3,95,000}$$

$$4. \text{ Working Capital Turnover ratio} = \frac{\text{Sales}}{\text{W.C}} = \frac{3,00,000}{35,000} = 8.55 \text{ times}$$

(W.C) Working Capital = current Assets-current liabilities

$$=1,72,000-1,37,000=35,000$$

$$5. \text{ Interest Turnover ratio} = \frac{\text{Net Profit before interest \& tax}}{\text{Periodical Interest Payable}}$$

To find Net Profit for current year Prepare P&L appropriate Account

Dr.	P&L appropriate Account		Cr.
To Provision for Tax	20,000	By Balance c/d	15,000
To Provision for Dividend	10,000	By Net Profit (balancing figure)	<b>35,000</b>
To P&L A/c	20,000		
	50,000		50,000

**Periodical Payable for Long term Liabilities**

$$\text{For Interest on Debentures} = 40,000 \times 7/100 = 2,800$$

$$\text{For Interest on Public Deposits} = 20,000 \times 8/100 = 1,600$$

$$\text{Total} = \underline{4,400}$$

$$= \frac{35,000+4,400}{4,400} = \frac{39,400}{4,400} = 9 \text{ times (approximate)}$$

$$6. \text{ Debt-Equity Ratio} = \frac{\text{all outsiders liability}}{\text{Proprietors Fund}}$$

$$= \frac{1,67,000}{3,70,000} = 0.45$$

Outside Liability = Short term Creditors + Long term Creditors

$$= (\text{Bank O/D+ Creditors+ Creditors Expenses})+(\text{Debentures +Public Deposits})$$

$$= 1,07,000 + 60,000 = 1,67,000$$

Proprietors Fund = Equity Share Capital + Preference share Capital + Reserves + P&L

$$= 1,00,000 + 1,00,000 + 1,50,000 + 20,000 = 3,70,000.$$

4. Following are the financial statement of Sun Ltd.,

Trading A/c			
To opening Stock	5,00,000	By sales	
		Cash	3,00,000

		Credit	17,00,000
To Purchases	11,00,000	By Closing Stock	6,00,000
To wages	3,00,000		
To Factory dts	2,00,000		
To G/P	5,00,000		
	26,00,000		26,00,000

P&L A/c

To Administration Exp	75,000	By G/P	5,00,000
To selling & Distribution Exp	50,000	By Dividend on Investment	10,000
To Deprition on P&m	60,000	By profit on sales of F&F	20,000
To Interest to debentures	20,000		
To Loss on sales of motor	5,000		
To N/P	3,20,000		
	5,30,000		5,30,000

P&L Appropriation A/c

To Provide for Taxation	1,76,000	By Opening balance	2,71,000
To Proposed dividend	15,000	By N/P	3,20,000
To Balance C/d	4,00,000		
	5,91,000		5,91,000

Balance Sheet as on 31/03/1994

Liabilities		Assets	
Eq share capital	10,00,000	Good will	5,00,000
6% Pref Share capital	5,00,000	P&M	6,00,000
General Reserve	1,00,000	L&B	7,00,000
P&L A/c	4,00,000	F&F	1,00,000
Provision for tax	1,76,000	Stock in trade	6,00,000
B/P	1,24,000	B/R	30,000
Bank O/D	1,20,000	S.Drs	1,50,000
S.Crs	4,80,000	Bank	2,20,000
	29,00,000		29,00,000

Calculate i) Liquid Ratio ii) Proprietary ratio iii) Operating Ratio iv)N/P ratio v) Return on Proprietary fund vi) Stock turnover ratio vii) Drs. Financial ratio

$$\text{i) Liquid Ratio} = \frac{\text{Quick Current Assets}}{\text{Current Liabilities}} = \frac{4,00,000}{9,00,000} = 0.44 \text{ times}$$

$$\text{ii) Proprietary Ratio} = \frac{\text{Proprietary funds}}{\text{Total Assets}} = \frac{70,00,000}{29,00,000} = 0.69$$

$$\text{iii) Operating Ratio} = \frac{\text{Total operating exp}}{\text{Sales}} \times 100 = \frac{17,05,000}{20,00,000} \times 100 = 85.25\%$$

$$\begin{aligned} \text{Total Operating Expense} &= \text{Cost of goods sold} + \text{other operating Expenses in P\&L A\&C} \\ &= 15,00,000 + (75,000+50,000+60,000+20,000) \\ &= 15,00,000 + 2,05,000 = 17,05,000 \end{aligned}$$

$$\text{iv) N/P Ratio} = \frac{N/p}{\text{Sales}} \times 100 = \frac{3,20,000}{20,00,000} \times 100 = 16\%$$

$$\text{v) Return on Proprietary funds} = \frac{NP \text{ after tax}}{\text{Proprietary funds}} \times 100 = \frac{1,44,000}{5,50,000} \times 100 = 7.2\%$$

$$\text{vi) Stock turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock held}} = \frac{15,00,000}{1,80,000} = 2.7 \text{ times}$$

$$\text{vii) Debtors. Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Drs [including } \frac{B}{R}]}} = \frac{17,00,000}{1,80,000} = 9.4 \text{ times}$$

$$\text{Average Debtors} = \text{Closing Debtors} + \text{Bills Receivables} = 1,50,000 + 30,000 = 1,80,000$$

5. From the following statements of X Ltd., for year ended 31/03/1992 Calculate the following Ratio:

i) Current Ratio ii) Acid test Ratio iii) Operating Ratio iv) Stock turnover ratio v) Debtors Turn over ratio vi) Turnover of fixed assets vii) Return on Proprietors funds viii) Debt Equity ratio

Trading & P&L A/c

To Opening Stock	2,50,000	By Sales	18,00,000
To Purchases	10,50,000	By Closing stock	1,50,000
To G/P	6,50,000		
	19,50,000		19,50,000

To Selling & Distribution Exp.	1,00,000	By G/P	6,50,000
To Administrative Expenses	2,30,000	By Profit on sales of fixed assets	50,000
To Financial Expenses	20,000		
To N/P	3,50,000		
	7,00,000		7,00,000

Balance Sheet as on 31/03/2012

Equity Shares of Rs. 10/each	5,00,000	Land & Building	5,00,000
General Reserve	4,00,000	Plant & Machinery	2,00,000

P&L A/c	1,50,000	Stock	1,50,000
Sundry Creditors	2,00,000	Sundry Debtors	2,50,000
		Cash	1,50,000
	12,50,000		12,50,000

$$\text{i) Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{5,50,000}{2,00,000} = 2.75 \text{ times}$$

$$\text{ii) Acid test Ratio} = \frac{\text{Q.C.A}}{\text{C.L}} = \frac{4,00,000}{2,00,000} = 2 \text{ times}$$

$$\text{iii) Operating Ratio} = \frac{\text{Total Operating Exp}}{\text{Sales}} \times 100 = \frac{15,00,000}{18,00,000} \times 100 = 83.33\%$$

$$\begin{aligned} \text{Total Operating Expenses} &= \text{Cost of goods sold} + \text{other operating expenses} \\ &= (\text{Sales} - \text{G.P}) + \text{other operating expenses} \\ &= 11,50,000 + 3,50,000 = 15,00,000 \end{aligned}$$

$$\text{iv) Stock turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average stock}} = \frac{11,50,000}{2,00,000} = 5.75 \text{ Times}$$

$$\begin{aligned} \text{v) Turn over of fixed assets} &= \frac{\text{Cost of goods sold}}{\text{Fixed assets}} \\ &= \frac{11,50,000}{7,00,000} = 1.64 \text{ Times} \end{aligned}$$

$$\text{vi) Debtors turnover Ratio} = \frac{\text{Net Credit sales}}{\text{Average Drs(Including B/R)}} = \frac{18,00,000}{2,50,000} = 7.2 \text{ Times}$$

$$\text{vii) Return on Proprietors funds} = \frac{\text{N/P after tax}}{\text{Proprietors fund}} \times 100 = \frac{3,50,000}{10,50,000} \times 100 = 33.35\%$$

$$\text{viii) Debt Equity Ratio} = \frac{\text{Outside Liabilities}}{\text{Proprietors fund}} = \frac{2,00,000}{10,50,000} = 0.19 \text{ times}$$

$$\begin{aligned} \text{Outside Liabilities} &= \text{Long term Liability} + \text{Short term Liability} \\ &= \text{Nil} + 2,00,000 = 2,00,000 \end{aligned}$$

6. Raj & Co sell their goods on cash as well as on credit. The following particulars are taken from their books of a/cs for the year 2013.



Total Gross sales 1,00,000  
Cash sales included in the above 20,000  
Sales returns Rs 7,000,

Total Debtors on 31-12-2013 – Rs. 9,000 , Bills Receivables on 31-12-2013- Rs. 2000  
Sundry Creditors on 31/12/2013- Rs.10,000. Provision for bad debts on 31/12/2013-Rs.5,000

Calculate the average collection period

$$\text{Debtors turnover ratio} = \frac{\text{Net Credit Sales}}{\text{Average Drs(includingB/R)}} = \frac{73,000}{11,000} = 6.64 \text{ times}$$

$$\begin{aligned} \text{Net credit Sales} &= \text{Total Sales} - \text{Cash Sales} - \text{Sales Return} \\ &= 1,00,000 - 20,000 - 7,000 = 73,000 \end{aligned}$$

$$\text{Collection Period} = \frac{365}{\text{D.T.O.Ratio}} = \frac{365}{6.64} = 55 \text{ days}$$

7. The following figures relate to the trading activities of Bharath grading Ltd, for the year 30-06-2015

Sales Rs.5,20,000 opening stock Rs.76,250 sales return Rs.20,000, Purchases Rs.3,22,250,  
Closing Stock Rs.98,500

**Selling & Distribution expenses:** Salesman salaries Rs.15,300, Advertising expenses Rs.47,000,  
Travel expenses Rs.2,000.

**Non Operating Expenses:** Loss on sales of Plant & Machinery Rs. 4,000.

**Administration Expenses:** Salaries Rs.27,000, Postal & Telegrams & Printing&Stationery  
Rs.5,200 , Depreciation on building Rs.25,800 ,Provision for tax Rs. 40,000

**Non -Operating Incomes:** Dividend on shares Rs. 9,000. Profit on sales of investments  
Rs.3,000.

From the above calculate the following ratios i) G/P ratio ii) N/R Ratio iii) Operating Ratio iv)  
Stock turnover amount

[Answer G/P 2,00,000, N/P 88,000. i) 40% ii) 17.8% iii) 84% iv)3.43 Times]

### Income Statement for Analysis Purpose

<b>Net Sales</b>
------------------

Sales	xxxxxx	
(-) Sales Return	xxxxxx	Xxxxxx
<b>Less cost of goods sold</b>		
OPening Stock	xxxxxx	
(+)Purchases	xxxxxx	
(+)Direct Expenses	xxxxxx	
	xxxxxx	
(-) Closing Stock	xxxxxx	Xxxxxx
Gross Profit		Xxxxxx
<b>Less other operating Expenses</b>		
Admin Expenses	xxxxxx	
Selling & Expenses	xxxxxx	
Finance Expenses	xxxxxx	Xxxxxx
Operating Net Profit		Xxxxxx
(-) Non Operating Expenses		Xxxxxx
		<b>Xxxxxx</b>
(+) Non Operating Incomes		Xxxxxx
Net Profit before tax		<b>Xxxxxx</b>
(-) Provision for tax		Xxxxxx
Net Profit After the Tax		<b>Xxxxxx</b>

### Balance Sheet for Analysis Purpose

#### I Sources of Funds

1	<b>Proprietors funds</b>		
	Equity Share Capital	xxxxxx	
	Preference Share Capital	xxxxxx	
	Reserves & Surplus	xxxxxx	Xxxxxx
2	<b>Long term liabilities</b>		
	Debentures	xxxxxx	
	Public Deposits	xxxxxx	
	Loans/Montages	xxxxxx	Xxxxxx
	<b>Total Sources of funds</b>		<b>Xxxxxx</b>

#### II Application of funds:

1	<b>Fixed Assets</b>		
---	---------------------	--	--

	L&B, P&M, F&F	xxxxx	
	Goodwill/Trade mark	xxxxx	
	Investments	xxxxx	Xxxxxx
2	<b>Working Capital</b>		
	Current Assets (Cash, Bank, B/R, Drs, Stock)	xxxxx	
	(-) Current liabilities (S.crs, B/P, Bank O/D, Provisions)	xxxxx	Xxxxxx
	<b>Total usage of Assets</b>		Xxxxxx

### 7. Income statement for analysis purpose

<b>Net Sales</b>		
Sales	5,20,000	
(-) Sales Return	20,000	5,00,000
<b>Less Cost of goods sold</b>		
Opening Stock	76,250	
(+) Purchases	3,22,250	
	3,98,500	
(-) Closing Stock	98,500	3,00,000
Gross Profit		2,00,000
<b>Less Operating Expenses</b>		
Administration Expenses [27,000+5200+25,800+40,000]	98,000	
Selling & Distribution Expenses [15,300+4,700+2000]	22,000	1,20,000
Operating Net Profit		80,000
(-) Non-Operating Expenses Loss on sales of P&M		4,000
		76,000
(+) Non-Operating Incomes [9000+3000]		12,000
N/P		88,000

$$1. \text{G/P Ratio} = \frac{G/P}{\text{Sales}} \times 100 = \frac{2,00,000}{5,00,000} \times 100 = 40\%$$

$$2. \text{N/P Ratio} = \frac{N/P}{\text{Sales}} \times 100 = \frac{88,000}{5,00,000} \times 100 = 17.8\%$$

$$3. \text{Operating Ratio} = \frac{\text{Total Operating Exp}}{\text{Sales}} \times 100 = \frac{4,20,000}{5,00,000} \times 100 = 84\%$$

Total Operating Expenses = Cost of Goods sold + other operating expenses in P&L A/c

$$= 3,00,000 + 1,20,000 = 4,20,000$$

$$4. \text{ Stock turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}} = \frac{3,00,000}{87,375} = 3.43 \text{ times}$$

8. The following information are obtained from the books of Ram Ltd, which closes its A/c on 31/12 every year. Rearrange it in a form for comparison purpose and calculate any five ratios of which are significant.

### Balance Sheet

Liabilities			Assets		
	31-12-2010	31-12-2011		31-12-2010	31-12-2011
Share Capital	1,00,000	1,00,000	Cash & Bank	15,380	26,020
Sundry Crs.	20,000	6,000	Sundry Drs.	11,260	11,710
B/P	12,750	6,500	Stock	56,160	49,460
Debentures	1,00,000	1,00,000	L&B	1,50,000	1,60,000
P&L A/c	67,250	94,500	P&M	67,200	59,810
	3,00,000	3,07,000		3,00,000	3,07,000

Sales: 2010-1,80,000 ; 2011-1,95,000

### Balance Sheet Analysis Purpose

#### I. Sources of Funds

		2010		2011
<b>1. Proprietor's Funds</b>				
Equity Share Capital	1,00,000		1,00,000	
P&L A/c	67,250	1,67,250	94,500	1,94,500
<b>2. Long term Liabilities</b>				
Debentures		1,00,000		1,00,000
<b>Total Sources of funds</b>		<b>2,67,250</b>		<b>2,94,500</b>

#### II. Application of funds

		2010		2011
<b>1. Fixed Assets</b>				
L&B	1,50,000		1,60,000	
P&M	67,200	2,17,200	59,810	2,19,810
<b>2. Working Capital: Current Assets</b>				
Cash & Bank	15,380		26,020	
Sundry Debtors	11,260		11,710	
Stock	56,160		49,460	

	82,800		87,190	
(-)B/P & Sundry Ceritors	32,750	50,050	12,500	74,690
Total Application of fund		2,67250		2,94,500

(i) Current Ratio - 2.59/6.07

(ii) Liquid Ratio - 0.81/3.01

(iii) Debt-Equity Ratio - 0.76/0.66

(iv) Working Capital Turnover Ratio - 3.6/3.01

(v) Fixed Assets turnover ratio: 0.82/0.89

1. The current liabilities of a company Rs. 3,00,000 current ratio's 3:1 Quick ratio is 1:1. Calculate the value of stock in trade.

To find current Assets:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liability}} = \frac{3}{1}$$

$$\text{i.e., } \frac{C.A}{3,00,000} = \frac{3}{1}$$

$$\text{i.e., } C.A = \frac{3}{1} \times 3000 = 9,00,000$$

To find Quick Ratio Current Assets:

$$\text{Quick Ratio} = \frac{Q.C.A}{C.L} = \frac{1}{1} \text{ ie) } \frac{3,00,000}{3,00,000} = Q.C.A = 3,00,000$$

To find Stock:

$$\text{Stock} = C.A - Q.C.A = 9,00,000 - 3,00,000 = 6,00,000.$$

2. MLtd., made sales of Rs. 1,60,000 during a period if debtors turnover is 8 times. Calculate the debtors on the last day of the financial year. It is ascertain that debtors at the end of the year 4,000 more than that at the beginning of the year.

To find the Average debtors

Use debtors Turnover Ratio formula:

$$\text{Debtors Turnover Ratio} = \frac{\text{Sales}}{\text{Average Drs}} = 8 \text{ times (Given)}$$

$$\text{ie) } \frac{1,60,000}{\text{A Drs}} = 8$$

$$\text{ie) Average Debtors} = \frac{1,60,000}{8} = 20,000$$

To find closing debtors make use of Average debtors formula:

$$\text{Average Debtors} = \frac{\text{Op Drs} + \text{Closing Drs}}{2} = 20,000$$

Let Open Debtors = x

$$\text{Closing Debtors} = x + 4000$$

$$\text{ie) } \frac{x + (x + 4000)}{2} = 20,000$$

$$\text{ie) } x + (x + 4000) = 20,000 \times 2$$

$$\text{ie) } 2x + 4000 = 40,000$$

$$\text{ie) } 2x = 40,000 - 4,000 = 36,000$$

$$\text{ie) } x = \frac{36,000}{2} = 18,000$$

$$\text{Opening Debtors} = 18,000$$

$$\text{Closing Debtors} = 18000 + 4000 = 22,000$$

3. A company's stock turnover is five times tock at en is Rs.5,000 more than at the beginning sales[including credit] RS.2,00,000 rate of G.P on cost 1/4/. Calculate stock at end.

$$\text{Stock turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Av Stock}} = 5 \text{ times (Given)}$$

**To find cost of goods sold:**

$$\text{Sales} = \text{Rs } 2,00,000$$

$$\text{G.P} = \frac{1}{4} \text{ on cost ie) } \frac{1}{5} \text{ on sales}$$

$$= 2,00,000 \times \frac{1}{5} = 40,000$$

$$\text{Cost of goods sold} = \text{sales} - \text{G.P} = 2,00,000 - 40,000 = 1,60,000$$

$$\text{Stock Turnover ratio} = \frac{\text{Cost of goods sold}}{\text{A.Stock}} = 5 \text{ times}$$

$$= \frac{1,60,000}{\text{Av.Stock}} = 5$$

$$\text{ie) Average Stock} = \frac{1,60,000}{5} = 32,000$$

**To find closing stock:**

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing stock}}{2} = 32,000$$

Let opening stock = x

$$\text{Closing stock} = x + 5000$$

$$\frac{x + x + 5000}{2} = 32,000$$

$$2x + 5000 = 32,000 \times 2 = 64,000$$

$$2x = 64,000 - 5,000$$

$$2x = 59,000$$

$$x = \frac{59,000}{2} = 29,500$$

$$\text{Opening stock} = 29,500$$

$$\text{Closing Stock} = 29,500 + 5,000 = 34,500$$

4. From the following information make out a statement of proprietors fund with as many details as possible, current ratio 2.5, Liquid ratio 1.5, Proprietary ratio ( $\frac{\text{Fixed asset}}{\text{Propr fund}}$ ) 0.75 working capital Rs. 60,000, Reserves & Surpluses Rs. 40,000, Bank O/D Rs. 10,000. There is no long term or Fictitious Assets.

To find Current Assets & Current Liabilities

$$\text{Current Ratio} = 2.5$$

$$\text{C.A} - \text{C.L} = \text{W.C}$$

$$2.5 - 1 = 1.5$$

$$\text{But we know Working Capital} = 60,000$$

$$\text{i.e) } 1.5 = 60,000$$

$$C.L = \frac{60,000}{1.5} \times 1 = 40,000 \text{ [O/D 10,000 Included]}$$

$$2.5 \text{ CA} = \frac{60,000}{1.5} \times 2.5 = 1,00,000$$

To find Q.C.A

$$\text{Liquid Ratio} = \frac{Q.C.A}{C.L} = \frac{1.5}{1}$$

$$\text{i.e) } \frac{Q.C.A}{40,000} = \frac{1.5}{1}$$

$$Q.C.A = \frac{1.5}{1} \times 40,000 = 60,000$$

To find Stock

$$\text{Stock} = C.A - Q.C.A$$

$$= 1,00,000 - 60,000 = 40,000$$

To find fixed assets & Proprietors fund

$$\text{Proprietary Ratio} = \frac{\text{Fixed Assets}}{\text{Prop Fund}} = \frac{0.75}{1}$$

$$\text{i.e) Prop Fund} - \text{Fixed Assets} = 1 - 0.75 = 0.25$$

$$\text{Total Liability} = \text{Total Assets}$$

$$\text{Prop.fund} + C.L = F.A + C.A$$

$$\text{Prop Fund} - F.A = C.A - C.L$$

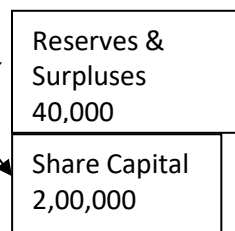
$$\text{Prop Fund} - F.A = W.C$$

$$\text{Prop Fund} - F.A = 60,000$$

$$1 - 0.75 = 60,000$$

$$0.75 = 60,000$$

$$1 \text{ Prof} = \frac{60,000}{0.25} \times 1 = 2,40,000$$





$$\text{Fixed assets} = \frac{60,000}{0.25} \times 0.75$$

$$= 1,80,000$$

**Balance Sheet as on....**

Liabilities		Assets	
Share Capital	2,00,000	Fixed Assets	1,80,000
Reserves & Surplus	40,000	<b>Current Assets</b>	
		Quick current Assets	60,000
		Closing Stock	40,000
Current Liabilities			
Bank O/D	10,000		
Other Current Liabilities	30,000		
	2,80,000		2,80,000

5. Gross Profit as 80,000, Gross Profit to cost of goods sold 1/3, stock turnover ratio 6 times Opening stock 36,000, Accounts receivable Velocity 72 days(for the year of 360 days) Accounts payable velocity 90 days. Total Current Assets 1,50,000, Bills Receivables 20,000, Bills Payable 5,000 ,Fixed Assets turnover Ratio 8 times. Prepare a Balance Sheet with as many details as possible.

To find Sales & Cost of goods sold:

$$\text{G.P to Cost of goods sold} = 1/3$$

i.e) G.P is Rs.1: Cost of goods sold Rs.3

$$\text{G.P is Rs. 80,000; Cost of Goods sold} = \frac{3}{1} \times 80,000 = 2,40,000$$

$$\text{Sales} = \text{Cost of goods sold} + \text{G.P} = 2,40,000 + 80,000$$

$$\text{Sales} = 3,20,000$$

To find Closing stock:

$$\text{Stock turnover ratio} = \frac{\text{Cost of goods sold}}{\text{Av.Stock}} = 6(\text{Given})$$

$$\text{i.e) } \frac{2,40,000}{\text{Av.Stock}} = 6$$

$$\text{Average Stock} = \frac{2,40,000}{6} = 40,000$$

$$\frac{\text{Opening Stock} + \text{Closing stock}}{2} = 40,000$$

$$\frac{36,000 + \text{Closing stock}}{2} = 40,000$$

$$36,000 + \text{Closing stock} = 40,000 \times 2$$

$$\text{Closing stock} = 80,000 - 36,000$$

$$\text{Closing stock} = 44,000$$

To find Sundry Debtors use Debtors Turn Over Ratio (in Period) formula

$$\text{Collection Period} = \frac{360}{D.T.R} = 72 \text{ days}$$

$$\text{Debtors Turnover Ratio} = \frac{360}{72} = 5 \text{ times}$$

$$\text{Debtors Turnover Ratio} = \frac{\text{Sales}}{\text{Av.Drs(Including B/R)}} = 5 \text{ Times}$$

$$= \frac{3,20,000}{\text{Av.Drs}} = 5 \text{ Times}$$

$$\text{Debtors (including B/R)} = \frac{3,20,000}{5} = 84,000$$

$$\text{B/R} = 20,000 \text{ (Given)}$$

$$\text{Sundry Debtors} = 84,000 - 20,000 = 64,000$$

To find Sundry Creditors use Creditors Turnover Ratio (in periods) formula

$$\text{Creditors Velocity (in Period)} = 90 \text{ days}$$

$$\frac{360}{C.T.R} = 90 \text{ days}$$

$$\text{Creditors Turnover Ratio (C.T.R.)} = \frac{360}{90} = 4 \text{ times}$$

$$C.T.R = \frac{\text{Purchases}}{\text{Crs(in } \frac{B}{P})} = 4$$

$$\text{Purchases} = \text{Cost of Goods Sold} - \text{Opening Stock} + \text{Closing Stock}$$

$$= 2,40,000 - 36,000 + 44,000 = 2,48,000$$

$$C.T.R = \frac{2,48,000}{\text{Crs.(in B/P)}} = 4$$

$$\text{Creditors (including B/P)} = \frac{2,48,000}{4} = 62,000$$

$$\text{B/P} = 5,000$$

$$\text{Creditors} = 62,000 - 5,000 = 57,000/-$$

To find Fixed Assets:

$$\text{Fixed Assets Turnover Ratio (F.T.R)} = 8 \text{ times}$$

$$\text{F.T.R} = \frac{\text{Cost of goods sold}}{\text{Fixed assets}} = 8 \text{ times}$$

$$\text{Fixed Assets} = \frac{2,40,000}{8} = 30,000$$

To find Cash & Bank:

$$\text{Stock} = 44,000$$

$$\text{Drs} = 44,000$$

$$\text{B/R} = 20,000$$

$$\text{Cash \& Bank} = 42,000$$

$$\text{Total Current Assets} = 1,50,000$$

#### Balance Sheet as on

Liabilities		Assets	
Share Capital	1,18,000	Fixed assets	30,000
Sundry Creditors	57,000	<b>Current Assets</b>	
Bills payable	5,000	Stock	44,000
		Debtors	44,000
		Bills Receivables	20,000
		Cash & Bank	42,000
	1,80,000		1,80,000

## UNIT III

### **Fund Flow statement**

#### **Meaning for the term ‘Fund’**

The term fund can be meant in two ways a) In narrow sense: It refers to cash and bank. b) In Broader sense: It refers to working capital.

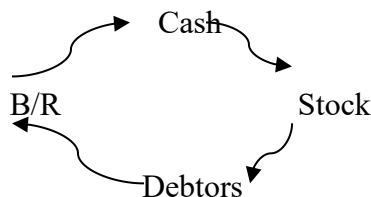
#### **Meaning for the term Working Capital:**

1. In theory, it refers to capital required to meet the day to day requirements.
2. It is required to purchase raw materials, payment of wages and payment of other overheads.
3. Working capital will be in the form of Cash, Bank, B/R and inventories(Stock).
4. In Accounting: Working capital refers to difference between current assets & Current Liabilities.
5. Working Capital = Current Assets - Current Liabilities.

#### **Meaning for current Assets:**

Current Assets refer to

- i. Assets in the most liquid form - Cash & Bank.
- ii. Assets which are convertible into cash with in one financial year - B/R. Sun.Dts, Stock & O/Standing incomes.
- iii. Assets which are consumed during one financial year - Loose tools(Stores & Spare pants), Prepaid Expenses.
- iv. Current Assets are also called as “Circulating Assets”



### Meaning for current Liabilities:

1. It refers to the Liabilities repayable within a period of one year.
2. Current Liabilities are repayable out of C.A.
3. Examples: S.Crs, B/P, Bank, O/D unclaimed Dividend, O/S Expenses.
4. Current Liabilities are also called as 'Short term liabilities'.

### Meaning for fund flow

1. It refers to changes in working capital.
2. If there is positive(+ve) change, fund will flow into the Business. It is called as "Sources of funds". It will increase the working capital.
3. If there is -ve change, fund will flow out of the business. It is "Application of fund". It will decrease the working capital.

### Meaning for fund flow statement

1. It is a statement which gives the reasons for changes in working capital, during a period.
2. It is a qualitative statement.
3. It gives various sources of fund on one side & applications of fund on other side.
4. The difference between the two sides will be either increase in working capital or decrease in working capital.
5. Following is specimen of fund flow statement.

### Fund flow statement

Sources of fund		Application of fund	
1. Issue of Equity Stock Capital	xxxxx	1. Redemption of Preference share	xxxxx
2. Issue of Preference share Capital	xxxxx	2. Redemption of Debentures	xxxxx
3. Share Premium received	xxxxx	3. Repayment of Loan	xxxxx
4. Issue of Debentures	xxxxx	4. Purchases of Fixed assets	xxxxx
5. Raising of Public Deposits & Funds	xxxxx	5. Purchases of Investments	xxxxx
6. Sale of fixed Assets & Investments	xxxxx	6. Payment of tax	xxxxx
7. Refund of Income Tax	xxxxx	7. Payment of dividend	xxxxx
8. Fund from operation	xxxxx	8. Fund for operation	xxxxx
Net Decrease in Working Capital	xxxxx	Net Increase in Working Capital	xxxxx
	xxxxx		xxxxx

### Meaning for Statement showing changes in Working Capital:

1. It is a statement which gives the amount of changes in working capital, during a particular period.
2. It is a quantitative statement.
3. It takes into account only current assets & current liabilities.
4. The following is the specimen for schedule showing changes in Working Capital

#### Schedule showing changes in Working Capital

Particulars	Increase in W.C ↑ in C.A, ↓ in C.L	Decrease in W.C ↓ in C.A, ↑ in C.L
C.A		
C.L		
Net Increase/Decrease in W.C		

1. From the following Balance Sheet Prepare a fund flow statement.

#### Balance Sheet of ABC Ltd., as on

	Liabilities			Assets	
	01-01-2014	31-12-2014		01-01-2014	31-12-2014
Share Capital	90,000	1,25,000	L&B	15,000	20,000
Debentures	30,000	20,000	P&M	20,000	30,000
Loan	10,000	15,000	F&F	15,000	15,000
Sundry Crs.	8,000	5,000	Stock	30,000	40,000
Bills Payable	2,000	15,000	Debtors	20,000	15,000
			Cash & Bank	40,000	60,000
	1,40,000	1,80,000		1,40,000	1,80,000

Note: Non- Current Assets & Liabilities only shown in the fund flow statement

#### Fund Flow statement

Sources of Fund		Application of Fund	
Issue of share Capital	35,000	Purchase of L&B	5,000
Loan Raised	5,000	Purchase of P&M	10,000
		Redemption of Debentures	10,000
		Net Increase in W.C	15,000
	40,000		40,000

**Statement showing changes in working capital**

<b>Particulars</b>	<b>Increase in W.C ↑ in C.A, ↓ in C.L</b>	<b>Decrease in W.C ↓ in C.A, ↑ in C.L</b>
Stock	10,000	
Debtors		5,000
Cash	20,000	
Sundry Creditors	3,000	
Bills Payable		13,000
	33,000	18,000
Net Increase in Working Capital		15,000
Total	33,000	33,000

2. From the following Balance Sheet prepare fund flow statement

**Balance Sheet of XYZ Ltd.,**

<b>Liabilities</b>	<b>01-01-1993</b>	<b>31-12-1993</b>	<b>Assets</b>	<b>01-01-1993</b>	<b>31-12-1993</b>
Equity Share Capital	80,000	1,00,000	Freehold Premises	80,000	1,00,000
Preference Share capital	70,000		Equipments	60,000	1,00,000
Share Premium	20,000	30,000	Investments	80,000	50,000
P&L A/c	40,000	70,000	Inventories	60,000	90,000
Debentures	50,000	80,000	A/Cs Receivable	70,000	1,00,000
A/Cs Payable	60,000	70,000	Bank	10,000	--
Bank O/D	--	40,000			
Outstanding Expenses	40,000	50,000			
	3,60,000	4,40,000		3,60,000	4,40,000

**Schedule showing changes in Working Capital**

<b>Particulars</b>	<b>Increase in W.C ↑ in C.A, ↓ in C.L</b>	<b>Decrease in W.C ↓ in C.A, ↑ in C.L</b>
Inventories	30,000	
Account Receivable	30,000	
Bank		10,000
A/C s Payable		10,000
Bank O/D		40,000
Outstanding Expenses		10,000
Net Decrease in Working Capital(Balancing Figure)	<b>10,000</b>	
Total	70,000	70,000

## Fund Flow Statement

Sources of Fund		Application of Fund	
Sales of Investment	30,000	Purchase of freehold properties	20,000
Issue of Equity Share Capital	20,000	Purchase of Equipments	40,000
Share Premium received	10,000	Redemption of Preference shares	70,000
Fund from operation	30,000		
Issue of debenture	30,000		
Net Decrease in W.C	10,000		
	1,30,000		1,30,000

### Meaning for fund from operation:

It means working capital obtain from trading operations. It is the result of purchase and sale of goods and meeting other expenses. If there is net profit it is fund from operating if there is net loss it is fund for operation.

### Calculation of fund from operation

**Model 1:** When trading & P&L A/c is given:

#### Statement showing fund from operation:

Net Profit for the year	xxxxx
-------------------------	-------

#### Add: Non Current Expenses

Depreciation of fixed assets	xxxxx	
Loss on sales of fixed assets	xxxxx	
Loss on sales of Investments	xxxxx	
Intangible Assets written off (Goodwill, Trademark, Pattern)	xxxxx	
Part losses written off (Preliminary expenses, discount on shines & Debentures)	xxxxx	
Transfer to reserves fund (General Reserve, Reserve fund, Equilisation fund, Workman compensation fund)	xxxxx	xxxxx
		xxxxx



Less: Non Content Incomes:

Profit on sales of fixed assets	xxxxx	
Transfer from Reserves	xxxxx	xxxxx
		_____
Fund <b>from</b> operation (or)		xxxxx
Fund <b>for</b> operation		_____

3. From the following P&L A/c, find out fund from for operation:

**P&L A/C for the year ended 31-12-1994**

To Opening stock	30,000	By sales	
To purchases	60,000	Cash 40,000	1,40,000
		Credit 1,00,000	
To Wages 20,000 (+) O/S 5,000	25,000	By closing stock	
To G.P	60,000		
	1,75,000		1,75,000
To Salaries	10,000	By G.P	60,000
To Rent Rates	5,000	By interest on Investment	5,000
To Advertisement	15,000	By Profit on sale of furniture	10,000
To Depreciation on machinery	10,000		
To loss on sale of investment	5,000		
To General Reserve	10,000		
To N.P	20,000		
	75,000		75,000

**Statement showing fund from operating**

Net Profit for the Year		20,000
<b>Add:</b> Non -Current Expenses		
Depreciation on machinery	10,000	
Loss on sale of investment	5,000	
General Reserve	10,000	25,000

	45,000
<b><u>Less: Non Current investments</u></b>	
Profit on sale of furniture	10,000
<b>Fund from operation</b>	35,000

4. From the following P&L A/C Calculate fund from operation.

**Trading and P&L A/C**

To Opening Stock	32,000	By Sales	10,00,000
To Purchases 40,000	32,000	By Closing Stock	80,000
(-) Returns 8,000			
To Wages Paid	30,000		
To Gross Profit	9,86,000		
	10,80,000		10,80,000
To Rent 8,000	10,000	By Gross Profit	9,86,000
(+) Accrued 2,000			
To Salary 30,000	25,000	By Profit on sale of building	10,000
(-) Prepaid 5,000			
To Depreciation on furniture	3,000	By Transfer from Reserve	8,000
To discount on issued of shares	10,000		
To Goodwill W/off	5,000		
To Preliminary expenses	6,000		
To Dividend equitisation fund	15,000		
To Net Profit	9,27,000		
	10,01,000		10,01,000

**Statement showing fund from operating**

Net Profit for the year 9,27,000

**(+) Non-Current Expenses:**

Depreciation on furniture	3,000	
Discount on issue of shares	10,000	
Goodwill W/off	5,000	
Preliminary expenses	6,000	
Dividend equalization	15,000	39,000

---

9,66,000

**Less: Non current incomes**

Profit on sale of Building	10,000	
Transfer from General Reserve	5,000	15,000
<b>Fund from operation</b>		<b>9,51,000</b>

---

**Model-2 - When P&L A/c is not given:**

To find fund from operation prepare revised P&L

5. From the following prepare i) Schedule showing changes in working capital ii) Fund Flow statement.

**Balance Sheet of ABC Ltd.,**

<b>Liabilities</b>	<b>01-01-1993</b>	<b>31-12-1993</b>	<b>Assets</b>	<b>01-01-1993</b>	<b>31-12-1993</b>
Equity Share capital	50,000	65,000	Goodwill	12,000	10,000
Preference share capital	40,000	30,000	Building	40,000	36,000
General Reserve	14,000	18,000	Plant	37,000	36,000
P&L A/c	26,000	18,000	Investments	10,000	13,000
Bank Loan	16,000	18,000	Stock	30,000	13,400
Sundry creditors	8,000	5,400	Bills Receivable	2,000	3,200
Bills Payables	1200	800	Debtors	18,000	19,000
Provision for doubtful debts	400	600	Cash at bank	6,600	15,200
	1,55,600	1,55,800		1,55,600	1,55,800

**Schedule Showing changes in working capital**

<b>Particulars</b>	<b>Increase in W.C ↑ in C.A, ↓ in C.L</b>	<b>Decrease in W.C ↓ in C.A, ↑ in C.L</b>
Stock		6,600
Bills Receivable	1,200	
Sundry Debtors	1,000	
Cash at bank	8,600	
Sundry Creditors	2,600	
Bills Payable	400	
Provision for Doubtful Debts		200
Net Increase in W.C		7,000
	13,800	13,800

**Fund Flow Statement**

<b>Sources of fund</b>		<b>Application of fund</b>	
Issue of Equity share Capital	15,000	Purchase of Investment	3,000
Raising of Bank Loan	2,000	Redemption of Prof Share Capital	10,000
Fund from operation	3,000	Net ↑ in Working Capital	7,000
	20,000		20,000

**Revised P&L A/c**

To closing Balance	18,000	By Operating Balance	26,000
To Goodwill Written off	2,000	By fund from operation	3,000
To Depreciation on Building	4,000		
To Depreciation on plant	1,000		
To Increase in General Reserve	4,000		
	29,000		29,000

6. From the following Balance Sheet of XYZ Ltd, Prepare a Schedule showing changes in Working Capital and Fund Flow statement.

**Balance Sheet of XYZ Ltd,**

<b>Liabilities</b>	<b>1990</b>	<b>1991</b>	<b>Assets</b>	<b>1990</b>	<b>1991</b>
Share Capital	1,00,000	1,25,000	Land & Buliding	1,00,000	95,000
General Reserve	25,000	30,000	Plant	75,000	84,500
P&L A/c	15,250	15,300	Goodwill	-	2,500
Debentures	35,000	-	Inventors	50,000	37,000
Sundry Crs.	75,000	67,600	Debtors	30,000	22,000
Provision for Tax	16,000	17,500	Marketable Security(Short term Investments)	10,000	10,200
Proposed Dividend	9,000	8,000	Cash	250	300
			Bank	-	3,900
			Preliminary Expenses	10,000	8,000
	2,75,250	2,63,400		2,75,350	2,63,400

Depreciation Changed on plant for the year 1991 Rs. 5000

**Schedule showing changes in Working Capital**

	<b>Increase in W.C</b>	<b>Decrease in W.C</b>
Inventories		13,000
Debtors		8,000
Marketable Securities	200	
Cash	50	
Bank	3,900	
Sundry Creditors	7,400	
<b>Net ↓ in Working Capital</b>	<b>9,450</b>	
Total	21,000	21,000

**Treatment of Provision for tax and Proposal Dividend**

**Note: If nothing is mentioned put opening balance on application of fund & put the closing balance on revised P&L A/c Debit Side**

**Plant A/C**

To Opening Balance	75,000	By Closing Balance	84,500
To Cash Purchase	14,500	By Depreciation	5,000
Total	89,500		89,500

7. From the following Balance Sheet of E.S Ltd., Prepare fund flow statement

**Balance Sheet of E.S**

	<b>1989</b>	<b>1990</b>		<b>1989</b>	<b>1990</b>
Equity Share Capital	3,00,000	4,00,000	Goodwill	1,15,000	90,000
8% Preference share capital	1,50,000	1,00,000	Land & Building	2,00,000	1,70,000
General Reserve	40,000	70,000	Plant	80,000	2,00,000
P&L A/c	30,000	48,000	Sundry Debtors	1,60,000	2,00,000
Proposed Dividend	42,000	50,000	Stock	77,000	1,09,000
Sundry Creditors	55,000	83,000	Cash	15,000	10,000
Bills payables	20,000	16,000	Bills Receivables	12,000	18,000
Provision for tax	40,000	50,000	Loans & Advance	8,000	12,000
			Prepaid Expenses	10,000	8,000
	6,77,000	8,17,000		6,77,000	8,17,000

1. Depreciation Rs. 10,000 and Rs. 20,000 have been changed on plant and on L&B respectively in 1990.
2. Income tax Rs. 45,000 has been provided during the year from P& A/c.
3. Interim Dividend of Rs. 20,000 have been paid during the year.

### Schedule Showing changes in Working Capital

	Increase in W.C	Decrease in W.C
Debtors	40,000	
Stock	32,000	
B/R	6,000	
Loans & Advances	4,000	
Cash & Bank		5,000
Prepaid Expenses		2,000
Supply Crs		28,000
B/P	4,000	
Net ↑ in W.C		51,000
	86,000	86,000

### Land & Building A/C

To Opening balance	2,00,000	By Closing Balance	1,70,000
		By Depreciation(P&L)	20,000
		By Cash-Sales	10,000
	2,00,000		2,00,000

### Plant A/C

To Opening Balance	80,000	By Closing Balance	2,00,000
To Cash Purchases	1,30,000	By P&L A/C(Provision)	10,000
	2,10,000		2,10,000

### Provision for Tax A/C

To Closing Balance	50,000	By Opening Balance	40,000
To Cash Payment of tax	35,000	By P&L A/C	45,000
	85,000		85,000

### Revised P&L A/C

To Closing Balance	48,000	By Opening Balance	30,000
To Goodwill W/ff	25,000	By Fund from operation	2,18,000
To Depreciation on Building	20,000		
To Depreciation on Plant	10,000		
To Transfer to Reserve	30,000		
To Proposed dividend	50,000		
To Provision for tax	45,000		
To Interim dividend	20,000		
	2,48,000		2,48,000

### Fund Flow Statement

Sources of fund		Application of fund	
Sale of L&B	10,000	Purchase of Plant	1,30,000
Issue of Equity Share Capital	1,00,000	Redemption of Preference Share Capital	50,000
Fund from operation	2,18,000	Payment of dividend	42,000
		Payment of tax	35,000
		Payment of Interim Dividend	20,000
		Net ↑ in W.C	51,000
	3,28,000		3,28,000

8. From the following B/S on 31-12-1985 & 31-12-1986. Prepare fund flow statement for the year ending 31-12-1986.

### Balance Sheet as on....

	31-12-1985	31-12-1986		31-12-1985	31-12-1986
Share Capital	1,00,000	1,00,000	Goodwill	12,000	10,000
General Reserve	14,000	18,000	Building	40,000	36,000
P&L A/C	16,000	13,000	Plant	37,000	36,000
Sundry Creditors	8,000	5,400	Investments	10,000	11,000
Bills Payable	1,200	800	Stock	30,000	23,400
Provision for Doubtful debts	400	600	Bills Receivables	20,000	3,200
Provision for tax	16,000	18,000	Debtors	18,000	19,000
			Bank	5,600	15,200
			Prepaid Expenses	1,000	2,000
	1,55,600	1,55,800		1,55,600	1,55,800

1. Depreciation changed on plant Rs. 4000
2. Provision for tax of Rs. 19,000 was made during the year.
3. Interiem dividend Rs. 8,000 was paid during the year.



### Accounting Entries for assets A/c:

When Provision A/C is not maintained	When Provision A/C is maintained
1. When Asset is purchased	1. Asset A/C Dr
Asset A/C dr	To Cash A/C
To Cash A/C	
2. For Annual Depreciation	2. Depreciation A/C Dr
Depreciation A/C – Dr	To Provision for Depreciation A/C
To Assets A/C	
3. For sale of Assets	3.a) Cash A/C Dr
a) For Sales Amount	To Assets A/c
Cash A/C Dr	b) To Transfer accumulated Depreciation on Assets sold
To Assets A/C	To Assets A/c
b) For Profit or loss on sale of assets	c) Profit or loss
If Profit: Assets A/C Dr. To P&L A/C	If Profit Assets A/c Dr To P&L A/c
If Loss: P&L A/c Dr To Assets A/c	If loss P&L A/C dr. To Assets A/c

9. From the following Balance Sheet of X Ltd, Prepare a statement of sources & application of fund for the year 1986

#### Balance sheet of X Ltd,

	1986	1985		1986	1985
Share Capital	2,52,000	2,50,000	Land & Building	1,25,000	1,00,000
P&L A/c	1,26,000	75,000	Plant	1,80,000	1,75,000
Debentures	1,20,000	1,00,000	Debtors	69,000	73,500
Creditors	52,500	60,000	Stock	1,37,000	1,25,000
O/S Expense	2,000	2,500	Bank	72,500	41,500
Provision for depreciation on plant	16,000	15,000	Preliminary Expenses	2,000	2,500
Provision for depreciation on building	17,000	15,000			
	5,85,500	5,17,500		5,85,000	5,17,500

1. During 1986 a part of the machinery costing Rs. 3500(Accumulated depreciation Rs.500) was sold for Rs. 2,500

2. Dividend Rs. 25,000 was paid during the year

### Schedule Showing Charges in Working Capital

	Increase in W.C	Decrease in W.C
Debtors		4,500
Stock	12,000	
Bank	31,000	
Creditors	7,500	
Outstanding Expenses	500	
<b>Net Increase in Working Capital</b>		<b>46,500</b>
	51,000	51,000

### Plant A/c

To Opening Balance	1,75,000	By Closing Balance	1,80,000
To Cash Purchases	8,500	By (Cash) Sales	2,500
		By Provision for Depreciation on Plant	500
	1,83,000		1,83,000

### Provision for Depreciation on Plant

To Closing balance	16,000	By Opening balance	15,000
To Plant	500	By Depreciation	1500
	16,500		16,500

10. From the following Balance Sheet on 31-12-1993 & 31-12-1994, Prepare a fund flow statement.

Liabilities	1993	1994	Assets	1993	1994
Share Capital	2,00,000	3,00,000	Buildings	1,50,000	2,30,000
Share Premium	-	10,000	Plant & Machinery	2,60,000	3,20,000
General Reserve (Profit on Redemption of Debentures)	-	1,000	Shares in Subsidiary Company (investment)	20,000	30,000
P&L A/c	40,000	40,000	Stock	45,000	39,000
Profit for the year	-	45,000	Sundry Debtors	15,000	18,000
5% Debentures	1,00,000	75,000	Bank	25,000	48,000

Sundry Crs.	60,000	1,04,000			
Provision for Tax	20,000	5,000			
Provision for Depreciation on plant	85,000	95,000			
Proposed Dividend	10,000	10,000			
	5,15,000	6,85,000		5,15,000	6,85,000

1. During the year 1993 Plant costing Rs. 15,000 Depreciate to Rs. 7,000 was sold for Rs. 5,000, loss on sale being charged to P&L A/c

2. Taxation paid during the year Rs. 24,000

#### Schedule showing changes in Working Capital

	Increase in W.C	Decrease in W.C
Stock		6,000
Sundry Debtors	3,000	
Bank	23,000	
Sundry Creditors		44,000
<b>Net Decrease in W.C</b>	<b>24,000</b>	
	50,000	50,000

#### Plant A/C

To Opening Balance	2,60,000	By Closing Balance	3,20,000
To Cash Purchases	75,000	By Cash Sales	5,000
		By Provision for Depreciation	7,000
		By P&L (Loss on sales)	3,000
	3,35,000		3,35,000

#### Provision for Depreciation on Plant A/c

To Closing Balance	95,000	By Opening Balance	85,000
To Plant A/c Depreciation on Asset sold	7,000	By P&L Depreciation	17,000
	1,02,000		1,02,000

**Provision for taxation A/C**

To Closing Balance	5,000	By Opening Balance	20,000
To Cash Paid Payment	24,000	By P&L Provision for tax	9,000
	29,000		29,000

**Revised P&L A/c**

To Closing Balance	85,000	By Opening Balance	40,000
To loss on sale of plant	3,000	By Fund from Operation	84,000
To Depreciation on Plant	17,000		
To Provision for Tax	9,000		
To Proposed Dividend	10,000		
	1,24,000		1,24,000

**Fund Flow Statement**

Sources of Fund		Application of Fund	
Issue of Share Capital	1,00,000	Purchase of Buildings	80,000
Share Premium received	10,000	Purchase of Investments	10,000
Sale of plant	5,000	Purchase of Plant	75,000
Fund from operation	84,000	Redemption of Debentures[25,000 - 1000]	24,000
Net ↓ in W.C	24,000	Payment of Tax	24,000
		Payment of Dividend	10,000
	2,23,000		2,23,000

**Exercise**

11. From the following Balance Sheet prepare fund flow statement.

**Balance Sheet as on....**

Liabilities	1983	1984	Assets	1983	1984
Bank O/D	1,860	-	Petty cash	100	160
Provision for doubtful debts	800	900	Bank	-	2080
Provision on depreciation on	17,400	20,700	Debtors	38160	42480

Machines					
Provision for Depreciation on Funds	1,360	1,580	Stock in hand	49920	46470
Provision for delivery van	7,900	7,600	Investment	16000	-
Sundry Creditors	12,800	11,200	Machinery at cost	73600	104800
Provision for tax	7,600	9,000	Furniture at cost	4400	4800
Debentures	20,000	40,000	Real Property	-	18,000
Issued Capital	1,10,000	1,19,400	Provision for discount on Creditors	320	280
Cash in Advance	500	-	Delivery van	14800	14400
General Reserve	10,000	14,000			
Appropriation A/c	7,080	9,090			
	1,97,300	2,33,470		1,97,300	2,33,470

1. A delivery van which had cost Rs. 2,300 and had been depreciated to Rs. 670 was sold for Rs. 600.

2. Taxation paid during the year Rs. 7,000

3. During the year dividend Rs. 10,000 was paid.

### Workings

#### **Delivery Van A/c**

To Opening Balance	14,800	By Closing Balance	14,400
To Purchases	1,900	By Cash A/c Sales	600
		By Loss on sale(P&L)	70
		By Provision for dep on Van A/C	1,630
	16,700		16,700

#### **Provision for Depreciation on delivery van A/c**

To Closing Balance	7,600	By opening Balance	7,900
To Delivery Van A/c Depreciation on Asset sold	1,640	By P&L A/c (Depreciation for current year)	1,340
	9,240		9,240

**Provision for Taxation A/C**

To Closing Balance	9,000	By opening Balance	7,600
To Tax Paid	7,000	By P&L current year Provision	8,400
	16,000		16,000

[ Ans. Fund from operation – Rs.29,330 & Increase in Working Capital – Rs.6,830]

12. The Balance Sheet & Income statement of ABC Ltd, as on 31-12-1988 & 31-12-1989 are as follows

**Balance Sheet of ABC Ltd., As on**

<b>Liabilities</b>	<b>1988</b>	<b>1989</b>	<b>Assets</b>	<b>1988</b>	<b>1989</b>
A/Cs Payable	15,000	25,000	Cash	5,000	2,000
Cash Credit	13,000	10,000	A/Cs Receivable	10,000	8,000
O/S Expenses	2,000	3,000	Loans & Advance	5,000	-
Term Loan	30,000	20,000	Inventories	20,000	25,000
Capital	30,000	35,000	Fixed Assets	60,000	65,000
Surplus A/c	10,000	7,000			
	1,00,000	1,00,000		1,00,000	1,00,000

**Income Statement for the year 1989**

Sales	2,00,000
(-) Cost of goods sold	1,60,000
Gross Profit	40,000
Depreciation 10,000	
(-)Other Expense 20,000	30,000
Net Profit Before Tax	10,000
(-) Provision for Tax	5,000
Net Profit After Tax	5,000

Prepare a statement of sources & uses of fund

**Schedule showing changes in Working Capital**

	<b>Increase in W.C</b>	<b>Decrease in W.C</b>
Cash		3,000
A/C's Receivables		2,000
Loan & Advances		5,000
Inventories	5,000	
A/Cs Payable		10,000
Cash credit	3,000	
O/S Expenses		1,000
Net Decrease in W.C.	13,000	
	21,000	21,000

### Fund flow statement

Sources of Fund		Application of fund	
Fund from operation	20,000	Purchase of Fixed assets	15,000
Issue of Capital	5,000	Payment of Term loan	10,000
Net ↓ in W.C	13,000	Payment of dividend	8,000
		Payment of tax	5,000
	38,000		38,000

### Statement showing fund from operation

Net Profit for the year		5,000
<b>Add:</b> Non-Current Expenses		
Depreciation on Fixed Assets	10,000	
Provision for tax	5,000	15,000
		20,000
<b>Less:</b> Non Current Incomes		
NIL		
Fund from Operations		20,000

### Fixed Assets A/C

To opening Balance	60,000	By Closing Balance	65,000
To Cash Purchases	15,000	By Depreciation	10,000
	75,000		75,000

### Surplus A/C

To Closing Balance	7,000	By Opening balance	10,000
To Dividend Paid	8,000	By ↑ WC for the year	5,000
	15,000		15,000

## **UNIT IV**

### **CASH FLOW ANALYSIS**

#### **MEANING OF CASH FLOW ANALYSIS**

When the concepts of funds is used to mean 'cash' the funds flow analysis would be called cash flow analysis. It is an analysis based on the movement of cash and bank balances. Under cash flow analysis, all movements of cash, rather than the movement of working capital would be considered.

It is a statement of changes in financial position prepared on cash basis. While preparing cash flow statement, two types of cash flows, viz., actual cash flows and notional cash flows are identified.

#### **Principal sources and application of cash in a business**

Sources of cash are from the following:

1. Issue of shares and debentures for cash
2. Sale of fixed assets and investments for cash
3. Borrowing from banks and other financial institutions
4. Cash from operations or trading profits
5. Decrease in current assets
6. Increase in current liabilities

Applications of cash

1. Redemption of shares and debentures by cash
2. Purchase of fixed assets and investments by cash
3. Repayment of loans
4. Cash loss in business operations or trading losses
5. Increase in current Assets
6. Decrease in current Liabilities



## **Differences between cash flow and fund flow analysis**

1. The concept of fund refers to actual or notional cash under cash flow analysis. But it means either all financial resources or net working capital in fun flow analysis.
2. Cash flow analysis deals with the movement of only actual or notional cash but fun flow is concerned with net working capital.
3. Cash flow statement shows the reason for changes in cash and bank balances. fund flow statement shows the reason for changes in net working capital.
4. Cash flow analysis is a tool of short term financial analysis whereas fun flow analysis is for long term.
5. Fun flow statement is in consonant with the actual but in cash flow statement the data obtained on accrued basis.
6. Fun flow statement comes with various sources and application of fund. But cash flow statement starts with opening cash balances and how it reaches the closing balances.
7. In fund flow analysis the changes in current assets and current liabilities are shown in separated statement but in cash flow analysis such changes or adjusted to funds from operations to arise the cash from operations.

## **Advantages of cash flow analysis**

1. It is very helpful in understanding the cash position of a firm.
2. It helps the management to understand the past behavior of the cash cycle.
3. The repayment of loans, replacement of assets and other such programs can be planed on its basis.
4. Its shows the factor contributing to the reduction of cash balance.
5. It is like a cash budget, it helps in comparing and controlling cash expenditure.
6. Cash flow statement is helpful in making short term financial decisions relating to liquidity.

## Format of a Cash Flow Statement

### Cash Flow statement for the year ending.....

	Rs.		Rs.
Balance as on 1.1.20xx		Cash outflows:	
Cash in hand	xxx	Redemption of shares and debentures	xxx
Cash at bank	xxx	Purchase of fixed assets and investments	xxx
Add: Cash inflows			
Issue of shares	xxx	Repayment of loans	xxx
Issue of debentures	xxx		
Sales of fixed assets	xxx	Increase in current assets	xxx
Sale of investments	xxx	Decrease in Current liabilities	xxx
Borrowing(Long medium And short term)	xxx	Payment of taxes and dividends	xxx
Cash from operations:			
Decrease in current assets	xxx	Outstanding expenses of previous year paid	xxx
Increase in current liabilities	xxx		
Outstanding income of previous Year collected advance	xxx	Expense paid in advance	xxx
Balance as on 31.12.20 xx		Cash in Hand	
		Cash at bank	
<b>Total</b>	<b>xxx</b>	<b>Total</b>	<b>xxx</b>

## Calculation of cash from operations

The cash from operations can be calculated by preparing one adjusted profit and loss account. That is all non- fund items like depreciation , good will , written-off etc., should be readjusted. In addition to non- fund items all non -cash transactions such as outstanding expenses, outstanding incomes etc., should be readjusted.

The proforma of the Adjusted Profit & Loss Account is as follows:

### Adjusted P & L A/c

	Rs .		Rs.
To Depreciation	xxx	By Opening balance	xxx
To Good will written off	xxx	By Dividends received	xxx
To General reserve	xxx	By Interest on investments	xxx
To loss on sale of fixed Assets and investments	xxx	By Profit on sale of assets	xxx
To current year's outstanding Expenses	xxx	By Current year's outstanding income	xxx
To Expenses paid in advance during last year	xxx	By Income received in advance during last year	xxx
To Closing balance	xxx	By Cash profits from operations (balancing figure)	
Total	xxx		xxx

1.From the following Balance sheets of XYZ Ltd prepare cash flow statement.

**Balance Sheets**

Liabilities	31.03.97	31.03.98	Assets	31.03.97	31.03.98
Sundry creditors	2,000	3,000	Cash	1,000	2,000
Bills payable	5,000	2,000	Debtors	2,500	3,000
Share capital	16,000	20,000	Stock	3,000	2,500
P&L a/c	4,000	5,000	Bills receivable	2,000	3,500
			Furniture	4,000	5,000
			Land & Building	14,500	14,000
	27,000	30,000		27,000	30,000

Additional Information

1. There were no sale of fixed assets.

**Solution**

**Cash Flow Statement**

	Rs.		Rs.
Opening balance	1,000	Increase in current assets:	
Decrease in current assets:		Debtors	500
Stock	500	Bills receivable	1,500
Increase in current Liabilities :		Debtors in current Liabilities:	
Sundry creditors	1,000	Bills payable	3,000
Increase in share capital	4,000	Furniture purchase	1,000
Cash from operation	1,500	Closing balance	2,000
	8,000		8,000

## Workings

### Calculation of Cash from operation

Rs.

P&L a/c Closing Balance	5,000
<b>ADD:</b> Depreciation on Land & Building	500
	5,500
<b>LESS:</b> P&L a/c Opening Balance	4,000
Cash from Operation	1,500

### Land & Building Account

	Rs.		Rs.
To Balance b/d	14,500	By Depreciation (Balancing figure)	500
		By Balance c/d	14,000
	14,500		14,500

## Working Capital Management

### Meaning of Working Capital

Investment is made in short term activities purchase of current assets such as stock, cash etc., to meet the day-to-day activities. Investment in current assets is called working capital management. Working capital is also known as circulating capital or revolving capital. Since the study of working capital management is important.

### Definition

‘Working capital is the amount of funds necessary to cover the cost of operating the enterprise’ –  
by Shubin

## **Concept of Working Capital**

There are two concepts of working capital. They are

- i) Gross Working Capital
- ii) Net Working Capital

### **i) Gross Working Capital**

The term Gross working capital refers to investment in current assets. The investment required to meet the day-to-day activities in the business is called gross working capital.

### **ii) Net working Capital**

The term Net working capital refers to the excess of current assets over current liabilities. The standard norms of current ratio is 2:1 ie., we have to maintain the current assets in the firm two times more than the current liabilities that shows the working capital management is proper in that particular firm.

Net Working Capital = Current Assets - Current Liabilities

### **Components of current Assets:**

Components of current Assets are Cash in hand, Cash at Bank, Bills Receivables, Sundry Debtors, Short term investments, closing stock, prepaid expenses and outstanding incomes.

### **Components of Current Liabilities:**

Components of Current Liabilities are Bills Payable, Sundry creditors, Outstanding expenses, Short term loans payable, Dividend/ tax payable, Bank O/D.

### **Classification of Working Capital:**

There are two types of Working Capital.

- (i) Fixed Working Capital or Permanent Working Capital
- (ii) Variable Working Capital or Temporary Working Capital

### **(i)Fixed Working Capital**

It refers to Minimum amount to be invested in various current assets is called Fixed Working Capital. Maintain minimum quantity of raw material, Semi-finished goods, finished goods and cash to meet operating expenses.

### **(ii)Variable Working Capital**

It refers to amount of Working Capital required to meet seasonal or special situation and expenses for special marketing campaigns.

### **Factors determining the quantum of Working Capital**

**i. Nature of Business-** According to the nature of business the amount of Working Capital need is varies whether manufacturing type of business needs high quantum of Working Capital whereas trading or service firms needs low amount of Working Capital.

**ii. Volume of business-** The organization which has low number of transactions that is small size of business suppose needs less Working Capital whereas large size of business wanted more Working Capital.

**iii. Production cycle policy** – Every business types has its own Working Capital needs related to their production cycle policy. That is it has continuous production policy or seasonal production policy as per this policy the quantum of Working Capital is decided.

**iv. Length of manufacturing process** – Production process may be length or short. The business has lengthy production process need more Working Capital whereas the business has short production process needs low amount of Working Capital.

**v. Operating cycle-** The number of operating cycle decide the amount of Working Capital The operating cycle is more then they need more Working Capital whereas the operating cycle is less then they need only less amount of Working Capital.

**vi. Condition of supply of raw material** – The business has regular supply of raw material then they need less amount of Working Capital but the business has seasonal or irregular supply of raw material needs more quantum of Working Capital.

**vii. Speed of stock turnover** – The stock turnover ratio of the organization also decided the amount of Working Capital.

**viii. Credit Policy** – The credit policy of an firm decide the amount of Working Capital. If they expanding more credit period for their debtors then they requires more Working Capital. Whereas they restrict their credit period to their debtors they need low amount of Working Capital.

**ix. Market conditions** – The business firm faces more degree of competition in the market then they are in need of more Working Capital. But the competition is low in the market, they need low amount of Working Capital.

**x. Dividend Policy** - The Company possess Liberal Dividend Policy then they needs more amount of Working Capital.

**xi. Lend time** – More lend time needs more Working Capital and less lend time needs low Working Capital.

**xii. Business cycle** – The business sailing in which stage of business cycle like introduction stage, growth stage, boom & declaim stage. According to this stage the amount of Working Capital needs also varies.

**xiii. Price level changes** – Particularly the Raw material price variances in the market will affect the size of Working Capital need.

## **Sources of Working Capital**

### **1. Long term sources**

- i. Issue of shares
- ii. Issue of debentures
- iii. Retained earnings
- iv. Long term loans
- v. Public deposits



## 2. Short term Sources

### i. Internal

- a. Depreciation
- b. Provision for tax
- c. Proposed dividend
- d. Outstanding Expenses

### ii. External

- a. Trade Credit
- b. Bank Credit
- c. Customer advances
- d. Account receivables

## Estimating the Working Capital

### Formulas for estimation of working capital

#### No of Opening Cycle in Generating Period

$$N = \frac{P}{O}$$

P = No of days in Operating period

O = Duration of period cycle (in days)

#### Estimating the W.C

$$R = \frac{E}{N}$$

R = Requirement of Working capital (Estimated)

E = Annual Operating Expenses

N = No of Operating Cycles in the Operating period

1. The following data have been extracted from the financial records of Ram Ltd.,

Raw materials Rs.8 per unit, Direct Labour Rs. 4/ unit & Overheads Rs. 80,000

Additional Information:

1. The company sells annually 25,000 units @ Rs. 20/Unit, All the goods produced are sold in the market.

2. The average storage period for raw materials is 40 days and for finished goods it is 18 days.

3. The supplies give 60 days credit facility to the firm for purchases. The firm also sells goods on 60 days credit to its customers.
4. The duration of the production cycle is 15 days and raw materials is issued at the beginning of each production cycle.
5. 25% of the average Working Capital is kept as cash for contingencies.

Estimate the total work requirements of the firm order operating cycle methods.

Duration of Operating cycle	Days
i) Materials storage period	40
ii) Production cycle period	15
iii) Finished goods storage period	18
iv) Average collection period	60
	133
Less: Average Payment period	60
Duration of operating cycle	73

No. of operating cycles in a year: (Total no of days in a year)

$$N = \frac{P}{O} = \frac{365}{73} = 5 \text{ cycles in a year}$$

Total Annual operating expenses

i) Raw Material	25,000 X 8	2,00,000
ii) Direct Labour	25,000 X 4	1,00,000
iii) Overheads		80,000
		3,80,000

$$R = \frac{E}{N} = \frac{3,80,000}{5} = \text{Rs. } 76,000$$

Add: 25% for (Contingencies)      Rs. 19,000

Total W.C Requirement      Rs. 95,000

## UNIT V

### Marginal Costing

#### **Meaning of the term Marginal costing:**

It means

- i. Ascertained of marginal cost.
- ii. Ascertainment of changes in profit for changes in volume of output. It is based on differentiating the total cost as variable cost and fixed cost.

#### **Meaning for Marginal cost:**

It means variable cost. Variable is one which varies (changes) according to value of output.

**Examples:** Direct materials, Direct Labour, Direct Expenses variable factory outputs, Indirect Materials, Labour, Variable selling outputs, Commission, Bad debts, free gift, packing & Carriage outwards.

#### **Marginal Costing :**

Marginal cost important elements are as follows:

- i. Contribution
- ii. Break Even Point
- iii. Profitability
- iv. Margin of Safety.

#### **i) Contribution :**

- 1) It is the difference between sales and variable cost

$$C=S-V.C$$

- 2) It is this difference which contributes to profit of a business, Hence it is called as contribution.
- 3) Contribution per unit will remain constant.
- 4) Contribution is also equal to fixed cost + Profit (or ) - loss

$$\text{ie) } C=F+P \text{ or } C=F-L$$

## ii) Meaning for Break Ever Point [ B.E.P]

- 1) It is the volume of sales at which there is no profit or no loss.
- 2) It is that point at which total revenue evenly breaks the total cost.
- 3) It is the end point of loss and it is the starting point of profit.
- 4) Here total cost and sales are equal.

$$\text{a. BEP in units} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

$$\text{b. BEP in Rupees} = \frac{\text{Fixed Cost}}{\text{Sales}-\text{Variable cost}} \times \text{Sales}$$

## iii) Meaning for P/V Ratio:

- 1) P/V means profit volume Ratio it is the ratio between contribution and sales

$$\text{P/V Ratio} = \frac{C}{S} \times 100$$

- 2) If there is no change in selling price and variable cost, P/V ratio will remain constant.
- 3) P/V ratio indicates the profitability of a business higher P/V ratio shows greater profitability of the firm.
- 4)  $\text{P/V Ratio} = \frac{\text{Changes in Profit}}{\text{Changes in Sales}} \times 100$

## iv) Meaning for Margin of Safety:

- 1) It is the difference between actual sales and BEP sales margin of safety(M/S) = Actual Sales - BEP Sales.
- 2) It indicates the favourable or unfavourable position of a business. If actual sale is high than BEP sales it indicate favourable position.
- 3) M/S is also calculated as  $\text{M/S} = \frac{\text{Profit}}{\text{P/Vratio}}$

## Other Formulas in Marginal Cost:

$$\text{a) Required sales in units} = \frac{\text{Fixed cost}+\text{Required profit}}{\text{Contribution per unit}}$$

$$b) \text{ Required Sales in Rs.} = \frac{\text{Fixed cost} + \text{Required profit}}{P/V \text{ Ratio}}$$

**Specimen of marginal cost statement:**

Sales	XXXXX
(-) Variable cost(Direct + Variable outputs)	XXXXX
Contribution	XXXXX
(-) Fixed cost (Fixed factory O\H + Fixed Selling & Distribution O\H +Fixed off ice & Administration O\H)	XXXXX
Profit/Loss	XXXXX

1. The following particulars applied to the product of a business.

Selling price per unit Rs. 20/-

Marginal cost per unit Rs. 15/-

Fixed cost per annum Rs. 60,000

No of units produced & sold in the year 25,000 units.

You are required to calculate a) P/V Ratio b) Break Even Point c) M/S

$$a) \quad P/V \text{ Ratio} = \frac{\text{Contribution}}{\text{Selling Price}} \times 100$$

$$C = S - V$$

$$= 20 - 15 = 5$$

$$= \frac{5}{20} \times 100 = 25\%$$

$$b) \text{ BEP (in units)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}} = \frac{60,000}{5} = 12,000 \text{ units}$$

$$\text{BEP (in Rs)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}} \times \text{Selling Price} = \frac{60,000}{5} \times 20 = 2,40,000$$

$$c) \text{ M/S} = \text{Actual sales} - \text{BEP sales}$$

$$= (25,000 \times 20) - 2,40,000$$

$$= 5,00,000 - 2,40,000$$

$$= \text{Rs. } 2,60,000$$

2. From the following prepare marginal cost statement and find out 1. BEP 2.P/V Ratio  
3. M/S

Sales	Rs. 12,00,000
Materials	Rs. 2,50,000
Wages	Rs. 1,00,000
Direct Expenses	Rs. 50,000
Variable factory overheads	Rs. 1,25,000
Fixed factory overheads	Rs. 1,00,000
Office & administration overheads	Rs. 1,00,000
Distribution overheads - Fixed	1,00,000 - variable 75,000

**Marginal cost statement**

Sales		12,00,000
(-) Variable cost		
Materials	2,50,000	
Wages	1,00,000	
Direct Expenses	50,000	
Variable Factory overheads	1,25,000	
Variable Selling overheads	75,000	6,00,000
Contribution		6,00,000
(-) Fixed cost		
Fixed factory overheads	1,00,000	
Office & admin overheads	1,00,000	
Fixed Selling overheads	1,00,000	3,00,000
Profit		3,00,000

$$(i) \text{ BEP (in Rs)} = \frac{\text{Fixed cost}}{\text{Contribution}} \times \text{sales} = \frac{3,00,000}{6,00,000} \times 12,00,000 = \text{Rs. } 6,00,000$$

$$(ii) \text{ P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{6,00,000}{12,00,000} \times 100 = 50\%$$

$$(iii) \text{ M/S} = \text{Actual Sales} - \text{BEP Sales} = 12,00,000 - 6,00,000 = 6,00,000$$

$$= \frac{3,00,000}{50/100} = 3,00,000 \times \frac{100}{50} = 6,00,000$$

3. A company manufactures & sell a single product, selling price per unit Rs.10, marginal cost of the product is Rs. 6/- & Fixed cost Rs. 40,000 per annum. No of unit produced and sales 25,000 units. Calculate

- 1) BEP sales, P/V Ratio and margin of safety.
- 2) No. of units to be sold to earn a profit of Rs. 1,00,000 Per Annam
- 3) Profit of the company when No. of unit sold is 40,000 units

$$1) (a) \text{ BEP} = \frac{\text{Fixed Cost}}{\text{Sales} - \text{Variable cost}} \times \text{sales} = \frac{40,000 \times 10}{10 - 6} = \frac{40,000}{4} \times 10 = \text{Rs. } 10,000$$

$$(b) \text{ B.E.P (in units)} = \frac{\text{Fixed cost}}{\text{Contribution per unit}} = \frac{40,000}{4} = 10,000 \text{ units}$$

$$(c) \text{ P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{4}{10} \times 100 = 40\%$$

$$(d) \text{ M/S} = \text{Actual sales} - \text{BEP Sales} = (25,000 \times 10) - 1,00,000 \\ = 2,50,000 - 1,00,000 = 1,50,000$$

- 2) No of units to be sold to each a profit of Rs. 1,00,000

$$\text{No of units to be sold} = \frac{\text{Fixed cost} + \text{Required Profit}}{\text{Contribution per unit}} \\ = \frac{40,000 + 1,00,000}{4} \\ = \frac{1,40,000}{4} \\ = 35,000 \text{ units}$$

- 3) Profit for sales of 40,000 units:

$$\text{No of units to be sold} = \frac{\text{F.C} + \text{Required profit}}{\text{Contribution/unit}}$$

$$40,000 = \frac{40,000 + \text{R.P}}{4}$$

$$40,000 \times 4 = 40,000 + \text{R.P}$$

$$1,60,000 = 40,000 + \text{Profit}$$

$$1,60,000 - 40,000 = \text{Profit}$$

$$\text{Profit} = 1,20,000$$

**Exercise 1.** Flowing particulars related to S.M Ltd.,

Sales Rs. 6,00,000

Variable Cost Rs. 3,30,000

Net Profit Rs. 67,500

Calculate

1. BEP, P/V Ratio & M/S
2. Sales required to earn a profit of Rs. 1,35,000
3. Profit of the company for sales of Rs. 12,00,000

[Ans:1. BEP = 4,50,000 Rs ,P/V Ratio = 45% ,M/S = 1,50,000, 2. 7,50,000 3. 3,37,500 ]

4. The sales Turn over & Profit during two periods are given as below

Period	Sales	Profit
1990	20,00,000	2,00,000
1991	30,00,000	4,00,000

Evaluate 1. P/V Ratio, BEP, M/S

2. Sales required to earn a profit of Rs. 5,00,000
3. Profit when sales amounted to Rs. 40,00,000

$$\begin{aligned} 1. \text{ P/V Ratio} &= \frac{\text{Ch in profit}}{\text{Ch in sales}} \times 100 \\ &= 2,00,000 / 10,00,000 \times 100 \\ &= 20\% \end{aligned}$$

That is P/V Ratio is expressed as % of contribution on sales

### Marginal Cost Statement

	<u>1990</u>	<u>1991</u>
Sales	20,00,000	30,00,000
Less : Variable Cost(80%of sales)	<u>16,00,000</u>	<u>24,00,000</u>
Contribution (20% of sales)	4,00,000	6,00,000
Less : Fixed Cost( Balancing Figure)	<u>2,00,000</u>	<u>2,00,000</u>
Profit	<u>2,00,000</u>	<u>4,00,000</u>

$$\begin{aligned} \text{BEP for 1990 (in Rs.)} &= \frac{\text{Fixed cost}}{S-V} \times \text{Sales} \\ &= 2,00,000 / 4,00,000 \times 20,00,000 \end{aligned}$$



$$= 10,00,000$$

M/S for 1990 = Actual sales – BEP Sales

$$= 20,00,000 - 10,00,000 = 10,00,000$$

2. Sales required to earn a profit of Rs. 5,00,000

$$\begin{aligned} \text{Sales Required} &= \frac{\text{Fixed cost} + \text{Required Profit}}{\text{P/V Ratio}} \\ &= \frac{2,00,000 + 5,00,000}{20/100} \\ &= 7,00,000 \times 100/20 = \text{Rs.}35,00,000 \end{aligned}$$

3. Profit when sales amounted to Rs. 40,00,000

$$\begin{aligned} \text{Sales Required} &= \frac{\text{Fixed cost} + \text{Required Profit}}{\text{P/V Ratio}} \\ 40,00,000 &= \frac{2,00,000 + \text{R.P}}{20/100} \\ 40,00,000 \times 20/100 &= 2,00,000 + \text{R.P} \\ 8,00,000 - 2,00,000 &= \text{R.P.} \\ 6,00,000 &= \text{Required Profit} \end{aligned}$$

**Exercise 2.** The following figures related to a company x

Period	Sales	Cost
1993	22,23,000	19,83,600
1994	24,51,000	21,43,200

Calculate

- 1) P/V Ratio, BEP, M/S
- 2) Amount of sales which will give a profit of Rs. 7,00,000
- 3) Amount of Profit for sales of Rs. 30,00,000

[Ans: 1.  $\frac{\text{Ch in profit}}{\text{Ch in sales}} \times 100 = 30\%$  , Fixed cost 4,27,500 , BEP = 14,25,000

M/S = 7,98,000 & 10,26,000 2. Rs. 37,58,330 3. Rs. 4,72,500]

7. From the following calculate BEP fixed cost Rs. 1,80,000 variable cost per unit Rs. 2/- selling price per unit Rs. 20/-. Also calculate a) New BEP, when selling price is reduced by 10% b) Selling price per unit if BEP is required at 8000 Units.

$$1. \text{BEP(in units)} = \frac{\text{Fixed cost}}{\text{Contribution/unit}} \qquad \text{BEP(in Rs.)} = \frac{\text{Fixed cost}}{S-V} \times \text{Sales}$$

$$= \frac{1,80,000}{18} = 10,000 \text{ units} \qquad = \frac{1,80,000 \times 20}{18} = 2,00,000 \text{ Rs.}$$

a. New BEP when selling price is reduced by 10%

New selling price = 20-10% = 20-2 = 18 Rs.

$$\text{BEP(in units)} = \frac{F}{\text{Cont/unit}} \qquad \text{BEP(in Rs.)} = \frac{F \times S}{S-V}$$

$$= \frac{1,80,000}{18-2} = 11,250 \text{ units} \qquad = \frac{1,80,000 \times 18}{16}$$

$$= 2,02,500 \text{ Rs.}$$

b. S.P/Unit of BEP is required at 8000 units:

BEP units = 8000	For 8000 units
$\text{BEP(in units)} = \frac{\text{Fixed cost}}{S-V.C}$	Sales 1,96,000
$8000 = \frac{1,80,000}{S-2}$	(-) N.C(8000x2) = 16,000
$S-2 = \frac{1,80,000}{8000} = 22.50$	Contribution = 1,80,000
$S = 22.50+2 = 24.50$	(-) Fixed cost = 1,80,000
	Profit = 0
	$\frac{1,96,000}{8000} = 24.50 \text{ Rs Selling Price/unit}$

8. From the following calculate 1. P/V Ratio 2. Profit when sales of Rs. 20,000. 3. New BEP if selling price is reduced by 20%. Fixed expenses Rs. 4000, BEP Sales Rs. 10,000

$$1. \text{P/V Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100$$

$$= \frac{\text{BEP Contribution}}{\text{BEP Sales}} \times 100$$

$$= \frac{\text{Fixed Cost}}{\text{BEP Sales}} \times 100$$

$$= \frac{4000}{10,000} \times 100 = 40\%$$

2. Profit when sales of Rs. 20,000

$$\text{Sales} = \frac{\text{Fixed cost} + \text{Profit}}{P/V \text{ Ratio}}$$

$$20,000 = \frac{4000 + \text{Reg Profit}}{40/100}$$

$$20,000 \times \frac{40}{100} = 4000 + \text{Profit}$$

$$8000 = 4000 + \text{Profit}$$

$$8000 - 4000 = \text{Profit}$$

$$\text{Profit} = 4000 \text{ Rs.}$$

3. New BEP if selling Price is reduced by 20%

Let old: Sales 10,000 - 20% reduced 8000

V. C 60 % 6000                      V.C 6000

FC 40 % 4000                      F.C 4000

$$\text{New BEP} = \frac{F \times S}{S - V}$$

$$= \frac{4000 \times 8000}{8000 - 6000}$$

$$= \frac{4000 \times 8000}{2000}$$

$$= 16,000 \text{ Rs}$$

9. From the following calculate BEP & M/S Sales 80,000, P/V ratio 20% Fixed cost 22,000

$$\text{BEP} = \frac{\text{Fixed cost} \times \text{Sales}}{S - V}$$

$$= \frac{22,000 + 80,000}{80,000 - 48,000}$$

$$= \frac{22,000 + 80,000}{32,000} = \text{Rs. } 55,000$$

M/s = Actual sales - BEP sales

$$= 80,000 - 55,000$$

= Rs. 25,000

10. The followings are related to M.R Ltd

Half Year Ended	Sales	Profit
30 <sup>th</sup> June 1994	2,00,000	10,000
31 <sup>st</sup> Dec 1994	4,00,000	30,000

1. Calculate P/V Ratio & BEP
2. Profit for Sales Rs. 5,00,000
3. Sales required to earn a profit Rs. 80,000
4. New BEP of selling price is returned by 10%

$$P/V \text{ Ratio} = \frac{\text{Changes in Profit}}{\text{Changes in sales}} \times 100$$

$$= \frac{20,000}{2,00,000} \times 100 = 10\%$$

$$\text{Sales} = \frac{F.C + R.Prof}{P/V \text{ Ratio}}$$

$$5,00,000 = \frac{10,000 + Profit}{10/100} = 40,000$$

$$BEP = \frac{F.XS}{S-V} = \frac{10,000 \times 2,00,000}{2,00,000 - 1,80,000} = \frac{10,000 \times 2,00,000}{20,000} = 1,00,000$$

	June	Dec
Sales	2,00,000	4,00,000
(-) V.C (90% of sales)	1,80,000	3,60,000
Contribution(10% of Sales)	20,000	40,000
(-) fixed Cost	10,000	10,000
Profit	10,000	30,000

11. Two Business AB Ltd, CD Ltd, sell the same type of product their P&L A/c is

	AB Ltd	CD Ltd
Sales	1,56,000	1,56,000
(-) Total cost		
Variable cost 1,20,000		
Fixed cost 15,000	1,35,000	1,35,000
Profit	15,000	

You are required to calculate

- i. BEP and P/V Ratio of each business
- ii. Sales required to earn a profit of Rs. 30,000/- for each business.
- iii. Also state which business is likely to earn greater profits in conditions of heavy demand for the product and in conditions of fall in demand for the product.

a) BEP in B( $\frac{FXS}{S-V}$ )	AB Ltd	CD Ltd
	$\frac{15,000 \times 1,50,000}{1,50,000 - 1,20,000}$	$\frac{35,000 \times 1,50,000}{1,50,000 - 1,00,000}$
	$= \frac{15,000 \times 1,50,000}{30,000} = 75,000$	$= \frac{35,000 \times 1,50,000}{50,000} = 1,05,000$

b) P/V Ratio = ( $\frac{C}{S} \times 100$ )	AB Ltd	CD Ltd
	$= \frac{30,000}{1,50,000} \times 100 = 20\%$	$= \frac{50,000}{1,50,000} \times 100 = 33 \frac{1}{3} \%$

2. Sales to earn a profit of Rs. 30,000

$\text{Sales} = \frac{\text{Fixed cost} + \text{Profit}}{\text{P/V Ratio}}$ $= \frac{15,000 + 30,000}{\frac{20}{100}}$ $= 45,000 \times \frac{100}{20}$ $= 2,25,000$	$= \frac{35,000 + 30,000}{\frac{33.33}{100}}$ $= 65,000 \times \frac{100}{33.33}$ $= 1,95,000$
--	--

3. In conditions of heavy demand for the product (or) Inflation period:

C.D Ltd, will earn greater profits, because P/V ratio is higher. In condition of fall in demand (depression period) AB Ltd, will earn profit (or) avoid loss since its BEP is low.

12. Find out amount of profit if P/V ratio is 30 % and M/S is Rs 3,30,000

P/V Ratio 30 % M/s = 3,30,000 Profit = ?

$$M/S = \frac{\text{Profit}}{\text{P/V Ratio}}$$

$$3,30,000 = \frac{\text{Profit}}{\frac{30}{100}}$$

$$3,30,00 \times \frac{30}{100} = \text{Profit}$$

$$99,000 = \text{Profit}$$

13. The Profit volume of a company is 40 % and M/S is 30% you are required to work out the N/P and BEP if actual sales volume is Rs. 15,00,000/-

Given Actual sales = 15,00,000 P/V Ratio = 40%

M/S will be expressed as a % on actual sales

M/S 30 % on actual sales.

$$\text{i.e) } 1,50,000 \times \frac{30}{100} = 4,50,000$$

To find BEP

$$\text{M/S} = \text{Actual Sales} - \text{BEP Sales}$$

$$\text{BEP Sales} = \text{Actual Sales} - \text{M/S}$$

$$= 15,00,000 - 4,50,000 = 10,50,000$$

To Find Profit

$$\text{M/S} = \frac{\text{Profit}}{\frac{\text{P}}{\text{V ratio}}}$$

$$4,50,000 = \frac{\text{Profit}}{\frac{40}{100}}$$

$$4,50,000 + \frac{40}{100} = \text{Profit}$$

$$\text{Profit} = 1,80,000$$

14. The profit volume of H Ltd is 50% and M/S is 40%. You are required to work out the N/P and BEP sales. If actual sales volume is Rs. 10,00,000.

Given Actual sales = 10,00,000 , P/V Ratio = 50% Profit = ?

$$M/S = 40\% \text{ on actual sales ie) } 10,00,000 \times \frac{40}{100} = 4,00,000$$

To find BEP M/S = Actual sales - BEP sales

BEP Sales = Actual Sales - M/S

$$= 10,00,000 - 4,00,000 = 6,00,000 \text{ Rs.}$$

To find Profit

$$M/S = \frac{\text{Profit}}{P/vratio}$$

M/S X P/V Ratio = Profit

$$4,00,000 \times \frac{50}{100} = \text{Profit}$$

$$\text{Profit} = 2,00,000$$

15. R Ltd., has Prepared the following estimates for the year 1989-90 sales(Units) 15,000, Sales(Rs.) 1,50,000. Fixed expenses Rs. 34,000/- Variable cost Rs.6/- Per unit. You are required to find out the P/V ratio. BEP and M/S. Also find out the premised P/V ratio and BEP under each of the following cases. 1. Increase in sales volume by 2000 units. 2. Decrease of 70% in selling price. 3. Increase of 10% in variable cost 4. Decrease of Rs. 4000 in fixed cost.

Given Data:

Sales(in Units) - 15,000, Sales(in Rs.) - 1,50,000 ie @ Rs. 10/- per unit

Variable Cost/Unit - Rs. 6 Fixed Cost - Rs. 34,000

$$P/V \text{ Ratio: a) } P/V \text{ Ratio} = \frac{C}{S} \times 100 = 40 \%$$

$$\frac{FXS}{S-V} = \frac{34,000 \times 10}{10-6} = \frac{34,000 \times 10}{4} = 85,000$$

$$\text{Actual Sales} - \text{BEP Sales} = 1,50,000 - 85,000 = 6,50,000 \text{ Rs.}$$

1. When Sales volume increased by 2000 units:

Sales(in units) = 15,000 + 2000 = 17,000 Units

S.P = @ Rs.10 V. C = @ Rs.6 F.C = Rs. 34,000

$$P/V \text{ Ratio} = \frac{C}{S} \times 100 = \frac{4}{10} \times 100 = 40\%$$

$$\text{BEP} = \frac{F \times S}{S - V} = \frac{34,000 \times 10}{10 - 6} = \frac{3,40,000}{4} = 85,000$$

2. When selling price is reduced by 10%

$$\text{S.P} = \text{Rs. } 10 - 10\% = \text{Rs. } 9 \quad \text{V.C} = 6 \text{Rs} \quad \text{F.C} = 34,000$$

$$\text{P/V Ratio} = \frac{C}{S} \times 100 = \frac{3}{9} \times 100 = 33.33\%$$

$$\text{BEP} = \frac{F \times S}{S - V} = \frac{34,000 \times 9}{9 - 6} = \frac{34,000 \times 9}{3} = 1,02,000 \text{ Rs.}$$

3. When variable cost is increased by 10%

$$\text{S.P} = \text{Rs. } 10/- \quad \text{V.C} = \text{Rs. } 6 + 10\% = 6.60 \quad \text{F.C} = 34,000$$

$$\text{P/V} = 34\% \quad \text{BEP} = 1,00,000$$

4. P/V ratio = 40%      BEP = 75,000

16. The cost sheet of a product is as below:

	Rs, Per Unit
Direct Materials	5
Direct Wages	3
Factory overheads(Fixed 0.5 P)	1
Administrative overheads	0.75
Selling expenses(Fixed 0.25p)	0.75
Total Cost	10.50

Selling price/unit = Rs. 12

The above figures are for an output of 50,000 units. The capacity for the firm is 65000 units. A foreign customer is decided to buy 15,000 units @ a price of Rs. 9.75/Unit. Advice the management accepted or not? What will be your local merchant?

a. Acceptance of foreign order @ Rs. 9.75/Unit:

The variable cost ie) Marginal cost = Rs.9

[ Rs. 9(D.M 5 + D.W 3 + Variable factory outputs 0.50 + variable sell outputs 0.50)]

Since the foreign rate is above Rs.9/-(ie Rs. 9.75) There can be accepted. There will be additional contribution that is additional profit of 0.75p/unit.



b) If the foreign rate is from local merchant:

Accepted be the present sale the order

17. C Ltd produces and markets a single product. Due to competition the company proposes to reduce the selling price. If the present level of profit is to be maintained indicate the No. of units to be sold if he proposed reduction in selling price is 5%, 10% and 15% the information available:

Present Sales (30,000 units)	Rs 3,00,000
(-) Variable Cost	<u>1,80,000</u>
Contribution	1,20,000
(-) Fixed Cost	<u>70,000</u>
Profit	<u>50,000</u>

#### Reducing in selling price by

Particulars	Present	5%	10%	15%
Selling Price/Unit	10	9.50	9.00	8.50
(-) V.C/Unit $\frac{1,80,000}{30,000}$	6	6.00	6.00	6.00
Contribution	4	3.50	3.00	2.50
No of units to be sold $= \frac{F.C + Re Profit}{\frac{Contribution}{Unit}}$	$\frac{70,000 + 50,000}{4}$	$\frac{70,000 + 50,000}{3.50}$	$\frac{70,000 + 50,000}{3}$	$\frac{70,000 + 50,000}{2.50}$
	$\frac{1,20,000}{4}$	$\frac{1,20,000}{3.50}$	$\frac{1,20,000}{3}$	$\frac{1,20,000}{2.50}$
	30,000 Units	34286 Units	40,000 units	48,000 Units

### Application of Marginal Costing

1. In acceptance of foreign order 2. When key factor is in operation 3. In selection of suitable sales mix.

**1. In Acceptance of foreign order:** The foreign order can be accepted if there is contribution per unit. That is the foreign rate must be above the variable cost.

18. 50,000 units of a product was produced and sold in the home market at Rs. 50/- per unit. The Home market cannot observe more than 50,000 units in year. but there is an export market for this product. The V.C workout to Rs.25/ Per unit. Fixed cost amounted to Rs. 8,00,000 in a year. a) State a minimum price at which the export offer can be accepted. b) Prepare a profitability statement if the foreign orders is for 20,000 units at the rate of Rs. 30 /per unit.

a. Minimum price for the foreign order:

Minimum price must be equal to variable cost = 25. The foreign order can be accepted at a min price of Rs.25/-.

b. Profit statement if the foreign order is for 20,000 units at the rate of Rs.30/unit.

	Present [For 50,000 Units]	Additional [For 20,000 units]	Total
Sales	@Rs. 50 25,00,000	@30 6,00,000	31,00,000
(-)V.C	@ Rs. 25 12,50,000	@25 5,00,000	17,50,000
Contribution	12,50,000	1,00,000	13,00,000
(-) Fixed cost	8,00,000		8,00,000
Profit	4,50,000	1,00,000	5,50,000

### Application of key factor:

Meaning for key factor: Key factor is one which limits either the production or sales. Generally for all the business sales is key factor. In some business any one of the factor of production may be key factor. Example: Availability of materials, Labour, Machine utilisation etc. Key factor is also called as limiting factor or sources factor or principal budget factor: Key factor & Marginal costing: The management must select that product in which contribution permit of key factor is higher.

19. From the following data, state which product should be recommended for manufacturing in a factory where time being the key factor (Labour)

	Product A (Per Unit)	Product B (Per Unit)
Direct materials	24	14
Direct Labour (at rate of Rs.1 Per hour)	2	3

Variables outputs(at rate of Rs.2 per hour)	4	6
Selling price	100	100
Std time to produce one unit	2hrs	3hrs

Calculation of contribution per labour hour

	Product A in Rs.	Product B In Rs.
Sales	100	100
(-) V.C D.M 24		
D.L 2		
V. outputs 4	30	23
Contribution	70	77
No of hrs required per unit	2 hrs	3 hrs

$$\text{Contribution Per Labour Hour for A} = \frac{70}{2} = \text{Rs } 35$$

$$\text{For B} = \frac{77}{3} = \text{Rs.}25.66$$

Since contribution per labour hour is greater in product A, it is recommended for manufacture.

20. From the following data designed the product that you would recommend to be manufacture after duly considering the fact that materials are limited in supply. Both products use same Raw material.

	Product X (Per unit)	Product Y (Per unit)
Direct Materials @5/kg	10Rs	15Rs
Direct Labour	5Rs	6Rs
Variable Expenses	3Rs	3Rs
Selling Price	30Rs	40Rs
Total Fixed expenses	Rs. 3,000	

Substantiate your answer by giving proof if maximum availability of material during the month 1800 kg.

Calculation of contribution per Kg:

	Product X (Rs.)	Product Y (Rs.)
Sales	30	40
(-) Variable Cost	10	15
Direct Material	5	6
Direct Wages	3	3
Variable Expense	18	24
Contribution unit	12	16
Contribution per kg of materials	12/2	16/3
	6 Rs	5.33 Rs

Hence Product 'X' is recommended

Proof: For 1800 Kg

$$1800 \text{ Kgs for 'X'} = \frac{1800}{2} = 900 \text{ Products}$$

$$\text{For 'Y'} = \frac{1800}{3} = 600 \text{ Products}$$

	For X		For Y	
Contribution for X	900 x 12	10800	600x16	9600
(-) Fixed cost		3000		3000
Profit		7800		6600

**Selection of suitable Product mix:** Mix will gives greater amount of contribution must be choose.

21.The directors of a company are considering the sales budget for the next period. From the following information, you are required to show the management clearly. i) The marginal product cost and contribution/ unit. ii) Total contribution resulting from each of the sales mixes given below.

	Product A (Rs,)	Product B (Rs,)
Direct Materials	10	9
Direct Wages	3	2
Variable Expenses (100 % of Direct wages)	3	2
Selling price per unit	20	15
Fixed expenses	Rs. 800	

Sales Mixes: i) 100 Units of A and 200 Units of B ii) 150 Units of A and 150 units of B  
iii) 200 units of A and 100 units of B. Recommend which of the sales mixed should be adopted.

Calculation of contribution per unit:

	Product A	Product B
Selling Price	20	15
(-) Variable Cost		
D.M	10	9
D.W	3	2
Variable Outputs	3	2
	16	13
Contribution/ Unit	4	2

For selection of the sales mixes find out the total contribution:

Contribution & Profit for Sales mix I

i) 100 Units of a and 200 Units of B

Contribution A - 100 x 4 =	400
Contribution B - 200 x 2 =	<u>400</u>
	800
(-) Fixed Cost	<u>800</u>
Profit	<u>0</u>

ii) 150 Units of A and 150 Units of B (Sales Mix II)

Contribution of A - 150 x 4	600
Contribution of B - 150 x 2	<u>300</u>
	900
(-) Fixed Cost	<u>800</u>

Profit 100

iii) 200 Units of A and 100 Units of B (Sales Mix III)

Contribution of A -  $200 \times 4 = 800$

Contribution of B -  $100 \times 2 = \underline{200}$

1000

(-) Fixed cost 800

Profit 200

Sales mix(iii) should be adopted.