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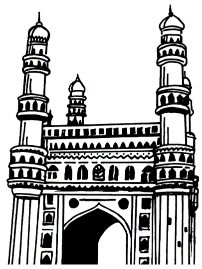

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Ans : **(Imp.)**

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7. From the following details, make out the Balance Sheet with as details as possible :

(i)	Stock Velocity	=	6
(ii)	Capital Turnover Ratio	=	2
(iii)	Fixed Assets Turnover	=	4
(iv)	Gross Profit Turnover Ratio	=	20%
(v)	Debtors Velocity	=	2 months
(vi)	Creditors Velocity	=	73 days

The gross profit was ` 60,000. Reserve & Surplus amount to ` 20,000. Closing stock was ` 5,000 in excess of Opening stock.

Ans : **(May-2017)**

Refer Unit-I, Prob.11

8. From the following information, prepare income statement and balance sheet of 'X' Ltd., as on 31.3.2015.

Current ratio	2.5
Quick ratio	1.3
Proprietary ratio	
(Fixed assets to proprietory funds)	0.6
Gross profit ratio	10%
Average collection period	40 days
Sales	Rs. 7,30,000
Working capital	Rs. 1,20,000
Share capital	Rs. 2,50,000

Net profit 10% of proprietory funds.

Ans: **(May -16)**

Refer Unit-I, Prob.13

9. The following are the balance sheet data limited company as on 31 - 3 - 1987 and 31 - 3 - 1988

Liabilities	31-3-1987	31-3-1988	Assets	31-3-1987	31-3-1988
Share capital	1,60,000	2,20,000	Building	1,40,000	2,18,000
P & L A/c	2,50,000	5,00,000	Stock	3,00,000	3,50,000
Creditors	2,30,000	1,80,000	Bank	40,000	80,000
Outstanding expenses	6,000	3,000	Preliminary expenses	14,000	12,000
Depreciation on Building	10,000	11,000	Debtors	1,62,000	2,54,000
	6,56,000	9,14,000		6,56,000	9,14,000

Addition Information

1. During the year a building which was purchased earlier for Rs. 14,000 (Depreciation written off 1000) was sold for 1200.
2. A dividend of Rs. 40,000 has been paid during the year from the above information.

a) A statement of changes in working capital

b) funds flow statement

Ans : **(Imp.)**

Refer Unit-I, Prob. 18

10. The Balance Sheets of M/s A and B on 31-3-2015 and 31.3.2016 were as follows:

Liabilities	31.3.2015	31.3.2016	Assets	31.3.2015	31.3.2016
Creditors	1,20,000	1,32,000	Cash	30,000	21,000
Mrs A's Loan	75,000	–	Debtors	90,000	1,50,000
Loan from Bank	1,20,000	1,50,000	Stock	1,05,000	75,000
Capital	3,75,000	4,59,000	Machinery	2,40,000	1,65,000
			Land	1,20,000	1,50,000
			Building	1.05.000	1,80,000
	6,90,000	7,41.000		6,90,000	7,41,000

During the year a machine costing ` 30,000 (accumulated depreciation ` 9,000) was sold for ` 15,000. The provision for depreciation against machinery as on 31.3.2015 was ` 75,000 and on 31.3.2016 ` 1,20,000. Net profit for the year ended 31.3.2016 amounted to ` 1,35,000.

Prepare Cash Flow Statement.

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Ans **(Dec.-20)**

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Ans : **(Imp.)**

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Ans : **(Imp.)**

Refer Unit-III, Q.No. 4

---

3. Explain briefly about Current Cost Accounting Method

Ans : **(Imp.)**

Refer Unit-III, Q.No.5

---

4. A machine was purchased on 1.1.2002 at a cost of ` 10,00,000 and its useful life was estimated to be 10 years. Its replacement cost was ` 18,00,000 on 1.1.2007 and ` 20,00,000 on 31.12.2007.

i) Calculate the amount of depreciation adjustment.

ii) Compute the backlog depreciation

Ans : **(Imp.)**

Refer Unit-III, Prob.7

---

5. Explain briefly about Measurement and Reporting of Revenues.

Ans : **(Imp.)**

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Ans : **(Imp.)**

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Ans : **(Imp.)**

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Ans : **(Imp.)**

Refer Unit-V, Q.No.12

5. Explain the various financing Forms of a merger

Ans : **(Imp.)**

Refer Unit-V, Q.No.14

6. Company B is being acquired by company A on share exchange basis. The relevent data for the two companies are given below :

Particulars	Company A	Company B
Number of Equity Shares (Lakhs)	6	4
Earnings After Tax (` Lakhs)	30	12
EPS (`)	5	3
Price-Earning Ratio	16	8

You are required to determine (a) pre-merger market value per share; and (b) the maximum share exchange ratio that company A should offer without the dilution of (i) EPS, (ii) market value per share.

Ans : **(Imp.)**

Refer Unit-V, Prob.5

7. Describe the Financial problems face to by the concern after merger and consolidation.

Ans : **(Imp.)**

Refer Unit-V, Q.No.18

8. A Ltd. and B Ltd. were amalgamated on and from 1st April, 2003 A new company AB Ltd. was formed to take over the business of existing companies. The balance sheets of A Ltd. and B Ltd. as on 31st March, 2003 are given(figures in thousands)

Liabilities	A Ltd.	B Ltd.	Assets	A Ltd.	B Ltd.
Share Capital			Fixed Assets	4,800	3,200
Equity shares of Rs. 10 each	2,400	1,600	Less : Depn.	800	600
12% Preference shares of Rs.100 each	1,200	800	Investments	1,600	600
Reserves and Surplus			**Current Assets :**		

Capital Reserve	800	600	Stock	1,200	600
General Reserve	1,200	600	Debtors	1,600	800
Profit and Loss A/c 600	400	200	Cash & Bank Balance	—	1,200
Secured Loans	1,600	800			
Trade Crecitors	1,200	400			
Tax Provivision	800	200			
	9,600	5,200		9,600	5,200

Other Information

(i) Preference shareholders of the two companies are issued equivalent number of 15% preference shares of AB Ltd. at an issue price of Rs. 125 per share.

(ii) AB Ltd. will issue one equity share of Rs. 10 each for every share of A Ltd. and B Ltd. The shares are issued at a premium of Rs. 5 per share. Prepare the balance sheet of AB Ltd. on the assumption that the amalgamation is in the nature of merger.

Ans : **(Imp.)**

Refer Unit-V, Prob.11

9. Discuss the SEBI Regulations with records to mergers and acquisition.

Ans : **(Imp.)**

Refer Unit-V, Q.No.21

10. What is the meaning of Management Control System? Discuss the problems in implementing an Effective Management Control System.

Ans : **(Dec.-20)**

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UNIT I

ANALYSIS OF FINANCIAL STATEMENTS

Financial Statements – Meaning – Objectives – Types – Uses – Limitations - Techniques of analysis of financial statements: Ratio Analysis: Meaning – Types of Ratios- DuPont Analysis. (Including problems) Funds Flow Analysis – Meaning – Preparation of Funds Flow Statement – Cash Flow Analysis – Meaning - Preparation of Cash Flow Statement as per Ind AS-7.

1.1 Financial Statements

1.1.1 Meaning

Q1. What are Financial Statements

Ans : **(Imp.)**

Introduction

Accounting is the process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of the information. It involves recording, classifying and summarizing various business transactions. The end products of business transactions are the financial statements comprising primarily the position statement or the balance sheet and the income statement or the profit and loss account. These statements are the outcome of summarizing process of accounting and are, therefore the sources of information on the basis of which conclusions are drawn about the profitability and the financial position of a concern. Financial statements are the basis for decision making by the management as well as all other outsiders who are interested in the affairs of the firm such as investors, creditors, customers, suppliers, financial institutions, employees, potential investors, Government and the general public. The analysis and interpretation of financial statements depend upon the nature and type of information available in these statements.

Meaning of Financial Statements

A financial statement is a collection of data organized according to logical and consistent accounting procedures. Its purpose is to convey an understanding of some financial aspects of a business firm. It may show a position at a moment in time, as in the case of a balance sheet, or may reveal a series of activities over a given period of time, as in the case of an income statement.' Thus, the term 'financial statements' generally refers to the two statements : (i) the position statement or the balance sheet; and (ii) the income statement or the profit and loss account. These statements are used to convey to management and other interested outsiders the profitability and financial position of a firm. Financial statements are the outcome of summarizing process of accounting.

Definitions

i) **According to John N. Myer,** "The financial statements provide a summary of the accounts of a business enterprise, the balance sheet reflecting the assets, liabilities and capital as on a certain date and the income statement showing the results of operations during a certain period.'" Financial statements are prepared as an end result of financial accounting and are the major sources of financial information of an enterprise.

ii) **According to Smith and Asburne define financial statements as,** "the end product of financial accounting in a set of financial statements prepared by the accountant of a business enterprise-that purport to reveal the financial position of the enterprise, the result of its recent activities, and an analysis of what has been done with earnings."

iii) **According to Anthony** "Financial statements, essentially, are interim reports, presented annually and reflect a division of the life of an enterprise into more or less arbitrary accounting period-more frequently a year."

Financial statements are the basis for decision making by the management as well as other outsiders who are interested in the affairs of the firm such as investors, creditors, customers, suppliers, financial institutions, employees, potential investors, government and the general public.

Q2. Explain the nature of Financial Statements

Ans :

1. Recorded Facts

The term 'recorded facts' refers to the data taken out from the accounting records. The records are maintained on the basis of actual cost data. The original cost or historical cost is the basis of recording various transactions. The figures of various accounts such as cash in hand, cash in bank, bills receivables, sundry debtors, fixed assets etc. are taken as per the figures recorded in the accounting books. The assets purchased at different times and at different prices are put together and shown at cost prices. As recorded facts are not based on replacement costs, the financial statements do not show current financial condition of the concern.

2. Accounting Conventions

Certain accounting conventions are followed while preparing financial statements. The convention of valuing inventory at cost or market price, whichever is lower, is followed. The valuing of assets at cost less depreciation principle for balance sheet purposes is followed. The convention of materiality is followed in dealing with small items like pencils, pens, postage stamps, etc. These items are treated as expenditure in the year in which they are purchased even though they are assets in nature. The stationery is valued at cost and not on the principle of cost or market price whichever is less. The use of accounting conventions makes financial statements comparable, simple and realistic.

3. Postulates

The accountant makes certain assumptions while making accounting records. One of these assumptions is that the enterprise is treated as a going concern. The other alternative to this postulate is that the concern is to be liquidated, this, is untenable if management shows an intention to liquidate the concern. So the assets are shown on a going concern basis. Another important assumption is to presume that the value of money will remain the same in different periods. Though there is a drastic change in purchasing power of money the assets purchased at different times will be shown at the amount paid for them. While preparing profit and loss account, the revenue is treated in the year in which the sale was undertaken even though the sale price may be received in a number of years. The assumption is known as realization postulate.

4. Personal Judgements

Even though certain standard accounting conventions are followed in preparing financial statements but still personal judgement of the accountant plays an important part. For example, in applying the cost or market value whichever is less to inventory valuation the accountant will have to use his judgement in computing the cost in a particular case. There are a number of methods for valuing stock, viz; last in first out, first in first out, average cost method, standard cost, base stock method, etc. The accountant will use one of these methods for valuing materials. The selection of depreciation method, to use one of the several methods for estimating uncollectable debts, to determine the period for writing off intangible assets are some of the examples where judgement of the accountant will play an important role in choosing the most appropriate course of action.

1.1.2 Objectives

Q3. What are the objectives of Financial Statements

Ans : **(May -17, May - 16, May-15, May - 14, May - 12)**

Financial statements are the sources of information on the basis of which conclusions are drawn about the profitability and financial position of a concern. The primary objective of financial statements is to assist in decision making. The Accounting Principles Board of America (APB) states the following objectives of financial statements:

(i) To provide reliable financial information about economic resources and obligations of a business firm.

(ii) To provide other needed information about changes in such economic resources and obligations.

(iii) To provide reliable information about changes in net resources (resources less obligations) arising out of business activities.

(iv) To provide financial information that assists in estimating the earning potentials of business.

(v) To disclose, to the extent possible, other information related to the financial statements that is relevant to the needs of the users of these statements.

1.1.3 Types

Q4. Explain different types of Financial Statements

Ans :

Financial statements primarily comprise two basic statements: (i) the position statement or the balance sheet; and (ii) the income statement or the profit and loss account However, Generally Accepted Accounting Principles (GAAP) specify that a complete set of financial statements must include:

(i) Balance sheet,

(ii) An income statement,

(iii) A statement of changes in owners' accounts, and

(iv) A statement of changes in financial position.

Before we discuss the form and contents of these statements, Let us briefly explain the meaning and significance of each of these statements.

(i) Balance Sheet

The American Institute of Certified Public Accountants defines Balance Sheet as, "A tabular statement of summary of balances (debits and credits) carried forward after an actual and constructive closing of books of account and kept according to principles of accounting." The purpose of the balance sheet is to show the resources that the company has, i.e., its assets, and from where those resources come from, i.e. its liabilities and investments by owners and outsiders.

(ii) Income Statement (Or Profit and Loss Account or Statement of Profit and Loss)

Income statement is prepared to determine the operational position of the concern. It is a statement of revenues earned and the expenses incurred for earning that revenue. If there is excess of revenues over expenditures it will show a profit and if the expenditures are more than the income then there will be a loss. The income statement is prepared for a particular period, generally a year.

(iii) Statement of Changes in Owners' Equity (Or Retained Earnings)

The term 'owners equity' refers to the claims of the owners of the business (shareholders) against the assets of the firm. It consists of two elements ; (i) paid -up share capital, i.e. the initial amount of funds invested by the shareholders; and (ii) retained earnings/ reserves and surplus representing undistributed profits. The statement of changes in owners' equity simply shows the beginning balance of. each owner's equity account, the reasons for increases and decreases in each, and its ending balance.

(iv) Statement of Changes in Financial Position

The basic financial statements, i.e., the balance sheet and the profit and loss account or income statement of a business reveal the net effect of the various transactions on the operational and financial position of the company. The balance sheet gives a static view of the resources of a business and the uses to which these resources have been put at a certain point of time. The profit and loss account in a general way, indicates the resources provided by operations. But there are many transactions that do not operate through profit and loss account. Thus, for a better understanding another statement called statement of changes in financial position has to be prepared to show the changes in assets and liabilities from the end of one period to the end of another point of time. The objective of this statement is to show the movement of funds (working capital or cash) during particular period. The statement of changes in financial position may take any of the following two forms :

(a) Funds Flow Statement

The funds flow statement is designed to analyze the changes in the financial condition of a business' enterprise between two periods. The word 'Fund' is used to denote working capital. This statement will show the sources from which the funds are received and the uses to which these have been put. This statement enables the management to have an idea about the sources of funds and their uses for various purposes. This statement helps the management in policy formulation and performance appraisal.

(b) Cash Flow Statement

A cash flow statement is a statement which describes the inflows and outflows of cash and cash equivalents in an enterprise during a specified period of time. Such a statement enumerates net effects of various transactions on cash and its equivalents and takes into account receipts and disbursements of cash. A cash flow statement summarizes the causes of changes in cash position of a business enterprise between dates of two balance sheets. According to AS-3 (Revised), an enterprise should prepare a cash flow statement and should present it for each period for which financial statements are prepared. The cash flow statement should report cash flows during the period classified by operating, investing and financing activities.

1.1.4 Uses

Q5. Explain the uses of Financial Statements.

(or)

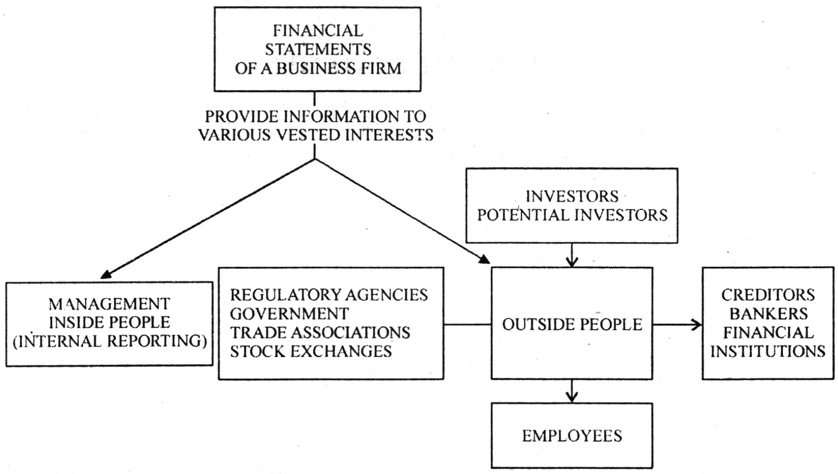
State the uses of Financial Statements.

Ans : **(May-19, Imp.)**

The utility of financial statements to different parties is discussed in detail as follows:

1. Management

The financial statements are useful for assessing the efficiency for different cost centres. The management is able to exercise cost control through these statements. The efficient and inefficient spots are brought to the notice of the management. The management is able to decide the course of action to be adopted in future.



Figure

2. Creditors

The trade creditors are to be paid in a short period. This liability is met out of current assets. The creditors will be interested in current solvency of the concern. The calculation of current ratio and liquid ratio will enable the creditors to assess the current financial position of the concern in relation to their debts.

3. Bankers

The banker is interested to see that the loan amount is secure and the customer is also able to pay the interest regularly. The banker will analyze the balance sheet to determine financial strength of the concern and profit and loss account will also be studied to find out the earning position. A banker has a large number of customers and it is not possible to supervise their business activities. It is through the financial statements that a banker can keep a watch on the business plans and performances of its customers. These statements also help the banker to determine the amount of securities it will ask from the customers as a cover for the loans.

4. Investors

The investors include both short-term and long-term investors. They are interested in the security of the principal amount of loan and regular interest payments by the concern. The investors will study the long-term solvency of the concern with the help of financial statements. The investors will not only analyze the present financial position but will also study future prospects and expansion plans of the concern. The possibility of paying back the loan amount in the face of liquidation of the concern is also taken into, consideration.

5. Government

The financial statements are used to assess tax liability of business enterprises. The government studies economic situation of the country from these statements. These statements enable the government to find out whether business is following various rules and regulations or not. These statements also become a base for framing and amending various laws for the regulation of business.

6. Trade Associations

These associations provide service and protection to the members. They may analyze the financial statements for the purpose of providing facilities to these members. They may develop standard ratios and design uniform system of accounts.

7. Stock Exchange

The stock exchanges deal in purchase and sale of securities of different companies. The financial statements enable the stock brokers to judge the financial position of different concerns. The fixation of prices for securities, etc., is also based on these statements.

1.1.5 Limitations

Q6. Explain the Limitations of Financial Statements

Ans : **(May 19, May 14)**

Though financial statements are relevant and useful for the concern, still they do not present a final picture of the concern. The utility of these statements is dependent upon a number of factors. The analysis and interpretation of these statements should be done very carefully otherwise misleading conclusions may be drawn. The financial statements suffer from the following limitations :

1. Only Interim Reports

These statements do not give a final picture of the concern. The data given in these statements is only approximate. The actual position can only be determined when the business is sold or liquidated. However, the statements have to be prepared for different accounting periods, generally one year, during the life time of the concern. The costs and incomes be apportioned to different periods with a view to determine profits etc.

2. Do not give Exact Position

The financial statements are expressed in monetary values, so they appear to give final and accurate position. The value of fixed assets in the balance sheet neither represents the value for which fixed assets can be sold nor the amount which will be required to replace these assets. The balance sheet is prepared on the presumption of a going concern. The concern is expected to continue in the future. So, fixed assets are shown at cost less accumulated depreciation. There are certain assets in the balance sheet such as preliminary expenses, goodwill, discount on issue of shares which will realize nothing at the time of liquidation though they are shown in the balance sheet.

3. Historical Costs

The financial statements are prepared on the basis of historical costs or original costs. The value of assets decreases with the passage of time current price changes are not taken into account. The statements are not prepared keeping in view the present economic conditions. The balance sheet loses the significance of being an index of current economic realities. Similarly, the profitability shown by the income statement may not represent the earning capacity of the concern. The increase in profits may be due to an increase in prices or due to some abnormal causes and not due to increase in efficiency. The conclusions drawn form financial statements may not give a fair picture of the concern.

4. Impact of Non-monetary Factors Ignored

There are certain factors which have a bearing on the financial position and operating results of the business but they do not become a part of these statements because they cannot be measured in monetary terms. Such factors may include the reputation of the management, credit worthiness of the concern, sources and commitments for purchases and sales, co-operation of the employees, etc. The financial statements only show the position of the financial accounting for business and not the financial position.

5. No Precision

The precision of financial statement data is not possible because the statements deal with matters which cannot be precisely stated. The data are recorded by conventional procedures followed over the years. Various conventions, postulates, personal judgements etc. are used for developing the data.

1.2 Techniques of analysis of financial statements

Q7. Discuss the various of Techniques of analysis of financial statements

(or)

State the different techniques of redrafting of Financial Strategy for the purpose of Financial Analysis.

Ans : **(May-14)**

The following methods of analysis are generally used :

(1) Comparative statements

(2) Trend analysis

(3) Common -size statements

(4) Ratio analysis

(5) Cash flow statement

(6) Funds flow statement

(7) Cost-volume-profit analysis

1. Comparative Statements

Comparative financial statement is a tool of financial analysis used to study the magnitude and direction of changes in the financial position and performance of a firm over a period of time. The preparation of comparative statements is based on the premise that a statement covering a period of a number of years is more meaningful and significant than for a single year only.

The comparative statement may show :

(i) Absolute figures (rupee amounts).

(ii) Changes in absolute figures i.e., increase or decrease in absolute figures.

(iii) Absolute data in terms of percentages.

(iv) Increase or decrease in terms of percentages.

(v) Comparisons expressed in terms of ratios.

(vi) Percentage of totals.

2. Trend Analysis

The financial statements may be analyzed by computing trends of series of information. This method determines the direction upwards or downwards and involves the computation of the percentage relationship that each statement item bears to the same item in base year. The information for a number of years is taken up and one year, generally the first year, is taken as a base year. The figures of the base year are taken as 100 and trend ratios for other years are calculated on the basis of base year. The analyst is able to see the trend of figures, whether upward (or) downward.

3. Common-size Statement

The common-size statements, balance sheet and income statement, are shown in analytical percentages. The figures are shown as percentages of (statement of profit and loss), (total assets revenue from operations), total liabilities and total sales. The total assets are taken as 100 and different assets are expressed as a percentage of the total. Similarly, various liabilities are taken as a part of total liabilities. These statements are also known as component percentage or 100 per cent statements because every individual item is stated as a percentage of the total 100.

4. Ratio Analysis

A ratio is a simple arithmetical expression of the relationship of one number to another. It may be defined as the indicated quotient of two mathematical expressions.

According to Accountant's Handbook by Wixon, Kell and Bedford, a ratio "is an expression of the quantitative relationship between two numbers" According to Kohler, a ratio is the relation, of the amount, a, to another, b, expressed as the ratio of a to b; a : b (a is to b) ; or as a simple fraction, integer, decimal, fraction or percentage."

In simple language ratio is one number expressed in terms of another and can be worked out by dividing one number into the other.

5. Cash flow statement

Cash Flow Statement is a statement which describes the inflows (sources) and outflows (uses) of cash and cash equivalents in an enterprise during a specified period of time. Such a statement enumerates net effects of various business transactions on cash and its equivalents and takes into account receipts and disbursements of cash. A cash flow statement summarizes the causes of changes in cash position of a business enterprise between dates of two balance sheets. According to **Ind AS-7 (Existing AS-3),** an enterprise should prepare a cash flow Statement and should present it for each period for which financial statements are prepared.

6. Funds flow statement

The term 'flow' means movement and includes both 'inflow' and 'outflow'. The term 'flow of funds means transfer of economic values from one asset of equity to another. Flow of funds is said to have taker, place when any transaction makes changes in the amount of funds available before happening of the transaction. If the effect of transaction results in the increase of funds, it is called a source of funds and if it results in the decrease of funds, it is known as an application of funds. Further, in case the transaction does not change funds, it is said to have not resulted in the flow of funds. According to the working,capital concept of funds, the term 'flow of funds' refers to the movement of funds in the working capital.

7. Cost-volume-profit (CVP) Analysis

Cost - Volume-Profit analysis is a technique for studying the relationship between cost, volume and profit. Profits of an undertaking depend upon a large number of factors. But the most important of these factors are the cost of manufacture, volume of sales and the selling prices of the products.

The three factors of CVP analysis i.e., costs, volume and profit are interconnected and dependent on one another. For example, profit depends upon sales, selling price to a large extent depends upon cost and cost depends upon volume of production as it is only the variable cost that varies directly with production, whereas fixed cost remains fixed regardless of the volume produced. In cost-volume-profit analysis an attempt is made to analyze the relationship between variations in cost with variations in volume.

Q8. Explain the format of comparative balance sheet

Ans :

Procedure of Preparing a Comparative Balance Sheet

A comparative balance sheet contains the following columns :

(i) Particulars column.

(ii) Data of Previous period/year's balance sheet.

(hi) Data of the current year's balance sheet.

(iv) Increase or decrease in the absolute data.

(v) Percentage change of increase or decrease in data.

Format of Comparative Balance Sheet

Comparative Balance Sheet as at 31st March 2015 and 2016

Particulars (1)	Note No	31-3-2015	31-3-2016(4)	Absolute Change (Icrease or Decrease)	Percentage Change (Increase or Decrease)
	(2)	(3)	(4)	(5)	(6)
		A	B	C = B - A	D = C/A x 100
		`	`	`	%
II. Equity And Liabilities					
1. Shareholder's Funds					
(a) Share Capital		...	...	...	...
(b) Reserve and Surplus		...	...	...	...
2. Non Current Liabilities :					
(a) Long term Borrowings		...	...	...	...
(b) Long term Provisions		...	...	...	...
3. Current Liabilities :					
(a) Short term Borrowings		...	...	...	...
(b) Trade Payable		...	...	...	...
(c) Other Current Liabilities		...	...	...	...
(d) Short-term Provisions		...	...	...	...
Total		...	...	...	...
II. Assets :					
1. Non-Current Assets:					
(a) Fixed Assets:		...	...	...	...
(i) Tangible Assets		...	...	...	...
(ii) Intangible Assets		...	...	...	...
(b) Non-Current Investment					
(c) Long-term loans and advances		...	...	...	...
2. Current Assets:					
(a) Current investment		...	...	...	...
(b) Inventories		...	...	...	...
(c) Trade Receivables		...	...	...	...
(d) Cash and Cash Equivalents		...	...	...	...
(e) Short-term loans and advances		...	...	...	...
(d) Other Current Assets					
TOTAL		...	...	...	...

Q9. Explain the format of comparative Income statement.

Ans :

Procedure for Preparing a Comparative Income Statement

A comparative income statement, like a comparative balance sheet contains the following columns:

(i) Particulars column

(ii) Data of previous period/year’s statement of profit and loss.

(iii) Data of current period/year’s statement of profit and loss.

(iv) Increase or decrease in the absolute data

(v) Percentage change of increase or decrease

Format of Comparative Statement of Profit And Loss

Comparative Statement of Profit and Loss

for years ended 31st March 2015 and 2016

Particulars (1)	Note No	31-3-2015 ` (2) A	31-3-2016 ` (3) B	Absolute Change (Icrease or Decrease) ` (4) CC = (B – A)	Percetage Change (Increase or Decrease) % (5) D = C/A × 100
I. Revenue from Operations		...	...	...	...
II. Add : Other Incomes		...	...	...	...
III. Total Revenue I + II		...	...	...	...
IV. Less : Expenses					
Cost of Materials Consumed		...	...	...	...
Purchase of Stock- in Trade		...	...	...	...
Changes in Inventories of Finished Goods,					
Work-in- Progress and Stock- in-Trade		...	...	...	...
Employee Benefit Expenses		...	...	...	...
Finance Costs		...	...	...	...
Depreciation and Amortization Expenses		...	...	...	...
Other Expenses		...	...	...	...
Total Expenses		...	...	...	...
V. Profit before Tax (III – IV)		...	...	...	...
VI. Less : Tax		...	...	...	...
VII. Profit after Tax (V – VI)		...	...	...	...

Q10. Explain the format of common size balance sheet.

Ans :

Format of a Common- size Balance Sheet

Common Size Balance Sheet

as at 31st March, 2015 and 2016

		Absolute Amounts		Percentage of Balance Sheet Total	
Particular	Note No.	31.3.2015 ₹	31.3.2016 ₹	31.3.2015 ₹	31.3.2016 ₹
I. Equity And Liabilities					
(1) Shareholder's Funds					
(a) Share Capital		...	...	...	...
(b) Reserve and Surplus		...	...	...	...
(2) Non Current Liabilities :					
(a) Long term Borrowings		...	...	...	...
(b) Long term Provisions		...	...	...	...
(3) Current Liabilities :		...	...	...	...
(a) Short term Borrowings		...	...	...	...
(b) Trade Payables		...	...	...	...
(c) Other Current Liabilities		...	...	...	...
(d) Short - term Provisions		...	...	...	...
Total		...	...	100	100
II. Assets :					
(i) Non-Current Assets					
(a) Fixed Assets :					
(i) Tangible Assets		...	...	...	...
(ii) Intangible Assets		...	...	...	...
(b) Non-current Investments		...	...	...	...
(c) Long-term Loans and Advances		...	...	...	...
(2) Current Assets :					
(a) Current Investment		...	...	...	...
(b) Inventories		...	...	...	...
(c) Trade Receivables		...	...	...	...
(d) Cash and Cash Equivalents		...	...	...	...
(e) Short-term Loans and Advances		...	...	...	...
(f) Other Current Assets		...	...	...	...
Total		...	...	...	...

Q11. Explain the format of common size Income statement.

Ans :

Format of Common Size Statement of Profit and Loss

Common Size Statement of Profit and Loss

for the years ended 31st March, 2015 and 2016

Particular	Note No.	Absolute Amounts		Percentage from Operations (or Net Sales)	
		2015	2016		
(1)	(2)	(3)	(4)	(5)	(6)
I. Revenue from Operations (Net Sales)		...	...	100	100
II. Other Income		...	...	...	...
III. Total Revenue (I + II)		...	...	...	...
IV. Expenses					
(a) Cost of Materials Consumed		...	...	...	...
(b) Purchases of Stocks-in-Trade		...	...	...	...
(c) Changes in Inventories of Finished Goods,					
Work-in-Progress and Stock in trade		...	...	...	...
(d) Employee Benefits Expenses		...	...	...	...
(e) Finance Costs		...	...	...	...
(f) Depreciation and Amortisation Expenses		...	...	...	...
(g) Other Expenses		...	...	...	...
Total Expenses		...	...	...	...
V. Profit before Tax (III - IV)		...	...	...	...
VI. Less : Income Tax		...	...	...	...
VII. Profit after Tax (V – VI)		...	...	...	...

PROBLEMS ON COMPARATIVE BALANCE SHEET

1. From the following summarized Balance Sheets of Orange Ltd. Prepare a Comparative Balance Sheet. **(` in Lakhs)**

	Particulars	Note No.	31-3-2013	31-3-2012
I.	**Equity and Liabilities**			
	Shareholders' Funds			
1.	Share Capital :			
	Preference Share Capital		50.00	50.00
	Equity Share Capital		20.00	20.00
2.	Reserves and Surplus		25.00	20.00
3.	**Non-current Liabilities**			
	Long-term Borrowings :			
	Secured loans		25.00	30.00
	Un secured loans		20.00	15.00
4.	**Current Liabilities**			
	Short-term Borrowings			
	Current Liabilities		14.50	13.00
	Provisions		4.50	4.00
	Total		**159.00**	**152.00**
II.	**Assets**			
1.	**Non - current Assets**			
	Fixed Assets :			
	Tangible Assets		110.00	95.00
	Non-current Investments		10.00	10.00
2.	**Current Assets**		39.00	47.00
	Total		**159.00**	**152.00**

Sol :

Comparative Balance Sheet of Orange Ltd.
as at 31-3-2012 and 31-3-2013 **(` in Lakhs)**

Particulars	31-3-2012	31-3-2013	Absolute Change	Percentage Change Increase or Decrease %
I. Equity and Liabilities				
1. Shareholder's Funds				
(a) Share Capital :				
Equity Share Capital	20.00	20.00	—	—
Preference Share Capital	50.00	50.00	—	—
(b) Reserves and Surplus	20.00	25.00	5.00	25.00

2. Non - current Liabilities				
Long-term Borrowings :				
Secured Loans	30.00	25.00	(5.00)	(16.67)
Unsecured Loans	15.00	20.00	5.00	33.33
3. Current Liabilities				
Short-term Borrowings :				
Current Liabilities	13.00	14.50	1.50	11.54
Short-term Provisions	4.00	4.50	0.50	12.50
Total	**152.00**	**159.00**	**7.00**	**4.60**
II. Assets				
I. Non-current Assets				
Fixed Assets :				
Tangible Assets	95.00	110.00	15.00	15.79
Non-current Investments	10.00	10.00	—	—
2. Current Assets	47.00	39.00	(8.00)	(17.02)
Total	**152.00**	**159.00**	**7.00**	**4.60**

2. From the following statement of Profit and Loss of Sunny Ltd., Prepare a comparative statement of profit and loss.

Particulars	31st March 2014 (`)	31st March 2013 (`)
I. Income		
Revenue from Operations	22,00,000	20,00,000
Other Income	40,000	40,000
Total Revenue	22,40,000	20,40,000
II. Expenses		
Purchase of Stock-in-trade	17,00,000	16,00,000
Change in Inventories	80,000	60,000
Employees Benefit Expenses	70,000	60,000
Finance Costs	50,000	50,000
Depreciation	20,000	15,000
Other Expenses	50,000	35,000
Total Expenses	19,70,000	18,20,000
III. Profit Before Tax (I-II)	2,70,000	2,20,000
Less : Tax	81,000	66,000
IV. Profit After Tax	1,89,000	1,54,000

Sol :

Comparative Statement of Profit and Loss

for the years ended 31st March 2013 and 2014

	Particulars	31stMarch 2013 `	31st March 2014 `	Absolute Change `	Percentage Change %
I.	**Income**				
	Revenue from Operations	20,00,000	22,00,000	2,00,000	10.00
	Other Income	40,000	40,000	–	–
	Total Revenue (I)	20,40,000	22,40,000	2,00,000	9.80
II.	**Expenses**				
	Purchase of Stock-in-trade	16,00,000	17,00,000	1,00,000	6.25
	Change in Inventories	60,000	80,000	20,000	33.33
	Employee Benefit Expenses	60,000	70,000	10,000	16.67
	Finance Costs	50,000	50,000	–	–
	Depreciation	15,000	20,000	5,000	33.33
	Other Expenses	35,000	50,000	15,000	42.86
	Total Expenses (II)	18,20,000	19,70,000	1,50,000	8.24
III.	Profit Before Tax (I – II)	2,20,000	2,70,000	50,000	22.73
	Less : Tax	66,000	81,000	15,000	22.73
IV.	Profit After Tax	1,54,000	1,89,000	35,000	22.73

3. With the help of the following information, prepare Comparative Statement of Profit and Loss

	Particulars	31.3.2016	31.3.2015
A.	Revenue from Operations (Sales)	` 6,00,000	` 4,50,000
B.	Sales Returns	` 3,00,000	` 1,50,000
C.	Cost of Material Consumed (% of Net Revenue from Operations)	50%	60%
D.	Other Expenses (% of Net Revenue from Operations -Cost of Material Consumed)	10%	20%
E.	Rate of Income Tax	40%	40%

Sol :

Particulars	31-3-2015 `	31-3-2016 `	Absolute Change `	Percentage Change `
I. Revenue From Operations				
Sales	4,50,000	6,00,000	1,50,000	33.33
Less : Sales Returns	1,50,000	3,00,000	1,50,000	100.000
Net revenue from Operations (I)	3,00,000	3,00,000	–	–
II. Expenses :				
(a) Cost of Material Consumed	1,80,000	1,50,000	(30,000)	(16.67)
(b) Other Expenses	24,000	15,000	(9,000)	(37.50)
Total Expenses (II)	2,04,000	1,65,000	(39,000)	19.12
III. Profit Before tax (I – II)	96,000	1,35,000	(39,000)	(40.62)
Less : Income Tax	38,000	54,000	16000	42.10
IV. Profit After Tax	58,000	81,000	23,000	39.65

4. The following are the Balance Sheets of X Ltd. and Y Ltd. for the year ending 31st of March 2012.

Sol:

	Particulars	Note No.	X Ltd.	Y Ltd.
1.	**Equity and Liabilities**			
	Shareholders' Funds :			
	Share Capital :			
	Equity Share Capital		2,50,000	1,70,000
	Preference Share Capital		1,20,000	80,000
	Reserves and Surplus		50,000	70,000
	Non-current Liabilities			
	Long-term Borrowings :			
	Loans		3,50,000	2,79,000
	Current Liabilities :			
	Trade Payables :			
	Bills Payable		25,000	14,000
	Sundry Creditors		18,000	8,000
	Outstanding Expenses			
	(Other Current Liabilities)		8,590	4,500
	Dividend declared (Short -term Provision)		2,000	7,500
	Total		8,23,590	6,33,000

II. Assets			
Non-current Assets :			
Tangible :			
Land and Building		3,50,000	2,75,000
Plant and Machinery		2,70,000	3,00,000
Current Assets :			
Investments (Temporary)		72,000	12,000
Book Debts (Trade Receivables)		47,500	25,000
Prepaid Expenses (Others)		35,400	–
Cash and Cash Equivalents		48,690	21,000
Total		8,23,590	6,33,000

Present the data in such a way that proper analysis is possible.

Sol :

The common size Balance Sheet will be suitable technique to study financial position of both the companies.

Common Size Balance Sheet of X Ltd. and Y Ltd.

		X Ltd.		**Y Ltd.**	
		`	**%**	`	**%**
1.	**Equity and Liabilities :**				
(a)	Share Capital :				
	Equity shares capital	2,50,000	30.4	1,70,000	26.9
	Preference share capital	1,20,000	14.6	80,000	12.6
(b)	Reserves and surplus	50,000	6.1	70,000	11.1
	Total (1)	4,20,000	51.1	3,20,000	50.6
2.	**Non-current Liabilities**				
	Loans Total (2)	3,50,000	42.5	2,79,000	44.1
3.	**Current Liabilities**				
(a)	Trade Payables				
	Bills payable	25,000	3.00	14,000	2.2
	Sundry creditors	18,000	2.20	8,000	1.3
(b)	Other Current Liabilities				
	Outstanding expenses	8,590	1.00	4,500	0.6

(c)	Short-term Provisions :				
	Dividend declared	2,000	0.20	7,500	1.2
	Total (3)	53,590	6.40	34,000	5.3
	Total Liabilities (1+2+3)	8,23,590	100.00	6,33,000	100.00
2.	**Assets Side :**				
	Fixed Assets :				
	Land and building	3,50,000	42.5	2,75,000	43.5
	Plant and machinery	2,70,000	32.8	3,00,000	47.4
	Total (1)	6,20,000	75.3	5,75,000	90.9
	Current Assets :				
	Investment (Temporary)	72,000	8.7	12,000	1.9
	Book-debts (Trade receivables)	47,500	5.7	25,000	3.9
	Prepaid expenses	35,400	4.4	–	–
	Cash and cash equivalents	48,690	5.9	21,000	3.3
	Total (2)	2,03,590	24.7	58,000	9.1
	Total Assets (1 + 2)	8,23,590	100.00	6,33,000	100.00

5. The following is the Statement of Profit and Loss of Sanyasi Ltd. for the years ended 31 st March 2016 and 2015.

	Particulars	**31.3.2016** ₹	**31.3.2015** ₹
I.	**Revenue from Operations**		
	Gross Sales	8,15,000	7,25,000
	Less : Returns	15,000	25,000
		8,00,000	7,00,000
II.	Other Income	8,050	1,200
III.	**Total Revenue (I + II)**	8,08,050	7,01,200
IV.	Expenses :		
	Cost of Material Consumed	6,15,000	5,95,000
	Employee Benefits Expenses	12,500	12,700
	Depreciation and Amortisation Expenses	1,940	1,750
	Other Expenses	24,000	23,000
V.	Profit before tax	6,53,440	6,32,450

Prepare Common Size Statement of Profit and Loss and Interpret the changes.

Sol :

Common Size Statement of Profit and Loss

for the year ended 31st March 2015 and 2016

Particulars	Absolute Amount		Percentages of Revenue	
	2014-15 `	2015-16 `	2014-15 %	2015-16 %
I. Revenue from Operation				
Gross Sales	7,25,000	8,15,000		
Less : Returns	25,000	15,000		
Net Revenues from Operations	7, 00,000	8,00,000	100.00	100.00
II. Other Income	1,200	8,050	0.17	1.00
III. Total Revenue (I + II)	7,01,200	8,08,050	100.17	101.00
IV. Expenses				
Cost of Material Consumed	5,95,000	6,15,000	85.00	76.87
Employee Benefits Expenses	12,700	12,500	1.81	1.56
Depreciation and Amortisation	1,750	1,940	0.25	0.24
Other Expenses	23,000	24,000	3.29	3.00
Total Expenses	6,32,450	6,53,440	90.35	81,67
V. Profit Before Tax (III – IV)	68,750	1,54,610	9.82	19.33

Interpretation :

1. Net revenue from operations has increase from ` 7,00,000 to 8,00,000
2. Cost of materials consumed has been reduced from 85% in 2014 - 15 to 76.87% in 2015-16. It has contributed to the increase in profitability of the company.
3. Employee benefits expenses, depreciation and other expenses have also reduced. The total expense have declined from 90.35% to 81.67% of net revenue from operations.
4. Other income has increased from 0.17% to 1.00% of net revenue from operations.
5. The profitability of the company has sufficiently improved.

1.3 Ratio Analysis

1.3.1 Meaning

Q12. What is meant by Ratio. Explain the nature of Ratio Analysis.

Ans :

Meaning Of Ratio

A ratio is a simple arithmetical expression of the relationship of one number to another. It may be defined as the indicated quotient of two mathematical expressions.

Definitions

i) **According to Accountant's Handbook by Wixon, Kell and Bedford,** a ratio "is an expression of the quantitative relationship between two numbers"

ii) **According to Kohler,** a ratio is the relation, of the amount, a, to another, b, expressed as the ratio of a to b; a : b (a is to b) ; or as a simple fraction, integer, decimal, fraction or percentage."

iii) **In simple language** ratio is one number expressed in terms of another and can be worked out by dividing one number into the other.

Nature of Ratio Analysis

Ratio analysis is a technique of analysis and interpretation of financial statements. It is the process of establishing and interpreting various ratios for helping in making certain decisions. However, ratio analysis is not an end in itself. It is only a means of better understanding of financial strengths and weaknesses of a firm. Calculation of ratios does not serve any purpose, unless several appropriate ratios are analyzed and interpreted. There are a number of ratios which can be calculated from the information given in the financial statements, but the analyst has to select the appropriate data and calculate only a few appropriate ratios from the same keeping in mind the objective of analysis. The ratios may be used as a symptom like blood pressure, the pulse rate or the body temperature and their interpretation depends upon the calibre and competence of the analyst.

The following are the four steps involved in the ratio analysis :

(i) Selection of relevant data from the financial statements depending upon the objective of the analysis.

(ii) Calculation of appropriate ratios from the above data.

(iii) Comparison of the calculated ratios with the ratios of the same firm in the past, or the ratios developed from projected financial statements or the ratios of some other firms or the comparison with ratios of the industry to which the firm belongs.

(iv) Interpretation of the ratios.

1.3.2 Types of Ratios/Classification of Ratios

Q13. Explain the different types of Ratios.

Ans :

Various accounting ratios can be classified as follows :

Ratios

- (A) Traditional Classification or Statement Ratios
  1. Balance Sheet Ratios or Position Statement Ratios
  2. Profit and Loss Account Ratios or Revenue / Income Statement Ratios
  3. Composite / Mixed Ratios or Inter Statement Ratios
- (B) Functional Classification or Classification According to Tests
  1. Liquidity Ratios
  2. Leverage Ratios
  3. Activity Ratios
  4. Profitability Ratios
- (C) Significance Ratios or Ratios According to Importance
  1. Primary Ratios
  2. Secondary Ratios

I) Traditional Classification or Statement Ratios

Traditional Classification or Statement Ratios

Balance Sheet Ratios or Position Statement Ratios

1. Current Ratio
2. Liquid Ratio (Acid Test or Quick Ratio)
3. Absolute Liquidity Ratio
4. Debt Equity Ratio
5. Proprietory Ratio
6. Capital Gearing Ratio
7. Assets - Proprietorship Ratio
8. Capital Inventory to Working Capital Ratio
9. Ratio of Current Assets to Fixed Assets

Profit and Loss Account Ratios or Revenue / Income Statement Ratios

1. Gross Profit Ratio
2. Operating Ratio
3. Operating Profit Ratio
4. Net Profit Ratio
5. Cash Profit Ratio
6. Expense Ratio
7. Interest Coverage Ratio

Composite / Mixed or Inter - Statement Ratios

1. Inventory / Stock Turnover Ratio
2. Receivables / Debtors Turnover
3. Payable Turnover Ratio
4. Fixed Assets Turnover Ratio
5. Return on Equity
6. Return on Shareholder's Funds
7. Return on capital Employed
8. Capital Turnover Ratio
9. Working Capital Turnover Ratio
10. Return on Total Resources
11. Total Assets Turnover

(a) Balance Sheet (or) Position Statement Ratios

Balance Sheet ratios deal with the relationship between two balance sheet items, e.g. the ratio of current assets to current liabilities, or the ratio of proprietor's funds to fixed - assets.

(b) Profit and Loss Account or Revenue / Income Statements Ratios

These ratios ideal with the relationship between two profit and loss account items, e.g., the ratio of gross profit to sales, or the ratio of net profit to sales.

(c) Composite / Mixed Ratios or Inter Statement Ratios

These ratios exhibit the relation between a profit and loss account or income statement item and a balance sheet item e.g., stock turnover ratio, or the ratio of total assets to sales.

II) Functional Classification

(a) Liquidity Ratios

These are the ratios which measure the short-term solvency or financial position of a firm. These ratios are calculated to comment upon the short-term paying capacity of a concern or the firm's ability to meet its current obligations. The various liquidity ratios are : current ratio, liquid ratio and absolute liquid ratio.

(b) Long-term Solvency and Leverage Ratios

Long-term solvency ratios convey a firm's ability to meet the interest costs and repayments schedules of its long-term obligations e.g. Debt Equity Ratio and Interest Coverage Ratio.

Functional Classification in View of Financial Management or Classification According to Tests

Liquidity Ratios

(A)
1. Current Ratio
2. Liquid Ratio (Acid) Test or Quick Ratio)
3. Absolute Liquid or Cash Ratio

(B)
1. Debtors Turnover Ratio
2. Creditors Turnover Ratio
3. Inventory Turnover Ratio

Long-termSolvency and Leverage Ratios

Financial Operating Composite

1. Debt / Equity Ratio
2. Debt to total capital Ratio
3. Interest Coverage
4. Cash Flow/Debt
5. Capital Gearing

Activity Ratios or Asset Management Ratios

1. Inventory Turnover Ratio
2. Debtors Turnover
3. Fixed Assets Turnover Ratiol
4. Total Asset Turnover Ratio
5. Working Capital Turnover Ratio
6. Payables Turnover Ratio
7. Capital Employed Turnover

Profitability Ratios

(A) In relation to Sales
1. Gross Profit Ratio
2. Operating Ratio
3. Operating Profit Ratio
4. Net Profit Ratio
5. Expense Ratio

(B) In relation to investments
1. Return on Investments
2. Return on Capital
3. Return on Equity Capital
4. Return on Total Resources
5. Earning per share
6. Price -Earning Ratio

(c) Activity Ratios

Activity ratios are calculated to measure the efficiency with which the resources of a firm have been employed. These ratios are also called turnover ratios because they indicate the speed with which assets are being turned over into sales, e.g., debtors turnover ratio. The various activity or turnover ratios have been named in the chart classifying the ratios.

III) Classification According to Significance or Importance

The ratios have also been classified according to their significance or importance. For inter-firm comparisons, the ratios may be classified as Primary Ratios and secondary Ratios. The primary ratio is one which is of the prime importance to a concern; thus return on capital employed is named as primary ratio. The other ratios which support or explain the primary ratio are called secondary ratios, e.g. the relationship of operating profit to sales or the relationship of sales to total assets of the firm.

Q14. Explain the significance of Ratio Analysis.

Ans :

The ratio analysis is one of the most powerful tools of financial analysis. It is used as a device to analyze and interpret the financial health of enterprise. Just like a doctor examines his patient by recording his body temperature, blood pressure , etc. before making his conclusion regarding the illness and before giving his treatment, a financial analyst analyses the financial statements with various tools of analysis before commenting upon the financial health or weaknesses of an enterprise. 'A ratio is known as a symptom like blood pressure, the pulse rate or the temperature of an individual .' It is with help of ratios that the financial statements can be analyzed more clearly and decisions made from such analysis

(a) Managerial Uses of Ratio Analysis

1. Helps in decision - making

Financial statements are prepared primarily for decision-making. But the information provided in financial statements is not an end in itself and no meaningful conclusion can be drawn from these statements alone. Ratio analysis helps in making decisions from the information provided in these financial statements.

2. Helps in financial forecasting and planning

Ratio Analysis is of much help in financial forecasting and planning. Planning is looking ahead and the ratios calculated for a number of years work as a guide for the future. Meaningful conclusions can be drawn for future from these ratios. Thus, ratio analysis helps in forecasting and planning.

3. Helps in communicating

The financial strength and weakness of a firm are communicated in a more easy and understandable manner by the use of ratios. The information contained in the financial statements is conveyed in a meaningful manner to the one for whom it is meant. Thus, ratios help in communication and enhance the value of the financial statements.

4. Helps in co-ordination

Ratios even help in co-ordination which is of utmost importance in effective business management. Better communication of efficiency and weakness of an enterprise results in better co-ordination in the enterprise.

5. Helps in Control

Ratio analysis even helps in making effective control of the business. Standard ratios can be based upon proforma financial statements and variances or deviations, if any, can be found by comparing the actual with the standards so as to take a corrective action at the right time. The weaknesses or otherwise, if any, come to the knowledge of the management which helps in effective control of the business.

6. Other Uses

These are so many other uses of the ratio analysis. It is an essential part of the budgetary control and standard costing. Ratios are of immense importance in the analysis and interpretation of financial statements as they bring the strength or weakness of a firm.

(b) Utility to Shareholders/Investors

An investor in the company will like to assess the financial position of the concern where he is going to invest. His first interest will be the security of his investment and then a return in the form of dividend or interest. For the first purpose he will try to asses the value of fixed assets and the loans raised against them. The investor will feel satisfied only if the concern has sufficient amount of assets. Long-term solvency ratios will help him in assessing financial position of the concern. Profitability ratios, on the other hand, will be useful to determine profitability position. Ratio analysis will be useful to the investor in making up his mind whether present financial position of the concern warrants further investment or not.

(c) Utility to Creditors

The creditors or suppliers extend short-term credit to the concern. They are interested to know whether financial position of the concern warrants their payments at a specified time or not. The concern pays short-term creditors out of its current assets. If the current assets are quite sufficient to meet current liabilities then the creditor will not hesitate in extending credit facilities. Current and acid-test ratios will give an idea about the current financial position of the concern.

(d) Utility to Employees

The employees are also interested in the financial position of the concern especially profitability. Their wage increases and amount of fringe benefits are related to the volume of profits earned by the concern. The employees make use of information available in financial statements. Various profitability ratios relating to gross profit, operating profit, net profit, etc. enable employees to put forward their viewpoint for the increase of wages and other benefits.

(e) Utility to Government

Government is interested to know the overall strength of the industry. Various financial statements published by industrial units are used to calculate ratios for determining short-term, long-term and overall financial position of the concerns. Profitability indexes can also be prepared with the help of ratios. Government may base its future policies on the basis of industrial information available from various units. The ratios may be used as indicators of overall financial strength of public as well as private sector. In the absence of the reliable economic information, governmental plans and policies may not prove successful.

(f) Tax Audit Requirements

Section 44 AB was inserted in the Income Tax Act by the Finance Act, 1984. Under this section every assessee engaged in any business and having turnover or gross receipts exceeding ` 1 crore is required to get the accounts audited by a chartered accountant and submit the tax audit report before the due date for filing the return of income under Section 139 (1). In case of a professional, a similar report is required if the gross receipts exceed ` 25 lakh. Clause 32 of the Income Tax Act requires that the following accounting ratios should be given :

(i) Gross Profit/Turnover

(ii) Net Profit/Turnover

(iii) Stock-in-trade/Turnover

(iv) Material Consumed/Finished Goods Produced.

Further, it is advisable to compare the accounting ratios for the year under consideration with the accounting ratios for the earlier two years so that the auditor can make necessary enquiries, if there is any major variation in the accounting ratios.

Q15. Explain the Limitations of ratio analysis.

Ans **(Imp.)**

Following are the limitations of ratio analysis :

1. False Results

Ratios are based upon the financial statement. In case financial ratio is incorrect or the data upon which ratios are based is incorrect, ratio calculated will also be false and defective.

2. Limited use of Single Ratio

A single ratio, usually, does not convey much of a sense. To make a better interpretation, a number of ratios have to be calculated which is likely to confuse the analyst then help him in making any meaningful conclusion.

3. Absence of Standard Universally Accepted Terminology

Different meanings are given to particular term such as some firms take profit before interest and after tax; others may take profit before interest and tax. This ratio can be comparable only when both the firms adopt uniform terminology.

4. Qualitative Factors

Ratio analysis is the quantitative measurement of the performance of the business. It ignores the qualitative aspect of the firm. It shows that ratio is only one sided to measure the efficiency of business.

5. Ignoring Price Level Changes

The comparability of ratios suffers if the prices of the commodities in two different years are not same. Change in price affects the cost of production, sales and also the value of assets. It means that it will not be meaningful for comparison if the price of commodities is different.

6. Misleading Result in Absolute Data

In the absence of actual data the size of the business cannot be known. If gross profit ratio of two firms is 25%, it may be just possible that the gross profit of one is ` 2,500 and sale ` 10,000. Whereas the gross profit and sales of other is ` 5,00,000 and 20,00,000. Profitability of two firms is same but the magnitude of their business is quite different.

7. Window Dressing

Financial statements can easily be window dressed to present a better picture of its financial and profitability position to outsiders. Hence, one has to be very careful in making a decision from ratios calculated from such financial statements. But it may be very difficult for an outsider to know about the window dressing made by a firm.

8. Personal Bias

Ratios are only means of financial analysis and not an end in itself. Ratios have to be interpreted and different people may interpret the same ratio in different ways.

Q16. Explain the summary of various Ratios

Ans :

Summary of Ratios

Objective of Analysis (1)	Ratios to be computed (2)	Basic components (3)
(a) Short-term Financial Position or Test of Liquidity	1. Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
	2. Quick or Acid Test or Liquid Ratio	$\frac{\text{Liquid / Quick Assets}}{\text{Current Liabilities}}$
	3. Absolute Liquid Ratio	$\frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$
	4. Interval Measure	$\frac{\text{Quick / Liquid Assets}}{\text{Average Daily Cash Operating Expenses}}$
(b) Current assets Movement or Efficiency or Activity Ratios (Asset Management Ratios)	1. Inventory/Stock Turnover Ratio	$\frac{\text{Cost of Goods Sold or Revenue}}{\text{Average Inventory at Cost}}$
	2. Debtors or Receivables Turnover Ratio/ Velocity	$\frac{\text{Net Credit Annual or Revenue}}{\text{Average Trade Receivables}}$
	3. Average Collection Period	$\frac{\text{Total Trade Receivables}}{\text{Revenue (Sales) Per day}}$
	4. Creditors/Payables Turnover Ratio / Velocity	$\frac{\text{Net Credit Annual Purchases}}{\text{Average Trade Payables}}$

	5. Average Payment Period	$\frac{\text{Total Trade Payables}}{\text{Average Daily Purchases}}$
	6. Working Capital Turnover Ratio	$\frac{\text{Cost of Sales or Sales}}{\text{(Net) Working Capital}}$
(c) Analysis of Long-term Position or Test or Solvency	1. Debt - Equity Ratio	$\frac{\text{Outsiders' Funds}}{\text{Shareholders' Funds}}$ OR $\frac{\text{External Equities}}{\text{Internal Equities}}$
	2. Funded Debt to Total	$\frac{\text{Funded Debt}}{\text{Total Capitalisation}} \times 100$ Capitalization Ratio
	3. Ratio of Long-term Debt to shareholders, Funds (Debt-Equity)	$\frac{\text{Long} - \text{term Debt}}{\text{Shareholders' Funds}}$
	4. Proprietory or Equity Ratio	$\frac{\text{Shareholders' Funds}}{\text{Total Assets}}$
	5. Solvency Ratio	$\frac{\text{Total Liabilities to Outsiders}}{\text{Total Assets}}$
	6. Fixed Assets Net Worth Ratio	$\frac{\text{Fixed Assets (after depreciation)}}{\text{Shareholder's funds}}$
	7. Fixed Assets Ratio or Fixed Assets to Long-term Funds	$\frac{\text{Fixed Assets (after dep.)}}{\text{Total Long - term Funds}}$
	8. Ratio of Current Assets to Proprietors' Funds	$\frac{\text{Current Assets}}{\text{Shareholders' Funds}}$
	9. Debt-Service, or Interest Coverage	$\frac{\text{Net Profit (Before Interest \& taxes)}}{\text{Fixed Interest Charges}}$
	10. Total Coverage, or Fixed-Charge Coverage	$\frac{\text{EBIT}}{\text{Total Fixed Charges}}$

	11. Preference Dividend Coverage Ratio	$\frac{\text{Net Profit (Before Interest \& Income Tax)}}{\text{Preference Dividend}}$
	12. Cash to debt-Service Ratio or Debt Cash Flow Coverage	$= \frac{CF}{1+\frac{SFD}{1-T}}$
(d) Analysis of Profitability	1. Gross Profit Ratio	$\frac{\text{Gross Profit}}{\text{Net Revenue or Sales}} \times 100$
(i) General Profitability	2. Operating Ratio	$\frac{\text{Operating Cost}}{\text{Net Revenue or Sales}} \times 100$
	3. Expense Ratio	$\frac{\text{Particular Expense}}{\text{Net Sales}} \times 100$
	4. Net Profit Ratio	$\frac{\text{Net Profit after tax}}{\text{Net Sales}} \times 100$
	5. Operating Profit Ratio	$\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$
(ii) Overall Profitability	1. Return on Shareholders' Investment or Net Worth (R.O.I.)	$\frac{\text{Net Profit (after interest \& tax)}}{\text{Shareholders' Funds}} \times 100$
	2. Return on Equity Capital	$\frac{\text{Net Profit after tax -Preference Div.}}{\text{Paid – up Equity Capital}} \times 100$
	3. Earnings per Share (E.P.S)	$\frac{\text{Net Profit after tax and Preference Div.}}{\text{Number of Equity Share}}$
	4. Return on Gross Capital Employed	$\frac{\text{Adjusted Net Profit}}{\text{Gross Capital Employed}} \times 100$
	5. Return on Net Capital Employed	$\frac{\text{Adjusted Net Profit}}{\text{Net Capital Employed}} \times 100$
	6. Return on Assets	$\frac{\text{Net Profit After Tax}}{\text{Average Total Assets}}$
	7. Capital Turnover Ratio	$\frac{\text{Sales or Cost of Sales}}{\text{Capital Employed}}$

	(a) Fixed Assets Turnover Ratio	$= \frac{\text{Cost Good Sold or Sales}}{\text{Fixed Assets}}$
	(b) Working Capital Turnover Ratio	$= \frac{\text{Cost of Goods Sold or Sales}}{\text{(Net) Working Capital}}$
(ii) Market Test or Valuation Ratios	8. Dividend Yield Ratio	$\frac{\text{Dividend per Share}}{\text{Market value per share}}$
	9. Dividend Pay-out Ratio or	$\frac{\text{Dividend per Equity Share}}{\text{Earnings per Share}}$
	10. Price-Earning Ratio (P/E Ratio)	$\frac{\text{Market Price per Equity Share}}{\text{Earnings per Share}}$
	11. Earning Yield Ratio	$\frac{\text{Earning Per Share}}{\text{Market Price Per Share}}$
	12. Market Value Book Value Ratio	$\frac{\text{Market Value Per Share}}{\text{Book Value Per Share}}$
	13. Market Price to Cash Flow Ratio	$\frac{\text{Market Price Per Share}}{\text{Cash Flow Per Share}}$
(e) Analysis of Capital Structure or Laverage	1. Capital Gearing Ratio	$\frac{\text{Eq.Share Capital + Reserves \& Surplus}}{\text{Pref.Capital + Long – term debt bearing fixed interest}}$
	2. Total Investment to Long-term Liabilities	$\frac{\text{Shareholders' Funds + Long-term Liabilities}}{\text{Long – term Liabilities}}$
	3. Debt Equity Ratio	$\frac{\text{Outsider's Funds}}{\text{Shareholders' Funds}}$
	4. Ratio of Fixed Assets to Funded Debt	$\frac{\text{Fixed Assets}}{\text{Funded Debt}}$
	5. Ratio of Current Liabilities to Proprietors' Funds	$\frac{\text{Current Liabilities}}{\text{Shareholders' Funds}}$
	6. Ratio of Reserves to Equity Capital	$\frac{\text{Reserves}}{\text{Equity Share Capital}} \times 100$
	7. Financial Leverageq	$\frac{\text{Int. \& Tax (EBIT)}}{\text{EBIT – Int. \& Preference Dividend}}$
	8. Operating Leverage	$\frac{\text{Contribution}}{\text{EBIT}}$

1.3.3 DuPont Analysis

Q17. Explain briefly about DuPont Analysis

Ans : **(Imp.)**

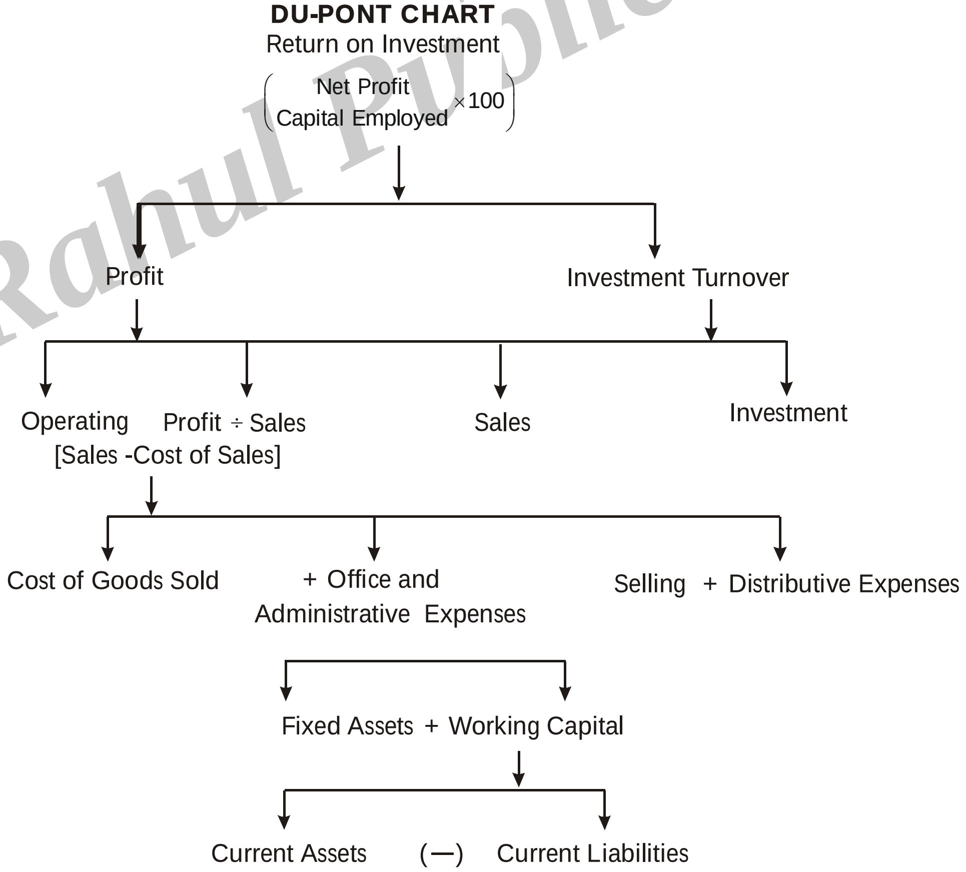
A system of management control designed by an American company named Du-Pont Company is popularly called Du-Pont Control Chart., This system uses the ratio inter-relationship to provide charts for managerial attention. The standard ratios of the company are compared to present ratios and changes in performance are judged.

The chart is based on two elements i.e., Net profit and capital employed. Net profit is related to operating expenses. If the expenses are under control then profit margin will increase. The earnings as a percentage of sales or earnings divided by sales give us percentage of profitability. Earnings can be calculated by deducting cost of sales from sales. Cost of sales includes cost of goods sold plus office and administrative expenses and selling and distributive expenses. Capital employed, on the other hand, consists of current assets and net fixed assets. Current assets include debtors, stock, bills receivables, cash, etc. Fixed assets are taken after deducting depreciation. So profit margin is divided by capital employed and is multiplied by 100.

The ratio will be $= \dfrac{\text{Profit Margin}}{\text{Capital Employed}} \times 100$

Du-Pont Chart is presented as under

DU-PONT CHART



The efficiency of a concern depends upon the working operations of the concern. The return on investment becomes a yardstick to measure efficiency because return influences various operations. The profit margin will show the efficiency with which assets of the business have been used. The efficiency can be improved either by a better relationship between sales and costs or through more effective use of available capital. The profitability can be increased by controlling costs and/or increasing sales. The investments turnover can be raised by having a control over investments in fixed assets and working capital without adversely affecting sales. The sales may also be increased with the use of same Capital. The management is able to pinpoint weak spots and take corrective measures. The performance can be better judged by having inter-firm comparison. The ratios of return on investment, assets turnover and profit margins of comparable companies can be calculated and these can be used as standards of performance.

PROBLEMS

6. Following information is given to you.

(i) Current Ratio = 2.5

(ii) Working Capital = ` 90,000

Find out : (a) Current Assets, and (b) Current Liabilities.

Sol :

Working Capital = Current Assets – Current Liabilities

Current Ratio = Current Assets : Current Liabilities

= 2.5 : 1

Let current liabilities be x then current assets will be 2.5 x

Working Capital = 2.5 x – 1.0 x

` 90,000 = 1.5 x

$$x = \frac{\text{` } 90{,}000}{1.5} = \text{` } 60{,}000$$

(a) So Current Liabilities = ` 60,000

(b) Current Assets = ` 60,000 × 2.5

= ` 1,50,000

7. Given

Current Ratio = 2.8

Acid-test Ratio = 1.5

Working Capital = ` 1,62,000

Find out :

(a) Current Assets

(b) Current Liabilities

(c) Liquid Assets

Sol :

Let current liabilities be x.

Working Capital = Current Assets – Current Liabilities

` 1,62,000 = 2.8 x – 1.0 x

` 1,62,000 = 1.8 x

or, x (Current Liabilities) = $\frac{1,62,000}{1.8}$ = ` 90,000

Current Assets = 90,000 × 2.8 = ` 2,52,000

Acid Test Ratio = $\frac{\text{Liquid Assets}}{\text{Current Liabilities}}$

1.5 = $\frac{\text{Liquid Assets}}{\text{` 90,000}}$

Liquid Assets = 90,000 × 1.5 = ` 1,35,000

8. The comparative balance sheets of a limited company are given for the years 2011 and 2012

Balance Sheets

as at March 31, 2012

Particulars	2012 `	2011 `
I. Equity and Liabilities		
Shareholder's Funds		
Share Capital	4,00,000	3,00,000
Reserve and Surplus	2,80,000	1,50,000
Non-current Liabilities		
8% Debentures	3,00,000	2,00,000
Mortgage Loan	2,58,000	4,00,000
Current Liabilities		
Trade Payables :		
Sundry Creditors	70,000	50,000
Bills Payable	35,000	25,000
Short-term Borrowings :		
Bank Overdraft	60,000	40,000
Outstanding Expenses	15,000	10,000
Tax Liabilities	20,000	15,000
	14,38,000	11,90,000

II.	**Assets**		
	Non-Current Assets		
	Fixed Assets		
	Tangible Fixed Assets :		
	Plant and Machinery	3,50,000	2,50,000
	Land and Building	4,00,000	3,00,000
	Intangible Assets :		
	Goodwill	2,00,000	2,00,000
	Patents	50,000	50,000
	Current Assets		
	Inventories (Stock)	2,00,000	1,50,000
	Current-Investments (Securities)	20,000	18,000
	Trade Receivables :		
	Sundry Debtors	80,000	1,00,000
	Bills Receivables	90,000	80,000
	Cash Balance	45,000	40,000
	Prepaid Expenses	3,000	2,000
		14,38,000	11,90,000
Sales (Revenue from Operations)		6,00,000	5,00,000
Purchases		4,05,000	3,00,000

From the information for two years, calculate :

(a) Current Ratio

(b) Acid-test Ratio

(c) Inventory Turnover Ratio

(d) Receivables Turnover Ratio

(e) Average Collection Period

(f) Payable Turnover Ratio

(g) Average payment Period

(h) Working Capital Turnover Ratio

Note : 1. Take 365 days in a year

2. The figures for 2011 be taken as opening balance for 2012 for calculating averages.

Sol :

(a) Current Ratio $= \dfrac{\text{Current Assets}}{\text{Current Liabilities}}$

Current Assets (2011) = ` 1,50,000 + ` 1,00,000 + ` 80,000
+ ` 18,000 + ` 40,000 + ` 2,000 = ` 3,90,000

Current Assets (2012) = ` 2,00,000 + ` 80,000 + ` 90,000
+ ` 20,000 + ` 45,000 + ` 3,000 = ` 4,38,000

Current Liabilities (2011) = ` 50,000 + ` 25,000 + ` 40,000 + ` 10,000 + ` 15,000
= ` 1,40,000

Current Liabilities (2012) = ` 70,000 + ` 35,000 + ` 60,000 + ` 15,000 + ` 20,000
= ` 2,00,000

Current Ratio (2011) $= \dfrac{\text{` 3,90,000}}{\text{` 1,40,000}} = 2.785$

Current Ratio (2012) $= \dfrac{\text{` 4,38,000}}{\text{` 2,00,000}} = 2.19$

(b) Acid - Test Ratio $= \dfrac{\text{Liquid Assets}}{\text{Current Liabilities}}$

Liquid Assets (2011) = ` 1,00,000 + ` 80,000 + ` 18,000 + ` 40,000 = ` 2,38,000
Liquid Assets (2012) = ` 80,000 + ` 90,000 + ` 20,000 + ` 45,000 = ` 2,35,000

Acid-test Ratio (2012) $= \dfrac{\text{` 2,38,000}}{\text{` 1,40,000}} = 1.7$

Acid-test Ratio (2012) $= \dfrac{\text{` 2,35,000}}{\text{` 2,00,000}} = 1.175$

(c) Inventory Turnover Ratio $= \dfrac{\text{Sales (Revenue)}}{\text{Average Inventory}}$

Inventory Turnover Ratio(2011) $= \dfrac{\text{` 5,00,000}}{\text{` 1,50,000}} = 3.33$ times

Inventory Turnover Ratio (2012) $= \dfrac{\text{` 6,00,000}}{\dfrac{\text{` 1,50,000 + ` 2,00,000}}{2}}$

$= \dfrac{\text{` 6,00,000}}{\text{` 1,75,000}} = 3.43$ times

(d) Receivables Turnover Ratio $= \dfrac{\text{Annual Credit Sales (Revenue)}}{\text{Average Trade Receivables}}$

Receivables Turnover Ratio (2011) $= \dfrac{\text{` } 5{,}00{,}000}{\text{` } 1{,}80{,}000}$

Receivables Turnover Ratio (2012) $= \dfrac{\text{` } 6{,}00{,}000}{\dfrac{1{,}80{,}000 + \text{`}1{,}70{,}000}{2}}$

$= \dfrac{\text{` } 6{,}00{,}000}{\text{` } 1{,}75{,}000} = 3.43 \text{ times}$

(e) Average Collection Period $= \dfrac{\text{Average Trade Receivables} \times \text{No.of working days}}{\text{Net Sales (Revenue)}}$

Average Collection Period(2011) $= \dfrac{\text{` } 1{,}80{,}000}{\text{` } 5{,}00{,}000} \times 365$

= 131 days (approx)

Average Collection Period (2012) $= \dfrac{\text{` } 1{,}75{,}000}{\text{` } 6{,}00{,}000} \times 365$

= 106 days (approx)

(f) Payable Turnover Ratio $= \dfrac{\text{Annual Credit Purchases}}{\text{AverageTrade Payables}}$

Payables Turnover Ratio (2011) $= \dfrac{\text{` } 3{,}00{,}000}{\text{` } 50{,}000 + \text{` } 25{,}000}$

$= \dfrac{\text{` } 3{,}00{,}000}{\text{` } 75{,}000} = 4 \text{ times}$

payables Turnover Ratio (2012) $= \dfrac{\text{` } 4{,}05{,}000}{\left(\dfrac{\text{` } 75{,}000 + \text{` } 1{,}05{,}000}{2}\right)}$

$= \dfrac{\text{` } 4{,}05{,}000}{\text{` } 90{,}000} = 4.5 \text{ times}$

(g) Average Payment Period $= \dfrac{\text{Average Trade Payables} \times \text{No. of Working Days}}{\text{Annual Credit Purchases}}$

Average Payment Period 2011 $= \dfrac{\text{` } 75{,}000 \times 365}{\text{` } 3{,}00{,}000} = 91\text{days}$

Average payment Period 2012 $= \dfrac{\text{` } 90{,}000 \times 365}{\text{` } 4{,}05{,}000} = 81 \text{ days}$

(h) Working Capital Turnover Ratio $= \dfrac{\text{Revenue from Operations}}{\text{Average Working Capital}}$

Working Capital = Current Assets – Current Liabilities

Working Capital for 2011 = ` 3,90,000 – ` 1,40,000 = ` 2,50,000

Working Capital for 2012 = ` 4,38,000 – ` 2,00,000 = ` 2,38,000

Working Capital Turnover (2011) $= \dfrac{\text{` } 5{,}00{,}000}{\text{` } 2{,}50{,}000} = 2 \text{ times}$

Working Capital Turnover (2012) $= \dfrac{\text{` } 6{,}00{,}000}{\dfrac{\text{` } 2{,}50{,}000 + 2{,}38{,}000}{2}}$

$= \dfrac{\text{` } 6{,}00{,}000}{\text{` } 2{,}44{,}000} = 2.46 \text{ times}$

Notes : (i) Since credit sales and purchase are not given, all sales and purchases are taken as credit.

(ii) In the absence of cost of revenue, revenue from operations (sales) are used for cost of revenue for calculating working capital turnover ratio.

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9. From the following Balance Sheet of Deepika Ltd; compute :

(a) Equity Ratio (Proprietory Ratio)

(b) Debt-Equity Ratio

(c) Funded Debt to Total Capitalization

(d) Fixed Assets to Net Worth Ratio

(e) Solvency Ratio

(f) Current Assets to Proprietor’s Fund Ratio

(g) Fixed Assets Ratio

Deepika Ltd

Liabilities	₹	Assets		₹
Equity Share Capital	3,00,000	Goodwill		90,000
9% Preference Share Capital	1,50,000	Land & Building		1,00,000
Reserve fund	50,000	Plant & Machinery		2,50,000
Profit and Loss A/c	20,000	Equipment		60,000
Share Premium	10,000	Furniture & Fittings		80,000
8% Debentures	2,00,000	Sundry Debtors	92,000	
6% Mortage Loan	60,000	Less Provision	2,000	
Sundry Creditors	80,000			90,000
Income Tax Provision	20,000	Bills Receivables		1,00,000
Depreciation Fund	50,000	Stock-in-hand		1,20,000
		Cash Balance		45,500
		Prepaid Insurance		1,500
		Preliminary Expenses		2,000
		Discount on Issue of Debentures		1,000
	9,40,000			9,40,000

Sol :

(a) Equity Ratio $= \dfrac{\text{Shareholders Funds}}{\text{Total Assets}}$

Shareholders Funds = Equity capital + Pref. Capital + Reserve Funds + P/L + Share Premium – Preliminary Expenses – Discount on Issue of Debentures

= ₹ 3,00,000 + ₹ 1,50,000 + ₹ 50,000 + ₹ 20,000 + 10,000 – ₹ 2,000 – ₹ 1,000 = ₹ 5,27,000

Total Assets = Total Assets – Preliminary Expenses – Discount on Issue of Debentures – Depreciation Fund = ₹ 9,40,000 – ₹ 2,000 – ₹ 1,000 – ₹ 50,000 = ₹ 8,87,000

Note. Preliminary Expenses and Discount on Issue of Debentures are deferred expenses and not assets.

$$\text{Equity Ratio} = \frac{₹\ 5{,}27{,}000}{₹\ 8{,}87{,}000} = 0.59$$

(b) Debt -Equity Ratio $= \dfrac{\text{Outsiders Funds}}{\text{Shareholder's Funds}}$

Outsiders Funds = 8% Debentures + 6% Mortage Loan + Sundry Creditors + Income Tax Provision

= ` 2,00,000 + ` 60,000 + ` 80,000 + ` 20,000

= ` 3,60,000

Debt - Equity Ratio = $\frac{\text{` } 3,60,000}{\text{` } 5,27,000} = 0.68$

(c) Funded Debt to Total Capitalization Ratio

$$= \frac{\text{Funded Debt}}{\text{Total Capitalisation}}$$

Funded Debt = Long term Loans

= 8% Debentures + 6% Mortgage Loan

= ` 2,00,000 + ` 60,000 = ` 2,60,000

Total Capitalization = Shareholder's Funds + Long-term loans

= ` 5,27,000 + ` 2,60,000 = ` 7,87,000

Funded Debt to Total Capitalization Ratio

$$= \frac{\text{` } 2,60,000}{\text{` } 7,87,000} = 0.33$$

(d) Fixed Assets to Net Worth Ratio

$$= \frac{\text{Net Fixed Assets}}{\text{Net Worth}}$$

Net Fixed Assets = Goodwill + Land and Building + Plant and Machinery + Equipment + Furniture and Fittings – Depreciation Fund

= ` 90,000 + ` 1,00,000 + ` 2,50,000 + ` 60,000 + ` 80,000 – ` 50,000

= ` 5,30,000

North Worth = Net worth is the same as shareholder's funds

Fixed Assets to Net Worth Ratio = $\frac{\text{` } 5,30,000}{\text{` } 5,27,000} = 1.01$

(e) Solvency Ratio = $\frac{\text{Total Liabilities to Outsiders}}{\text{Total Assets}}$

Total Liabilities to Outsiders = 8% Debentures + 6% Mortgage Loan + Sundry creditors + Income Tax Provision

= ` 2,00,000 + ` 60,000 + ` 80,000 + ` 20,000

= ` 3,60,000

Solvency Ratio $= \dfrac{` \ 3,60,000}{` \ 8,87,000} = 0.41$

(f) Current Assets to Proprietor's Funds Ratio

$$= \frac{\text{Current Assets}}{\text{Pr operitors Funds}}$$

Current Assets = Sundry Debtors + B/R + Stock-in-trade + Cash Balance + Prepaid Insurance

= ` 90,000 + ` 1,00,000 + 1,20,000 + 45,500 + 1,500

= ` 3,57,000

Proprietor's Funds = Shareholder's Funds

Current Assets to Proprietor's Funds

$$= \frac{` \ 3,57,000}{` \ 5,27,000} = 0.68$$

(g) Fixed Asset Ratio $= \dfrac{\text{Net Fixed Assets}}{\text{Total Long-term Funds}}$

Total Long -term Funds = Shareholder's Funds + Long - term borrowings (Funded debt)

= ` 5,27,000 + ` 2,60,000

= 7,87,000

Fixed Assets Ratio $= \dfrac{` \ 5,30,000}{` \ 7,87,000} = 0.67$

10. From the following information, make out a statement of Properietor's Funds with as many details as possible :

(i)	Current Ratio	2.5
(ii)	Liquid Ratio	1.5
(iii)	Proprietary Ratio (Fixed Assets/Proprietors' Funds)	0.75
		`
(iv)	Working Capital	60,000
(v)	Reserves and Surplus	40,000
(vi)	Bank Overdraft	10,000
(vii)	There is no long-term loan or fictitious assets	

Sol :

Calculation of Current Assets and Current Liabilities

Current Ratio = 2.5 (given)

Current Ratio = Current Assets – Current Liabilities

Suppose, Current Liabilities are X

So, Current Assets will be 2.5 X

Working Capital = Current Assets – Current Liabilities

or 60,000 = 2.5 X – X (as working capital = ` 60,000

or 60,000 = 1.5 X

$$X = \frac{60,000}{1.5} = \text{` } 40,000$$

Therefore, Current Liabilities are ` 40,000

and Current Assets = 2.5 × 40,000 = ` 1,00,000

Calculation of Inventory (Stock)

$$\text{Liquid Ratio} = \frac{\text{Liquid / Quick Assets}}{\text{Current Liabilities}} = 1.5 \text{ (given)}$$

$$1.5 = \frac{\text{Quick Assets}}{40,000}$$

or Quick Assets = ` 60,000

Quick Assets = Current Assets – Inventory

or 60,000 = 1,00,000 – Inventory

or Inventory (Stock) = 1,00,000 – 60,000 = ` 40,000

Calculation of Proprietor's Funds and Fixed Assets

Proprietary Ratio = 0.75 : 1

Fixed Assets : Proprietor's Funds = 0.75 : 1

If Proprietor's Funds are X, Fixed Assets would be 0.75 X

Since, Proprietor's funds + Long -term Loans + Current Liabilities

= Fixed Assets + Current Assets + Fictitious Assets

So, X + 0 + 40,000 = 0.75 X + 1,00,000 + 0

(as long-term loans and fictitious assets are nil)

or, X – .75 X = 1,00,000 – 40,000

0.25 X = 60,000

X = ` 2,40,000

And Fixed Assets are ` 2,40,000 × $\frac{75}{100}$

or, Fixed Assets = ` 1,80,000

Calculation of Capital

Proprietor's funds = Share Capital + Reserves

or ` 2,40,000 = Share Capital + ` 40,000

or Share Capital = ` 2,00,000

Statement of Proprietor's Funds

Particulars	`	`
Proprietor's Funds		
Share Capital	2,00,000	
Reserves & Surplus	40,000	
		2,40,000
Investment of Funds		
Fixed Assets (Non-current Assets)	1,80,000	
Current Assets :		
Inventory	40,000	
Others	60,000	
	2,80,000	
Less : Current Liabilities	40,000	2,40,000

11. From the following details, make out the Balance Sheet with as details as possible :

(i)	Stock Velocity	=	6
(ii)	Capital Turnover Ratio	=	2
(iii)	Fixed Assets Turnover	=	4
(iv)	Gross Profit Turnover Ratio	=	20%
(v)	Debtors Velocity	=	2 months
(vi)	Creditors Velocity	=	73 days

The gross profit was ` 60,000. Reserve & Surplus amount to ` 20,000. Closing stock was ` 5,000 in excess of Opening stock.

Sol : **(May-2017)**

Calculation of Sales

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100$$

Since G/P ratio is 20% and Gross Profit is ` 60,000 Sales are :

$$\frac{20}{100} = \frac{60,000}{Sales}$$

or 20 Sales = 60,000 × 100

or Sales = $60,000 \times \frac{100}{20}$ = ` 3,00,000

Calculation of Purchases

Purchases = Cost of Goods Sold + Closing Stock – Opening Stock

As G/P ratio is 20% so cost of goods is 100 – 20 or say 80%

$\therefore$ Cost of goods sold = $3,00,000 \times \frac{80}{100}$ = ` 2,40,000

Purchases = ` 2,40,000 + 5,000 As Closing Stock is ` 5,000

= ` 2,45,000 more than Opening Stock

Calculation of Stocks

Stock-turnover ratio = $\frac{\text{Cost of goods sold}}{\text{Average Stock}}$

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

or 6 × Average Stock = 2,40,000

or Average Stock = ` 40,000

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

40,000 = $\frac{\text{2 Op. Stock} + 5,000}{2}$

80,000 – 5,000 = 2 Op. Stock

Opening Stock = $\frac{75,000}{2}$ = ` 37,500

Closing Stock = Op. Stock + 5,000 = 37,500 + 5,000

= ` 42,500

Calculation of Debtors

Debtors Velocity = $\frac{\text{Total Debtors}}{\text{Credit Sales}} \times \text{No. of Months}$

$$2 = \frac{\text{Total Debtors}}{3,00,000} \times 12$$

(All Sales have been taken as Credit Sales).

$$\text{Total Debtors} \times 12 = 3,00,000 \times 2$$

$$\text{Total Debtors} = \frac{3,00,000 \times 2}{12} = ₹\ 50,000$$

Calculation of Creditors

$$\text{Creditors Velocity} = \frac{\text{Total Creditors}}{\text{Credit Purchases}} \times \text{No. of Working Days}$$

$$73 = \frac{\text{Total Creditors}}{2,45,000} \times 365$$

$$365 \times \text{Total Creditors} = 2,45,000 \times 73$$

$$\text{Total Creditors} = \frac{2,45,000 \times 73}{365} = ₹\ 49,000$$

Calculation of Fixed Assets

$$\text{Fixed Asset Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Fixed Assets}}$$

$$4 \times \text{Fixed Assets} = 2,40,000$$

$$\text{Fixed Assets} = \frac{2,40,000}{4} = ₹\ 60,000$$

Calculation of Capital

$$\text{Capital Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Capital}}$$

$$2 = \frac{2,40,000}{\text{Capital}}$$

$$2 \times \text{Capital} = 2,40,000$$

$$\text{Capital} = ₹\ 1,20,000$$

Alternatively

In case capital is taken to mean net worth, then net worth = ₹ 1,20,000

or Share Capital + Reserve & Surplus = ₹ 1,20,000

or Share Capital = 1,20,000 – 20,000 = ₹ 1,00,000

Balance Sheet as at March, 2016

Particulars	`
I. Equity and Liabilities	
1. Shareholder's Funds :	
(a) Share Capital	1,00,000
(b) Reserve and Surplus	20,000
	—
2. Non-Current Liabilities	
3. Current Liabilities	
Creditors	49,000
Total	1,69,000
II. Assets :	
1. Non Current Assets :	
Fixed Assets (Tangible)	60,000
2. Current Assets :	
Inventory (Stock)	42,500
Trade Receivables (Debtors)	50,000
Cash and Cash Equivalents (Balancing figure)	16,500
Total	1,69,000

12. With the help of the information complete the Balance Sheet of Universal Ltd.

Equity share capital	Rs. 2,00,000

The relevant ratios of the company are as follows :

Current debt to total debt	0.40
Total debt to owner's equity	0.60
Fixed assets to owner's equity	0.60
Total assets turnover	2 times
Inventory turnover	8 times

Sol :

Calculation of Total Debt

Total Debt to Owner's Equity = 0.60 (given)

Total Debt = Owner's Equity × 0.60

= 2,00,000 × 0.60 = ` 1,20,000

Calculation of Current Debt and Long Term Debt

Current Debt to Total Debt = 0.40 (given)

Current Debt = Total Debt × 0.40

= 1,20,000 × 0.40 = ` 48,000

Long term Debt = Total Debt – Current Debt

= ` 1,20,000 – 48,000 = ` 72,000

Calculation of Fixed Assets

Fixed Assets to Owner's Equity = 0.60 (given)

Fixed Assets = Owner's Equity × 0.60

= 2,00,000 × 0.60 = ` 1,20,000

Calculation of Total Equity

Total Equity = Owners' Equity + Total Debt

= ` 2,00,000 + 1,20,000 = 3,20,000

Calculation of Total Assets

Total Assets = Total Equity

= ` 3,20,000

Calculation of Current Assets

Total Assets = Fixed Assets + Current Assets

3,20,000 = 1,20,000 + Current Assets

Current Assets = 3,20,000 – 1,20,000 = ` 2,00,000

Calculation of Inventory

Total Assets Turnover = 2 times

Inventory Turnover = 8 times

Hence, Total Assets/Inventory = 8/2 = 4

3,20,000/Inventory = 4

Inventory = 3,20,000/4 = ` 80,000

---

13. From the following information, prepare income statement and balance sheet of 'X' Ltd., as on 31.3.2015.

Current ratio	2.5
Quick ratio	1.3
Proprietary ratio	
(Fixed assets to proprietory funds)	0.6
Gross profit ratio	10%
Average collection period	40 days

Sales	Rs. 7,30,000
Working capital	Rs. 1,20,000
Share capital	Rs. 2,50,000

Net profit 10% of proprietory funds.

Sol : **(May -16)**

$$\text{Current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = 2.5$$

Current Assets = 2.5 Currrent Liabilities ... (1)

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Stock}}{\text{Current Liabilities}} = 1.3$$

Current Assets – Stock = 1.3 current liabilities

2.5 current liabilities – stock = 1.3 current liabilities

2.5 CL – 1.3 CL = stock

Stock = 1.2 C.L ... (2)

Sales = 7,30,000

Gross profit ratio = 10%

$$\text{G.P. ratio} = \frac{\text{G.P}}{\text{Sales}} \times 100$$

$$10\% = \frac{\text{G.P}}{7,30,000}$$

G.P = 7,30,000 × 10%

G.P = 73,000

Sales – G.P = COGS

7,30,000 – 73,000 = COGS

COGS = 6,57,000

Working Capital = C.A – C.L = 1,20,000

2.5 C.L – C.L = 1,20,000

1.5 C.L = 1,20,000

$$\text{CL} = \frac{1,20,000}{1.5}$$

C.L. = 80,000

C.A = 2.5 × 80,000

C.A = 2,00,000

$$\text{Stock} = 1.2 \times 80{,}000 = 96{,}000$$

$$\text{ACP} = 40 \text{ days} = \frac{\text{No. of days in a year}}{\text{DTR}}$$

$$\text{DTR} = \frac{365}{40} = 9.125$$

$$\text{DTR} = \frac{\text{Sales}}{\text{Debtors}}$$

$$\text{Debtors} = \frac{7{,}30{,}000}{9.125} = 80{,}000$$

$$\text{Debtors} = 80{,}000$$

$$\text{Proprietary ratio} = \frac{\text{F.A}}{\text{Shareholder Funds}}$$

$$0.6 = \frac{\text{F.A}}{\text{Share Holder Funds}}$$

$$\text{F.A} = 1{,}50{,}000$$

Dr **Trading and Profit and Loss A/c** **Cr**

Particulars	Amt	Particulars	Amt
To COGS	6,57,000	By Sales	7,30,000
To Gross profit	73,000		
	7,30,000		7,30,000
To operating Exp	53,000	By Gross profit	73,000
To net profit	20,000		
	73,000		73,000

Balance Sheet of X Ltd., as on 31.3.2015

Liabilities	Amt	Assets	Amt
Share Capital	2,50,000	Fixed Assets	1,50,000
Net profit	20,000	Current Assets	
Current liabilities	80,000	Stock	96,000
		Debtors	80,000
		Cash	24,000
	3,50,000		3,50,000

14. The following information is given about a company for the year ending 31 March, 2016.

1. Stock turnover ratio	6 times
2. Gross profit ratio	20
3. Sales for the year	Rs. 6,00,000

4. Closing stock is Rs.20,000 more than the Opening stock
5. Opening creditors rs.40,000 and Closing creditors Rs. 60,000

6. Debtors at the end	Rs. 1,20,000
7. Net Working Capital	Rs. 1,00,000

Find out :

a) Average stock

b) Purchases

c) Creditors turnover ratio

d) Average payment period

e) Debtors turnover ratio

f) Average collection period

g) Working capital turnover ratio

Sol :

Calculation of Closing Stock

Stock Turnover ratio = 6

G.P. ratio = 20

Given Sales = 6,00,000

$$\text{G.P. Ratio} = \frac{\text{Gross Profit}}{\text{Sales}}$$

$$\Rightarrow 20 = \frac{\text{Gross Profit}}{6,00,000} \times 100 = \text{Rs } 1,20,000$$

a) **Average Stock**

$$\text{Stock Turnover ratio} = \frac{\text{Cost goods sold}}{\text{Avg . Stock}}$$

COGS = Sales – G.P = 6,00,000 – 1,20,000 = Rs 4,80,000

$$\Rightarrow 6 = \frac{4,80,000}{\text{Avg Stock}}$$

$\therefore$ Avg Stock = 80,000

$\Rightarrow$ Avg stock = $\dfrac{\text{Opening Stock + Closing Stock}}{2}$

$\Rightarrow$ As = O/S $\dfrac{+}{2}$ O/S + 20,000

$\Rightarrow$ 80,000 = 2 O/S $\dfrac{+20,000}{2}$

$\Rightarrow$ Opening Stock = 70,000

Closing stock = 70,000 + 20,000

= 90,000

b) Purchases $\Rightarrow$ Opening stock + P – Closing Stock = COGS

$\Rightarrow$ 70,000 + P – 90,000 = 80,000

$\Rightarrow$ Purchases = 1,00,000

c) Creditors Turnover Ratio = $\dfrac{\text{Credit Purchases}}{\text{Avg.Creditors}}$

$$= \frac{1,00,000}{\frac{40,000+60,000}{2}} = \frac{1,00,000}{50,000} = 2 \text{ times}$$

d) Average Payment method = $\dfrac{\text{Avg Creditors}}{\text{Cr. Purchases}} \times 365$

$$= \frac{50,000}{1,00,000} \times 365 = 182.5 \text{ days}$$

e) Debtors Turnover ratio = $\dfrac{\text{Sales}}{\text{Avg. Debtors}}$

$$= \frac{6,00,000}{1,20,000} = 5 \text{ times}$$

f) Average collection period = $\dfrac{\text{Avg Debtors}}{\text{Sales}} \times 365$

$$= \frac{1,20,000}{6,00,000} \times 365 = 73 \text{ days}$$

g) Working Capital Turnover Ratio = $\dfrac{\text{COGS}}{\text{NWC}}$

$$= \frac{4,80,000}{1,00,000} = 4.8 \text{ times}$$

1.4 Funds Flow Analysis

1.4.1 Meaning

Q18. Define Funds Flow Statement

Ans :

Funds flow statement is a modern technique of analyzing financial statements. It helps in analyzing the movement of funds of a firm between the two balance-sheet dates. The funds flow statement is neither a substitute of balance sheet nor a supporting schedule of it. It is indeed a complementary statement. The balance sheet of a company reveals the financial position on a certain date. How the changes in funds have taken place through the year, cannot be known by it. The funds flow statement serves this purpose. It is prepared on the basis of financial accounting data. It covers all movements of funds, i.e., the exchange of assets. It shows the results of the policies followed by financial management.

The preparation of balance-sheet is compulsory by Companies Act, 1956 in India. But the preparation of Funds Flow Statement is not compulsory. Still certain companies prepare it in addition to balance sheet. Financial institutions demand this statement along with the balance sheet for processing a loan application. This statement helps in ascertaining the sources of funds and their subsequent application.

Definitions

Different authors have defined funds flow statement in their own ways. Some of the definitions are:

i) **As per Para 20 of AS 7 (July 1977),** "A statement of changes in financial position should be included as an integral part of financial statements. The statement of changes in financial position should be presented for each period for which the income statement is prepared."

ii) **According to Robert N. Anthony,** "The funds flow statement describes the sources from which additional funds were derived and the uses to which these funds were put."

iii) **According to Smith and Brown,** "A funds flow statement is prepared in summary form to indicate changes occurring in terms of financial condition between two different balance sheet dates."

Application of funds statement, statement of sources and uses of funds, statement of changes in financial position, etc. are some other names of it. Funds Flow Statement involves three words funds, flow and statement.

Meaning of Funds

In financial circles, the term 'funds' has been defined in different ways. But there are two most common usages of it. These are:

1. **Cash :** As per this concept, the meaning of 'funds' is taken as cash. If we view as per this sense the statement of change in financial position will explain only the changes in cash. Accordingly this statement will be called as Cash Flow Statement. All the items which increase or decrease the cash are included in it.

2. **Working Capital :** Working capital here means current assets less current liabilities Fund is also used in this sense. As per this sense, all the transactions which increase or decrease the working capital are included in the funds flow statement. Generally the Funds Flow Statement is prepared as per this sense.

Meaning of Flow

Flow means change, change means the alterations due to inflow and outflow of funds during the year. This flow of funds arises due to external transactions of the business. When the term funds is used in the sense of working capital, funds flow means inflow and outflow of working capital. If a transaction does not attach the funds, it means there is no flow.

Q19. Explain the objectives of Funds Flow Statement

Ans : **(Imp.)**

The main objectives of funds flow statement are as under :

1. It helps to understand the changes in assets and asset sources which are not readily evident in the income statement or financial statement.
2. To inform as to how the funds of the business have been used.
3. To point out the financial strengths and weaknesses of the business.
4. To provide information about the activities of raising finance and investment.
5. To know the reasons for changes in financial position of business.

Q20. Explain the Significance of Funds Flow Statement

Ans :

The significance of funds flow statement is as under:

1. It helps in analysis of financial operations.
2. It acts as a future guide.
3. It helps in the formation of a realistic dividend policy.
4. It helps in the allocation of resources properly.
5. It helps in working capital management of the company.
6. It helps in raising the loans.
7. It helps in making plans for the future.
8. It appraises the shareholders regarding the uses of funds in the business.
9. It provides a basis for preparing budgets for the future.
10. It answers some important financial questions and thus helps the management for better financial management.

Q21. Explain the Limitations of Funds Flow Statement

Ans :

The following are the main limitations of funds flow statement

1. Historical

It relates to past only and thus it tells that the changes in funds have taken place in the past. It will be of limited use for making predictions for the future.

2. Static

It is static in nature. This statement fails to reveal the continuous changes.

3. Incomplete Statement

This statement does not show the changes in working capital. It only presents the changes in working capital. Thus, it is an incomplete statement.

4. Not Original Statement

It is not an original statement but simply the rearrangement of financial data.

5. Not a Substitute

It is not a substitute of income statement or a balance sheet. It is only a supplement to them.

1.4.2 Preparation of Funds Flow Statement

Q22. Explain the procedure to prepare Funds Flow Statement

Ans : **(Dec.-20)**

Broadly speaking, the preparation of a funds flow statement consists of two parts:

1. Statement (or) Schedule of Charges in Working Capital.
2. Statement of Sources and Application of Funds.

1. Statement or Schedule of Changes in Working Capital

Working Capital means the excess of current assets over current liabilities. Statement of changes in working capital is prepared to show the changes in the working capital between the two balance sheet dates. This statement is prepared with the help of current assets and current liabilities derived from the two balance sheets.

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

So, (i) An increase in current assets increases working capital. (Current Assets ↑ Working Capital ↑)

(ii) A decrease in current assets decreases, working capital. (Current Assets ↓ Working Capital ↓)

(iii) An increase in current liabilities decreases working capital; and

(Current Liabilities ↑ Working Capital ↓)

(iv) A decrease in current liabilities increases working capital.

(Current Liabilities ↓ Working Capital ↑)

A typical form of statement or schedule of changes in working capital is as follows :

Statement of Schedule of Changes in Working Capital

Particulars	Previous Year	Current Year	Effect on Working Capital	
			Increase	Decrease
Current Assets :				
Cash in hand				
Cash at bank				
Bills Receivable				
Sundry Debtors				
Temporary Investment				
Stock/Inventories				
Prepaid Expenses				
Accrued Incomes				
Total Current Assets (A)				
Current Liabilities				
Bills Payable				
Sundry Creditors				
Outstanding Expenses				
Bank Overdrafts				
Short-term advances				
Dividends Payable				
Proposed dividends *				
Provision for taxation *				
Total Current Liabilities (B)				
Working Capital (CA - CL)				
Net Increase or Decrease in Working Capital				

2. Statement of Sources and Application of Funds.

T Form (or) An Account Form or Self Balancing Type

Funds Flow Statement

(For the year ended.....)

Sources	₹	Applications	₹
Funds from Operations		Funds lost in Operations	
Issue of Share Capital		Redemption of Preference Share Capital	
Issue of Debentures		Redemption of Debentures	
Raising of long-term loans		Repayment of long-term loans	
Receipts from partly paid shares, called up		Purchase of non-current (fixed) assets	
Sale of non-current (fixed) assets		Purchase of long-term investments	
Non-trading receipts such as dividends		Non-trading payments	
Sale of long-term Investment		Payment of Dividends *	
Net Decrease in Working Capital		Payment of tax *	
		Net Increase in working Capital	

(a) Calculation of Funds from Operation

Particulars

Particulars	₹	₹
Closing Balance of P & L A/c or Retained Earnings (as given in the balance sheet)		xxx
Add : **Non-fund and Non - operating items which have been already debited to P & L A/c**		
(i) Depreciation and Depletion	xxx	
(ii) Amortization of fictitious and Intangible		
Assets such as :		
(a) Good will	xxx	
(b) Patents	xxx	
(c) Trade Marks	xxx	
(d) Preliminary Expenses	xxx	
(e) Discount on Issue of Shares, etc.	xxx	
(iii) **Appropriation of Retained Earnings, such as :**		
(a) Transfer to General Reserve	xxx	
(b) Dividend Equalization Fund	xxx	
(c) Transfer to Sinking Fund	xxx	
(d) Contingency Reserve etc.		

(iv)	**Loss on Sale of any non-current (fixed) assets such as :**			
	(a)	Loss on sale of land and building	xxx	
	(b)	Loss on sale of machinery	xxx	
	(c)	Loss on sale of furniture	xxx	
	(d)	Loss on sale of long - term investments, etc.	xxx	
(v)	**Dividends including :**			
	(a)	Interim Dividend	xxx	
	(b)	Proposed Dividend (if it is an appropriation of profits and not taken as current liability)	xxx	
(vi)	Provision for Taxation (if it is not taken as current liability)		xxx	
(vii)	Any other non-fund/non-operating items which have been debited to P/L A/c			
	Total (A)			xxx
Less : **Non -fund or Non-operating items which have already been credited to P & L A/c**				
(i)	**Profit or Gain from the sale of non-current (fixed) assets such as :**			
	(a)	Profit on sale of land and building	xxx	
	(b)	Profit on sale of plant & machinery	xxx	
	(c)	Profit on sale of long-term investments, etc.	xxx	
(ii)	Appreciation in the value of fixed assets, such as increase in the value of land if		xxx	
	it has been credited to P/L A/c		xxx	
(iii)	Dividends Received		xxx	
(iv)	Excess Provision retransferred to P/L A/c or written off		xxx	
(v)	Any other non-operating item which has been credited to P/L A/c		xxx	
(vi)	Operating balance of P & L A/c or Retained Earnings (as given in the balance sheet)		xxx	
	Total (B)			xxxx
	Funds generated by operations (A –B)			xxxx

PROBLEMS

15. From the following balance sheet for the year ending 31-12-2010 & 31-12-2011 prepare shedul of changes in working capital and a statement showing sources and Application of funds

Liabilities	2010	2011	Assets	2010	2011
Share Capital	3,00,000	4,00,000	Plant and	50,000	60,000
Sunday Creditors	1,00,000	70,000	Furnitured fixtures	10,000	15,000
P & Loss A/c	15,000	30,000	Stock	85,000	1,05,000
			Debtors	1,60,000	1,50,000
			Cash	1,10,000	1,70,000
	4,15,000	5,00,000		4,15,000	5,00,000

Sol :

Statement showing changes in working capital

Particulars	2010	2011	Working capital Increase	Working capital Decrease
Current Assets				
Cash	1,10,000	1,70,000	60,000	–
Debtors	1,60,000	1,50,000	–	10,000
Stock	85,000	1,05,000	20,000	–
Total current Assets (A)	3,55,000	4,25,000		
Current liability				
Sunray Creditors	1,00,000	70,000	30,000	–
Total current liability (B)	1,00,000	70,000		
Net working capital (A – B)	2,55,000	3,55,000		
Increase in working Capital	1,00,000	–	–	1,00,000
	3,55,000	3,55,000	1,10,000	1,10,000

Funds From Operation

Particulars	Amount
Profit and Loss	15,000
Funds from Operations	15,000

Funds flow statement

Sources	Amount	Applications	Amount
Funds from operation	15,000	Purchase of plant	10,000
Issue of share	1,00,000	Purchase of furniture	5,000
		Increase in Working Capital	1,00,000
	1,15,000		1,15,000

16. From the following two balance sheets as on 31-12-2010 & 31-12-2011 you are required to prepare statement showing flow of funds.

Particulars	2010	2011
Assets		
Cash	30,000	47,000
Debtors	1,20,000	1,15,000
Stock	80,000	90,000
Land	50,000	66,000
Total Assets	2,80,000	3,18,000
Capital and Liabilities		
Share Capital	2,00,000	2,50,000
Trade Creditors	70,000	45,000
Retained earning	10,000	23,000
Total liabilities	2,80,000	3,18,000

Sol :

Statement showing the changes in working capital

Particulars	2010	2011	Increase	Decrease
Current Assets				
Cash	30,000	47,000	17000	–
Debetors	1,20,000	1,15,000	–	5000
Stock	80,000	9000	10,000	
Total Current Assets (A)	2,30,000	2,32,000		
Current Liabilities				
Trade creditors	70,000	45,000	25,000	–
Total current Liabilities (B)	70,000	45,000		
Net working capital (A – B)	1,60,000	2,07,000		
(CA – CL)				
Increase in working Capital	47,000	–	–	47,000
	2,07,000	2,07,000	52,000	52,000

Funds from Operations

Particulars	Amount
Retained Earnings	13,000
Funds from Operations	13,000

Funds Flow Statements

Source	Amount	Application	Amount
Funds from Operations	13,000	Purchase of land	16,000
Issue of share capital	50,000	Increase in working capital	47,000
	63,000		63,000

17. From the following Balance Sheet of a firm prepare funds flow statement.

Liabilities	31-12-1996	31-12-1997	Assets	31-12-1996	1997
Equity share capital	2,00,000	3,60,000	Buildings	1,66,200	3,39,600
Share Premium	24,000	36,000	Machinery	1,06,800	1,53,900
General Reserve	18,000	27,000	Furniture	7,200	4,500
P & L A/c	58,500	62,000	Stock	66,300	78,000
			Debtors	1,09,500	1,17,300
8% debenture		78,000			
			Bank	14,400	12,000
Provision for taxation	29,400	32,700			
Creditors	1,00,500	1,09,600			
	4,07,400	7,05,300		4,07,400	7,05,300

Adjustments :

1. Provide depreciation on Machinery 38,400 and
2. Provide depreciation on furniture 1, 2000

Sol :

Statement Showing the changes in working capital

Particulars	31-12-1996	31-12-1997	working capital Increase	Decrease
Current Assets				
Stock	66,300	78,000	11,700	–
Debtors	1,09,500	1,17,300	7,800	–
Bank	14,400	12,000	–	2,400
Total current Assets	1,90,200	2,07,300		
Current Liabilities				
Creditors	1,00,500	1,09,600	–	9,100
Provision for taxation	29,400	32,700	–	3,300
Total Current liabilities	1,29,900	1,42,300		
Net working capital	60,300	6,500	–	
(CA – CL)				
Increase in working	4,700	–	–	4700
Capital	65,000	65,000	19,500	19500

Funds from Operations

Particulars	Amount (Rs)
P & L A/c	3500
General Reserve	9000
Add : Non debts	
Depreciation of machinery (WN)	38,400
Depreciation of furniture (WN)	1,200
Less : Non each credits	–
Funds from Operations	52,100

Funds flow statement

Sources	Amount (Rs)	Applications	Amount (Rs)
Funds from operation	52,100	Purchase of machinery (W.N.I)	85,500
Sale of furniture (W.N.II)	1,500	Purchase of Building	1,73,400
Issue of equity share capital	1,20,000	Increase in working capital	4,700
Share Premium	12,000		
Issue of 8% debenture	78,000		
	2,63,000		2,63,000

Working Notes

Dr **I. Machinery A/c** Cr

Particulars	Amount (Rs)	Particulars	Amount (Rs)
To Balance b/d	1,06,000	By Depreciation	38,400
To Cash (Purchase)	85,5000	By Balance c/d	1,53,900
	1,92,300		1,92,300

Dr **II. Furniture A/c** Cr

Particulars	Amount (Rs)	Particulars	Amount (Rs)
To Balance b/d	7,200	By Depreciation	1,200
		By Cash (Sales)	1,500
		By Balance c/d	4,500
	7,200		7,200

18. The following are the balance sheet data limited company as on 31 - 3 - 1987 and 31 - 3 - 1988

Liabilities	31-3-1987	31-3-1988	Assets	31-3-1987	31-3-1988
Share capital	1,60,000	2,20,000	Building	1,40,000	2,18,000
P & L A/c	2,50,000	5,00,000	Stock	3,00,000	3,50,000
Creditors	2,30,000	1,80,000	Bank	40,000	80,000
Outstanding expenses	6,000	3,000	Preliminary expenses	14,000	12,000
Depreciation on Building	10,000	11,000	Debtors	1,62,000	2,54,000
	6,56,000	9,14,000		6,56,000	9,14,000

Addition Information

1. During the year a building which was purchased earlier for Rs. 14,000 (Depreciation written off 1000) was sold for 1200.
2. A dividend of Rs. 40,000 has been paid during the year from the above information.

a) A statement of changes in working capital

b) funds flow statement

Sol : **(Imp.)**

Working Notes

1. Building

Original cost to cost	=	14,000
(–) Depreciation	=	1000
Book value		13000
(–) Sold		1200
P & L A/c (loss)		11,800

Dr. Depreciation A/c Cr.

Particulars	Amount (Rs)	Particulars	Amount (Rs)
To Building	1,000	By Balance b/d	10,000
To Balance c/d	11,000	By P & L A/c (Bal fig)	2,000
	12,000		12,000

Dr. Building A/c Cr.

Particulars	Amount (Rs)	Particulars	Amount (Rs)
To Balance b/d	1,40,000	By Depreciation	1,000
To Cash (Purchase)	92,000	By Cash	1,200
		By P & L (loss)	11,800
		By Balance c/d	2,18,000
	2,32,000		2,32,000

Statement showing changes in working capital

Particulars	31-3-1987	31-3-1988	Increase	Decrease
Current Assets :				
Stock	3,00,000	3,50,000	50,000	–
Bank	40,000	80,000	40,000	–
Debtors	1,62,000	2,54,000	92,000	–
Total Current Assets	5,02,000	6,84,000		
Current liabilities				
Creditors	2,30,000	1,80,000	50,000	–
Outstanding expenses	6,000	3,000	3,000	–
Total current liabilities	2,36,000	1,83,000		
Working capital (CA – CL)	2,66,000	5,01,000		
Increase in working capital	2,35,000			2,35,000
	5,01,000	5,01,000	2,35,000	2,35,000

Funds from Operation

Particulars	Amount
P & L A/c	2,50,000
Add : Non cash debits	
Depreciation on buildings	2,000
Preliminary expenses written off	2,000
Dividend	40,000
Loss on sale of building	11,800
Less : Non cash credits	–
Funds From Operations (FFO)	3,05,800

Funds flow statement

Sources	Amount (Rs)	Applications	Amount (Rs)
Funds from operation	3,05,800	Purchase of Building	92,000
Issue of share capital	60,000	Payment of dividend	40,000
Sale on building	1,200	Increasing working capital	2,35,000
	3,67,000		3,67,000

19. The following particulars prepare funds flow statement and a schedule of change in working capital

Particulars	Jan 31	Dec 31
Cash	2,000	1,800
Debtors	17,500	19,200
Stock	12,500	11,000
Land	10,000	15,000
Building	25,000	27,500
Machinery	40,000	43,000
	1,07,000	1,17,500
Creditors	18,000	20,500
Bank loan (long term)	15,000	22,500
Capital	74,000	74,500
	1,07,000	1,07,000

During the year, drawings by the proprietor for personal use amounted to Rs. 13,000. Provisions for depreciation on machinery stood at Rs. 13,500 on January 1, and at Rs. 18,000 on December 31.

Sol :

Working Notes

Dr. Machinery A/c Cr.

Particulars	Amount	Particulars	Amount
To Balance b/d	53,500	By Balance c/d	61,000
To Cash (purchase)	7,500		
	61,000		61,000

Dr. Depreciation A/c Cr.

Particulars	Amount	Particulars	Amount
To Balance c/d	18,000	By Balance b/d	61,000
		By P & L A/c	4,500
	18,000		18,000

Statement showing changes in working capital

Particulars	Jan 31	Dec 31	working capital	
			Increase	Decrease in W.C
Current Assets				
Cash	2,000	1,800	–	200
Debtors	17,500	19,200	1,700	–
Stock	12,500	11,000	–	1,500
Total Current Assets	32,000	32,000		
Current liabilities				
Creditor	18,000	20,500	–	2,500
Total C.L	18,000	20,500		
Working capital (CA-CL)	14,000	11,500		
Decrease in W.C	–	2,500	2,500	–
	14,000	14,000	4,200	4,200

Funds from Operations

Particulars	Amount
Net Profit	13,500
Add : Not cash debit	
Depreciation on building	4,500
Funds from operations	18,000

Funds flow statement

Sources	Amount (Rs)	Applications	Amount (Rs)
Funds from operation	18,000	Purchase of machinery	7,500
Bank loan	7,500	Purchase of Land	5,000
Decrease in working capital	5,500	Purchase of Buildings	2,500
		Drawings	13,000
	28,000		28,000

Dr Capital A/c Cr

Particulars	Amount (Rs)	Particulars	Amount (Rs)
To Drawings	13,000	By Balance b/d	74,000
To Balance c/d	74,500	By Net profit (b/f)	15,500
	87,500		87,500

20. The following are the summarized balance sheet of X ltd on 31 - 12 - 1991 and 31-12-1992.

Liabilities	31-12-1991	31-12-1992	Assets	31-12-1991	31-12-1992
Share capital	6,00,000	8,00,000	Plant & Machinery	4,00,000	6,45,000
Debentures	2,00,000	3,00,000	Land & Building (at cost)	3,00,000	4,00,000
P & L A/c	1,25,000	2,50,000	Stock	3,00,000	3,50,000
Creditors	1,15, 000	90,000	Bank	20,000	40,000
Provision for doubtful debts	6,000	3,000	Preliminary expenses	7000	6000
Depreciation on Land and Buildings	20,000	24,000	Debtors	69,000	61,000
Plant and Machinery	30,000	35,000			
	10,96,000	15,02,000		10,96,000	15,02,000

Additional Information :

1. During the year a part of machinery costing Rs. 70,000 (accumulated depreciation on 2000) was sold for Rs. 6,000

2. Dividends of 50,000 were paid during the year you are required to ascertain changes in working capital for 1986 and prepare funds flow statement

Sol :

Working Notes :

Particulars		Amount
Machinery (o.u)	=	70,000
(–) Depreciation	=	2,000
Book value		68,000
(–) sale value	=	6,000
P & L (Loss)		62,000

Dr **Plant & Machinery A/c** **Cr**

Particulars	Amount	Particular	Amount
To Balance b/d	4,00,000	By depreciation	2,000
To cash (b/f) (purchase)	3,15,000	By cash A/c (sale)	6,000
		By P & L (Loss)	62,000
		By balance c/d	6,45,000
	7,15,000		7,15,000

Dr **Depreciation A/c** **Cr**

Particulars	Amount	Particular	Amount
To Machinery A/c	2,000	By balance b/d	30,000
To balance c/d	35,000	By P & L A/c (b/f)	7,000
	37,000		37,000

Statement of changes in working capital

Particulars	1991	1992	working capital Increase	Decrease
Current Assets :				
Stock	3,00,000	3,50,000	50,000	–
Bank	20,000	40,000	20,000	–
Debtors	69,000	61,000	–	8,000
Total current Assets	3,89,000	4,51,000		
Current Liabilities				
Creditors	1,15,000	90,000	2,50,000	–
Provision for doubtful debts	6,000	3,000	3,000	–
Total current liabilities	1,21,000	93,000		
Net working capital (CA – CL)	2,68,000	3,58,000		
Net Increase in working capital	90,000			90,000
	3,58,000	3,58,000	98,000	98,000

Funds from Operation

Particulars	Amount
P & L A/c	1,25,000
Add : Non cach debits	
preliminary expenses	1,000
Dividend paid	50,000
Loss on sale of Machinery	62,000
Dep on Machinery	7,000
Dep on Land Buildings	4,000
Less : Non cash credits	–
Funds from operations	2,49,000

Funds flow statement

Sources	Amount	Applications	Amount
Funds from operation	2,49,000	Purchase of P& M	3,15,000
Issue of share capital	2,00,000	Dividend paid	50,000
Debentures	1,00,000	Purchase of Land and Building	1,00,000
Sale of Machinery	6,000	Increase in working capital	90,000
	5,55,000		5,55,000

21. The balance sheet of M/s Book and white as on 31-12-1991 & 31-12-1992 at were as follows :

Liabilities	1991	1992	Assets	1991	1992
Creditors	40,000	44,000	Cash	10,000	7,000
Mr whites loan	25,000	–	Debtors	30,000	50,000
Loan from bank	40,000	50,000	Stock	35,000	25,000
Capital	1,25,000	1,53,000	Machinery	80,000	55,000
			Land	40,000	50,000
			Building	35,000	60,000
	2,30,000	2,47,000		2,30,000	2,47,000

Additional Information :

During the year machine costing Rs 10,000 (accumulated depreciation Rs. 3000) was sold for Rs. 5000. The provision for depreciation against Machinery as on 31-12-1991 was Rs.25,000 and on 31-12-1992 Rs.40,000 Net profit for the year 1992 amounted to Rs 45,000.

You are required to prepare

a) Schedule of changes in working capital

b) Funds flow statement

Sol :

Statement of changes in working capital working capital

Particulars	1991	1992	working capital Increase	working capital Decrease
Current Assets :				
Cash	10,000	7,000	–	3,000
Debtors	30,000	50,000	20,000	–
Stock	35,000	25,000		10,000
Total Current Assets	75,000	82,000		

Current Liabilities				
Creditors	40,000	44,000	–	4,000
Total Current Liabilities	40,000	44,000		
Net Working capital (CA - CL)	35,000	38,000		
Net increase in W.C	3,000	–	–	3000
	38,000	38,000	20,000	20,000

Working Notes :

Machinery	10,000
(–) Depreciation	3,000
Book value	7,000
(–) Sale value	5,000
P & L A/c (loss)	2,000

Dr. **Depreciation a/c** **Cr.**

Particulars	Amount	Particulars	Amount
To Machinery	3,000	By Balance b/d	25,000
To Balance c/d	40,000	By P & L A/s	18,000
	43,000		43,000

Dr. **Machinery a/c** **Cr.**

Particulars	Amount	Particulars	Amount
To balance b/d (80,000 + 25,000)	1,05,000	By Depreciation	3,000
		By Cash (Sale)	5,000
		By P & L A/c (loss)	2,000
		By Balance c/d (55,000 + 40,000)	95,000
	1,05,000		1,05,000

Funds from Operations

Particulars	Amount
P & L A/c	45,000
Add : Non cash debits	
Depreciation of machinery	18,000
Loss on sale	2,000
Funds from operation	65,000

Funds flow statement

Sources	Amount	Applications	Amount
Funds from operation	65,000	Net Increase in W.C	3,000
Sale of machinery	5,000	Mr. whites loan (Repayment of loan)	25,000
Issue of loan (50,000–40,000)	10,000	Drawing (W.N)	17,000
		Purchase of land (50,000–40,000)	10,000
		Purchase of building	
		(60,000–35,000)	25,000
	80,000		80,000

Working Notes

Dr. **Depreciation** **Cr.**

Particulars	Amount	Particulars	Amount
To Drawing (b/f)	17,000	By Balance b/d	1,25,000
To Balance c/d	1,53,000	By Net profits P & L A/c	45,000
	1,70,000		1,70,000

22. From the following two Balance Sheets as on 31st March 2013, and 2014, prepare statement showing flow of funds.

Particulars	31.3.2013 (Rs.)	31.3.2014 (Rs.)
Assets :		
Cash	30,000	47,000
Debtors	1,20,000	1,15,000
Stock in-trade	80,000	90,000
Plant	50,000	66,000
	2,80,000	3,18,000
Capital & Liabilities :		
Share Capital	2,00,000	2,50,000
Trade Creditors	70,000	45,000
Retained Earnings	10,000	23,000
	2,80,000	3,18,000

Additional Information :

(i) Net profit for the year was Rs. 25,000 was credited to share capital account.

(ii) The provision for depreciation against plant as on 31.3.2013 was Rs. 10,000/- and on 31.3.2014 was Rs. 12,000/-

Sol :

Statement of Changes in Working Capital

Particulars	2013 (`)	2014 (`)	Working Capital Increase	Working Capital Decrease
Current Assets:				
Cash	30,000	47,000	17,000	–
Debtors	1,20,000	1,15,000	–	5,000
Stock	80,000	90,000	10,000	–
Total current assets	2,30,000	2,52,000		
Current Liabilities				
Trade creditors	70,000	45,000	25,000	
Total current liabilities	70,000	45,000		
Working capital				
(Current assets – Current labilities)	1,60,000	2,07,000		
Increase in working capital	47,000	–	–	47,000
	2,07,000	2,07,000	52,000	52,000

Funds from operations

Particulars	`
Retained earnings	13000
(+) Depreciation	2000
	15000

Funds Flow Statement

Sources	`	Applications	`
Issue of shares	50,000	Purchase of Machinery	18,000
Funds from operations (FFO)	15,000	Increase in working capital	47,000
	65,000		65,000

23. From the following balance sheets and additional information prepare funds flow statement.

Liabilities	2017(Rs.)	2018(Rs.)	Assets	2017(Rs.)	2018(Rs.)
Equity share capital	3,00,000	4,00,000	Goodwill	1,00,000	85,000
2% redeemable debentures	1,50,000	1,00,000	Plant	1,25,000	1,40,000
General reserves	40,000	50,000	Buildings	2,24,000	2,06,000
P&L a/c	30,000	48,000	L.T Investments	25,000	35,000
Sundry creditors	24,000	30,000	Stock	40,000	65,000
Outstanding	5,000	3,000	Sundry debtors	20,000	30,000
			Preliminary Expenses	5,000	3,000
			Cash	10,000	67,000
	5,49,000	6,31,000		5,49,000	6,31,000

During the year 2018 depreciation of 12,500 and 18,000 were provided on plant and building respectively. **(May - 2019)**

Sol :

Working Notes

Dr. Plant A/c Cr.

Particulars	Amount	Particulars	Amount
To balance b/d	1,25,000	By Depreciation	12,500
To Cash (balance fig)	27,500	By Balance c/d	1,40,000
	1,52,500		1,52,500

Dr. Building A/c Cr.

Particulars	Amount	Particulars	Amount
To balance b/d	2,24,000	By Depreciation	18,000
		By Balance c/d	2,06,000
	2,24,500		2,24,500

Statement showing changes in working capital

Particulars	2017	2018	Working Capital Increase	Working Capital Decrease
Current Assets				
Stock	40,000	65,000	25,000	–
Sundry debitors	20,000	30,000	10,000	–
Cash	10,000	67,000	57,000	–
Total Current Assets (A)	70,000	1,62,000		
Current Liabilities				
Sundry creditors	24,000	30,000	–	6,000
Outstanding expenses	5,000	3,000	2,000	–
Total current liabilities (B)	29,000	33,000		
Net working capital (A – B)	41,000	1,29,000		
Increase in working capital	88,000	–	–	88,000
	1,29,000	1,29,000	94,000	94,000

Statement showing funds from operations

Particulars	Amounts
P & L A/c	18,000
General Reserve	10,000
Add : Non-Cash debtors	28,000
Goodwill written off	15,000
Depreciation on plant	12,500
Depreciation on building	18,000
Preliminary expenses writtent off	2,000
Funds from operations	75,500

Funds flow statement

Sources	Amount	Applications	Amount
Funds from operations	75,500	Increase in working capital	88,000
Issue of shares	1,00,000	Redemption of debentures	50,000
		Purchase of plant	27,500
		Long term investment	10,000
	1,75,500		1,75,500

1.5 Cash Flow Analysis

1.5.1 Meaning

Q23. What do you understand by cash flow?

Ans :

Cash Flow Statement is a statement which describes the inflows (sources) and outflows (uses) of cash and cash equivalents in an enterprise during a specified period of time. Such a statement enumerates net effects of various business transactions on cash and its equivalents and takes into account receipts and disbursements of cash. A cash flow statement summarizes the causes of changes in cash position of a business enterprise between dates of two balance sheets. According to Ind AS-7 (Existing AS-3), an enterprise should prepare a cash flow Statement and should present it for each period for which financial elements are prepared. The terms cash, cash equivalents and cash flows are used in this statement with the following meanings:

1. **Cash** comprises cash on hand and demand deposits with banks.

2. **Cash** equivalents are short term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Cash equivalents are held for the purpose of meeting short-term cash commitments rather than for investment or other purposes. For an investment to qualify as a cash equivalent, it must be readily convertible to a known amount of cash and be subject to an insignificant risk of change in value. Therefore, an investment normally qualifies as a cash equivalent only when it has a short- maturity, of say, three months or less from the date of acquisition. Investments in shares are excluded from cash equivalents unless they are, in substance, cash equivalents: for example, preference shares of a company acquired shortly before their specified redemption date (provided there is only an insignificant risk of failure of the company to repay the amount at maturity).

Ind AS-7 has further provided that bank borrowings are generally considered to be financing activities. However, where bank overdrafts which are repayable on demand form an integral part of an entity's cash management, bank overdrafts are included as a component of cash and cash equivalents.

3. **Cash flows** are inflows and outflows of cash and cash equivalents. Flow of cash is said to have taken place when any transaction makes changes in the amount of cash and cash equivalents available before happening of the transaction. If the effect of transaction results in the increase of cash and its equivalents, it is called an inflow (source) and if it results in the decrease of total cash, it is known as outflow (use) of cash.

Q24. Explain the objective of cash flow statement

Ans : **(Imp.)**

The objectives of cash flow statement are :

(i) To provide the users of financial statements with a basis to assess the ability of the enterprise to generate cash and cash equivalents.

(ii) To ascertain the inflows of cash and cash equivalents classified under operating, investing and financing activities.

(iii) To ascertain the outflows of cash and cash equivalents.

(iv) To ascertain the net increase or decrease in cash and cash equivalents between the dates of two balance sheets.

Q25. Explain the Limitations of cash flow statement.

Ans : **(Imp.)**

Despite a number of uses, cash flow statements suffers from the following limitations :

(i) As cash flow statement is based on cash basis of accounting, it ignores the basic accounting concept of accrual basis.

(ii) Some people feel that as working capital is a wider concept of funds, a funds flow statement provides a more complete picture than cash flow statement.

(iii) Cash flow statement is not suitable for judging the profitability of a firm as non-cash charges are ignored while calculating cash flows from operating activities.

(iv) A cash flow statement is not a substitute of an income statement, it is complementary to an income statement. Net cash flow does not mean the net income of a firm.

(v) A cash flow statement is also not a substitute of funds flow statement which provides information relating to the causes that lead to increase (or) decrease in working capital.

(vi) A comparative study of cash flow statements may give misleading results.

1.5.2 Preparation of Cash Flow Statement as per Ind AS-7

Q26. Explain the classification of cash flows statement.

Ans : **(Imp.)**

According to Ind AS-7 (Existing AS-3), the cash flow statement should report cash flows during the period classified by operating, investing and financing activities.

Thus, cash flows are classified into three main categories :

1. Cash flows from operating activities.
2. Cash flows from investing activities.
3. Cash flows from financing activities.

1. Cash Flows from Operating Activities

Operating activities are the principal revenue-producing activities of the enterprise and other activities that are not investing or financing activities.

The amount of cash flows arising from operating activities is a key indicator of the extent to which the operations of the enterprise have generated sufficient cash flows to maintain the operating capability of the enterprise, pay dividends, repay loans, and make new investments without recourse to external sources of financing. Information about the specific components of historical operating cash flows is useful, in conjunction with other information, in forecasting future operating cash flows.

Cash flows from operating activities are primarily derived from the principal revenue-producing activities of the enterprise. Therefore, they generally result from the transactions and other events that enter into the determination of net profit or loss.

Examples of cash flows from operating activities (for non-financial companies) are:

(a) cash receipts from the sale of goods and the rendering of services;

(b) cash receipts from royalties, fees, commissions, and other revenue;

(c) cash payments to suppliers of goods and services;

(d) cash payments to and on behalf of employees;

(e) cash receipts and cash payments of an insurance enterprise for premiums and claims, annuities and other policy benefits;

(f) cash payments or refunds of income taxes unless they can be specifically identified with financing and investing activities ; and

(g) cash receipts and payments relating to futures contracts, forward contracts, option contracts, and swap contracts when the contracts are held for dealing or trading purposes.

Some transactions, such as the sale of an item of plant, may give rise to a gain or loss which is included in the determination of net profit or loss. However, the cash flows relating to such transactions are cash flows from investing activities.

Examples of cash flows from operating activities (for financial companies) are :

(i) Receipts from interest and commission;

(ii) Receipts from recoveries of loans previously written off.

(iii) Receipts from sale of securities.

(iv) Dividend received on securities.

(v) Payment of interest on loans and deposits.

(vi) Payments to employees.

(vii) Payments for purchase of securities.

Cash payments or refunds of income taxes unless they can be specifically identified with financing and investing activities.

2. Cash Flows From Investing Activities

Investing activities are the acquisition and disposal of long-term assets and other investments not included in cash equivalents. The separate disclosure of cash flows arising from investing activities is important because the cash flows represent the extent to which expenditures have been made for resources intended to generate future income and cash flow.

Examples of cash flows arising from investing activities are :

(a) cash payments to acquire fixed assets (including intangibles). These payments include those relating to capitalised research & development costs and self constructed fixed assets;

(b) cash receipts from disposal of fixed assets (including intangibles);

(c) cash payments to acquire shares, warrants, or debt instruments of other enterprises and interests in joint ventures (other than payments for those instruments considered to be cash equivalents and those held for dealing or trading purposes);

(d) cash receipts from disposal of shares, warrants, or debt instruments of other enterprises and interests in joint venture (other than receipts from those instruments considered to be cash equivalents and those held for dealing or trading purposes);

(e) cash advances and loans made to third parties (other than advances and loans made by a financial enterprise);

(f) cash receipts from the repayment of advances and loans made to third parties (other than advances and loans of a financial enterprise);

(g) cash payments for futures contracts, forward contracts, option contracts, and swap contracts except when the contracts are held for dealing or trading purposes, or the payments are classified as financing activities; and

(h) cash receipts from futures contracts, forward contracts, option contracts, and swap contracts except when the contracts are held for dealing or trading purposes, or the receipts are classified as financing activities.

3. Cash Flows From Financing Activities

Financing activities are activities that result in changes in -the size and composition of the owners' capital (including preference share capital in the case of a company) and borrowings of the enterprise.

The separate disclosure of cash flows arising from financing activities is important because it is useful in predicting claims on future cash flows by providers of funds (both capital and borrowings) to the enterprise.

Examples of cash flows arising from financing activities are :

(a) cash proceeds from issuing shares or other similar instruments :

(b) cash proceeds from issuing debentures, loans, notes, bonds, and other short-or long -term borrowings; and

(c) cash repayments of amounts borrowed such as redemption of debentures bonds, preference shares.

Q27. Explain the format of Cash Flow Statement.

Ans :

Format of Cash Flow Statement (Indirect Method):

Cash Flow Statement (for the year ended ....)

Particulars	`	`
A. Cash Flows from Operating Activities		
Net Profit Before Tax and Extraordinary Items (As per Working Note 1)		
Adjustments for Non-Cash and Non-Operating Items		......
Add : Items to be added such as :		
Depreciation		
Interest on Debentures, Loans and Borrowings	......	
Loss on Sale of Fixed Assets	......	
Loss on Sale of Investments	......	
Provision for Doubtful Debts	......	
Provision for Discount on Debtors	......	
Preliminary Expenses Written Off Amortisation of Assets	......	
Intangible Assets such as Goodwill, Patents, Trade Marks etc. written off	......	
Less : Items to be deducted such as :		......
Interest Income	......	
Dividend Income	......	
Rental Income	......	
Gain/Profit on Sale of Fixed Assets	......	
Gain/Profit on Sale of Investments	......	
Appreciation of Fixed Assets	......	(......)
Operating Profit Before Working Capital Changes		
Adjustment for Changes in Working Capital:		......
Add: Decrease in Current Assets (except cash and cash equivalents) such as:		
Decrease in Inventories/Stock	......	
Decrease in Trade Receivables (Debtors and Bills Receivables)	......	
Decrease in Prepaid Expenses	......	
Decrease in Accrued Income	......	
Add : Increase in Current Liabilities, such as :		
Increase in Trade Payables (Creditors and Bills Payables)	......	
Increase in Outstanding Expenses	......	

Increase in Income Received in Advance	......	
		......
Less : Increase in Current Assets (As stated above)	......	
Less : Decrease in Current Liabilities (As stated above)	......	
	......	(......)
Cash Generated from Operations		......
Less : Income Tax Paid (Net of Tax Refund Received)		(......)
Cash Flow Before Extraordinary Items)		......
Add/Less: Extraordinary Items		......
Net Cash Flow From (Or Used In) Operating Activities		
B. **Cash Flows From Investing Activities**		
Proceeds from Sale of Fixed (Tangible) Assets	......	
Proceeds from Sale of Fixed (Intangible) Assets such as Goodwill, Patents etc.	......	
Proceeds from Sale of Non-Current Investments	......	
Interest Received	......	
Dividend Received	......	
Rent Received	......	
Purchase of Fixed (Tangible) Assets	(......)	
Purchase of Fixed (Intangible) Assets like Goodwill	(......)	
Purchase of Non-Current Investments	(......)	
Net Cash Flow From (or used in) Investing Activities		......
C. **Cash Flows Financing Activities**		
Proceed from Issue of Shares and Debentures	......	
Proceeds from Other Long-term Borrowings and Loans	......	
Raising of Bank Overdraft and Cash Credit	......	
Repayment of Loans and Other Long-term Borrowings	(......)	
Payment of Dividend (Final and Interim Dividend)	(......)	
Interest on Debentures and Loans	(......)	
Redemption of Preference Shares and Debentures	(......)	
Payment on Buy-back of shares	(......)	
Net Cash Flow (Or Used in) Financing Activities		......
Net Increase (Or Decrease) in Cash and Cash Equivalents		......
Add : Cash and Cash Equivalents in the beginning of the year		......
Cash and Cash Equivalents at the end of the year		......

PROBLEMS

24. The Balance Sheets of M/s A and B on 31-3-2015 and 31.3.2016 were as follows:

Liabilities	31.3.2015	31.3.2016	Assets	31.3.2015	31.3.2016
Creditors	1,20,000	1,32,000	Cash	30,000	21,000
Mrs A's Loan	75,000	–	Debtors	90,000	1,50,000
Loan from Bank	1,20,000	1,50,000	Stock	1,05,000	75,000
Capital	3,75,000	4,59,000	Machinery	2,40,000	1,65,000
			Land	1,20,000	1,50,000
			Building	1.05.000	1,80,000
	6,90,000	7,41.000		6,90,000	7,41,000

During the year a machine costing ` 30,000 (accumulated depreciation ` 9,000) was sold for ` 15,000. The provision for depreciation against machinery as on 31.3.2015 was ` 75,000 and on 31.3.2016 ` 1,20,000. Net profit for the year ended 31.3.2016 amounted to ` 1,35,000.

Prepare Cash Flow Statement.

Sol : **(Imp.)**

Cash Flow Statement

(for the year ended 31.3.2016)

Particulars	`	`
Cash Flows From Operating activities		
Net profit for the year	1,35,000	
Adjustments for non-cash and non-operating items :		
Loss on sale of machinery	6,000	
Depreciation provided during the year	54,000	
Operating profit before working capital changes	1,95,000	
Adjustments for changes in current operating assets and liabilities :		
Increase in debtors	(60,000)	
Decrease in stock	30,000	
Increase in creditors	12,000	
Cash generated from operations	1,77,000	
Less : Income tax paid	Nil	
Net Cash from operating activities		1,77,000
Cash Flows From Investing Activities		
Sale of machinery	15,000	
Purchase of land	(30,000)	
Purchase of building	(75,000)	
Net cash used in investing activities		(90,000)

Cash Flows From Financing activities		
Repayment of Mrs. A's Loan	(75,000)	
Loan from bank	30,000	
Drawings from capital (see capital account)	(51,000)	
Net cash used in financing activities		(96,000)
Net Decrease in cash and cash equivalents		(9,000)
Cash and cash equivalents at the beginning of the period		30,000
Cash and cash equivalents at the end of the period		21,000

Workings:

Dr Provision for Depreciation A/c Cr

Particulars	`	Particulars	`
To Depreciation on machinery sold	9,000	By Balance b/d	75,000
To Balance c/d	1,20,000	By Profit and Loss A/c (Depreciation provided during the year)	54,000
	1,29,000		1,29,000

Dr Machinery A/c (At Cost) Cr

Particularsculars	`	PParticulars	`
To Balance b/d (2,40,000 + 75,000)	3,15,000	By Provision for Depreciation (Dep. on machinery sold)	9,000
		By Cash (sale)	15,000
		By Loss on sale	6,000
		By Balance c/d (1,65,000 + 1,20,000)	2,85,000
	3,15,000		3,15,000

Dr Capital A/c Cr

Particulars	`	Particulars	`
To Drawing (balancing figure)	51,000	By Balance b/d	3,75,000
To Balance c/d	4,59,000	By Net Profit (given)	1,35,000
	5,10,000		5,10,000

25. Following are the summarized balance sheets of ESS GEE Ltd. as on March 31, 2010 and 2011.

Liabilities	**2010** `	**2011** `	**Assets**	**2010** `	**2011** `
Share Capital	1,00,000	1,30,000	Land & Building	1,00,000	95,000
General Reserve	25,000	30,000	Machinery	75,000	84,500
Profit and Loss A/c	15,200	15,400	Stock	50,000	37,000
Bank Loan (Long-term)	35,000	–	Sundry Debtors	40,000	32,100
Sundry Creditors	75,000	67,500	Cash	200	300
Provision for Tax	15,000	17,500	Bank	–	4,000
			Goodwill		7.500
	2,65,200	2,60,400		2,65,200	2,60,400

Additional Information :

(i) Dividend of ` 11,500 was paid.

(ii) Assets of another company were purchased for a consideration of ` 30,000 payable in shares. The following assets were purchased : Stock ` 10,000 ; machinery ` 12,500

(iii) Machinery was further purchased for ` 4,000.

(iv) Depreciation written off machinery ` 6,000.

(v) Income tax provided during the year ` 16,500.

(vi) Loss on sale of machine ` 100 was written off to General Reserve.

You are required to prepare a cash flow statement for the year ended 31st March 2011.

Sol :

Cash Flow Statement (for the year ended 31st March, 2011)

Particulars	`	`
Cash Flows From Operating Activities		
Increase in the balance of Profit and Loss A/c (Net Profit Before Tax)	200	
Adjustments for non-cash and operating items :		
Dividend paid	11,500	
Depreciation on land and buildings	5,000	
Depreciation of machinery	6,000	
Provision for tax	16,500	
Transfer to general reserve (5000 + 100)	5,100	

Purchase of stock against issue of shares (being non-cash)	10,000	
Operating profit before working capital changes	54,300	
Adjustments for changes in current operating assets and liabilities :		
Decrease in stock	13,000	
Decrease in debtors	7,900	
Decrease in sundry creditors	(7,500)	
Cash generated from operations	67,700	
Less : Income tax paid	14,000	
Net cash from operating activities		53,700
Cash Flows From Investing Activities		
Purchase of machinery (other than for issue of shares)	(4,000)	
Sale of machinery	900	
Net cash used in investing activities		(3,100)
Cash Flows From Financing Activities		
Payment of bank loans	(35,000)	
Dividend paid	(11,500)	
Net cash used in financing activities		(46,500)
Net increase in cash and cash equivalents		4100
Cash and cash equivalents at the beginning of the year		200
Cash and cash equivalents at the end of the year		4,300

Significant Non-Cash were purchased for ` 30,000 payable in shares. These assets included machinery ` 12,500, stock ` 10,000 and goodwill ` 7,500.

Working Notes :

Dr **Share Capital Account** **Cr**

Particulars	Amount	Particulars	Amount
		By Balance b/d	1,00,000
		By Machinery	
		Purchased	12,500
		By Stock	10,000
To Balance c/d	1,30,000	Bv Goodwill (balancing assets)	7,500
	1,30,000		1,30,000

Dr. **Machinery Account** Cr.

Particulars	Amount	Particulars	Amount
To Balance b/d	75,000	By Depreciation	6,000
To Share Capital	12,500	By General Reserve (Loss on sale)	100
To Cash-purchased	4,000	By Cash-sale (balancing figure)	900
		By Balance c/d	84,500
	91,500		91,500

Dr. **Land And Building Account** Cr.

Particulars	Amount	Particulars	Amount
To Balance b/d	1,00,000	By Depreciation	
		(balancing figure)	5,000
		By Balance c/d	95,000
	1,00,000		1,00,000

Dr. **Provision For Tax Account** Cr.

Particulars	Amount	Particulars	Amount
To Income-Tax paid	14,000	By Balance b/d	15,000
(Balance figure)		By P/L A/c	16,500
To Balance c/d	17,500	(Provision created)	
	31,500		31,500

Dr. **General Reserve Account** Cr.

Particulars	Amount	Particulars	Amount
Machinery Account	100	By Balance b/d	25,000
(Loss on sale)		By P/L A/c	
To Balance c/d	30,000	(balancing figure)	5,100
	30,100		30,100

Dr. **Goodwill Account** Cr.

Particulars	Amount	Particulars	Amount
To Balance b/d			–
To Share Capital	7,500	Bv Balance c/d	7,500
	7,500		7,500

26. From the following information prepare cash flow statement

Liabilities	1992	1993	Assets	1992	1993
Capital	3,00,00	3,50,000	Land and Building	2,20,000	3,00,000
Bank overdraft	3,20,000	2,00,000	Machinery	4,00,000	2,80,000
Bills payable	1,00,000	80,000	Stock	1,00,000	90,000
Creditors	1,80,000	2,50,000	Debtors	1,40,000	1,60,000
			Cash	40,000	50,000
	9,00,000	8,80,000		9,00,000	8,80,000

Adjustments :

(i) Net profit during the year 1993 amounted to 1,20,000

(ii) During the year a machine costing Rs. 50,000 accummulated depreciation Rs. 20,000 was sold for 26,000. The provision for depreciation against machinery as on 31-12-1992 was 1,00,000 and 31-12-1993) 1,70,000.

Sol :

Working Notes :

Machinery (o.c)	=	50,000
(–) Depreciation	=	20,000
Boot value		30,000
(–) Sales values (sold)	=	26,000
P & L A/c (loss)		4,000

Dr. Depreciation A/c Cr.

Particulars	Amount	Particulars	Amount
To Machinery A/c	20,000	By Balance b/d	1,00,000
To Balance c/d	1,70,000	By P & L A/c (b/f)	90,000
	1,90,000		1,90,000

Dr. Machinery A/c Cr.

Particulars	Amount	Particulars	Amount
To Balance b/d	5,00,000	By Depreciation	20,000
(4,00,000 + 1,00,000)		By P & L A/c (loss)	4,000
		By Cash (sale)	26,000
		By Balance c/d	4,50,000
		(2,80,00 + 1,70,000)	
	5,00,000		5,00,000

Dr. Capital A/c Cr.

Particulars	Amount	Particulars	Amount
Drawing (b/f)	70,000	By Balance b/d	3,00,000
To balance c/d	3,50,000	By Net profit	1,20,000
	4,20,000		4,20,000

Cash flow statement for the year ended 1993

Particulars	Amount	Amount
Net profit	1,20,000	
Add : Non-cash debits		
Depreciation on machinery	90,000	
loss on sale of machinery	4,000	
		2,14,000
Add : Increase in CL and decrease in C.A		
Increase in creditor	70,000	
Increase in stock	10,000	
	80,000	
Less : Decrease in CL and Increase **in C.**A		
Decrease in bills payable	20,000	
Increase in Debtors	20,000	40,000
		2,54,000
Cash flows from investing activities		
Sale of machinery	26,000	
Purchase of land and buildings	(80,000)	
Net cash last from financing activities		(54,000)
Cash from financing activities		
Drawings		(70,000)
Cash from financing activities		
Net increase in cash		1,30,000
Add : Opening cash and cash equivalent (4,000 – 32,000)		(28,000)
Closing balance of cash (50,000 – 2,00,000)		1,50,000

27. From the following balance sheet of a company prepare cash flow statement.

Liabilities	1992	1993	Assets	1992	1993
Share capital	2,00,000	2,00,000	Land	10,000	10,000
P & L A/c	23,500	52,000	Building	75,000	90,000
Provision for bad debts	2,000	3,000	Machinery	25,000	40,000
			Investment	50,000	30,000
Acummulated					
depreciation on			Stock	32,000	40,000
Machinery	3,000	7,500	Debtors	80,000	90,000
Buildings	12,000	18,000	Prepaid expenses	2,000	3,000
Debentures outstanding	40,000	35,000	Cash	43,000	57,000
Expenses	3,500	4,500			
Creditors	33,000	40,000			
	3,17,000	3,60,000		3,17,000	3,60,000

1. Dividend paid during the year 1993 was Rs. 26,500
2. Investment costing Rs. 20,000 was sold in 1993 was 25,000.
3. Machinery costing 5,000 on which 1,000 of depreciation has been accumulated was sold for 6,000 in the year 1993.
4. The provision for doubtful was Rs. 1500

Sol :

Working Notes

Machinery o.c	5,000
(–) Depreciation	1,000
Book value	4,000
Sales value	6,000
Profit	2,000

Dr Machinery A/c Cr

Particulars	Amount	Particulars	Amount
To Balance b/d	25,000	By Depreciation	1,000
To Profit & loss A/c (profit)	2,000	By Cash (sales)	6,000
To Cash (purchase)	20,000	By Balance c/d	40,000
	47,000		47,000

Dr. Investment A/c Cr.

Particulars	Amount	Particulars	Amount
To Balance b/d	50,000	By Balance c/d	30,000
To P & L A/c (profit)	5,000	By Bank (sales)	25,000
	55,000		55,000

Dr. Depreciation on Machinery A/c Cr.

Particulars	Amount	Particulars	Amount
To Balance c/d	7,500	By Balance b/d	3,000
To Machinery	1,000	By P & L A/c (balance fig)	5,500
	8,500		8,500

Dr. Provision for doubtful debtors A/c Cr.

Particulars	Amount	Particulars	Amount
To Balance c/d	3,000	By Balance b/d	2,000
To P & L (balance fig)	500	By P & L A/c	500
	3,500		3,500

Cash flow statement for the year ended 1993

Particulars	Amount	Amount
Profit and loss A/c	28,500	
Add : Non cash debits		
Dividends	26,500	
Depreciation machinery (1,000 + 4,500)	5,500	
Doubtful debits	1,000	
Depreciation on buildings	6,000	
	67,500	
Less : Non cash credits		
Profit on Investment	(5,000)	
Profit on machinery	(2,000)	
Opening profit before working capital changes	60,500	
Add : Decreases in C.A and increases in C.L		
Increase in Creditors	7,000	
Increase in Outstanding expenses	1,000	
	68,500	

Less : Increase in C.A and decrease in C.L		
Increase in Stock	8,000	
Increase in Debtors	10,000	
Increase in prepared expenses	1,000	
Cash from operating activities		
		49,500
Cash from investing activities		
Purchase of building	(15,000)	
Sale of machinery Depreciation	6,000	
Purchase of machinery (15000 + 5000)	(20,000)	
Sale of investment	25,000	
Net cash used in investing activities		(4,000)
Cash from financing activities		45,500
Redemption of debetures	(5,000)	
Dividend paid	(26,500)	
Net cash used in financing activities		(31,500)
Net increase in cash		14,000
Add : Opening balance of cash & cash equivalent		43,000
Closing balance of cash		57,000

28. From the following information. Prepare a cash flow statements.

Liabilities	1992	1993	Assets	1992	1993
Share capital	5,00,000	6,00,000	Fixed Assets	6,00,000	4,00,000
General reserve	20,000	40,000	Stock	2,00,000	1,20,000
P & L A/c	50,000	52,000	Debtors	30,000	1,40,000
16% Debentures	2,30,500	1,20,000	Cash	55,000	38,000
			Investment	-	2,00,000
Loans form SBI	50,000	30,000			
			Goodwill	87,000	74,000
Creditors	71,500	80,000			
Provision fortax	50,000	50,000			
	9,72,000	9,72,000		9,72,000	9,72,000

Additional Information :

1. During 1993 the company paid a dividend of Rs. 50,000 Addition share worth Rs. 1,00,000 have been issued during 1993 the company paid income tax of 45,000

Sol :

Dr. Provision for taxation Cr.

Particulars	Amount (Rs)	Particulars	Amount (Rs)
To Cash A/c (Taxpaid)	45,000	By Balance b/d	50,000
To Balance c/d	50,000	By Profit and loss	45,000
	95,000		95,000

Cash flow Statement for the year ended 1993

Particulars	Amount	Amount
P & L A/c	2,000	
Add : Non Cash Debitors		
1) General Reserve	20,000	
2) Good will written off	13,000	
3) Dividend	50,000	
4) Tax provision	45,000	
	1,30,000	
Add : Increase in C.A and in C.L decrease		
Increase in Creditors	8,500	
Increase in Stock	80,000	
Less : decrease in C.L and in C.A.	2,18,500	
Increase in Debtors		
	(1,10,000)	
		1,08,500
Net cash from from operating activities	45,000	63,500
Cash from Investing activities		
Sale of fixed assets		
Purchase of Investments	2,00,000	
	(2,00,000)	NiL
Cash from financial activities		
Issue of share capital	1,00,000	
loan paid	(20,000)	
Income tax paid	(45,000)	
Dividend paid	50,000	
Increase in Debentures	(1,10,500)	
Cash out flow from financing activities		(1,25,000)
Net cash generated / lost		(17,800)
(+) Opening Balance of cash		55,000
Closing Balance of Cash		38,000

29. From the following balance sheet as on 31-12-1980 and 31-12-1981 you are required to prepare Cash Flow Statement.

Liabilities	1980	1981	Assets	1980	1981
Share capital	2,00,000	3,00,000	F.A	2,00,000	3,00,000
General Reserve	60,000	80,000	Goodwill	1,00,000	80,000
P & L A/c	1,00,000	1,60,000	Stock	1,00,000	1,60,000
6% debentures	1,00,000	1,20,000	Debtors	1,00,000	1,60,000
Creditors	60,000	80,000	Bills receivable	20,000	40,000
O/s expenses	20,000	30,000	Bank	20,000	30,000
	5,40,000	7,70,000		5,40,000	7,70,000

Sol :

Cash Flow Statement for the year ended

Particulars	Amount	Amount
P & L A/c	60,000	
Add : Non Cash debits		
Goodwill written off	20,000	
General Reserve	20,000	
	1,00,000	
Less : Non Cash Credit		
Operating profit before w.c. changes	–	
	1,00,000	
Add : ↑ in Liabilities and ↓ in current Assets		
↑ in creditors	20,000	
↑ in O/S expenses	10,000	
Less : ↓ in C.L and ↑ C.A	1,30,000	
↑ in stock	60,000	
↑ in Bills Receivable	20,000	
↑ in Debtors	60,000	
Cash loss from operating activities	1,40,000	(10,000)
Cash from Investing Activities		
Purchase of F . A	(1,00,000)	(1,00,000)
Cash from financing activities		
Issue of share capital	1,00,000	
Issue of debentures	20,000	1,20,000
Net increase in cash		10,000
Add :Opening cash & cash equivalent		20,000
Closing Balance cash		30,000

30. The following are summarized balance sheet as on 31-3-79 & 31-3-80.

Liabilities	1979	1980	Assets	1979	1980
Share capital	1,00,000	1,50,000	F.A	1,00,000	1,50,000
P & L A/c	50,000	80,000	Goodwill	50,000	40,000
General reserve	30,000	40,000	Inventories	50,000	80,000
6% bonds	50,000	60,000	Debtors	50,000	80,000
Creditors	30,000	40,000	Bills receivable	10,000	20,000
o/s expenses	10,000	15,000	Bank	10,000	15,000
	2,70,000	3,85,000		2,70,000	3,85,000

Sol :

Cash flow Statement for the year ended

Particulars	Amount	Amount
P & L A/c	30,000	
Add :Non cash debits		
General Reserve	10,000	
Goodwill written off	10,000	
	50,000	
Less : Non cash credits	–	
Operating profit before w.c. changes	50,000	
Add : ↑ in Liabilities and ↓ in Assets		
↑ in creditors	10,000	
↑ in o/s expenses	5,000	
	65,000	
Less : ↓ in Liabilities and ↑ in Assets		
↑ in inventories	30,000	
↑ in Debtors	30,000	
↑ in Bills receivable	10,000	
Loss in Business Operations		(5,000)
Cash from Investing Activities		
Purchase of F.A	(50,000)	(50,000)
Cash from Financing activities		
Issue of Share Capital	50,000	
Issue of 6% bonds	10,000	60,000
Net increase in cash		5,000
Add : Opening Balance of cash		10,000
Closing Balance of cash		15,000

31. The balance sheet of ABC Ltd is as follows

Liabilities	Amount	Amount	Assets	Amount	Amount
Equity Capital	1,00,000	1,00,000	Cash	10,000	7,200
General Reserve	10,000	10,000	Debtors	70,000	76,800
P & L A/c	96,000	98,000	Stock	50,000	44,000
Current liabilities	72,000	82,000	Land	40,000	60,000
Loan from	–	40,000	Buildings	1,00,000	1,10,000
Associate co			Machinery	1,00,000	1,72,000
Loan from bank	62,000	50,000			
	4,30,000	4,70,000		4,30,000	4,70,000

Additional Information :

1. During the year 52,000 was paid as dividends
2. The provision for depreciation against machinery as on 1-1-07 was 54,000 31-12-07 was 72,000 you are required to prepare cash flow statement

Sol :

Dr. Depreciation A/c Cr.

	Particulars	Amount (Rs)	Particulars	Amount (Rs)
To	Balance c/d	72,000	By Balance b/d	54,000
			By P & L A/c (b/f)	18,000
		72,000		72,000

Cash flow Statement for the year ended 31-12-07

Particulars	Amount	Amount
P & L A/c	2,000	
Add : Non Cash Debitors		
Depreciation on machinery	18,000	
Dividend paid during the year	52,000	
Operating profit before w.c changes	72,000	
Add : ↑ in C.L and ↓ in C.A		
↓ in Stock	6,000	
↑ in current liabilities	11,000	

Less : ↑ in C.A and ↓ in C.L		
↑ in Debtors	(6,800)	
Net cash from operating activities		81,200
Cash from investing activities purchase of land	(20,000)	
Purchase of building	(10,000)	
Purchase of machinery	(30,000)	(60,000)
Net cash used in investing activities		21,200
Cash from financing activities		
loan from associate on	40,000	
Repayment of loan	(12,000)	
Dividend paid	(52,000)	24,000
Net cash used in financing activities		(2,800)
Add : Opening balance of cash		10,000
closing balance of cash		7,200

32. The following the comparative balance sheet of xyz ltd as on 31-12-10 and 31-12-2011

Liabilities	31-12-10	31-12-11	Assets	31-12-10	31-11-11
Share capital	3,50,000	3,70,000	Land	1,00,000	1,50,000
P & L A/c	50,400	52,800	Stock	24,600	2,13,500
9% Debenture	60,000	30,000	Goodwill	50,000	25,000
Creditors	51,600	59,200	Cash at Bank	42,000	35,000
			Temporary investment	3,000	4,000
			Debtors	71,000	84,500
	5,12,000	5,12,000		5,12,000	5,12,000

Addition Information

1. Dividends declared and paid during the year.

2. Land 17,500 was revalued at 1,50,000 and the profit on revaluation transferred to P & L A/c you are required to prepare cash flow statement.

Sol :

Cash flow statement of 2011 for the year ended 31-12-11

Particulars		Amount	Amount
P & L A/c		2,400	
Add : Non cash debits			
Dividend		17,500	
Goodwill written off		25,000	
Less : Non cash credits			
profit on revaluation of land		(50,000)	
Operating loss		(5,100)	
Adjustments for W.C changes			
Add : Stock	32,500		
Creditors	7,600		
		40,100	
Less : Temporary investment	(1,000)		
Debtors	(13,500)	14,500	
			20,500
Cash flow from operating profit			
Cash from investing activities	–		
Cash from financing activities			
Issues of capital		20,000	
Debentures (Repayment)		(30,000)	
Dividends paid		(17,500)	
Cash flow from financing activities			(27,500)
Net decrease in cash			(7,000)
Add : Opening balance of cash and cash equivalents			42,000
Closing balance of cash			35,000

33. The balance sheet of Miss A and B on 1-01-2002 and 31-12-2007 are as follows.

Liabilities	1-1-2007	31-12-2007	Assets	1-1-200	31-12-2007
Creditors	1,20,000	1,32,000	Cash	30,000	21,000
Mrs A loan	75,000	–	Debtors	90,000	1,50,000
Loan from bank	1,20,000	1,50,000	Stock	1,05,000	75,000
			Machinery	2,40,000	1,65,000
Capital	3,75,000	4,59,000	Land	1,20,000	1,50,000
			Building	1,05,000	1,80,000
	6,90,000	7,41,000		6,90,000	7,41,000

Additional Information :

During the year a machine costing Rs. 30,000 (Acummulated depreciation 9,000) was sold for 15,000. The provision for depreciation against machinery as on 1-Jan-2007 was Rs. 75,000 and on 31-12-2007 Rs. 1,20,000

Net profit for the year 2007 amounted to 1,35,000 prepare cash flow statement

Sol :

Working Notes

Machinery	30,000
(–) Depreciation	9,000
	21,000
(–) Sales	15,000
Loss	6,000

Dr Provision for depreciation on machinery Cr.

Particulars	Amount	Particulars	Amount
To Balance c/d	1,20,000	By Balance b/d	75,000
		By P & L A/c	45,000
	1,20,000		1,20,000

Cash flow statement for the year ended 31-12-2007

Particulars	Amount	Amount
Net profit	1,35,000	
Add : Non cash debits		
Depreciation on machinery	9,000	
Provision for depreciation on machinery	45,000	
Loss on sale of machinery	6,000	
		1,95,000
Less : Non cash credits operating profit before W.C charges		–
		1,95,000
Add : in C.L and ↓ in C.A		
↑ in creditors	12,000	
↓ in stock	30,000	
	42,000	
Less : ↓ in C.L and ↑ in C.A		
↑ in debtors	(60,000)	
		(18,000)
Cash from operating activities		1,77,000
Cash from Investing Activities		
Sale of Machinery	15,000	
Purchase of land	(30,000)	
Purchase of Building	(75,000)	
Cash flow from financing activities		(90,000)
Net increase in cash		87,000
Cash from financing activities		
Repayment of loan	(75,000)	
Issue of loan	30,000	
Drawings	(51,000)	
		(96,000)
Net decrease in cash		(9,000)
Add : Opening cash and cash Equivalents		30,000
Closing Balance of Cash		21,000

Q28. What are the difference between funds flows statement cash flows statement.

Ans **(Imp.)**

Difference Between Funds Flow Statement and Cash Flow Statement

S.No.	Basis of Difference	Funds Flow Statement	Cash Flow Statement
1	**Basis of Concept**	It is based on a wider concept of funds, i.e., working capital.	It is based on a narrower concept of funds , i.e., cash.
2.	**Basis of Accounting**	It is based on accrual basis of accounting.	It is based on cash basis of accounting.
3.	**Schedule of changes in working Capital**	Schedule of changes in working capital is prepared to show the changes in current assets and current liabilities.	No such schedule of changes in working capital is prepared.
4.	**Method of Preparing**	Fund Flow Statement reveals the sources and applications of funds. The net difference between sources and applications of funds represents net increase or decrease in working capital.	It is prepared by classifying all cash inflows and outflows in terms of operating, investing and financing activities. The net difference represents the net increase or decrease in cash and cash equivalents.
5.	**Basis of Usefulness**	It is useful in planning intermediate and long term financing.	It is more useful for short-term analysis and cash planning of the business.
6.	**Basis of Improvement**	Improvement in funds (working capital) position of a firm does not necessarily lead to improvement in cash position.	Improvement in cash position results in improvement of funds (working capital) position of the firm
7.	**Cash and Cash Equivalents**	The opening and closing balances of cash are included in the schedule of changes in working capital.	The balances of cash and cash equivalents at the beginning and at the end of the period are shown in the cash flow statement.

Exercises Problems

1. Calculate :

   (a) Current Asset

   (b) Liquid Assets

   (c) Inventory

   Current Ratio = 2.6 : 1

   Liquid Ratio : 1.5 : 1

   Current Liabilities = ` 40,000

   [Ans : (a) ` 1,04,000; (b) ` 60,000 ; (c) ` 44,000]

2. From the following information, calculate :

   (a) Current Assets

   (b) Current Liabilities

   Current Ratio = 2.8

   Liquid Ratio = 1.5

   Working Capital = ` 90,000

   [Ans. (a) ` 1,40,000; (b) ` 50,000 ; (c) ` 65,000]

3. Rama & Co. supplies you the following information regarding the year ending Dec. 31, 2009: Cash sales ` 80,000; credit sales ` 2,00,000 ; return inward ` 10,000 ; opening stock ` 25,000 ; closing stock ` 30,000 ; gross profit ratio is 25%.

   Find out inventory turnover.

   [Ans : 7,36 times]

4. A company sells goods on cash as well as on credit. The following particulars are extracted from their books of accounts :

Particulars	`
Gross Total Sales	4,00,000
Cash Sales	80,000
Sales Returns	28,000
Debtors at the end	36,000
Bills Receivable at the end	8,000
Provision for doubtful debts	3,000
Total creditors at the end	25,000

Calculate Average Collection Period.

Take 365 days in a year.

[Ans : 55 days]

Find out :

(i) Net Purchases

(ii) Creditors Turnover Ratio

Gross profit on sales is 20% and value of gross profit is ` 60,000. Stock turnover ratio is 6 times and opening stock is ` 8,000 less than the closing stock. Opening sundry creditors ` 40,000 and closing sundry creditors are ` 50,000.

[Ans : Net purchase ` 2,48,000 ; Creditors Turnover Ratio 5.5 times]

5. The following is the summary of cash transaction extracted from the books of Zigzag Ld.

	(`'000)
Balance as on 1st April, 2013	70
Receipts from customers	5,566
Issue of shares	600
Sale of fixed assets	256
	6,492
Payments to suppliers	4,094
Payments for fixed assets	460
Payments for overheads	230
Wages and salaries	138
Taxation	486
Dividends	160
Repayments of bank loans	500
	6,068
Balance on 31st March, 2014	424

You are required to prepare a cash flow statement of the company for the period ended 31st March, 2014 in accordance with Accounting Standard-3 (revised).

[Ans : Net cash flows from operating activities ` 6,18,000; Net cash used in investing activities ` 2,04,000; Net cash used in financing ` 60,000; Net increase in cash equivalents ` 3,54,000]

6. From the following Balance Sheet of Mr. Dinesh, prepare Cash Flow Statement :

Balance Sheet

as on 31.3.2014

Liabilities	**2013** `	**2014** `	**Assets**	**2013** `	**2014** `
Capital	70,000	58,000	Land and Building	60,000	54,000
Sundry Creditors	10,000	9,000	Plant and Machinery	20,000	15,000
Bills Payable	14,000	12,000	Stock	1,000	1,200
Outstanding Expenses	1,000	1,000	Debtors	7,000	4,500
		Cash	1,000	800	
			Bills Receivable	6,000	4,500
	95,000	80,000		95,000	80,000

Other Information :

1. There was neither any drawings nor capital addition
2. There was neither any sale nor any purchase of land and building and plant and machinery.

[Ans : Net cash flows from operating activities ` 200; Net cash flows from investing activities ` Nil ; Net Cash flows from financing activities ` Nil; Net decrease in cash and cash equivalent ` 200]

7. Following are the Balance Sheets of A Ltd. as at 31-3-2016 and 31-3-2015 :

Particulars	Note No.	31-3-2016 `	31-3-2015 `
I. Equity and Liabilities			
(1) Shareholders' Funds :			
(a) Share Capital		4,50,000	4,50,000
(b) Reserves and Surplus	1	3,78,000	3,56,000
(2) Non - Current Liabilities		—	—
(3) Current -Liabilities :			
(a) Trade Payables	2	4,04,000	1,68,000
(b) Short-term Provision	3	10,000	75,000
Total		12,42,000	10,49,000
II. Assets			
(1) Non - Current Assets :			
(a) Fixed Assets (Tangible) :		3,20,000	4,00,000
(b) Non-current Investment		60,000	50,000
(2) Current Assets :			
(a) Inventory (Stock)		2,10,000	2,40,000
(b) Trade Receivables (Debtors)		4,55,000	2,10,000
(c) Cash and Cash Equivalents (Bank)		1,97,000	1,49,000
Total		12,42,000	10,49,000

Note :

	31.3.2016 `	31.3.2015 `
1. Reserves and Surplus		
General Reserves	3,10,000	3,00,000
Balance of Profit and Loss	68,000	56,000
	3,78,000	3,56,000
2. Trade Payable		
Sundry Creditors	1,34,000	1,68,000
Bills Payable	2,70,000	—
	4,04,000	1,68,000
3. Short-term Provision		
Provision for Taxation	10,000	75,000

Additional Information :

(i) Investment costing ` 8,000 were sold during the year 2016 for ` 8,500

(ii) Provision for taxation made during the year 2016 was ` 9,000

(iii) During the year 2016, part of fixed assets having book value of ` 10,000 were sold for ` 12,000

(iv) Dividend paid during the year 2016 amounted to ` 40,000

Prepared Cash Flow Statement for the year ended 31st March, 2016.

[Ans : Net cash flows from operating activities ` 85,500; Net cash flows from investing activities ` 2,500; Net cash used in financing activities ` 40,000; Net increase in cash and cash equivalents ` 48,000]

8. From the following Balance Sheets of Rama Ltd., you are required to prepare a schedule of changes in working capital and a funds flow statement.

Particulars	2013 (`)	2012 (`)
I. Equity and Liabilities		
Shareholders' Funds :		
Share Capital		
Reserve and surplus :	2,50,000	2,00,000
Profit and Loss Account	70,000	50,000
Non-Current Liabilities :		
12 % Debentures	80,000	1,00,000
Current Liabilities :		
Creditors	60,000	40,000
Bills Payable	1,00,000	20,000
Outstanding Expenses	20,000	25,000
Total	**5,80,000**	**4,35,000**
II. Assets		
Non-Current Assets		
Tangible Assets :		
Land and Buildings	2,80,000	2,00,000
Machinery	1,30,000	1,00,000
Intangible Assets		
Goodwill	2,000	10,000
Current Assets :		
Debtors	60,000	40,000
Stock	90,000	70,000
Cash	18,000	15,000
Total	**5,80,000**	**4,35,000**

[Ans : Decrease in Working Capital ` 52,000; Funds from Operations ` 28,000; Total of Sources and Applications ` 78,000 and ` 1,30,000 respectively]

9. From the following Balance Sheets of XYZ Co. Ltd., you are required to prepare fund flow statement including a schedule of changes in Working Capital for the year ended 31.3.2016 :

Particulars	31.3.2016	31.3.2015
I. Equity and Liabilities		
1. Shareholders' Funds :		
(a) Share Capital	74,000	70,000
(b) Reserve and surplus :		
Balance of Profit and Loss	10,560	10,040
2. Non-Current Liabilities :		
Long - term Borrowings (Debentures)	6,000	12,000
3. Current Liabilities :		
(a) Trade Payables (Creditors)	11,840	10,360
(b) Short term Provisions		
(Provision for Doubtful Debts)	800	700
TOTAL	1,03,200	1,03,100
II. Assets		
1. Non - Current Assets :		
Fixed Assets :		
(i) Tangible (Land)	30,000	20,000
(ii) Intangible (Goodwill)	5,000	10,000
2. Current Assets :		
(a) Inventories (Stock)	42,700	49,200
(b) Trade Receivables (Debtors)	17,700	14,900
(c) Cash and Cash Equivalents (Cash)	7,800	9,000
TOTAL	1,03,200	1,03,100

Additional Information :

(1) Dividend paid ` 3,500

(2) During the year, land was purchased for ` 10,000

[Ans : Decrease in Working Capital ` 6,480. Funds from operations ` 9,020. Total of Sources and Applications of Funds ` 13,020 and ` 19,500 respectively]

[Hint. Provisions for doubtful debts is a current liability]

10. Following are the condensed Balance Sheets of a company

Liabilities	2010 `	2011 `	Assets	2010 `	2011 `
Equity Capital	50,000	53,000	Cash	20,000	25,000
Long -term debt	14,000	13,000	Accounts Receivable	24,000	27,000
Retained Earnings	28,000	37,000	Inventories	31,000	32,000
Accumulated Depreciation	21,000	25,000	Other Current Assets	8,000	7,000
Sundry Creditors	20,000	21,000	Fixed Assets	50,000	58,000
	1,33,000	1,49,000		1,33,000	1,49,000

Additional Information :

(i) Fixed Assets costing ` 12,000 were purchased during 2011 for cash

(ii) Fixed Assets (original cost ` 4,000, accumulated depreciation `1,500), were sold at book value.

(iii) Depreciation for the year 2011 amounted to ` 5,500 which has been debited to Profit and Loss Account.

(iv) During 2011, dividends paid ` 3,000

You are required to prepare a Statement of source and Application of Funds.

[Ans : Increase in Working Capital ` 7,000. Funds from operations 17,500; Total of source and application ` 23,000 and ` 16,000 respectively].

Short Question and Answers

1. Financial Statements

Ans

Introduction

Accounting is the process of identifying, measuring and communicating economic information to permit informed judgements and decisions by users of the information. It involves recording, classifying and summarizing various business transactions. The end products of business transactions are the financial statements comprising primarily the position statement or the balance sheet and the income statement or the profit and loss account.

Meaning of Financial Statements

A financial statement is a collection of data organized according to logical and consistent accounting procedures. Its purpose is to convey an understanding of some financial aspects of a business firm. It may show a position at a moment in time, as in the case of a balance sheet, or may reveal a series of activities over a given period of time, as in the case of an income statement.' Thus, the term 'financial statements' generally refers to the two statements : (i) the position statement or the balance sheet; and (ii) the income statement or the profit and loss account. These statements are used to convey to management and other interested outsiders the profitability and financial position of a firm. Financial statements are the outcome of summarizing process of accounting.

Definitions

According to John N. Myer, "The financial statements provide a summary of the accounts of a business enterprise, the balance sheet reflecting the assets, liabilities and capital as on a certain date and the income statement showing the results of operations during a certain period.'" Financial statements are prepared as an end result of financial accounting and are the major sources of financial information of an enterprise.

2. Objectives of Financial Statements

Ans :

Financial statements are the sources of information on the basis of which conclusions are drawn about the profitability and financial position of a concern. The primary objective of financial statements is to assist in decision making. The Accounting Principles Board of America (APB) states the following objectives of financial statements:

(i) To provide reliable financial information about economic resources and obligations of a business firm.

(ii) To provide other needed information about changes in such economic resources and obligations.

(iii) To provide reliable information about changes in net resources (resources less obligations) arising out of business activities.

(iv) To provide financial information that assists in estimating the earning potentials of business.

(v) To disclose, to the extent possible, other information related to the financial statements that is relevant to the needs of the users of these statements.

3. Uses of financial statements

Ans

1. Management

The financial statements are useful for assessing the efficiency for different cost centres. The management is able to exercise cost control through these statements. The efficient and inefficient spots are brought to the notice of the management. The management is able to decide the course of action to be adopted in future.

2. Creditors

The trade creditors are to be paid in a short period. This liability is met out of current assets. The creditors will be interested in current solvency of the concern. The calculation of current ratio and liquid ratio will enable the creditors to assess the current financial position of the concern in relation to their debts.

3. Bankers

The banker is interested to see that the loan amount is secure and the customer is also able to pay the interest regularly. The banker will analyze the balance sheet to determine financial strength of the concern and profit and loss account will also be studied to find out the earning position. A banker has a large number of customers and it is not possible to supervise their business activities. It is through the financial statements that a banker can keep a watch on the business plans and performances of its customers. These statements also help the banker to determine the amount of securities it will ask from the customers as a cover for the loans.

4. Investors

The investors include both short-term and long-term investors. They are interested in the security of the principal amount of loan and regular interest payments by the concern. The investors will study the long-term solvency of the concern with the help of financial statements. The investors will not only analyze the present financial position but will also study future prospects and expansion plans of the concern. The possibility of paying back the loan amount in the face of liquidation of the concern is also taken into, consideration.

4. Limitations of Financial Statements

Ans :

Though financial statements are relevant and useful for the concern, still they do not present a final picture of the concern. The utility of these statements is dependent upon a number of factors. The analysis and interpretation of these statements should be done very carefully otherwise misleading conclusions may be drawn. The financial statements suffer from the following limitations :

1. Only Interim Reports

These statements do not give a final picture of the concern. The data given in these statements is only approximate. The actual position can only be determined when the business is sold or liquidated. However, the statements have to be prepared for different accounting periods, generally one year, during the life time of the concern. The costs and incomes be apportioned to different periods with a view to determine profits etc.

2. Do not give Exact Position

The financial statements are expressed in monetary values, so they appear to give final and accurate position. The value of fixed assets in the balance sheet neither represents the value for which fixed assets can be sold nor the amount which will be required to replace these assets. The balance sheet is prepared on the presumption of a going concern. The concern is expected to continue in the future. So, fixed assets are shown at cost less accumulated depreciation. There are certain assets in the balance sheet such as preliminary expenses, goodwill, discount on issue of shares which will realize nothing at the time of liquidation though they are shown in the balance sheet.

3. Historical Costs

The financial statements are prepared on the basis of historical costs or original costs. The value of assets decreases with the passage of time current price changes are not taken into account. The statements are not prepared keeping in view the present economic conditions. The balance sheet loses the significance of being an index of current economic realities. Similarly, the profitability shown by the income statement may not represent the earning capacity of the concern. The increase in profits may be due to an increase in prices or due to some abnormal causes and not due to increase in efficiency. The conclusions drawn form financial statements may not give a fair picture of the concern.

5. What is meant by Ratio. Explain the nature of Ratio Analysis.

Ans :

Meaning Of Ratio

A ratio is a simple arithmetical expression of the relationship of one number to another. It may be defined as the indicated quotient of two mathematical expressions.

Definitions

i) **According to Accountant's Handbook by Wixon, Kell and Bedford,** a ratio "is an expression of the quantitative relationship between two numbers"

ii) **According to Kohler,** a ratio is the relation, of the amount, a, to another, b, expressed as the ratio of a to b; a : b (a is to b) ; or as a simple fraction, integer, decimal, fraction or percentage."

iii) **In simple language** ratio is one number expressed in terms of another and can be worked out by dividing one number into the other.

Nature of Ratio Analysis

Ratio analysis is a technique of analysis and interpretation of financial statements. It is the process of establishing and interpreting various ratios for helping in making certain decisions. However, ratio analysis is not an end in itself. It is only a means of better understanding of financial strengths and weaknesses of a firm. Calculation of ratios does not serve any purpose, unless several appropriate ratios are analyzed and interpreted. There are a number of ratios which can be calculated from the information given in the financial statements, but the analyst has to select the appropriate data and calculate only a few appropriate ratios from the same keeping in mind the objective of analysis. The ratios may be used as a symptom like blood pressure, the pulse rate or the body temperature and their interpretation depends upon the calibre and competence of the analyst.

6. Limitations of ratio analysis.

Ans

Following are the limitations of ratio analysis :

1. False Results

Ratios are based upon the financial statement. In case financial ratio is incorrect or the data upon which ratios are based is incorrect, ratio calculated will also be false and defective.

2. Limited use of Single Ratio

A single ratio, usually, does not convey much of a sense. To make a better interpretation, a number of ratios have to be calculated which is likely to confuse the analyst then help him in making any meaningful conclusion.

3. Absence of Standard Universally Accepted Terminology

Different meanings are given to particular term such as some firms take profit before interest and after tax; others may take profit before interest and tax. This ratio can be comparable only when both the firms adopt uniform terminology.

4. Qualitative Factors

Ratio analysis is the quantitative measurement of the performance of the business. It ignores the qualitative aspect of the firm. It shows that ratio is only one sided to measure the efficiency of business.

7. DuPont Analysis

Ans :

A system of management control designed by an American company named Du-Pont Company is popularly called Du-Pont Control Chart., This system uses the ratio inter-relationship to provide charts for managerial attention. The standard ratios of the company are compared to present ratios and changes in performance are judged.

The chart is based on two elements i.e., Net profit and capital employed. Net profit is related to operating expenses. If the expenses are under control then profit margin will increase. The earnings as a percentage of sales or earnings divided by sales give us percentage of profitability. Earnings can be calculated by deducting cost of sales from sales. Cost of sales includes cost of goods sold plus office and administrative expenses and selling and distributive expenses. Capital employed, on the other hand, consists of current assets and net fixed assets. Current assets include debtors, stock, bills receivables, cash, etc. Fixed assets are taken after deducting depreciation. So profit margin is divided by capital employed and is multiplied by 100.

$$\text{The ratio will be} = \frac{\text{Profit Margin}}{\text{Capital Employed}} \times 100$$

8. Define Funds Flow Statement

Ans :

Funds flow statement is a modern technique of analyzing financial statements. It helps in analyzing the movement of funds of a firm between the two balance-sheet dates. The funds flow statement is neither a substitute of balance sheet nor a supporting schedule of it. It is indeed a complementary statement. The balance sheet of a company reveals the financial position on a certain date. How the changes in funds have taken place through the year, cannot be known by it. The funds flow statement serves this purpose. It is prepared on the basis of financial accounting data. It covers all movements of funds, i.e., the exchange of assets. It shows the results of the policies followed by financial management.

The preparation of balance-sheet is compulsory by Companies Act, 1956 in India. But the preparation of Funds Flow Statement is not compulsory. Still certain companies prepare it in addition to balance sheet. Financial institutions demand this statement along with the balance sheet for processing a loan application. This statement helps in ascertaining the sources of funds and their subsequent application.

Definitions

Different authors have defined funds flow statement in their own ways. Some of the definitions are:

i) **As per Para 20 of AS 7 (July 1977),** "A statement of changes in financial position should be included as an integral part of financial statements. The statement of changes in financial position should be presented for each period for which the income statement is prepared."

ii) **According to Robert N. Anthony,** "The funds flow statement describes the sources from which additional funds were derived and the uses to which these funds were put."

iii) **According to Smith and Brown,** "A funds flow statement is prepared in summary form to indicate changes occurring in terms of financial condition between two different balance sheet dates."

Application of funds statement, statement of sources and uses of funds, statement of changes in financial position, etc. are some other names of it. Funds Flow Statement involves three words funds, flow and statement.

9. Objectives of Funds Flow Statement

Ans :

The main objectives of funds flow statement are as under :

1. It helps to understand the changes in assets and asset sources which are not readily evident in the income statement or financial statement.
2. To inform as to how the funds of the business have been used.
3. To point out the financial strengths and weaknesses of the business.
4. To provide information about the activities of raising finance and investment.
5. To know the reasons for changes in financial position of business.

10. Limitations of Funds Flow Statement

Ans :

The following are the main limitations of funds flow statement

1. Historical

It relates to past only and thus it tells that the changes in funds have taken place in the past. It will be of limited use for making predictions for the future.

2. Static

It is static in nature. This statement fails to reveal the continuous changes.

3. Incomplete Statement

This statement does not show the changes in working capital. It only presents the changes in working capital. Thus, it is an incomplete statement.

4. Not Original Statement

It is not an original statement but simply the rearrangement of financial data.

5. Not a Substitute

It is not a substitute of income statement or a balance sheet. It is only a supplement to them.

11. Objective of cash flow statement

Ans :

The objectives of cash flow statement are :

(i) To provide the users of financial statements with a basis to assess the ability of the enterprise to generate cash and cash equivalents.

(ii) To ascertain the inflows of cash and cash equivalents classified under operating, investing and financing activities.

(iii) To ascertain the outflows of cash and cash equivalents.

(iv) To ascertain the net increase or decrease in cash and cash equivalents between the dates of two balance sheets.

12. Explain the Limitations of cash flow statement.

Ans :

Despite a number of uses, cash flow statements suffers from the following limitations :

(i) As cash flow statement is based on cash basis of accounting, it ignores the basic accounting concept of accrual basis.

(ii) Some people feel that as working capital is a wider concept of funds, a funds flow statement provides a more complete picture than cash flow statement.

(iii) Cash flow statement is not suitable for judging the profitability of a firm as non-cash charges are ignored while calculating cash flows from operating activities.

(iv) A cash flow statement is not a substitute of an income statement, it is complementary to an income statement. Net cash flow does not mean the net income of a firm.

(v) A cash flow statement is also not a substitute of funds flow statement which provides information relating to the causes that lead to increase (or) decrease in working capital.

(vi) A comparative study of cash flow statements may give misleading results.

Choose the Correct Answer

1. Profitability ratios are based on, [c]
   (a) Sales (b) Investment
   (c) Both (a) and (b) (d) Purchases.
2. According to modus operandi, analysis are divided into, [d]
   (a) Horizontal analysis (b) Vertical analysis
   (c) Internal analysis (d) Both (a) and (b)
3. Following are the methods used in analyzing financial statements are, [d]
   (a) Trend ratios (b) Ratio analysis
   (c) Comparative analysis (d) All the above.
4. Ratio analysis is useful to, [b]
   (a) Management (b) Both (a) and (c)
   (c) Government (d) Students.
5. The ratio which measures the relationship between operating cost and net sales is, [a]
   (a) Operating ratio (b) Gross profit ratio
   (c) Net profit ratio (d) Operating profit ratio.
6. Dividend coverage ratio = [c]
   (a) $\frac{\text{PBIT}}{\text{Interest}}$ (b) $\frac{\text{PAT}}{\text{Interest}}$
   (c) $\frac{\text{PAT}}{\text{Dividend}}$ (d) $\frac{\text{PBIT}}{\text{Dividend}}$
7. The ratio which establishes relationship between net sales and working capital, [a]
   (a) Working capital turnover ratio (b) Debtors turnover ratio
   (c) Stock turnover ratio (d) None.
8. Return on investment can be calculated by using, [d]
   (a) Return on total asset (b) Return on shareholder's fund
   (c) Return on capital employed (d) All the above.
9. Standard or Thumb rule of a current ratio is, [b]
   (a) 1:1 (b) 2:1
   (c) 2:4 (d) 1:3
10. The statement which shows the percentage of net sales that are absorbed by each individual item representing cost or expense is, [d]
    (a) Common size balance sheet (b) Comparative income statement
    (c) Trend ratios d) Common size income statement.

11. ______ is a legal measure to reduce the tax liability. [b]

(a) Tax avoidance (b) Tax planning

(c) Tax evasion (d) Tax income.

12. Parties who are interested in knowing the financial position of a business are, [d]

(a) Owners (b) Employees

(c) Financial institutions (d) All the above

13. The net cash flow are classified into operating, financing and investing activities in ______ [a]

(a) Cash flow statement (b) Funds flow statement

(c) Balance sheet (d) None

14. Cash flows from ________ activities result from the major revenue producing activities of a firm [c]

(a) Financing (b) Investing

(c) Operating (d) Both (a) and (b)

15. As per Accounting Standard-3, Cash Flow is classified into [d]

(a) Operating activities and investing activities

(b) Investing activities and financing activities

(c) Operating activities and financing activities

(d) Operating activities, financing activities and investing activities

16. Cash Flow Statement is also known as [c]

(a) Statement of Changes in Financial Position on Cash basis

(b) Statement accounting for variation in cash

(c) Both a and b

(d) None of the above.

17. The objectives of Cash Flow Statement are [d]

i) Analysis of cash position

ii) Short-term cash planning

iii) Evaluation of liquidity

iv) Comparison of operating Performance

(a) Both i and ii (b) Both i and iii

(c) Both ii and iv (d) i, ii, iii, iv

18. Cash Flow Statement is based upon [a]

    (a) Cash basis of accounting (b) Accrual basis of accounting

    (c) Credit basis of accounting (d) None of the above

19. Which of the following statements are true? [d]

    i) Cash flow reveals only the inflow of cash

    ii) Cash flow reveals only the outflow of cash

    iii) Cash flow is a substitute for income statement

    iv) Cash flow statement is not a replacement of funds flow statement.

    (a) Only i (b) Only ii

    (c) Both ii and iii (d) Only iv

20. The statement of cash flows does not include cash inflows and outflows for which of the following activities? [d]

    (a) Financing activities (b) Investing activities

    (c) Operating activities (d) Revenue activities

Fill in the blanks

1. _______ is a collection of data which is organized according to the logical and consistent accounting procedures.
2. _______ is a major tool used for analyzing the financial statements.
3. _______ ratio facilitates to identify whether the company has enough capability to meet its short term obligations/requirements.
4. Capital turnover ratio = _______
5. The ratio which measures the relationship between gross profit and net sales is _______.
6. The items of the financial statements are presented as percentage of a particular item in _______.
7. Leverage ratios are also known as _______ .
8. The ratio which measures the profitability of the firm on per equity share basis is _______ .
9. Ratio analysis suffers from lack of _______ .
10. _______ reveals the effects of transactions involving the changes in cash or cash equivalents.
11. Cash flow statement is useful for _______
12. Cash flows are _______ and _______ of cash and cash equivalents.
13. Income from investments is a cash flow from _______ activities.
14. If the taxable incomes are not completely revalued to the inocme tax department then such act is known as _______ .
15. Cash flow statement (based on AS-3) indicates change in _______
16. Buy back of shares comes under _______
17. Cash payments to supplies for goods and services is an example of _______
18. An assessee by full filling those condition as required he can reduce his tax liability. This is known as _______.
19. By using dubious means and fraudulent methods also one can reduce their tax liability. This is known as _______.

Answers

1. Financial statements
2. Ratio analysis
3. Liquidity
4. Net sales Total capital employed
5. Gross profit ratio
6. Common size statements
7. Capital structure ratios
8. Earning per share
9. Consistency.
10. Cash flow statement
11. Short-term financial analysis
12. Inflows and outflows
13. Investing
14. Tax evasion
15. Cash and cash equivalents
16. Financing activity
17. Operating activity
18. Tax planning
19. Tax Evasion

UNIT II	**HUMAN RESOURCES ACCOUNTING AND RESPONSIBLITY ACCOUNTING:** Human Resources Accounting – Concept – Objectives – Approaches- Limitations (Theory only) Responsibility Accounting – Concept – Steps – Responsibility Centre – Types of Responsibility Centres: Cost Centre, Revenue Centre, Profit Centre and Investment Centre – Preparation of Responsibility accounting reports (including problems)

2.1 Human Resources Accounting

2.1.1 Concept

Q1. Define Human Resources Accounting. Explain the need and significance of Human Resources Accounting

Ans : **(May - 17, May -16, May-16)**

Meaning and Definitions

Human Resource Accounting (HRA) is that branch of managerial accounting which involves the application of economic and accounting concepts to the area of personnel management. It is the process of recognizing, measuring and communicating useful information relating to human resources.

(i) The American Accounting Association Committee on HRA has defined human resource accounting as, "the process of identifying and measuring data about human resources and communicating this information to interested parties."

(ii) According to Davidson and Weil, "It is the process of measuring and reporting the human dynamics of an organization. It is the assessment of the condition of human resources within an organization and the measurement of the change in the condition through time."

(iii) In the words of Geofrrey M.N. Baker, "Human resource accounting is the term applied by the accountancy profession to quantify the cost and value of employees to their employing organization."

From the above, it may be concluded that Human Resource Accounting comprises the following three aspects :

(i) Evaluation of human resources.

(ii) Recording the valuation in the books of accounts.

(iii) Presenting the information in the financial statements for communication to the interested parties.

Need and Significance of HRA

Accounting is now regarded as a service activity, a descriptive analytical discipline and an information system. The primary role of accounting is to provide an effective measurement and reporting system for decision making. The human resource accounting is more concerned with this decision making an i of accounting. It is an effective tool for decision making.

The information generated through HRA can be of utmost help for making decisions in the following areas:

(i) Formulating policies and programmes for the development of human resources.

(ii) Decisions regarding cost reduction programmes.

(iii) Training and development.

(iv) Recruitment and selection.

(v) Manpower planning and control.

(vi) Conservation and reward of human resources.

(vii) Making a choice between various types of human investment and investments in other assets, etc.

Human resources have certain distinct characteristics from other physical assets like personality, self control, devotion quality, skill, talents, loyalty and initiativeness. It is basic need of present time to improve productivity, that can be improved by the human force. Hence, to encourage, is necessary to account them and take progressive decision for them.

2.1.2 Objectives

Q2. Explain the Objectives of Human Resources Accounting.

Ans :

In spite of various objections to the approach of treating expenditure on human beings as an asset still this subject is very important. Its study is required with the following objectives in mind:

1. HRA helps in determining the return on investment on human resources.
2. It helps in knowing whether the human resources have been properly utilized or not.
3. It provides quantitative information on human resources which will help the managers as well as investors in making decisions.
4. Another objective of HRA is to communicate the worth of human resources to the organizations and the society at large .

Q3. Explain the advantages of Human Resources Accounting.

Ans : **(Dec.-20)**

The following advantages are derived from HRA system:

1. Human resource accounting will give the cost of developing human resources in the business. This will enable the management to ascertain the cost of labour turnover also. There may be a high labour turnover and management may not take it seriously in the absence of cost figures of human resources. Though it is not possible to eliminate labour turnover but in case the cost of labour turnover is high then management should try to reduce it as far as possible.
2. The investment on the development of human resources can be compared with the benefits and results derived. There may also be a wasteful expenditure on human beings which could have been avoided. Efforts should be made to control avoidable expenditure. The company can develop its own managerial cadres by recruiting and training executives. It can also hire already trained persons. The cost of both the methods can be compared and suitable alternative should be adopted. This type of analysis will be possible only if expenditure on human resources is treated as an asset. So, HRA allows the analysis of expenditure on human asset.
3. The return on investment can realistically be calculated only when investment on human resources is also taken into account. The return on investment may be good because there is an investment on human beings. On the other hand, a low investment may be the reason of low investment on human asset. So, ROI can give accurate results only when expenditure on employees is treated as an asset.
4. It will help management in planning and executing personnel policies. The management will be helped in taking decisions regarding transfers, promotions, training, retirement, retrenchment of human resources, etc.
5. It can be seen whether the business has made proper investment in human resources in terms of money or not. If the investment is excessive then efforts should be made to control it.
6. Human resources accounting will help in improving the efficiency of employees. The employees come to know of the cost incurred on them and the return given by them in the form of output, etc. It will motivate employees to increase their worthy.

2.1.3 Approaches

Q4. Explain the various Approaches of Human Resources Accounting.

Or

Explain the cost based Approaches of Human Resources Accounting.

Or

Explain any three approaches for valuation of Human Resources

Or

Explain various methods of valuing Human Resources assets

Ans : **(May - 17, May - 16, May - 15, Imp.)**

There are two major aspects of human resource accounting :

A) Human Resource Cost Accounting (HRCA)

Human resource cost accounting may be defined as the measurement and reporting of the costs incurred to acquire and develop people as organizational resources. It deals with accounting for investments made by an organization in acquisition and developing human resources as well as the replacement Cost of people presently employed. HRCA includes :

(a) Accounting for the costs of personnel activities and functions such as recruitment, selection, placement and training.

(b) Accounting for costs of developing people as human assets, also termed as 'Human Asset Accounting'.

The monetary approaches to the measurement of human resource cost may be based upon either historical cost or replacement cost or opportunity cost. These approaches are discussed as below :

i) Historical Cost Approach

Historical cost approach was developed by Brummet, Flamholtz and Pyle. According to this approach the actual cost incurred on recruiting, selecting, training, placing and developing the human resources of an enterprise are capitalised and written off over the expected useful life of human resources. The procedure followed for human resource asset is the same as that of other physical assets. Any amount spent on training and developing human resource increases its efficiency, hence capitalised. The amortization of human resource assets is also done in the same way as that of other physical assets. The asset is written off over its useful life. If the asset is liquidated prematurely then its underwritten off amount is charged to revenue account. On the other hand, if it has a longer life then expected, its amortization is rescheduled.

Merits

This method has the following merits :

(i) This method is simple to understand and easy to work out.

(ii) The traditional accounting concept of matching cost with revenue is followed in this method.

(iii) It can help a firm in finding out a return on human resource investment.

Demerits

This methods suffers from the following difficulties :

(i) It is very difficult to estimate the number of years an employee will be with the firm.

(ii) It is difficult to determine the number of years over which the effect of investment on employees will be realized. The extent to which the employee will utilise the knowledge acquired is also subjectively estimated.

(iii) It is also difficult to fix a rate of amortisation. A number of methods have been derived to write off depreciation on fixed assets but in the case of humar asset it will generally be on a constant basis.

(iv) The value of an asset decreases with amortisation. In case of human resources the situation is just the reverses. With the acquisition of experience and training in the course of time the utility of employees increases rather than decreasing.

It is easy to find out the total of human factor but it is difficult to see the contribution of each person. Had there been one person in the organization then his contribution to the enterprise could be measured, but this is not the case. There are large number of persons working in different positions and their contribution cannot be measured separately. No solution to this problem has been found so far.

ii) Replacement Cost Approach

This method was developed by Rensis Likert & Eric G. Flamholtz. The cost of replacing employees is used as the measure of company's human resources. The human resources of a company are to be valued on the assumption as to what it will cost the concern if existing human resources are required to be replaced with other persons of equivalent experience and talent. This approach corresponds to the historical cost approach mentioned earlier except that it allows for changes in the cost of acquiring and developing employees in place of taking their historical cost.

In replacement cost approach the costs of recruiting, selecting, training, developing, etc. of new employees to reach the level of competence of existing employees are measured. Likert has suggested determination of the value of total human organization on the basis of the assumption that a similar organization is to be created from scratch.

Merits

(i) This approach has the advantage of adjusting the human value of price trends in the economy and thereby provides more realistic value in inflationary times.

(ii) It has the advantage of present-oriented.

Demerits

This methods suffers from the following difficulties :

(i) It may not always be possible to obtain such a measure for a particular employee.

(ii) It is not always possible to find out the exact replacement of an employee.

(iii) This method does not reflect the knowledge, competence and loyalties concerning an organization that an individual can build over time.

(iv) It is difficult to find out the cost of replacing human resources and different persons may arrive at different estimates.

iii) Opportunity Cost Approach (Or) Hekimian and Jone's Competitive Bidding Method

This approach has been suggested by Hekimian and Jones. It values human resources on the basis of the economic concept of opportunity cost. The opportunity cost is linked with scarcity. A human resource asset has a value only when it is scarce i.e. its employment in one division is possible and not in another division. "The investment centre managers will bid for the scarce employees they need to recruit. These "scarce" employees come from within the firm and include only those who are the subject of a recruitment request made by an investment centre manager. In other words, employees not considered 'scarce' are not included in the human asset base of the organi- zation.

The investment centre with the highest bid would win the human resource and include the price in its investment base. The competitive bidding process provides an optimal allocation of personnel within the firm and a quantitative base for planning and developing the human assets of the firm. The amount of bid is added to the capital employed of its successful bidder for determining return on investment. This approach is based on the simple principle of demand and supply.

The maximum bid price may go to the extent of the capitalised value of the extra profits likely to be generated by the ability and competence of the executives."

The opportunity cost suffers from a number of drawbacks.

- Apart from being subjective, it excludes from its preview those employees who are not bid by investment or profit centre.
- The inclusion of 'scarce' employees only may be taken as discriminatory by other employees.
- This may lead to lowering of morale of employees especially of specialists who cannot be used in other divisions.
- Further less profitable divisions may be penalized by their inability to outbid for the recruitment of better employees.
- The economic and current value approaches using the present value of expected future benefits have strong theoretical approach.
- From practical point of view, it is very difficult to quantify future economic benefits.
- Despite certain objections, this approach has its own merits and utility in a decentralize set-up.

B) Human Resource Value Accounting (HRVA)

Another important approach to the evaluation of human resource assets is to calculate their economic values. This concept is based on the view that difference in present and future earnings of two similar firms is due to the difference in their human organization. The economic value of the firm can be determined by obtaining the present value of future earnings.

A number of valuation models have been developed for determining the present value of future earnings. Some of the important models have been discussed as below:

i) The Lev And Schwartz Model (1971)

Lev and Schwartz developed an economic model in 1971 for determining the value of human resources in a firm. According to them, the value of human capital embodied in a person of age 't' is the present value of his remaining future earnings from employment in the form of salaries, wages, etc. The value of human capital of a person 't' years old is given symbolically in the model as :

$$V_\tau = \sum_{t=\tau}^{T} \frac{I(t)}{(1+r)^{t-\tau}}$$

where,

V_τ = the value of human capital of a person 'x' years old.

I(t) = the annual earnings of the person up to retirement.

r = the discount rate of the cost of capital.

T = the age of retirement.

Lev and Schwartz have taken a hypothetical example to show the computation of value of human capital of a firm. The hypothetical example taken relates to the persons of different age groups and degrees of skill and average annual earnings for each age group and skill group have been ascertained. The present values of future earnings for each group have been determined and the total of such present values has been shown as the firm's value of human resources.

However, the Lev and Schwartz model suffers from the following limitations :

- The model does not consider the possibility of leaving a firm by an employee.
- The model ignores the possibilities of promotion of employees.
- It does not consider the contribution of the firm in developing the value of human capital.

In spite of the above limitations, the Lev and Schwartz model is the most popular economic model for determining the value of human resources of a firm.

ii) Flamholtz Model (1971)

According to this model, an individual's value to an organization is determined by the services he is expected to render to the organization during the period he is likely to remain with the organization in various positions or service states. The present value of human resource may be derived by discounting the realizable value of expected future services at a specified rate. This model involves the following steps :

(i) Estimation of period-for which an individual is expected to render service to the organization.

(ii) Identification of various positions or service states that the employee might hold during his service with the organization.

(iii) Estimation of probable period for which he is expected to hold each possible position or service state.

(iv) Calculation of expected service to be derived from the individual by :

$$E(S) = \sum_{i=1}^{n} S_i P(S_i)$$

Where S_i represents the quantity of services expected to be derived in each state and

$P(S_i)$ is the probability that the same will be obtained.

(v) Determination of the monetary equivalent value of the expected future services by multiplying the quantity of services with the price and calculation of the income expected to be derived from their use.

(vi) Calculation of present value of expected future services at a predetermined rate.

The Flamholtz model is an improvement over the Lev and Schwartz model in the sense that it takes into consideration the possibility of an employee leaving the service as well as the possibilities of promotion of employees.

However, the major drawback of this model is that it is very difficult to estimate the likely service states of each employee. This model also suffers from the fact that individuals working in a group have higher value for the organization as compared to the sum of their individual values.

iii) Giles and Robinson's Human Asset Multiplier Method (1972)

In 1972, The Institute of Cost and Management Accountants and The Institute of Personnel Management sponsored Giles and Robinson to produce a report on Human Asset Accounting. They suggested a human asset measurement method known as Human Asset Multiplier. According to this method, the valuation of human resources should be made in the same way as other business assets on a going concern basis. The calculation of human asset value, under this method, is based on the notion that an individual's remuneration, or the remuneration of a group of persons in the same grade, may be multiplied by a factor determined on the basis of his contribution to the success of the business. The total value of human assets employed in the business can be calculated by simply adding together all the individual values so calculated.

For instance, let us assume that a firm has four types of grades, i.e. A, B, C and D and the total remuneration of these grades is ` 5 lacs, ` 7 lacs, ` 10 lacs and ` 30 lacs respectively. Further, if we assume that the relevant factors are 4, 3, 2 and 1. The value of human asset shall be ` 20 lacs for grade A ; ` 21 lacs for grade B, ` 20 lacs for grade C and ` 30 lacs for grade D. The total value of the human asset shall be ` 91 lacs.

iv) Hermanson's Unpurchased Goodwill and Adjusted Discounted Future Wage Model

Roger H. Hermanson has suggested two models for the measurement of human resources. According to unpurchased goodwill model, the value of human resources of an organization may be calculated by capitalising earnings in excess of normal earnings for the industry or the group of companies of which the firm is a part.

For instance, the capital investment of a firm is say ` 10 lakhs. The rate of normal earnings is 10%. The actual rate of earnings of the firm is 15%. In this case the normal earnings are ` one lakh (10% of 10 lakhs) and the actual earnings are ` 1.5 lakhs (i.e., 15% of 10 lakhs). Thus, the super profits or the excess earnings are ` 50,000. The value of human assets shall be the capitalised value of these excess earnings, i.e. ` 50,000 × $\frac{100}{15}$ or say ` 3,33,333 Hermanson assumes that the excess profits of a firm are due to the extra ability of its employees.

The adjusted discounted future wage model uses compensation as a surrogate measure of a person's value to the firm. Compensation means the present value of future stream of wages and salaries to employees of the firm. The discounted future wage stream is adjusted by an 'efficiency ratio' which is the weighted average of the ratio of return on investment of the given firm to all the firms in the economy for a specified period, usually five years. The weights are assigned in the reverse order, i.e. 5 to the current year and 1 to the proceeding 4th year. Hermanson has used the following formula for calculating efficiency ratio :

Efficiency ratio =

$$5\frac{RF(0)}{RE(0)} + 4\frac{RF(1)}{RE(1)} + 3\frac{RF(2)}{RE(3)} + \frac{RF(4)}{RE(4)}$$

Where, RF is the rate of accounting income on owned assets for the firm for a period of 5 years and.

RE is the rate of accounting income on owned assets for all the firms in a economy for the same period

The efficiency ratio has been criticize as being subjective because of arbitrary weights and restricting period of 5 years.

v) Jaggi and Lau Model

This model suggests valuation of human assets on a group basis rather than on individual basis Group, in this model, means a homogeneous group of employees who may not be necessarily working in the same department. It might be difficult to predict an individual's future period stay and chances of promotion but on a group basis, it is easier to ascertain the future period of service', chances of promotion and those who are likely to leave the firm during each of the forthcoming period. It has been assumed in this model that the pattern of movement is likely to remain constant overtime and the probabilities determined for one period can be extended to future periods. The computation of human resources of an organization is done as below.

TV = (N) r n (T) n (V)

Where, TV represents the current value of all employees in each rank.

N - represents the number of employees in each rank.

n - represents the time period.

r - is the discount rate.

T - represents the probability.

V - represents the economic value of an employee.

This model tries to simplify the measurement of the value of human resources by taking group of employees as the base.

vi) Morse Net Benefit Model (1973)

According to this model, the value of human capital is determined on the basis of the present value, of net benefits derived by the organization from the expected future services of its employees. It involves the following steps :

(i) Determination of the gross value of future services to be rendered by employees in the individual capacities as well as operating in groups.

(ii) Determination of the cost, i.e., the total future payments to be made to the employees.

(iii) Calculation of' net benefit' to the organization on account of human resources by subtracting (ii) from (i).

(iv) Calculation of the present value of the net benefits by discounting at predetermined rate of discount.

2.1.4 Limitations

Q5. Explain the Limitations of Human Resources accounting.

Ans : **(Dec.-20)**

Limitations

Some of common objections against human resource accounting are discussed follows :

1. There is difference between other assets and human resource. They cannot be valued like other assets.
2. The methods for valuation of human resources are different from each other.
3. Human resource asset is not recognized by tax laws. It remains only a theoretical concept.
4. The factors be included for valuing human resource accounting are abstract and are not precisely measurable in monetary terms. These valuations lack objectivity.

These objections against human resource accounting are because this concept is new in due course of time the opinions will crystallize. It is heartening to note that human resources are disclosed in balance sheets these days.

2.2 Responsibility Accounting

2.2.1 Concept

Q6. Define Responsibility Accounting.

Ans :

Meaning

Responsibility Accounting is a system of control where responsibility is assigned for the control of costs. The persons are made responsible for the control of costs. Proper authority is given to the persons so that they are able to keep up their performance. In case the performance is not according to the predetermined standards then the persons who are assigned this duty will be personally responsible for it. In responsibility accounting the emphasis is on men rather than on systems.

Definitions

i) According to - Charles, T.Homgreen

"Responsibility accounting is a system of accounting that recognizes various responsibility centres throughout the organization and reflects the plans and actions of each of these centres by assigning particular revenues and costs to the one having the pertinent responsibility. It is also called profitability accounting and activity accounting".'

ii) According to Louderback and Dominiak

"Responsibility accounting is the name given to that aspect of the managerial process dealing with the reporting of information to facilitate control of operations and evaluation of performance."

iii) According to Charles T. Horngren "Responsibility accounting is a system of accounting that recognizes various decision centres throughout an organization and traces costs to the individual managers who are primarily responsible for making decisions about the costs in question."

iv) According to Sclialtke, R.W. Jonson, H. G. Responsi- bility accounting "is a system of accounting in which costs and revenues are accumulated and reported to managers on the basis of the manager's control over these costs and revenues. The managerial accounting system that ties budgeting and performance reporting to a decentralised organization is called responsibility accounting."

This is a system of accounting in which cost data are reported to managers who are in-charge of various cost centres. In this system, budgets are prepared and actual performance is recorded and reported.

v) According to David Fanning, Responsibility accounting "is a system or mechanism for controlling the wider freedom of action that executives decision centre manages in other words are given by senior management and for holding those executives responsible for the consequences of their decisions."

Q7. Explain the features of Responsibility Accounting

Ans :

1. Inputs and Outputs (or) Costs and Revenues

The implementation and maintenance of responsibility accounting system is based upon information relating to inputs and outputs. The physical resources utilized in an organization such as quantity of raw material used and labour hours consumed, are termed as inputs. These inputs expressed in the monetary terms are known as costs. Similarly outputs expressed in monetary terms are called revenues. Thus, responsibility accounting is based on cost and revenue information.

2. Planned and Actual Information (or) Use of Budgeting

Effective responsibility accounting requires both planned and actual financial information. It is not only the historical cost and revenue data but also the planned future data which is essential for the implementation of responsibility accounting system. It is through budgets that responsibility for implementing the plans is communicated to each level of management. The use of fixed budgets, flexible budgets and profit planning are all incorporated into one overall system of responsibility accounting.

3. Identification of Responsibility Centres

The whole concept of responsibility accounting is focused around identification of responsibility centres. The responsibility centres represent the sphere of authority or decision points in an organization. In a small firm, one individual or a small group of individuals, who are usually the owners, may possibly manage or control the entire organization. However, for effective control, a large firm is, usually, divided into meaningful segments, departments or divisions. These sub-units or divisions of organization are called responsibility centres. A responsibility centre is under the control of an individual who is responsible for the control of activities of that sub-unit of the organization. This responsibility centre may be a very small sub-unit of the organization, as an individual could be made responsible for one machine used in manufacturing operations, or it may be very big division of the organization, such as a divisional manager could be responsible for achieving a certain level of profit from the division and investment under his control. However, the general guideline is that "the unit to the organization should be separable and identifiable for operating purposes and its performance measurement possible".

For effective planning and control purposes, responsibility centres are, usually, classified under three categories :

(i) cost centres ; (ii) profit centres ; and (iii) investment centres.

4. Relationship between Organization Structure and Responsibility Accounting System

A sound organization structure with clear-cut lines of authority - responsibility relationships is a prerequisite for establishing a successful responsibility accounting system. Further, responsibility accounting system must be so designed as to suit the organization structure of the organization. It must be founded upon the existing authority responsibility relationships in the organization. In fact, responsibility accounting system should parallel the organization structure and provide financial information to evaluate actual results of each individual responsible for a function.

5. Assigning Costs to Individuals and Limiting their Efforts to Controllable Costs

After identifying responsibility centres and establishing authority-responsibility relation ships, responsibility accounting system involves assigning of costs and revenues to individuals. Only those costs and revenues over which an individual has a definite control can be assigned to him for evaluating his performance. Responsibility accounting has an appeal because it distinguishes between controllable and uncontrollable costs. Unlike traditional accounting where costs are classified and accumulated according to function such as manufacturing cost or selling and distribution cost, etc. (or) according to products, responsibility accounting classifies. Accumadated costs according to controliability

6. Transfer Pricing Policy

In a large scale enterprise having decentralised divisions, there is a common practice of transferring goods and services from one segment of the organization to another In such situations, there is a need to determine the price at which the transfer should take place so that costs and revenues could be properly assigned. The significance of the transfer price can well be judged from the fact that for the transferring division it will be a source of revenue, whereas for the division to which transfer is made it will be an element of cost. Thus, there is a need of having a proper transfer policy for the successful implementation of responsibility accounting system. There are various transfer pricing methods in use, such as cost price, cost plus normal profit, incremental cost basis, negotiated price, standard price, etc.

7. Performance Reporting

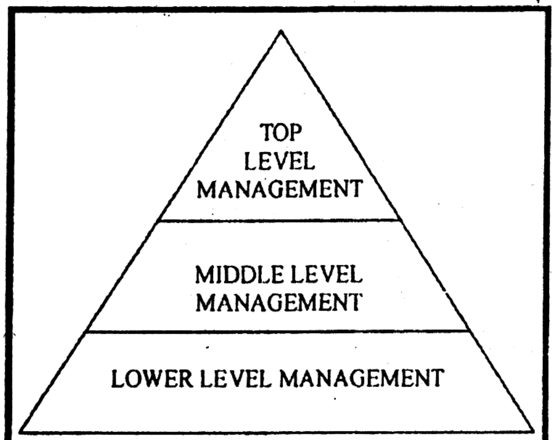
Responsibility account is a control device. A control system to be effective should be such that deviations from the plans must be reported at the earliest so as to take corrective action for the future. The deviations can be known only when performance is reported. Thus, responsibility accounting system is focused on performance reports also known as ‘responsibility reports’, prepared for each responsibility unit. Unlike authority which flows from top to bottom, reporting flows from bottom to top. These reports should be addressed to appropriate persons in respective responsibility centres. The reports should contain information in comparative form as to show plans (budgets) and the actual performance and should give details of variances which are related to that centre.

8. Participative Management

The function of responsibility accounting system becomes more effective if participative or democratic style of management is followed, wherein, the plans are laid or budgets/standards are fixed according to the mutual consent and the decisions reached after consulting the subordinates. It provides motivation to the workers by ensuring their participation and self imposed goals.

9. Management by Exception

It is a well accepted fact that at successive higher levels of management in the organizational chain less and less time is devoted to control and more and more to planning. Thus, an effective responsibility accounting system must provide for management by exception, i.e., it should focus attention of the management on significant deviations and not burden them with all kinds of routine matters, rather condensed reports requiring their attention must be sent to them particularly at higher levels of management. The following diagram explains the flow and reporting details at different levels of management



(FLOW AND REPORTING DETAILS)

10. Human Aspect of Responsibility Accounting

The aim of responsibility accounting is not to place blame. Instead it is to evaluate the performance and provide feed back so that future operations can be improved'. Goals and objectives are achieved through people and, hence, responsibility accounting system should motivate people. It should be used in positive sense. It should not be taken as a device to punish subordinates. It should rather help in improving their performance. Subordinates sometimes dislike control because they take them as restraints. The best responsibility accounting system enlightens employees about the positive side of control. To ensure the success of responsibility accounting system, it must look into the human aspect also by considering needs of subordinates, developing mutual interests, providing information about control measures and adjusting according to requirements.

2.2.2 Steps

Q8. Out line the process of Responsibility Accounting.

Ans : **(Imp.)**

Responsibility accounting is used as a control device. The aim of responsibility accounting is to help management in achieving organizational goals. The following steps are involved in responsibility accounting:

1. The organization is divided into various responsibility centres. Each responsibility centre is put under the charge of a responsibility manager. The mangers are responsible for the performance of their departments.

2. The targets of each responsibility centre are set in. The targets or goals are set in consultation with the manager of the responsibility centre so that he may be able to give full information about his department. The goals of the responsibility centres are properly communicated to them.

3. The actual performance of each responsibility centre is recorded and communicated to the executive concerned and the actual performance is compared with goals set and it helps in assessing the work of these centres.

4. If the actual performance of a department is less than the standard set, then the variances are conveyed to the top management. The names of those persons who were responsible for that performance are also conveyed so that responsibility may be fixed.

5. Timely action taken to take necessary corrective measures so that the work does not suffer in future. The directions of the top level management are communicated to the concerned responsibility centre so that corrective measures are initiated at the earliest.

The purpose of all these steps is to assign responsibility to different individuals so that the performance is improved.

Q9. What are the advantages of Responsibility Accounting

Ans :

Management uses responsibility accounting as a control device. It is used to evaluate the performance of executives who are incharge of various cost centres. Their performance is compared to the targets set for them and proper action is taken for low results. So responsibility accounting is very important in every type of business.

The following are some of the advantages of responsibility accounting :

1. Assigning of Responsibility

Each and every individual in the organization is assigned some responsibility and they are accountable for their work. Every body knows what is expected of him. The responsibility can easily be identified and satisfactory and unsatisfactory performances of various persons are known. Nobody can shift responsibility to any body else if something goes wrong. So, under this system responsibility is assigned individually.

2. Improves Performance

The assigning of tasks to specific persons acts as a motivational factor too. The persons incharge for different activities know that their performance will be reported to the top management. They will try to improve their performance. On the other hand, it acts as a deterrent for low performance also because persons know that they are accountable for their work.

3. Helpful in Cost Planning

Under the system of responsibility accounting, full information is collected about costs and revenues. This data is helpful in planning of future costs and revenues, fixing of standards and preparing of budgets.

4. Delegation and Control

This system enables management to delegate authority while retaining overall control. The authority is delegated according to the requirements of the task assigned. On the other hand, responsibility of various persons is fixed which is helpful in controlling their work. The control remains with top management because performance of every cost centre is regularly reported to it. So management is able to delegate authority and at the same time to retain control.

5. Helpful in Decision-Making

Responsibility accounting is not only a control device but also helpful in decision-making. The information collected under this system is helpful to management in planning its future actions. The past performance of various cost centres also helps in fixing their future targets. So this system enables management to take important decisions.

In the end we may conclude that the technique of responsibility accounting is useful for all types of enterprises big and small, profit and non profit, government and non-government, etc. But the system of responsibility accounting may differ from organization to organization. Further, in spite of so many advantages, it must be remembered that it can never be a substitute for a good management as it is merely a tool to be used effectively by the management.

2.2.3 Responsibility Centre

Q10. Define Responsibility Centre.

Ans : **(May - 17)**

"A responsibility Centre is like an engine in that it has inputs, which are physical quantities of material, hours of various types of labour, and a variety of services ; it works with these resources usually; working capital and fixed assets are also required. As a result of this work, it produces output, which are classified either as goods, if they are tangible or as services, if they are intangible. These goods or services go either to other responsibility centres within the company or to customers in the outside world".

In the words of Deakin and Maher, "a responsibility centre is a specific unit of an organization assigned to a manager who is held responsible for its operations and resources."

Responsibility accounting is used to measure both inputs and outputs. The inputs of materials in quantity and labour in hours are expressed in monetary terms. The total of various inputs is called 'cost'. The output can be expressed either in goods produced or services rendered. If the output is meant for outsiders, then it is easy to measure the monetary value of the output but if the output is used for other departments of the centre, then it will have to be valued objectively. The total of output is called 'revenue'. So responsibility accounting is used in measuring costs and revenues.

The responsibility centres represent the sphere of authority or decision points in an organization.

For effective control, a large firm is usually divided into meaningful segments, departments or divisions. These sub-units or divisions of an organization unit are called responsibility centres.

2.2.4 Types of Responsibility Centre

2.2.4.1 Cost Centre, Revenue Centre, Profit Centre and Investment Centre

Q11. Explain the different types of Responsibility Centre.

Ans : **(Imp.)**

Types of Responsibility Centres

For the purposes of evaluating financial performance and control, the responsibility centres are generally classified into three categories :

1. Cost (or) Expenses Centre
2. Profit Centre
3. Revenue Centre
4. Investment Centre

1. Cost (Or) Expense Centre

"Cost centres are segments in which the managers are responsible for costs incurred but have no revenue responsibilities." As observed earlier, responsibility accounting is used to measure both inputs and outputs. However, when we can measure only the expenses or costs incurred and not the revenue earned from a responsibility centre, it is known as cost (or) Expense Centre.

Cost centres can also be classified on functional basis as :

(i) Production cost centre

(ii) Service cost centre

(iii) Ancillary cost centre

(iv) Administrative and support centre

(v) Research and development centre

(vi) Marketing centre

2. Profit Centre

Responsibility centres may have both inputs and outputs. The inputs are taken as costs and outputs are revenues. The difference between the revenue earned and costs incurred will be profit. When a responsibility centre gets revenue from output, it will be called a profit centre. The output of a centre may be undertaken either for outside consumers or for other centres in the same organization. When the input is meant for outsiders, then the revenue will be measured from the price charged from customers. If the output is meant for other responsibility centre, then management takes a decision whether to treat centre as profit centre or not.

The performance of the manager of a profit centre may be evaluated by the following measures of profitability

(i) Contribution margin

(ii) Direct profit

(iii) Controllable profit

(iv) Profit/income before tax

(v) Profit/income after tax/net income.

3. Investment Centre

"An investment centre is an entity segment in which a manager can control not only revenues and costs but also investment."

The manager of a responsibility centre is made responsible for properly utilizing the assets used in his centre. He is expected to earn a fair return on the amount employed in assets in his centre. Measurement of assets employed poses many problems. It becomes difficult to determine the amount of assets employed in a particular responsibility centre. Some assets may be used in a responsibility centre but their actual possession may be with some other department. Some assets may be used by two or more responsibility centres and it becomes difficult to apportion the amount of those assets to various centres. Investment Centres may be used for big responsibility centres where assets will be in exclusive possession of that centre.

The performance of an investment centre can be measured by relating profit to the investment base.

The two methods which are generally used to evaluate the performance of an investment centre are:

i) Return on Investment/Capital Employed (ROI)

ii) Economic Value Added (EVA) or Residual Income Approach (RI)

i. Return on Investment/Capital Employed (ROI)

Return on capital employed establishes the relationship between profits and the capital employed.

The Sfcrz 'capital employed' refers to the total investment made in the investment centre/business. However, capital employed comprises the total assets used less its current liabilities. The profits for the purpose If calculating return on capital employed should be computed according to the concept of capital employed, i.e., gross capital employed (or) net capital employed. tax because tax is paid after profits have been earned and has no relation to the earning capacity of a centre. Return on investment can be computed as follows :

$$\boxed{\text{Return on Investment/Capital Employed} = \frac{\text{Net Profit}}{\text{Capital Employed}} \times 100}$$

(or)

$$\boxed{\text{ROI} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital Employed}} \times 100}$$

(or)

$$\boxed{\text{ROI} = \text{Net Profit Ratio} \times \text{Capital Turnover Ratio}}$$

ii) Economic Value Added/Residual Income Approach (EVA)

Economic value added is a measure of performance evaluation that was originally employed by Stem Stewart and Co. It is also referred to as residual income (RI) approach of performance evaluation. It is a very popular method used to measure the surplus value created by an investment or a portfolio of investments. EVA has been considered as a better measure of divisional performance as compared to the return on assets ROA or ROI. It is also being used to determine whether an investment positively contributes to the shareholders' wealth. The economic value added of an investment is simply equal to the after tax operating profits generated by the investment minus the cost of funds used to finance the investment. EVA can be calculated as below

$\boxed{\text{EVA = (Net operating profit after tax) - (Cost of capital × Capital invested)}}$

(or)

$\boxed{\text{EVA = Capital employed (Return on investment - cost of capital)}}$

(or)

$\boxed{\text{EVA = Capital employed (ROI - Cost of capital)}}$

2.3 Preparation of Responsibility Accounting Reports

1. A Company has 10 cars i n operation. The budget for the transport department based on 25,000 km of run for a month is ` 87,500 out of which a sum of ` 25,000 is fixed.

During the last month, the total kilometres run by all the 10 cars were 22,400 and the costs incurred were ` 83,150. The cost of hiring a car would have been ` 4 per km.

Evaluate the performance of the transport department on the basis of (a) Cost Centre, (b) Profit Centre.

Sol :

Performance Evaluation Report	
Total budgeted expenditure for the month	87,500
Less : Fixed expenditure	25,000
Variable cost	62,500
Variable cost per km. (62,500/25,000)	2.50
(a) Cost Centre Basis	
Allowed Cost:	
Variable (22,400 × 2.50)	56,000
Fixed	25,000
Total allowed cost	81,000
Actual cost	83,150
Cost Variance	2,150 (A)
(b) Profit Centre Basis	
Cost of hiring car (22,400 × 4)	89,600
Actual cost incumed	83,150
Profit Variance	6,450 (F)

2. A and B are two divisions of a company. A makes a single product, which it sells only to B for incorporation into B's products. The relevant costs and revenues are :

Quantity	Cost to A `	Revenue of B (After deducting own Units variable cost) `
100	150	300
200	240	400
300	320	490
400	400	570
500	510	640

What is the appropriate transfer price per unit between divisions A and B, and how many units should be produced ?

Sol :

Statement Showing Incremental Cost and Revenue					
Quantity (Units)	100	200	300	400	500
Incremental Quantity (Units)	—	100	100	100	100
Cost to A (`)	150	240	320	400	510
Incremental Cost to K (`)	90	80	80	90	—
Revenue of B (`)	300	400	490	570	640
Incremental Revenue of B (`)	—	100	90	80	70

As, incremental cost and incremental revenue are equal at 400 units when the incremental quantity is 100 units and incremental cost/revenue is ` 80, thus the transfer price should be 80/100 = Re. 0.80 per unit. The number of units to be produced by A for B should be 400.

3. The following is a Control Report prepared by a Cost Accountant of Department X in a factory :

Overhead directly assigned to Department X:	(`)	(`)
Indirect materials (based on actual requisitions)	1,000	
Indirect Labour (job tickets)	900	
Overtime charges	100	
Depreciation on equipments	500	
		2,500
Allocated Factory Overhead (38% of Factory space)		4,300
Allocated Overhead of Repair Shop		

(62% of repairs in repair shop done for Department X)	1,200
Allocated Office and Administration Overhead (on an agreed basis)	5,000
Total Departmental Expenses	13,000

Revise the report treating Department X as a responsibility Centre

Sol:

Revised Control Report of Department X		
	`	`
Fully Controllable Costs :		
Indirect Materials	1000	
Indirect labour	900	
Overtime Charges	100	2,000
Partially Controllable Costs :		
Allocated Overhead of Repair Shop		1,200
Total Cost		3,200

Working Notes

Since Department X has no control over Depreciation cost on equipments, Allocated Factory Overhead (38% of factory space), Allocated office and Administrative overhead (on an agreed basis) ; these costs have, therefore, been excluded while preparing Revised Control Report of Department X. In fact, these costs are allocated on the basis of general management policy and department X has no control, what, so ever, on these costs.

4. Jimmedar Works Ltd. has at the factory three production departments. Machine Shop, Fabrication and Assembly which are the responsibility of the shop superintendent. The shop superintended, along with materials manager, planning superintendent and maintenance engineer reports to the works manager at the factory. The office administration, sales and publicity come under the sales manager who along with the works manager report to the managing director of the company. The following data, relating to a month's performance, are called out from the books of the company:

	Budget (`)	Variance from budget (`)
Sales commission	800	50 A
Raw material & components :		
— Machine shop	900	20 A
Publicity expenses	1,100	100 A

Printing & stationery		3,200	200 F
Travellingexpenses		4,000	200 A
Wages	— machine shop	800	10 F
	— fabrication	600	20 A
	— assembly	720	10 A
Material	— assembly	760	40 A
	— fabrication	460	10 A
Utilities	— machine shop	320	10 A
	— assembly	470	60 F
	— fabrication	560	30 F
	— maintenance	400	20 A
	— stores	210	40 F
	— planning	180	20 A
Shop superintendent's office :			
	— Salaries & expenses	1,100	22 F
Depreciation - factory		3,880	40 A
Works manager's office:			
	— Salaries & administration	3,810	40 A
General office salaries & administration		4,270	30 F
Managing director's office :			
	— Salary & administration	2,800	20 F

(A = Adverse, F = Favourable)

(i) Treating the machine shop, fabrication and assembly as cost centres, prepare cost sheets for each centre with the help of the following additional information : The shop superintendent devotes his time amongst machine shop, fabrication and assembly in the ratio 4:3:4. Other factory overheads are absorbed on the basis of direct labour in each cost centre. Office, administration, selling and distribution overheads are borne equally by the cost centres.

(ii) Treating the machine shop, fabrication and assembly as responsibility centres, prepare a responsibility accounting report for the shop superintendent.

Sol :

(i) Cost Sheet for Machine Shop, Fabrication and Assembly Cost Centres

Elements of cost	Machine Shop		Fabrication		Assembly	
	Budget (`)	Actual (`)	Budget (`)	Actual (`)	Budget (`)	Actual (`)
Raw Material and Components	900	920	460	470	760	800
Wages	800	790	600	620	720	730
Utilities	320	330	560	530	470	410
Prime Cost	**2,020**	**2,040**	**1,620**	**1,620**	**1,950**	**1,940**
Add: Factory Overheads : Shop Superintendent's Office- Salaries and Expenses (apportioned in the ratio of 4 : 3 : 4)	400	392	300	294	400	392
Other Factory Overheads (See Working Note 1)	3,200	3,160	2,400	2,480	2,880	2,920
Factory Cost	**5,620**	**5,592**	**4,320**	**4,394**	**5,230**	**5.252**
Add : Selling and Adm. Overheads (See Working Note 2)	5,390	5,443	5,390	5,443	5,390	5.443
Total Cost	**11,010**	**11,035**	**9.710**	**9,837**	**10,620**	**10,696**

Working Notes :

1. Determination and Apportioning of Factory Overheads (other than Shop Superintendent's office salaries and expenses)

	Budget (`)	Actual (`)
Maintenance Cost	400	420
Stores Cost	210	170
Planning Cost	180	200
Works manager's office-Salaries and Administration	3810	3850

Depreciation-factory	3880	3920
Total Factory overhead	8480	8560
Factory Overhead Other than Shop Superintendent's office-salaries and exp. divided in the Ratio of Direct Labour, i.e.. 800 : 600 : 720, thus		
Machine shop centre	3200	3,160
Fabrication Centre	2400	2,480
Assembly	2880	2,920

2. Determination and Apportioning of Selling and Administration Overhead

	Budget (`)	Actual (`)
Sales Commission	800	850
Publicity Expenses	1100	1200
Printing and Stationery	3200	3000
Traveling Expenses	4000	4200
General Office Salaries and Administration Exp.	4270	4300
Managing Director's Office-salary and Administration Exp.	2800	2780
Total Selling and Administration Overhead	16,170	16,330
Apportionment: Divided equally among the three cost centres (1 : 1 : 1)	5,390	5,443

(ii) Responsibility Accounting Report For the Shop Superintendent

		Budget (`)	Actuator (`)	Variance (`)
(a)	Machine Shop Centre :			
	Raw Material and Components	900	920	20 (A)
	Wages	800	790	10 (F)
	Utilities	320	330	10 (A)
	Total (a)	2,020	2040	20 (A)
(b)	Fabrication Centre			
	Raw Material and Components	460	470	10 (A)
	Wages	600	620	20 (A)
	Utilities	560	530	30 (F)
	Total (b)	1620	1620	Nil

(c) Assembly Centre			
Raw Material and Components	760	800	40 (A)
Wages	720	730	10 (A)
Total (c)	1950	1940	10 (F)
Total for the three Centres (a + b + c)	5,590	5,600	10 (A)

5. S V Ltd. manufactures a product which is obtained basically from a series of mixing operations. The finished product is packaged in the company made glass bottles and packed in attractive cartons. The company is organized into two independent divisions viz. one for the manufacture of the end- product and the other for the manufacture of glass bottles. The product manufacturing division can buy all the bottle requirements from the bottle manufacturing division. The general manager of the bottle manufacturing division has obtained the following quotations from the outside manufacturers for the supply of empty bottles :

Volume (empty bottles)	Total purchases value (`)
8,00,000	14,00,000
12,00,000	20,00,000

A cost analysis of the bottle manufacturing division for the manufacture of emerty bottles reveals the following production costs :

Volume (empty bottles)	Total purchases value (`)
8,00,000	10,40,000
12,00,000	14,40,000

The production cost and sales value of the end-product marketed by the product manufacturing division are as under :

Volume (bottles of end-product)	Total cost of end-product (excluding cost of empty bottles)	Sales Value (packed in bottels)
8,00,000	64,80,000	91,20,000
12,00,000	96,80,000	1,27,80,000

There has been considerable discussion at the corporate level as to the use of proper price for transfer of empty bottles from the bottle manufacturing division to the product manufacturing division. This interest is heightened because a significant portion of the divisional general manager's salary is in incentive bonus based on profit centre results.

As the corporate management accountant responsible for defining the proper transfer prices for the supply of empty bottles by the bottle manufacturing division to the product manufacturing division, you are required to show for the two levels of volumes of 8,00,000 and 12,00,000 bottles, the profitability by using (i) market price and (ii) shared profit relative to the costs involved basis for the determination of transfer prices. The profitability position should be furnished separately for the two divisions and the company as a whole under each method. Discuss also the effect of these methods on the profitability of the two divisions.

Sol :

(i) Profitability Statement Using Market Price Basis of Transfer Pricing

		Volume	
		8,00,000 Bottles `	**12,00,000 Bottles** `
(a)	Glass Bottles Manufacturing Division :		
	Sales Revenue	14,00,000	20,00,000
	Less: Cost of Production	10,40,000	14,40,000
	Profit	3,60,000	5,60,000
(b)	End Product Manufacturing Division :		
	Sales Revenue .... (i)	91,20,000	1,27,80,000
	Less: Cost of production	64,80,000	96,80,000
	Cost of Empty Bottles	14.00,000	20,00,000
	Total cost .... (ii)	78,80,000	1,16,80,000
	Profit (i-ii)	12,40,000	11,00,000
	Total Profit of the Company (a + b)	16,00,000	16,60,000

(ii) Profitability Statement Using Shared Profit Relative to the Costs Basis

		Volume	
		8,00,000 Bottles `	**12,00,000 Bottles** `
	Sales Revenue .... (i)	91,20,000	1,27,80,000
	Less : Cost of Production of Bottle Division	10,40,000	14,40,000
	Production cost of End Product Division	64,80,000	96,80,000
	Total cost .... (ii)	75,20,000	1,11,20,000
	Total Profit for the Company (i-ii)	16,00,000	16,60,000
	(Profit x Cost of Bottle Division)		
(a)	Share of Bottle Mfg. Division	2,21,276	2,14,964
	$\left(\frac{\text{Profit} \times \text{Cost of Bottle Division}}{\text{Total Cost}}\right)$		
(b)	Share of Product Division	13,78,724	14,45,036

(iii) Determination of Transfer Price

Cost of production of Bottle Division	10,40,000	14,40,000
Add: Share of Profit	2,21,276	2,14,964
Transfer Price	12,61,276	16,54,964

Effect of the two Methods of Transfer Pricing on Profitability

The profit to the company as a whole remains the same whatever is the method of transfer price. However, market price basis of transfer pricing yields more profits for the bottle manufacturing division.

6. The following information relating to the operating performance of three divisions of X Limited.

	Divisions		
Particulars	**A** **Rs.**	**B** **Rs.**	**C** **Rs.**
Operating profit	32,000	1,50,000	3,00,000
Investment	4,00,000	7,50,000	18,00,000

i) Calculate the Return on Investment

ii) Assume that a charge in levied on each division for the use of capita. The charge is 10% on investment and it is deducted in measuring divisional net income. Recalculate ROI using net income after deduction of the use of capital charge in the numerator.

iii) Which of these two measures do you think better indication of operating performance ? Explain your reasoning.

Sol : **(Imp.)**

i) Return on Investment $= \dfrac{\text{Operating Income}}{\text{Investment}}$

Division 'A' $= \dfrac{32,000}{4,00,000} = 0.08 = 8\%$

Division 'B' $= \dfrac{1,50,000}{7,50,000}$

$= 0.2 = 20\%$

Division 'C' $= \dfrac{3,00,000}{18,00,000}$

$= 0.167 = 16.7\%$

ii) **Charge on Capital for each division**

$$\text{Division A} = 4{,}00{,}000 \times \frac{10}{100} = 40{,}000$$

$$\text{Division B} = 7{,}50{,}000 \times \frac{10}{100} = 75{,}000$$

$$\text{Division C} = 18{,}00{,}000 \times \frac{10}{100} = 1{,}80{,}000$$

Measuring of divisional net income after charging.

$\boxed{\text{Net Income} = \text{Operating profit - Capital charge}}$

Division A = 32,000 – 40,000 = –8,000

Division B = 1,50,000 – 75,000 = 75,000

Division C = 3,00,000 – 1,80,000 = 1,20,000

Division D = 3,00,000 – 1,80,000 = 1,20,000

Revised ROI

$$\text{Division A} = \frac{-8{,}000}{4{,}00{,}000} - 0.02 = -0.2$$

$$\text{Division B} = \frac{75{,}000}{7{,}50{,}000} = 0.1 = 10\%$$

$$\text{Division C} = \frac{1{,}20{,}000}{18{,}00{,}000} = 0.067 = 6.7\%$$

iii) Option (i) gives better performance, because in

Option (i) = All divisions has positive performance

Option (ii) = All divisions except division A's performance have the better performance.

7. From the following details analyze the relative performance of two independent responsibility centres.

Particulars	A (Rs.)	B (Rs.)
Sales	10,00,000	12,00,000
Divisional assets	15,00,000	14,00,000
Fixed cost	3,00,000	3,50,000
Variable cost	2,50,000	3,00,000
Capital employed	20,00,000	25,00,000
Cost of capital	8%	9%

Sol :

Responsibility centre 'A'		Responsibility centre 'B'	
Particulars	**Amount**	**Particulars**	**Amount**
Sales	10,00,000	Sales	12,00,000
(–) Variable cost	2,50,000	(-) Variable Cost	3,00,000
Contribution	7,50,000	Contribution	9,00,000
(–) Fixed cost	3,00,000	(–) Fixed cost	3,50,000
Net profit	4,50,000	Net profit	5,50,000

1. ROI

$$A = \frac{NP}{\text{Capital employed}} \times 100 = \frac{4,50,000}{15,00,000} \times 100 = 30$$

$$B = \frac{5,50,000}{14,00,000} \times 100 = 39.2$$

2. Residual Method

A = Net profit – (Cost of capital × Return on investment)

= 4,50,000 – (20,00,000 × 8%)

= 2,90,000

B = 5,50,000 – (25,00,000 × 9%)

= 3,25,000

8. The following information related to the operating performance of three divisions of 'X' Ltd.

Particulars	A (Rs.)	B (Rs.)	C (Rs.)
Operating Profit	64,000	3,00,000	6,00,000
Investment	8,00,000	15,00,000	30,00,000

(i) Compute the ROI of each division.

(ii) Assume that a charge is levied on each division for the use of capital. The charge is 10% on Investment and it is deducted in measuring divisional net income. Recalculate ROI using Capital charge and deduct from net income of the divisions.

(iii) Which of these two measures gives better indication of performance ?

Sol :

(i) $$\text{ROI} = \frac{\text{Operating Income}}{\text{Investment}}$$

$$\text{Division A} = \frac{64,000}{8,00,000} = 0.8 = 8\%$$

$$\text{Division B} = \frac{3,00,000}{15,00,000} = 0.2 = 20\%$$

$$\text{Division C} = \frac{6,00,000}{30,00,000} = 0.2 = 20\%$$

(ii) **Charge on capital for each division**

$$\text{Division A} = 8,00,000 \times \frac{10}{100} = 80,000$$

$$\text{Division B} = 15,00,000 \times \frac{10}{100} = 1,50,000$$

$$\text{Division C} = 30,00,000 \times \frac{10}{100} = 3,00,000$$

Measuring of divisional net income after charging

$$\boxed{\text{Net Income} = \text{Operating profit - Capital charge}}$$

Division A = 64,000 – 80,000 = (– 16,000)

B = 3,00,000 – 1,50,000 = 1,50,000

C = 6,00,000 – 3,00,000 = 3,00,000

Revised ROI

$$\text{Division A} = \frac{-16,000}{8,00,000} = (-2\%)$$

$$\text{B} = \frac{1,50,000}{15,00,000} = 10\%$$

$$\text{C} = \frac{3,00,000}{30,00,000} = 10\%$$

(iii) Option (i) giving the better indicates for performance, because in

Option - (i) = All division have the positive performance

Option - (ii) = All the division except division 'A's performance have the better performance.

Exercises Problems

1. A company fixes the inter-divisional transfer prices of its products on the basis of cost plus an estimated return on investment in its divisions. The relevant portion of the budget for Division A for the year 2015 - 2016 is given below :

	`
Fixed Assets	10,00,000
Debtors	4,00,000
Other Current Assets (Other than Debtors)	6,00,000
Annual Fixed Cost of the Division	12,00,000
Variable Cost per unit of the Product	15
Budgeted Volume of Production per year (units)	8,00,000
Desired Rate of Return on Investment	20%
You are required to determine the transfer price for the division	

[Ans : ` 17.00 per unit]

2. A production department of a large manufacturing organization has furnished the following data for May, 2017 :

	Budget (`)	**Actual (`)**
Direct Materials	4,00,000	5,10,000
Direct Wages	2,50,000	3,25,000
Repairs and maintenance (` 1,00,000 Fixed)	2,00,000	2,20,000
Supervision (Fixed)	1,00,000	1,10,000
Consumable Stores	75,000	95,000
Factory Rent (Fixed)	50,000	50,000
Depreciation (Fixed)	1,00,000	1,00,000
Tools (Variable)	25,000	30,000
Power and Fuel (Variable)	1,50,000	1,80,000
Administration (Fixed)	2,50,000	2,65,000

The department has 50 identical machines. During May 2017, the budgeted and actual production of the department are 10,000 and 12,500 units respectively. However, if the department was closed and the machine production services were hired from outside, the cost of hiring the services of similar machines would be ` 150 per unit.

(i) You are required to present reports showing the evaluation of the performance of the department based on the concept of (a) Cost Center (b) Profit Centre, and (c) Responsibility Centre.

(ii) It is felt that since the total budgeted cost of production per unit is greater than the cost of hired service, the possibility of closing down the department and use of hired services should be explored if the budgeted production cannot be increased in June 2017. Assuming that the budgeted expenses and level of output planned for May 2017 will hold good for June 2017 also, calculate the volume of output required to justify the continuance of the department.

[Ans : (i) Cost Variance ` 1,15,000 (F); Profit Variance ` 10,000 (A); Responsibility Center - Controllable ` 20,000 (A); Uncontrollable ` 15,000 (A); (ii) 12,000 units]

Short Question and Answers

1. Define Human Resources Accounting.

Ans :

Meaning and Definitions

Human Resource Accounting (HRA) is that branch of managerial accounting which involves the application of economic and accounting concepts to the area of personnel management. It is the process of recognizing, measuring and communicating useful information relating to human resources.

(i) **The American Accounting Association Committee on HRA has defined human resource accounting** as, "the process of identifying and measuring data about human resources and communicating this information to interested parties."

(ii) **According to Davidson and Weil,** "It is the process of measuring and reporting the human dynamics of an organization. It is the assessment of the condition of human resources within an organization and the measurement of the change in the condition through time."

(iii) **In the words of Geofrrey M.N. Baker,** "Human resource accounting is the term applied by the accountancy profession to quantify the cost and value of employees to their employing organization."

From the above, it may be concluded that Human Resource Accounting comprises the following three aspects :

(i) Evaluation of human resources.

(ii) Recording the valuation in the books of accounts.

(iii) Presenting the information in the financial statements for communication to the interested parties.

2. Significance of HRA

Ans :

Accounting is now regarded as a service activity, a descriptive analytical discipline and an information system. The primary role of accounting is to provide an effective measurement and reporting system for decision making. The human resource accounting is more concerned with this decision making an i of accounting. It is an effective tool for decision making.

The information generated through HRA can be of utmost help for making decisions in the following areas:

(i) Formulating policies and programmes for the development of human resources.

(ii) Decisions regarding cost reduction programmes.

(iii) Training and development.

(iv) Recruitment and selection.

(v) Manpower planning and control.

(vi) Conservation and reward of human resources.

(vii) Making a choice between various types of human investment and investments in other assets, etc.

Human resources have certain distinct characteristics from other physical assets like personality, self control, devotion quality, skill, talents, loyalty and initiativeness. It is basic need of present time to improve productivity, that can be improved by the human force. Hence, to encourage, is necessary to account them and take progressive decision for them.

3. Objectives of Human Resources Accounting.

Ans :

In spite of various objections to the approach of treating expenditure on human beings as an asset still this subject is very important. Its study is required with the following objectives in mind:

1. HRA helps in determining the return on investment on human resources.
2. It helps in knowing whether the human resources have been properly utilized or not.
3. It provides quantitative information on human resources which will help the managers as well as investors in making decisions.
4. Another objective of HRA is to communicate the worth of human resources to the organizations and the society at large .

4. Historical Cost Approach

Ans :

Historical cost approach was developed by Brummet, Flamholtz and Pyle. According to this approach the actual cost incurred on recruiting, selecting, training, placing and developing the human resources of an enterprise are capitalised and written off over the expected useful life of human resources. The procedure followed for human resource asset is the same as that of other physical assets. Any amount spent on training and developing human resource increases its efficiency, hence capitalised. The amortization of human resource assets is also done in the same way as that of other physical assets. The asset is written off over its useful life. If the asset is liquidated prematurely then its underwritten off amount is charged to revenue account. On the other hand, if it has a longer life then expected, its amortization is rescheduled.

Merits

This method has the following merits :

(i) This method is simple to understand and easy to work out.

(ii) The traditional accounting concept of matching cost with revenue is followed in this method.

(iii) It can help a firm in finding out a return on human resource investment.

Demerits

This methods suffers from the following difficulties :

(i) It is very difficult to estimate the number of years an employee will be with the firm.

(ii) It is difficult to determine the number of years over which the effect of investment on employees will be realized. The extent to which the employee will utilise the knowledge acquired is also subjectively estimated.

(iii) It is also difficult to fix a rate of amortisation. A number of methods have been derived to write off depreciation on fixed assets but in the case of humar asset it will generally be on a constant basis.

5. Replacement Cost Approach.

Ans :

This method was developed by Rensis Likert & Eric G. Flamholtz. The cost of replacing employees is used as the measure of company's human resources. The human resources of a company are to be valued on the assumption as to what it will cost the concern if existing human resources are required to be replaced with other persons of equivalent experience and talent. This approach corresponds to the historical cost approach mentioned earlier except that it allows for changes in the cost of acquiring and developing employees in place of taking their historical cost.

In replacement cost approach the costs of recruiting, selecting, training, developing, etc. of new employees to reach the level of competence of existing employees are measured. Likert has suggested determination of the value of total human organization on the basis of the assumption that a similar organization is to be created from scratch.

Merits

(i) This approach has the advantage of adjusting the human value of price trends in the economy and thereby provides more realistic value in inflationary times.

(ii) It has the advantage of present-oriented.

6. Explain the Limitations of Human Resources accounting.

Ans :

Some of common objections against human resource accounting are discussed follows :

1. There is difference between other assets and human resource. They cannot be valued like other assets.
2. The methods for valuation of human resources are different from each other.
3. Human resource asset is not recognized by tax laws. It remains only a theoretical concept.
4. The factors be included for valuing human resource accounting are abstract and are not precisely measurable in monetary terms. These valuations lack objectivity.

7. Define Responsibility Accounting.

Ans :

Responsibility Accounting is a system of control where responsibility is assigned for the control of costs. The persons are made responsible for the control of costs. Proper authority is given to the persons so that they are able to keep up their performance. In case the performance is not according to the predetermined standards then the persons who are assigned this duty will be personally responsible for it. In responsibility accounting the emphasis is on men rather than on systems.

Definitions

i) According to - Charles, T.Homgreen

"Responsibility accounting is a system of accounting that recognizes various responsibility centres throughout the organization and reflects the plans and actions of each of these centres by assigning particular revenues and costs to the one having the pertinent responsibility. It is also called profitability accounting and activity accounting".'

ii) According to Louderback and Dominiak

"Responsibility accounting is the name given to that aspect of the managerial process dealing with the reporting of information to facilitate control of operations and evaluation of performance."

iii) According to Charles T. Horngren "Responsibility accounting is a system of accounting that recognizes various decision centres throughout an organization and traces costs to the individual managers who are primarily responsible for making decisions about the costs in question."

iv) According to Sclialtke, R.W. Jonson, H. G. Responsi- bility accounting "is a system of accounting in which costs and revenues are accumulated and reported to managers on the basis of the manager's control over these costs and revenues. The managerial accounting system that ties budgeting and performance reporting to a decentralised organization is called responsibility accounting."

This is a system of accounting in which cost data are reported to managers who are in-charge of various cost centres. In this system, budgets are prepared and actual performance is recorded and reported.

v) According to David Fanning, Responsibility accounting "is a system or mechanism for controlling the wider freedom of action that executives decision centre manages in other words are given by senior management and for holding those executives responsible for the consequences of their decisions."

8. Advantages of Responsibility Accounting

Ans :

1. Assigning of Responsibility

Each and every individual in the organization is assigned some responsibility and they are accountable for their work. Every body knows what is expected of him. The responsibility can easily be identified and satisfactory and unsatisfactory performances of various persons are known. Nobody can shift responsibility to any body else if something goes wrong. So, under this system responsibility is assigned individually.

2. Improves Performance

The assigning of tasks to specific persons acts as a motivational factor too. The persons incharge for different activities know that their performance will be reported to the top management. They will try to improve their performance. On the other hand, it acts as a deterrent for low performance also because persons know that they are accountable for their work.

3. Helpful in Cost Planning

Under the system of responsibility accounting, full information is collected about costs and revenues. This data is helpful in planning of future costs and revenues, fixing of standards and preparing of budgets.

4. Delegation and Control

This system enables management to delegate authority while retaining overall control. The authority is delegated according to the requirements of the task assigned. On the other hand, responsibility of various persons is fixed which is helpful in controlling their work. The control remains with top management because performance of every cost centre is regularly reported to it. So management is able to delegate authority and at the same time to retain control.

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9. Define Responsibility Centre.

Ans :

"A responsibility Centre is like an engine in that it has inputs, which are physical quantities of material, hours of various types of labour, and a variety of services ; it works with these resources usually; working capital and fixed assets are also required. As a result of this work, it produces output, which are classified either as goods, if they are tangible or as services, if they are intangible. These goods or services go either to other responsibility centres within the company or to customers in the outside world".

In the words of Deakin and Maher, "a responsibility centre is a specific unit of an organization assigned to a manager who is held responsible for its operations and resources."

Responsibility accounting is used to measure both inputs and outputs. The inputs of materials in quantity and labour in hours are expressed in monetary terms. The total of various inputs is called 'cost'. The output can be expressed either in goods produced or services rendered. If the output is meant for outsiders, then it is easy to measure the monetary value of the output but if the output is used for other departments of the centre, then it will have to be valued objectively. The total of output is called 'revenue'. So responsibility accounting is used in measuring costs and revenues.

Choose the Correct Answer

1. Historical Cost Approach was developed by ________ [a]
   (a) Bsummet, Flamholtz & Pyle (b) Rensis Likert
   (c) Hekimian & Jone's (d) Johnson
2. HRVA [b]
   (a) Human Resource Valuation Accounting
   (b) Human Resource Value Accounting
   (c) Human Resource validity Accounting
3. The ________ can realistically be calculated only when investment on human resources is also taken into account. [c]
   (a) Economic value added (b) Financial Performance
   (c) Return on Investment (d) Return on Equity
4. The sum of costs inculsed for all the employees of the organisation represents the value of the organisation. [c]
   (a) Salaries (b) Quatitative values
   (c) Human Resources (d) Rent
5. ________ approach refers to the sacifice that would have to be made to replace resources employed [a]
   (a) Replacement cost (b) Historical cost
   (c) Opportunity cost (d) Incremental cost
6. ________ is an entity segment in which a manages can control not only resources & costs but also investment. [c]
   (a) Revenue center (b) Cost center
   (c) Investment center (d) All of the above
7. ________ may have both inputs and outputs. [b]
   (a) Responsibility engine (b) Responsibility centers
   (c) Responsibility division (d) Investment center
8. ________ is an entity segment where manager can control only revenues. [a]
   (a) Revenue center (b) Cost center
   (c) Investment center (d) Profit center
9. Responsibility accounting is a system of control where ________ responsibility is assigned for the control of costs. [a]
   (a) Responsibility (b) Cost
   (c) Profit (d) Income
10. For a sound organisation structure ________ relationships is a pre-requisite for establishing a success ful responsibility accounting system. [c]
    (a) Cost (b) Management
    (c) Responsibility (d) Profits

Fill in the blanks

1. _______ Means accounting for people as organisational resources.
2. HRA will give the cost of developing _______ in the business.
3. _______ has been suggested by Hekimian and Jones.
4. Another important approach to the evaluation of human resource assets is to calculate their _______
5. Replacement cost Approach was developed by _______
6. Responsibility Accounting focuses on _______
7. Sales revenue (–) controllable variable costs = _______
8. Division of an organisation in which financial performance is measured on the basis of revenues - expenses is known as _______
9. _______ is a sub unit of an organisation under the control of a manager who is responsible for its activities.
10. _______ is a price used to measure the value of goods / services furnished by a profit centre to other responsibility centers within a firm.

ANSWERS

1. Human Resource Accounting
2. Human Resources
3. Opportunity Cost Approach
4. Economic values
5. Rensis Likert & Fric. G. Flanholtz
6. Responsibility centers
7. Controllable contribution margin
8. Profit center
9. Responsibility center
10. Transfer Price

UNIT III

INFLATION ACCOUNTING AND INCOME MEASUREMENT:

Inflation Accounting - Concept – Limitations of historical based-cost financial statements – Methods of Inflation Accounting: Current Purchasing Power Method – Current Cost Accounting Method (Including problems) Income Concepts for financial reporting – Measurement and Reporting of Revenues, Expenses, Gains and Losses (Theory only) – Analysis of Changes in Gross Profit. (Including problems)

3.1 Inflation Accounting

3.1.1 Concept

Q1. Define Inflation Accounting

(or)

What is Inflation Accounting

Ans : **(May -17, May -16, Imp.)**

Introduction

Prices do not remain constant over a period of time. They tend to change due to various economic, social (or) political factors. Changes in the price levels cause two types of economic conditions, inflation and deflation.

Meaning

Inflation may be defined as a period of general increase in the prices of factors of production whereas deflation means fall in the general price level.

These changes in the price levels lead to inaccurate presentation of financial statements which otherwise are prepared to present a true and fair view of the company's financial health. This is so because the financial statements are prepared on historical costs on the assumption that the unit of account, i.e. rupees in case of India, has static value. But the assumption is not valid because the value of the unit of account, i.e., the purchasing power of the rupee, has been changing ever since the beginning of this century. After the First World, War, during 1918-23, there was a period of higher inflation in Germany. But it was only after the Second World War that the prices started rising continuously and it made a nonsense of presenting the financial statements on historical cost basis.

Q2. Explain the advantages and dis-advantages of Inflation Accounting .

Ans :

In the past few years of high inflation, companies have reported very high profits on the one hand but on the other they have faced real financial difficulties. This is so because in reality dividends and taxes have been paid out of capital due to overstated figures of profits arrived at by adopting historical cost concept. Thus a change from historical cost concept to price level or inflation accounting has been recommended.

The major advantages of Inflation Accounting are as follows :

1. It enables company to present more realistic view of its profitability because current revenues are matched with current costs.
2. Depreciation charged on current values of assets in inflation accounting further enables a firm to show accounting profits more nearer to economic profits and replacement of these assets when required.
3. It enables a company to maintain its real capital by avoiding payment of dividends and taxes out of its capital due to inflated profits in historical accounting.
4. Balance Sheet reveals a more realistic and true and fair view of the financial position of a

concern because the assets are shown at current values and not on distorted values as in historical accounting.

5. When financial statements are presented, adjusted to the price level changes, it makes possible to compare the profitability of two concerns set up at different times.

6. Investors, employees and the public at large are not misled by inflated book profits because inflation accounting shows more realistic profits. Higher paper profits without adjustment for price level changes cause resentment among workers and they demand higher wages and also excessive profits attract new entrepreneurs to enter the business. Inflation accounting helps in avoiding further competition from prospective entrepreneurs.

7. The financial statements prepared by a company adjusted to the price level changes also improve its social image.

8. Inflation accounting also effects the investment market as it helps to establish a realistic price for the shares of a company.

Disadvantages

Some people are of the opinion that inflation accounting may create more problems than solving them because of the following inherent disadvantages of the price level accounting :

1. Adjusting accounts to price level changes is a never-ending process. It involves constant changes and alterations in the financial statements.

2. Price level accounting involves many calculations and makes financial statements so complicated and confusing that it becomes very difficult for man of ordinary prudence to understand, analyze and interpret them.

3. The concept of price level accounting appears to have more theoretical importance than practical because adjusting the accounts to the changes in the price levels may lead to window dressing of accounts due to the element of subjectivity in it. People may adjust the accounts according to the values most suited to them, thereby, making the financial statements more inaccurate.

4. Depreciation charged on current values of fixed assets is not acceptable under the Income Tax Act, 1961 and hence adjusting it to price level changes does not serve any practical purpose.

5. During deflation, when the prices are falling, adjustments of accounts to price level changes will mean charging lesser depreciation and overstatement of profits.

3.2 Limitations of Historical Based-Cost Financial Statements

Q3. Define Financial Statements. What are the Limitations of Historical based-cost financial statements

Ans :

The term 'financial statement' refers to two statements, i.e. the balance sheet or statement of financial position that reflects assets, liabilities and capital on a particular date and profit and loss account or income statement that shows the operating results achieved during a particular period. The primary function of accounting is the preparation of financial statements in such a manner so as to give a true and fair view of the financial and operating position of the company.

Financial statements are usually based on actual or historical cost concept. They reveal the impact of various transactions involved in the accounting period on the operating and financial health of the company. But various transactions include :

1. Current assets acquired and current liabilities incurred at different points of time in the accounting period.

2. Various expenses incurred and incomes earned at different points of time in the accounting period.

3. Various assets acquired at different points of time.

4. Various liabilities incurred at different points of time. Hence, it is clear that the measurement unit of various transactions, i.e. money, relates to different points of time. But the

value of money does not remain the same over a period of time, it has different values at different points of time due to changes in the price levels.

The profit, arrived at by deducting from the revenues at current values, the costs which are not on current values, cannot state the true picture. The causes of overstatement of profits during inflation are primarily, two in number. One is the writing off depreciation on fixed assets at a lower rate than it would have been and the other is the overvaluation of stock in trade.

The effect of inflation on fixed assets is still worse because low provisions for depreciation on the assets valued at historical costs not only show higher profits but also result in non-availability of sufficient funds for replacement of fixed assets. Fixed assets, maintained on historical cost concept, have a tendency to inflate book profit thereby increasing the tax liability and payments of dividends out of capital.

Limitation

1. Inaccurate presentation of financial statements during the changes in the price levels.
2. Unrealistic, imaginary and inflated book profits in times of rise in prices due to overvaluation of stock in trade and writing off depreciation on fixed assets at a lower rate.
3. Payment of dividends and taxes, much more than warranted by the real profits, out of the equity capital resulting in the erosion of capital.
4. Difficulties in replacement of fixed assets during inflation.

3.3 Methods of Inflation Accounting

3.3.1 Current Purchasing Power Method

Q4. Explain the techniques of Current purchasing power.

Ans : **(Imp.)**

Current Purchasing Power Technique of accounting requires the companies to keep their records and present the financial statements on conventional historical cost basis but it further requires presentation of supplementary statements in items of current purchasing power of currency at the end of the accounting period. In this method the various items of financial statements, i.e. balance sheet and profit and loss account are adjusted with the help of recognized general price index. The consumer price index or the wholesale price index prepared by the Reserve Bank of India can be taken for conversion of historical costs.

The main objective of this method is to take into consideration the changes in the value of money as a result of changes in the general price levels. It helps in presenting the financial statements in terms of a unit of measurement of constant value when both cost and revenue have been changing due to changes in the price levels.

This technique of price level accounting has been followed by a number of companies like Germany, Australia and U.S.A. But although this method is simple, it may be considered as only a first step towards inflationary accounting. The major weaknesses of this techniques are as follows :

(i) As it takes into account the general price index, it does not account for changes in the individual assets of the company. Sometimes it is possible that there may be an increase in the general price index, but there may not be any increase (rather there might be a decrease) in the value of a particular asset of a certain company.

(ii) The technique seems to be more of theoretical nature than of any practical utility.

(iii) In a country like India, even the price indices may not be correct and it may further cause inaccurate presentation of the financial statements.

Mechanism of Preparing Financial Statement under CPP Method

(a) Conversion Technique

Current Purchasing Power Method (CPP) requires conversion of historical figures at current purchasing power. In this method, various items of balance sheet and profit loss account are adjusted with the help of recognized general price index. The consumer price index or the wholesale price index prepared by the Reserve Bank of India can be taken for conversion of historical costs. For this purpose, historical figures must be multiplied with the conversion factor. The conversion factor can be calculated with the help of the following formula :

$$\boxed{\text{Conversionfactor} = \frac{\text{Current Price Index}}{\text{Previous Price Index at the date of existing figure}}}$$

And, the formula for calculating the converted figure is :

$$\boxed{\text{Converted figure} = \text{Historical figure} \times \text{Conversion Factor}}$$

$$\text{Historical figure} \times \frac{\text{Current year Index}}{\text{Previous year Index at the date of existing figure}}$$

(b) Mid-Period Conversion

There are several transactions which take place throughout the year such as purchases, sales, expenses, etc. For conversion of such items, average index of the year can be taken as the one index for all such items. If such an average is not available, the index of the mid-year be taken for this purpose. And, if the index of the mid year is also not available, then the average of index at the beginning and at the end of the period may be taken.

(c) Monetary and Non-Monetary Accounts (Gain or Loss on Monetary items)

For the conversion of historical costs in terms of current purchasing power of currency, it is useful to make a distinction between :

(i) Monetary accounts, i.e., money value items;

(ii) Non-monetary accounts, i.e., real value items.

(i) Monetary Accounts

- Monetary accounts are those assets and liabilities which are not subject to reassessment of their recorded values owing to change of purchasing power of money. The amounts of such items are fixed, by contract or other wise in term of rupees, regardless of change in the general price level.
- The examples of such items are cash, debtors, bills receivables, outstanding incomes, etc., as assets and creditors, bills payable, loans etc., as liabilities. Such items whose amounts are fixed and do not require reassessment are also known as money value items.

(ii) Non - Monetary Account

- Other assets and liabilities, the values of which do change or are subject to reassessment along with the change in the purchasing power of money are called non-monetary items or real value assets and liabilities.
- Non-monetary items include items such as stocks, land, building, plant and machinery, etc. It must be noted that, in the process of conversion, it is only the non monetary items which are adjusted to the current purchasing power of money.

Further, if assets and liabilities are converted as stated above, it may be found that a loss or gain arises from the difference of the converted total value of assets and that of liabilities.

This loss or gain arises through monetary items or money value assets and liabilities i.e., cash, debtors, receivables, creditors, bills payable, etc., and not through real value assets and liabilities or non-monetary items.

(d) Adjustment of Cost of Sales and Inventory

As inventory is purchased in period n and sold in (n + x) period, there is a time gap between purchases and sales. During this time, there might be changes in the price levels. Because of inflation, the selling prices would indicate the value realized in terms of the increased price levels and costs which relate to the earlier periods would imply lower values. This results in over-statement of profits which are often misleading. The same is true is in deflation also, as current revenues are not matched with current costs. Hence, adjustment of inventory and cost of sales is very important. This adjustment depends upon the method adopted for the outflow of inventories, viz., first-in-first-out or last-in-first-out.

i) First in First out (FIFO)

Under first-in-first out method (FIFO) cost of sales comprise the entire opening stock and current purchases less closing stock. The closing inventory is entirely from current purchases.

ii) Last in First out (LIFO)

But under the last-in-first-out method (LIFO) cost of sales comprise mainly of the current purchases and it is only when the cost of sales exceeds current purchases, opening stock enters into cost of sales. The closing stock enters current purchases, opening stock enters into cost of sales. The closing invetory in LIFO is out of the purchases made in the previous year.

For adjusting the figures for price level changes the following indices are applied:

i) For current purchases - the average index of the year.

ii) For opening stock - the index at the beginning of the year.

iii) For purchases of previous year - the average index of the relevant year.

(e) Ascertainment of Profit

Profit under Current purchasing Power (CPP) accounting can be ascertained in two ways :

(i) Net Change Method

This method is based on the normal accounting concept that profit is the change in equity during an accounting period. Under this method, the opening as well as closing balance sheets are converted into CPP terms by using appropriate index numbers. The difference in the balance sheet is taken as reserves after converting the equity capital also. If equity capital is not converted, it may be taken as the balancing figure. It must be remembered that in the closing balance sheet, the monetary items will remain unchanged. Profit is calculated as the net change in reserves, where equity capital is also converted; and will be equal to net change in equity, where equity is not converted.

(ii) Conversion of Income Method

Under this method, the historical income statement is converted in CPP terms. Purchases, sales and other expenses which are incurred throughout the year, are converted at average index. Depreciation can be calculated on converted values. Monetary gain or loss is also ascertained as explained in point.

3.3.2 Current Cost Accounting Method

Q5. Explain briefly about Current Cost Accounting Method

Ans : **(Imp.)**

The British Government had appointed a committee known as Sandilands Committee under the chairmanship of Mr. Francis C.R Sandilands to consider and recommend the accounting for price level changes. The committee presented its report in the year 1975 and recommended the adoption of Current Cost Accounting Technique in place of Current Purchasing Power of Replacement Cost Accounting Technique for price level changes. The current cost accounting technique is the preparation of financial statements (Balance Sheet and Profit and Loss Account) on the current values of individual items and note on the historical (or) original cost.

The essential characteristics of current cost accounting technique are as follows :

1. The fixed assets are shown in the balance sheet at their current values and not on historical costs.
2. The depreciation is charged on the current values of the fixed assets and not on original costs.
3. Inventories or stocks are valued in the balance sheet at their current replacement costs on the date of the balance sheet and not cost or market price whichever is lower.
4. The cost of goods sold is calculated on the basis of their replacement cost to the business and not on their original cost.
5. The surpluses arising out of revaluation are transferred to Revaluation Reserve Account and are not available for distribution as dividend to the shareholders.
6. In addition to the balance sheet and profit and loss account, an appropriation account and a statement of changes is prepared.

The current cost accounting (CCA) technique has been preferred to the current purchasing power (CPP) technique of price level accounting as it is a complete system of inflation accounting. The financial statements prepared under this technique provide more realistic information and make a distinction between profits earned from business operations and the gains arising from changes in price levels. As depreciation under CCA is provided on current cost, the method prevents overstatement of profits and keeps the capital intact. The effect of holding monetary items in terms of gains and losses having an impact on the finance of the business is also highlighted. However, there are many difficulties in the operation of CCA technique :

(a) It is very difficult to determine the 'value to the business' of a real asset.

(b) There is an element of subjectivity in this technique.

(c) It does not hold good during the periods of depression.

Some important Adjustments Required Under the CCA Technique

(i) Current Cost of Sales Adjustment (COSA)

Under the CCA technique, cost of sales are to be calculated on the basis of cost of replacing the goods at the time they are sold. The important principle is that current costs must be matched with current revenues. As for sales are concerned, it is current revenue and out of the costs, all operating expenses are current costs. But in case of inventories, certain adjustments will have to be made, known as cost of sales adjustment.

Cost of sales adjustment can be calculated with the help of the following formula

$$\text{COSA} = (C - O) - I_a\left(\frac{C}{I_c} - \frac{O}{I_0}\right)$$

Where

C = Historical cost of closing stock

O = Historical cost of opening stock

I_a = Average Index number

I_c = Index number appropriate to closing stock

I_o = Index number appropriate to opening stock

(ii) Depreciation Adjustment

Under the CCA method assets are shown in the balance sheet on current replacement costs after allowing for depreciation. This will require an adjustment in depreciation also. Current year's depreciation under CCA can be calculated with the help of following formula :

Current year's depreciation (CCA method)

$$= \frac{\text{Opening Current Value of Assets} + \text{Closing Current Value of Assets}}{2 \times \text{Life of asset}}$$

And, Depreciation Adjustment = Current year's depreciation of CCA –

Depreciation on historical cost

(iii) Backlog Depreciation

Whenever an asset is revalued, the profit on revaluation is transferred to Evaluation Reserve Account. But the revaluation also gives rise to a backlog depreciation. This backlog depreciation should be charged to Revaluation Reserve Account.

(iv) Monetary Working Capital Adjustment (MWCA)

Working capital is that part of capital which is required to meet the day to day expenses and for holding current assets for the normal operations of the business. It is referred to as the excess of current assets over current liabilities. The changes in the price levels disturb the working capital position of a concern. CCA method requires a financing adjustment reflecting the effects of changing prices on net monetary items, leading to a loss from holding net monetary assets or to a gain from holding net monetary liabilities when prices are rising, and vice-versa, in order to maintain the monetary working capital of the enterprise. This adjustment reflects the amount of additional finance needed to maintain the same working capital due to the changes in price levels. The method of calculating MWCA is the same as that of COSA. Symbolically.

$$\text{MWCA} = (C - O) - I_a\left(\frac{C}{I_c} - \frac{O}{I_o}\right)$$

Where C = Closing Monetary Working Capital

O = Opening MWC

I_a = Average Index for the period

I_c = Appropriate Index for closing MWC

I_o = Appropriate index for opening MWC

(v) Current Cost Operating Profit

Current cost operating profit is the profit as per historical cost accounting before charging interest and taxation but after charging adjustments of cost of sales, depreciation and monetary working capital.

(vi) Gearing Adjustment

During the period of rising prices, shareholders are benefited to the extent fixed assets and net working fixed assets and net working capital are financed while the amount of borrowings to be repaid remains fixed except interest charges. In the same manner, there is a loss to the shareholders in the period of falling prices. To adjust such profit or loss on account of borrowings, 'gearing adjustment' is required to be made. 'Gearing adjustment' is also a financing adjustment like COSA and MWCA. This adjustment reduces the total adjustment for cost of sales, depreciation and monetary working capital in the proportion of finance by borrowings to the total financing. Gearing adjustment can be calculated with the help of the following formula :

$$\text{Gearing Adjustment} = \frac{B}{B+S} \times A$$

Where, B = Average net borrowings

S = Average Shareholders' interest

A = Total of the current cost adjustments

Q6. Explain various techniques of Replacement cost Accounting.

Ans :

Replacement Cost Accounting (RCA) Technique is an improvement over Current Purchasing Power Technique (CPP). One of the major weakness of Current Purchasing Power technique is that it does not take into account the individual price index related to the particular assets of a company. In the Replacement Cost Accounting technique the index used are those directly relevant to the company's particular assets and not the general price index. In this sense the replacement cost accounting technique is considered to be an improvement over current purchasing power technique. But adopting the replacement cost accounting technique will mean using a number of price indices for conversion of financial statements and it may be very difficult to find out the relevant price index to be used in a particular case. Further, the replacement cost accounting technique provides for an element of subjectivity and on this ground it has been criticized by various thinkers.

Depreciation and Replacement of Fixed Assets

Another problem posed by the price level changes (and more so by inflation) is that how much depreciation should be charged on fixed assets. The purpose of charging depreciation is two fold (i) to show the true and fair view of the financial statements and the profitability of the concern, and (ii) to provide sufficient funds to replace the assets after the expiry of the life of the asset. Depreciation charged on historical or original cost does not serve any of the two purposes. Suppose a machine was purchased in 1990 for ` 1,00,000 having a life of 10 years. In case depreciation is charged on original cost, after 10 years we shall have ` 1,00,000 from the total depreciation provided. But due to inflation the cost of the machine might well have gone up to ` 2,00,000 or even more in 2000 when the machine is to be replaced and we may find it difficult to replace the asset. It proves that we have been charging less depreciation which resulted in overstatement of profits and higher payment of dividends and taxes in the past and insufficient funds now to enable the replacement of the asset. Hence, to rectify this, it is necessary that fixed assets are valued at replacement cost values and depreciated on such replacement cost values. But adopting replacement cost method is also not free from difficulties.

The main difficulties are as follows :

(1) It is not possible to find accurately the replacement cost till the replacement is actually made.

(2) The replaced new assets are not of the same type and quality as old assets because of new developments and improved qualities.

(3) Income Tax Act. 1961 does not provide for any other method than the actual cost method.

(4) The fixed assets should not be written-up in the balance sheet when the prices are not stable.

Hence, it may not be possible to charge depreciation on replacement cost basis. However, it is still advisable to retain profits ad restrict dividends so as to enable funds for replacement of fixed assets. For this purpose. 'Specific Capital Reserves' or 'Replacement Reserves' should be provided in addition to the normal depreciation provided on actual cost of the asset.

Q7. Explain briefly about Current Value Accounting Technique.

Ans :

In the Current Value Accounting Technique of price level accounting all assets and liabilities are shown in the balance sheet at their current values. The value of the net assets at the beginning and at the end of the accounting period is ascertained and the difference in the value in the beginning and the end is termed as profit or loss, as the case may be. In this method also, like replacement cost accounting technique, it is very difficult to determine relevant current values and there is an element of subjectivity in this technique.

PROBLEMS

1. A building was purchased in 2000 at a price of ` 80,000, the general price index at that item was 150, Convert the figure in current rupees on 31.12.2007 when the index stood at 300.

Sol :

$$\text{Conversation Factor} = \frac{\text{Current Price Index}}{\text{Previous Price Index at the date of existing figure}}$$

$$= \frac{300}{150} = 2$$

Converted Value = Historical Cost × Conversion Factor

= 80,000 × 2 = ` 1,60,000

Alternatively, Converted Value = $80,000 \times \frac{300}{150}$ = ` 1,60,000

2. Mr. A purchased a piece of land in 2000 for ` 50,000 when the general price index was 125. He sold this piece of land in 2007 for ` 1,05,000 when the general price index was 300. Calculate the profit or loss on the sale of land keeping aside the price level changes.

Sol :

Purchase price of Land (Original cost) ` = 50,000

Sale Price ` = 1,05,000

It seems as if there is a profit of ` 55,000 (1,05,000 – 50,000) but it is not so if the gain arising due to price level changes is ignored:

Converted value of land at 2007 Index 50,000 × $\frac{300}{125}$ = ` 1,20,000

So, there is rather a loss of ` 15,000.

i.e., Sale Price – Converted Value of Land

` 1,05,000 – 1,20,000 = ` 15,000 (Loss)

3. A company has the following transactions at the given dates and price indices for the first quarter of 2008 :

ZPParticularsP	`	Price Index
Opening Balance (Jan. 1)	8,000	100
Cash Sales (Feb. 1)	15,000	104
Payment to Creditors (March 1)	10,000	106
Cash Purchases (March 1)	2,000	108
Payment of Expenses (March 31)	4,000	110
Closing Balance	7,000	110
Calculate Monetary Gain or Loss.		

Sol :

Statement of Cash			
ParticularsP	**Conventional Accounting `**	**Conversion Factor**	**Converted Values `**
Opening Balance	8,000	110/100	8,800
Add: Cash Sales	15,000	110/104	15,865
(a)	23,000		24,665
Less: Cash Payments			
(i) Creditors	10,000	110/106	10,377
(ii) Purchases	2,000	110/108	2,037
(iii) Expenses	4,000	110/110	4.000
(b)	16,000		16,414
Closing Balance [(a) – (b)]	7,000		8,251
ParticularsP			`
Expected balance			8,251
(–) Actual Balance			7,000
Monetary Loss			1,251

4. From the information given below, ascertain the cost of sales and closing inventory under CPP method, if (i) LIFO and (ii) FIFO is followed :

	`
Inventory on 1.1.2007	20,000
Purchases during 2007	1,00,000
Inventory on 31.12.2007	30,000
General Price index:	
On 1.1.2007	160
Average for the year	180
On 31.12.2007	200

Sol :

Particulars	Historical Factor	Conversion Values	Converted
(i) Under LIFO			
(a) Cost of Sale	`		
Opening Inventory	20,000		
Add: Purchases	1,00,000		
	1,20,000		
Less: Closing Inventory	30.000	200	$90,000 \times \frac{200}{180}$
Cost of Sales	90,000	180	= 1,00,000
(b) Closing Inventory		200	
Out of current purchases	10,000	180	11,111
		200	
Out of opening stock	20,000	160	25,000
	30,000		36,111
(ii) Under FIFO			
Cost of Sales and Closing Inventory		200	
Opening inventory	20,000	160	25,000
		200	
Add: Purchases	1,00,000	180	1,11,111
	1,20,000		1,36,111
Less : Closing inventory	30,000	200	33,333
	90,000	180	1,02,778
(Under FIFO, the closing inventory is entirely from current purchases and hence has been converted at average index)		200	
Closing Inventory	30,000	180	33,333

5. Arjun Ltd. furnishes the following income statement for the year ending 31st December 2007, prepared on the basis of conventional accounting. You are required to adjust the same for price level changes under CPP method.

Particulars	`	`
Sales		90,000
Less : Cost of goods sold :		
Opening inventory	8,000	
+ Purchases	60,000	
	68,000	
– Closing inventory	6,000	
Add	62,000	
Expenses		
Wages & salaries	6,000	
Other expenses	4,500	
Depreciation on building	700	
Interest	300	73,500
Net Income	16,500	
Dividends	4,000	
Retained Earnings	12,500	

Additional Information

1. Index of general price level:

January 1, 2007	100
December 31,2007	200
Average Index	150

2. Interest and dividends are paid on December 31.
3. Building was purchased when the index was 50.

Sol :

Particulars		**Conventional Values**	**Conversion Factor**	**Adjusted Values**
Sales		90,000	200/150	1,20,000
Less : Cost of goods sold :				
Opening inventory	8,000		200/100	16,000
(+) Purchases	60,000		200/150	80,000
	68,000			96,000
(-) Closing Inventory	6,000		200/150	8,000
	62,000			88,000

Add: Expenses:				
Wages & Salaries	6,000		200/150	8,000
Other Expenses	4,500		200/150	6,000
Depreciation on building	700		200/50	2800
Interest	300		200/200	300
	73,500			1,05,100
Net Income	16,500			14,900
Less: Dividends	4,000		200/200	4,000
Retained Earnings		12,500		10,900

6. Calculate the 'Cost of sales adjustment' (COSA) from the following :

	Historical Cost `	Index Number `
Opening Stock	52,000	100
Purchases	2,20,000	110 (Average)
Total goods	2,72,000	
Less: Closing Stock	72,000	120
Cost of sales	2,00,000	

Sol :

$$\text{COSA} = (C - O) - I_a\left[\frac{C}{I_c} - \frac{O}{I_a}\right]$$

$$\text{Or} \quad \text{COSA} = (72{,}000 - 52{,}000) - 110\left(\frac{72{,}000}{120} - \frac{52{,}000}{100}\right)$$

$$= 20{,}000 - 110\ (600 - 520)$$

$$= 20{,}000 - 8{,}800 = \text{` } 11{,}200$$

Cost of sale adjustment can also be calculated as under:	`
Opening stock at average index = $52{,}000 \times \frac{110}{120}$	57,200
Add: Purchases at average index	2,20,000
Total goods available at average index	2,77,200
Less: Closing stock at average index = $72{,}000 \times \frac{110}{120}$	66,000
Current Cost of Sales	2,11,200

COSA = Current Cost of Sales - Historical Cost of Sales

= ` 2,11,200 – 2,00,000 = `11,200

7. A machine was purchased on 1.1.2002 at a cost of ` 10,00,000 and its useful life was estimated to be 10 years. Its replacement cost was ` 18,00,000 on 1.1.2007 and ` 20,00,000 on 31.12.2007.

i) Calculate the amount of depreciation adjustment.

ii) Compute the backlog depreciation

Sol : **(Imp.)**

i) Current year's depreciation (CCA method) = $\frac{18,00,000 + 20,00,000}{2 \times 10}$

= Rs. 1,90,000

Historical depreciation = $\frac{10,00,000}{10}$ = ` 1,00,000

Depreciation Adjustment = Current year's dep. on CCA – Historical dep.

= ` 1,90,000 – 1,00,000 = ` 90,000.

ii) Replacement cost of the machine on 1.1.2007 (Current Value) = ` 18,00,000

Expired Life on 1.1.2007 = 5 years

Depreciation under CAA = 18,00,000 × $\frac{5}{10}$ = ` 9,00,000

Replacement/ Current value on 31.12.2007 = ` 20,00,000

Expired Life on 31.12.2007 = 6 years

Depreciation under CAA = 20,00,000 × $\frac{6}{10}$ = ` 12,00,000

Difference in depreciation = 12,00,000 – 9,00,000

= ` 3,00,000

Backlog depreciation = Diff. in dep. – Depreciation chargeable in current year

= 3,00,000 – 1,90,000 = 2,10,000

Current year's dep. has been calculated as = $\frac{18,00,000 + 20,00,000}{2 \times 10}$

= 1,90,000

8. Compute the net monetary result of A Co., Ltd., as on 31.3.2016 from the following information.

Particulars	1-4-2015 (Rs.)	31-3016 (Rs.)
Cash	20,000	25,000
Debtors	50,000	60,000
Creditors	70,000	80,000
Loan	30,000	30,000

Retail Price Index Numbers :

01-04-2015	...	200
Average for the 2016		210
31-03-2016	...	230

Sol :

Statement of Cash as on 31-3-2016

Particulars	Conventional Accounting `	Conversion Factor `	Converted Values `
Opening Cash Balance	20,000	230/200	23,000
Add : Debtors	60,000	230/210	65,714
	80,000		
Less : Cash payments			
i) Creditors	80,000	230/210	87,619
ii) Loan	30,000	230/200	34,500
	1,10,000		

9. Calculate the Monetary Working Capital Adjustment (MWCA) from the following data

	1-1-2006	31-12-2007
Sundry Debtors (`)	70,000	1,00,000
Sundry Creditors (`)	30,000	40,000
Index Number	100	120
Average Index		110

Sol :

$$\text{MWCA} = (C - O) - I_a\left(\frac{C}{I_c} - \frac{O}{I_o}\right)$$

C = Closing Monetary Working Capital

= 1,00,000 – 40,000 = 60,000

O = Opening Monetary Working Capital

= 70,000 – 30,000 = 40,000

I_a = Average Index = 110

I_c = Closing Index = 120

I_o = Opening Index = 100

Substituting the values :

$$\text{MWCA} = (60{,}000 - 40{,}000) - 110\left(\frac{60{,}000}{120} - \frac{40{,}000}{100}\right)$$

= 20,000 – 110 (500 – 400)

= 20,000 – 11,000 = ` 9,000.

10. From the data below, calculate the gearing adjustment required under CCA method :

Particulars	Opening `	Closing `
Convertible Debentures	1,00,000	1,20,000
Bank Overdraft	60,000	80,000
Cash	10,000	30,000
Paid-up Share Capital	1,50,000	2,00,000
Reserves	50,000	80,000
	`	
COCA	20,000	
MWCA	15,000	
Depreciation	5,000	
Total of Adjustments	40,000	

Sol :

Calculation of Net Borrowings :

Particulars	Opening ₹	Closing ₹
Convertible Debentures	1,00,000	1,20,000
Bank Overdraft	60,000	80,000
Total Borrowings	1,60,000	2,00,000
Less : Cash (as this does not enter into MWCA)	10,000	30,000
Net Borrowings	1,50,000	1,70,000
Calculation of Shareholder Funds :		
Paid-up Share Capital	1,50,000	2,00,000
Reserves	50,000	80,000
Shareholder's Funds	2,00,000	2,80,000

Average Net Borrowings $= \frac{1,50,000 + 1,70,000}{2}$

Or, B = ₹ 1,60,000

Average Shareholders Interest $= \frac{2,00,000 + 2,80,000}{2}$

Or, S = ₹ 2,40,000

Gearing Adjustment $= \frac{B}{(B+S)} \times A$

$= \frac{1,60,000}{(1,60,000 + 2,40,000)} \times 40,000$

As Total of Adjustment A = 40,000 (given)

Or, Gearing Adjustment $= \frac{1,60,000}{4,00,000} \times 40,000$ = ₹ 16,000

3.4 Income Concepts for Financial Reporting

Q8. Explain the various Income Concepts for financial reporting.

Ans: **(Dec.-20)**

Accounting income is the excess of realized revenues over related expired costs of an accounting period.

Accounting income is the difference between the realized revenues arising from the transactions of the period and the corresponding historical costs. It is the increase in the resources of a business or other entity which results from the operations of the enterprise. According to this concept the transactions of a period entered into with third parties in its operational activities have to be measured to identify realized revenues and related historical costs of the period. In the process of doing so, it follows Generally Accepted Accounting Principles such as the revenue principle, historical cost principle, matching principle and accounting period concept.

Computation Procedure of Accounting Income

It generally involve four steps.

i) Defining the particular Accounting period

The performance of business undertaking in terms of income must relate to a particular period. Hence it needs defining of a period for computation of accounting income, it is customary that many of the business undertakings prepare their income position once in a year. Hence the commonly accepted accounting period is either calendar year or natural business year.

ii) Identifying revenues of the accounting period selected

Realization principle is followed in recognizing revenues and consequently income. Revenue is the inflow, either in the form of cash or increase in the assets or decrease in the liabilities, takes place on account of the main activity of any business undertaking such as sale of goods and services, manufacture and sale of goods and services.

iii) Identifying the costs related to realized revenues of the period

According to this concept, the costs which are applied in earning revenues during the related period and have become expenses only are considered for computing income.

iv) Matching of realized revenues with that of expired costs

It is known as application of matching principle. According to this principle, the realized revenues of an accounting period recognized through the application of principle of realization are matched with the expired and related costs of the period to compute the income of the period.

Economic Concept of Income

Economic concept of income is based on Hicks concept of income.

According to Hicks(1946) Economic income is the maximum value which can be consumed during a period and sill expect to be well-of at the end of the week as he was at the beginning. Well-off ness is equivalent to capital or wealth. Subsequently the same concept was applied to firm by Solomons and Alexander.They defined income of an enterprise as the maximum amount a firm can distribute to share holders during a period and still be well-of at the end of the period as at the beginning. Unlike matching of revenues of a period with that of related costs economic income is measured on the basis of changes in the value of assets .The well off ness is measured by comparing the value of the company at two points in terms of present value of expected future net receipts at each of these two periods. This concept follows balance sheet approach to income measurement. The balance sheet approach determines the income as the difference between the value of the capital at the opening and closing balance sheets adjusted for the dividend or the additional capital contributed during the year. This concept involves the following procedure;

i) Estimating the expected net cash inflows from the total assets of a firm over its useful remaining life.

ii) Estimation is to be made about discount rate for arriving present value of future cash inflows.

iii) Find the capitalized value of cash inflows at an estimated discount factor at the beginning of the year.

Capital Maintenance Concept Of Income

Maintaining the capital of business enterprises intact in financial and physical form is known as capital maintenance concept of income measurement and capital maintenance are interrelated in balance sheet approach and transactions approach of measuring the income. In Balance sheet approach the difference between capital at the beginning and end of the defined period is considered as income after making adjustments for additional investment made during the year. In transactions approach, income is measured on the basis of the transactions of revenue inflows and transactions of revenue out flows. It is like measuring the increase in the level of water tank, after maintaining the existing level of water. Existing level of water is like capital invested and any increase in the level is considered as additional water known as income. Increase in the water level can be measured either on the basis of finding difference between inflow and out flow of water during a defined period of time(transactions approach) or on the basis of difference between levels of water at the beginning and ending of the defined period of time. (balance sheet approach). Thus both the approaches recognize income after maintaining capital intact. According to Folker, the capital maintenance concept is viewed as a neutral bench mark to be used in determining the surplus which accrues to share holders as income and implies nothing which ought to be interpreted as suggesting normative behaviour for the management of the enterprise.

Concept Of Business Income

This concept is developed by Edgar O. Edwards and Philip W.Bell in 1961. It is also known as money income by some writers. According to this concept Business Income includes:

i) The current operating profit (X) which is the difference between the realized revenues and the corresponding replacement cost. Thus the current operating profit is equal to the excess of current value of revenue during a specified period over the current cost of related inputs.

ii) The realized and accrued holding gains of the specified period. Holding gain is the difference between the cost of an asset and replacement cost of such asset on a given date. If the cost of inventory at the date of purchasing is Rs.50 and its replacement cost is Rs.80 on the date of calculating income, the difference of Rs.30 is known as accrued holding gain. If that inventory is sold for Rs.90, the difference between Rs. 80 and Rs. 50 is known as realized holding gain and the difference between Rs.90 and replacement cost of Rs.80 is known as current operating profit.(Y)

iii) The unrealized holding gains and losses accruing in the period.(w)

Thus Business income may be expressed as :

BI = X + Y + Z

where,

BI = Business Income,

X = Current Operating Profit

Y = Realized and accrued holding gains of the period

Z = Unrealized holding gains and losses accruing in the period

Operating Income

Operating income measures the operating efficiency of a business enterprise. It is concerned with the efficient utilization of resources of business enterprises in the main activities of an enterprise. Operations normally comprise the provision of goods and services that make up the main business of the enterprise and other activities that have to be undertaken jointly with the provision of goods and services. Such goods and services are produced and distributed at prices that are sufficient to enable a firm to pay for goods and services it uses and to provide a satisfactory return to its owners. Examples are manufacturing of soaps, house hold goods and their distribution. Operating items are generally of recurring nature such as cost of raw material, salaries, wages etc. However that may not be true always. Some times certain special items may be incurred which are of non recurring nature but include in operating items. Thus, whether an item includes under operating or non operating depends primarily on its nature.

The scope of operating income includes firstly, the events and transactions relating to the current period. It does not include transactions and events that have taken place in earlier years and also concerned with future periods. However there are some transactions taken place in earlier years such as purchase of fixed assets but used in current year.

Secondly, the current operating income recognizes normal change in operations such as sales, costs of sales etc, but does not recognize non-operating incomes.

Comprehensive Income

Comprehensive income concept is also known as all inclusive concept of income. It measures the changes in equity or net assets during the defined period other than those resulting from investments by owners and distribution to owners. It is equivalent to revenue receipts plus gains minus revenue expenditure and losses.

As per Solomon "A truly comprehensive concept of income for a period must include all changes in owners' equity from non owner resources that are associated with the period and that can be measured reliably , regardless of the restrictions on recognition imposed by our present GAAP."

3.4.1 Measurement and Reporting of Revenues

Q9. Explain briefly about Measurement and Reporting of Revenues.

Ans : **(Dec.-20, Imp.)**

Concepts of Revenue

Business organizations take up productive or trading or service activities with an objective of earning profits by selling goods and services to the public. Provision of goods and services results into either inflow of cash or increase in assets and increase in net worth of the share holders. If goods are sold on cash basis, increase in cash takes place on account of cash inflow. On the other hand if goods are sold either on credit basis or exchange of assets basis, increase in assets take place on account of either increase in debtors or increase in assets with which the goods are exchanged. These inflows in the form of either cash or increase in debtors or receivables or other assets from sale of goods and services are Known as revenues. Thus "Revenues earned result into inflows and gross increase in the value of assets and capital of business entity and out flows of goods or services from the firm to its customers.

Broader Concept of Revenue

American Institute of Certified public Accountants(AICPA). According to this view revenues include all of the inflows from main and incidental activities of the business. Thus, its scope includes inflows from sale of goods and services, and other gains and losses taken place on account of sale of fixed assets and investments.

"Revenue results from the sale of goods and rendering of services and is measured by the charge made to customers , clients or tenants for goods and services furnished to them. It includes gains from the sale or exchange of assets (other than stock in trade) interest and dividends earned on investments, and other increase in owners equity except those arising from the capital contributions and capital adjustments."

Narrower Concept of revenue

As per the narrower concept, revenues include inflows from the main activity of the business such as proceed from goods and services but not other inflows as stated in broader concept of revenue.

According to the above definitions revenue include the following:

1. Gross inflow of the cash, receivables from the sale of goods.
2. Gross inflow of the cash, receivables from the rendering of the services.
3. Gross inflow of the cash, receivables in the form of interest royalties, dividends from the use of enterprises resources such as allowing others to use funds of the enterprise on interest basis, allowing others to use enterprises properties such as lands, fixed assets etc on royalty basis and dividends on investments made in other companies by the investing companies.
4. All these inflows are related to a particular accounting period.
5. These inflows may either in the form of cash, receivables or in the form of settlement of liabilities.
6. Revenue is measured on the basis of charges made to customers or clients for the goods and services provided.

Revenue Recognition Criteria

Many manufacturing and trading concerns adopt the criteria of recognizing revenue at the "time of sale and record in books of accounts.

International accounting standards committee and Indian accounting standards committee recognized point of sale method as appropriate one for recognizing revenues. As per Indian accounting standard 9(AS9), revenues relating to trading activity are to be recognized and recorded on the basis of point of sale method. According to AS9, revenue from sale of goods is recognized when the seller transfer the goods to the buyer for a consideration.

Revenue recognition in sale of services

Certain enterprises provide services like consultancy, expertise, repairs and maintenance etc. In sale of such services revenues are recognized after completion of the services and amount of consideration payable is decided. Payment of consideration shall not be taken as point of consideration, because one can able to decide the exact consideration of the service only after its performance.

Revenue recognition in construction works

Construction of irrigation dams, erection high-tension electricity lines, construction of multi storied buildings, overbridges, flyovers etc also come under service activities. For their completion several years of time may be required. In all these services definite understanding will be there between contractor and contractee about the specification of the works to be performed, contract price and terms payment etc.

Completed contract method

Under completed contract method revenue is recognized after performance of the agreed work and final approval of the project by the customer and the rights in such project are transferred to him.

Revenue recognition in installment credit sales

In installment credit sales , the rights in goods are transferred on a particular date where as cash collection takes place in many years. Many a time outstanding dues from customers may become bad debts. Under point of sale method, it requires to recognize total sale as revenue at the time of transferring the rights in goods to customers and provision has to be for doubtful debts as suppliers are uncertain about collection of installments.

Revenue Recognition using production method

In some cases when sale of output is assured due to forward contract, government assurance or any such thing the it is being practiced to recognize revenue at the completion of out put. This fact was also was recognized by ICAI and stated in its As 9 as follows;

"At certain stages in specific industries, such as when agricultural crops were harvested or mineral ores have been extracted, performance may be substantially prior to the execution of the transaction generating revenue. In such cases where sale assured under forward contract or a government guarantee or where market exists and there is a negligible risk of failure to sell, the goods involved are often valued at net realizable value. Such amounts while not revenue , are sometimes recognized in the statement of profit and loss and appropriately described.

Revenue Recognition when a firm receives interest, royalties and dividends

Some firms may allow others to use its rights and resources and receive return in the form of interest on loans and advances, royalty on assets allowed to use such as patents trademarks copy rights, mines etc, and dividends on investments made.

Measurement of Recognized Revenues

Measurement of revenue recognized, needs the following adjustments to the agreed cash price of the goods :

i) Discounts

Discounts may be of two types viz trade discounts and cash discounts. Both are given for promoting and increasing sales. Trade discount is given at the time of sale, which is to be deducted from the invoice and after such deduction only the remaining is recognized as value of revenue. Cash discounts are given as an incentive for prompt payment. If cash is paid on the spot after sale as an incentive for prompt payment, the value of revenue is equivalent to value of goods sold at agreed price less agreed discount. If cash is paid with in stipulated period and availed the facility of cash discount, the value of revenue is equivalent to the gross sales value. (quantity sold multiplied by agreed price before deducting cash discount). The cash discount provided at the time of payment at a latter agreed date will be deducted as expenditure from the profit and loss account.

ii) Sales Returns and allowances

After the sale, customers may return the goods for various reasons such as inferior quality, damaged stock etc. In such cases the value of revenue recognized should be equivalent to total sales less value of goods returned and allowances. However care must be taken that the goods returned are related to the sales made during the period so that the matching principle may be satisfied.

iii) Sales tax

Sales tax is an indirect tax which the seller collects as a percentage of sales and remits to the government. There is no uniformity in accounting for sales tax. In most of the case the value of sale is recognized net of sales tax. However some companies prefer to present sales on gross basis and sales tax paid is considered as expense.

3.4.2 Measurement and Reporting of Expenses

Q10. Discuss briefly Measurement and Reporting of Expenses.

Ans : **(Dec.-20, Imp.)**

Concept of Expenses

Expenses are known as expired costs. They are the resources used or given up or sacrificed for earning revenues and expressed in monetary amounts. A manufacturing firm uses material, labor, other direct services for producing a product. In addition it also uses indirect services such as office and administration, selling and distribution for pooling up of resources and also to sell the goods produced. If all these various resources given up or sacrificed to produce goods and to get them sold in the market for getting revenues are expressed in monetary values , they are known as expenses. Expenses may be incurred in cash or on credit basis. for eg : Material, Labour, Sewices such as administrative selling & distribution etc may be acquired by giving up cash it is ie. On cash basis or on credit basis i.e accepting to pay for such resources after some time. Thus, when such resources are acquired either on cash basis or on credit basis, expressed in monetary value and used in the process of out put are known as expenses.

Thus, expenses can be defined as out flow of cash at the time of incurrence or agreed to pay after some time for the resources used in the process of producing output and sale of such out put for getting revenues resulting into either decrease in assets or increase in liabilities.

i) Expenses are resources used up in the process of getting revenues. This include material, labor, assets consumed in the process of out put(depreciation etc,.), services used in administration ,office, selling and distribution.

ii) They are expressed in terms of monetary values.

iii) They result into either increase in liabilities or decrease in assets.

iv) At the time of acquisition, normally the resources are known as assets. When they are used in the process of generating, the monetary values of assets used are known as expenses. Thus expenses are expired costs.

v) The expenses include costs directly associated with the revenues of the period, costs associated with the period on some basis and costs that cannot be associated with any other period.

Recognition of Expenses

The expenses have to be recognized at the time of recording the activity in the books of accounts after the activity or sometimes before the activity. The following principles may be useful in recognition of revenues:

i) On the basis of matching process

Income is known as excess of revenues over expired related costs of a specified period. Hence all the costs incurred for producing revenues during a specified period should be taken as expenses.

ii) On the basis of systematic allocation

When direct matching between revenues and costs of a period is not possible for any expenses, they have to allocated systematically. For example if machine used in the process of producing output it is not possible to trace out the cost machine used in revenue generation following direct matching principle.

iii) On the basis of recognizing immediately

Some costs become expenses of the period at the time of incurrence only. They include salaries, wages, selling costs, costs on law suits, worthless assets like patents etc,.

3.4.3 Measurement and Reporting of Gains and Losses

Q11. Discuss briefly Measurement and Reporting of Gains and Losses.

Ans : **(Dec.-20)**

Concept Of Gains And Losses

Gains are increases in equity or net assets from incidental or peripheral transactions, all other transactions and events and circumstances affecting an entity during a specified period except those that result from revenues or investments by the owners. Losses are decrease in net assets or equity from incidental or peripheral transactions ,all other transactions and events and circumstances affecting an entity during a specified period except those that result from expenses or distribution to owners. Thus, the gains and losses are not directly concerned with the main or prime activity of entities.

The following are the features of gains & losses :

i) Gains and losses takes place from incidental and peripheral activities and not from revenue generating activities.

ii) Gains and losses may be classified source wise:

   a) Some gains and losses takes place on account of comparing proceed and sacrifices. For example when investments are sold if proceeds are more than the amount invested on it (sacrifices) it is known as gain and if proceeds are lesser than the sacrifices made, the difference is known as loss

   b) Some gains and losses takes place from non reciprocal transactions between the enterprise and outsiders other than owners.

   c) Some gains and losses takes place from changes in the values of assets that were in possession of the firm (holding of assets). It takes place when such assets are revalued as per the standards.

   d) Some other gains and losses result from environmental factors.

   Examples are destruction of property due to earth quakes, fire accidents, obsolescence due to technological changes.

iii) They may be further classified as operating and non operating depending on their relation to the earning activities of the enterprise. Based on accounting standard if inventory values are written off to realizable value the loss taken place is considered as operating loss as, it is relating to revenue generating activity of the concern.

Recognition Of Gains And Losses

Gains and losses have to be recognized following the principle of Realization. Normally, they are recognized only when sale (or) exchange takes place. They may be also recognized based on the changes in the market values. This principle is followed in the case of current assets particularly inventory. In the case of fixed assets, unless it is confirmed that the market changes are permanent or for a fairly longer period the gains are not to be recognized.

Losses cannot be matched with revenues. Hence they have to be recognized based on period of incurrence like period expenses. The timing of loss resulted event is the base for recognizing the losses. If fire accident takes place on a particular date it has to be considered as loss of that accounting period only. Loss arising during a particular period should not be carried forward future periods. If happening of losses is certain and their value can be estimated with more accuracy, then they have to be recognized.

3.5 Analysis of Changes in Gross Profit

Q12. Explain briefly about Gross Profit Analysis.

Ans :

Gross profit is the difference between net sales and cost of goods sold and is computed as a part of income statement or profit and loss account of a business. It is computed for a specific period by deducting the cost of goods sold (COGS) from net sales revenue realized during that period. In equation form, it can be presented as follows:

Gross profit = Nets sales revenue - Cost of goods sold

For example, if the annual net sales revenue of a company is 1,000,000 and its cost of goods sold is 600,000, the gross profit would be 400,000 (= 1000,000 – 600,000), The gross profit figure is very important for any business because it is used to cover all operating expenses and provide for operating profit. The higher the gross profit, the better it is.

A company (or) firm may experience a significant positive or negative change in gross profit. In order to maintain profitability and avoid operating losses, any unexpected or significant change in gross profit for a period must be timely investigated.

Gross profit analysis is the procedure of finding the causes of changes in gross profit percentage from budgeted to actual or from one period to another period. The major purpose of gross profit analysis is to reveal the unexpected changes in gross profit and their causes so that they can be brought to the attention of management in a timely manner. A change in gross profit usually occurs due to one or more of the following reasons:

1. Changes in total revenue for the period due to changes in selling prices of goods and services.
2. Changes in total revenue for the period due to changes in quantity of goods and services sold during the period.
3. Changes in proportion in which a multi-product company sells its products (usually termed as shift in sales mix or product mix).
4. Changes in basic manufacturing cost elements i.e., direct materials, direct labor and manufacturing overhead.

Procedure of gross profit analysis

The procedure of determining the gross profit variation is identical to the computation of variances in a standard costing system. However, the gross profit analysis is possible without the use of budgets or standard costs. In that case, the prices and costs data of any year may be used as the basis for the computations of variances involved in gross profit analysis. The usual approach is to use the prices and costs of any previous year as the basis to find the variations. However, to achieve a greater degree of accuracy and better results, it is always recommended to employ standard costs and budgeted figures to carry out the analysis.

Variances involved in gross profit analysis

For performing a gross profit analysis, the standard sales and cost figures (or a previous year's sales and cost figures) are used as the basis. The analysis is performed in three steps. In first step, the sales price variance and the sales volume variance are computed. In second step, the cost price variance and cost volume variance are computed. In third step, the sales volume variance and cost volume variance are further analyzed by computing sales mix variance and a final sales volume variance.

Q13. Explain the useful ness of Gross profit Analysis.

Ans :

- The gross profit figure is very important for any business and must be closely watched. The gross profit analysis uncovers inefficiencies in company's performance during the period and enables management to take remedial actions to correct the situation.
- The manufacturing and marketing departments of business are mostly responsible to meet or exceed the planned gross profit.
- In case the business fails to achieve the desired gross profit, the manufacturing department must explain the changes in manufacturing costs and marketing department must explain

the changes in prices, decrease in number of units of each product sold and/or shift in sales mix during the period.

➢ This way, the gross profit analysis brings together the two major functional areas of the business and focuses on the need of more study by these two departments.

Problem

11. The Steward Company manufactures to products - product A and product B. The budgeted and actual data for the last month is provided below:

Sales		Cost of goods sold		Gross profit			
	Units	**Unit price**	**Amount**	**Unit cost**	**Amount**	**Per unit**	**Amount**
Budgeted:							
Product A	8,000	20.00	160,000	16.00	1,28,000	4 00	32,000
Product B	4,200	14.00	58,800	12.00	50,400	2 00	8,400
Total budgeted	12,200	17.9344 *	218.000	14.6229	178,400	3.3115	40,400
Actual:							
Product A	7,500	21.00	157,500	16.50	123,750	4 50	33.750
Product B	4,500	13.50	60,750	1 1.50	51,750	2.00	9,000
Total actual	12,000	I8.1875	218.250	14.625	175. 500	3 5625'	42.750

Required: Using the data of Steward Company given above, compute:

1. Sales price variance and sales volume variance
2. Cost price variance and cost volume variance
3. Sales mix variance and final sales volume variance

Sol :

Particular	Amount	Amount
1. Sales price variance and sales volume variance		
Actual sales		218.250
Actual sales at budgeted prices:		
Product A	150,000	
Product B	63,000	2,13,000
Favorable sales price variance	5,250	
Actual sales at budgeted prices		2,13,000
Budgeted sales		2,18,000
Unfavorable sales volume variance		5,000

2. Cost price variance and cost volume variance		
Cost of goods sold—actual		175,500
Budgeted cost of actual units sold:		
Product A: 7,500 × 16.00	120,000	
Product B: 4.500 x I2.00	54,000	174,000
Unfavorable cost price variance		1,500
Budgeted cost of actual units sold		174,000
Budgeted cost of budgeted units sold		178,400
Favorable cost volume variance		4,400
Favorable sales price variance		5,250
Recapitalization :		
Less unfavorable volume variance (net)		
consisting of :		
Unfavorable sales volume variance	5,800	
Less favorable cost volume variance	4,400	1,400
Less unfavorable cost price variance		3,850
		1,500
Increase in gross profit		2,350
3. Sales mix variance and final sales volume variance		
Actual sales at budgeted price		213,000
Budgeted cost of actual units sold		174,000
		39,000
Difference		
Budgeted gross profit of actual units sold		
(12,000 × 3.3115)		39,738
Unfavorable sales mix variance		738
Budgeted gross profit of actual units sold		39,738

Budgeted sales		
Budgeted cost of budgeted units sold	218,800 178,400	
Budgeted gross profit		40,400
Unfavorable sales volume variance		662
	Gains	**Losses**
Gain due to increased sales price	5,250	
Loss due to increased cost		1,500
Loss due to shift in sales mix		738
Loss due to decrease in units sold		662
Total	5,250	2,900
Less	2,900	
Net increase in gross profit	2,350	

12. From the following information, prepare a statement of changes in gross profit for the years 2014 and 2015.

Particulars	2014 (Rs.)	2015 (Rs.)
Sales	5,00,000	5,50,000
Cost of sales	3,00,000	3,25,000
Gross profit	2,00,000	2,25,000
No. of units sold	20,000	25,000

Sol : **(Imp.)**

Particulars	2014	2015	Difference
Sales	5,00,000	5,50,000	50,000
– CGS	3,00,000	3,25,000	25,000
Gross profit	2,00,000	2,25,000	25,000
No. of units sold	20,000	25,000	5,000
S.P.	25	22	– 3
C.P.	15	13	– 2

Therefore,

Selling Price

Quantity factor = Change in quantity × Previous year selling price

= 5000 × 25 = 125000

S.P. = Change in S.P × No. of units sold

= – 3 × 25,000

= – 75,000

Quantity factor + S.P. factor

= 1,25,000 + (– 75,000)

= 50,000

Cost Price

Quantity factor = Change in Qty × Previous year cost price

= 5,000 × 15 = 75,000

C.P = Change in CP × No. of units produced

= – 2 × 25,000 = 50,000

Quantity factory + C.P. factor

75,000 + (– 50,000) = – 25,000

Gross profit = S.P factor + C.P factor

= 50,000 + (– 25,000)

= 25000

Exercises Problems

1. Mr. X purchased a machine in 2000 for ` 1,00,000 when the general price index was 180. He sold this machine in 2007 for ` 1,65,000 when the general price index was 270. Calculate the profit or loss on the sale of the machine, keeping aside the price level changes.

[Ans : Profit ` 15,000]

2. A company has the following transactions at the give dates and price indices for the first quarter of 2008 :

P ParticularsaP	`	Price Index
Opening Balance (January, 1)	6,000	100
Cash Sales (February, 1)	17,500	105
Payment to Creditors (March, 1)	12,000	108
Cash Purchases (March, 1)	2,000	108
Payment of Expenses (March 31)	2,000	110
Closing Balance (March 31)	7,500	110
Calculate monetary gain or loss		

[Ans : Loss of ` 1,174]

3. The information given below relates to monetary accounts of Jayanath Co. Ltd. Compute the general price level gain or loss.

Particularsa	As on, 1.1.07 `	As on, 31.12.07 `
Monetary Assets	80,000	1,00,000
Monetary Liabilities	1,00,000	1,00,000
Retail Price Index	200	300
Average Index for the year		240

[Ans : Gain ` 5,000]

4. H Company held shares in X company which it bought for ` 10,000 in 2003 when an index of the genereal price level of prices stood at ` 110. At the end of 2006, the market price of the shares was ` 8,000 and the index 132. At the end of 2007, the market price of the shares was ` 9,000 and the index 145.2.

(a) Calculate the CPP value of shares at the end of 2006 and 2007.

(b) Under CPP accounting , what gain or loss would be shown in respect of the shares ?

(c) What in fact was the gain or loss in purchasing power in respect of the shares during 2007?

[Ans : (a) 2006 – ` 12,000; 2007 – ` 13,200; (b) 2006 – Loss ` 2,000; 2007 – Loss 3,200 (c) Actual Loss, 2006 ` 4,000 and 2007 ` 4,200]

Short Question and Answers

1. Define Inflation Accounting

Ans :

Introduction

Prices do not remain constant over a period of time. They tend to change due to various economic, social (or) political factors. Changes in the price levels cause two types of economic conditions, inflation and deflation.

Meaning

Inflation may be defined as a period of general increase in the prices of factors of production whereas deflation means fall in the general price level.

These changes in the price levels lead to inaccurate presentation of financial statements which otherwise are prepared to present a true and fair view of the company's financial health. This is so because the financial statements are prepared on historical costs on the assumption that the unit of account, i.e. rupees in case of India, has static value. But the assumption is not valid because the value of the unit of account, i.e., the purchasing power of the rupee, has been changing ever since the beginning of this century. After the First World, War, during 1918-23, there was a period of higher inflation in Germany. But it was only after the Second World War that the prices started rising continuously and it made a nonsense of presenting the financial statements on historical cost basis.

2. Advantages of Inflation Accounting.

Ans :

1. It enables company to present more realistic view of its profitability because current revenues are matched with current costs.
2. Depreciation charged on current values of assets in inflation accounting further enables a firm to show accounting profits more nearer to economic profits and replacement of these assets when required.
3. It enables a company to maintain its real capital by avoiding payment of dividends and taxes out of its capital due to inflated profits in historical accounting.
4. Balance Sheet reveals a more realistic and true and fair view of the financial position of a concern because the assets are shown at current values and not on distorted values as in historical accounting.
5. When financial statements are presented, adjusted to the price level changes, it makes possible to compare the profitability of two concerns set up at different times.

3. Current purchasing power.

Ans :

Current Purchasing Power Technique of accounting requires the companies to keep their records and present the financial statements on conventional historical cost basis but it further requires presentation of supplementary statements in items of current purchasing power of currency at the end of the accounting period. In this method the various items of financial statements, i.e. balance sheet and profit and loss account are adjusted with the help of recognized general price index. The consumer price index or the wholesale price index prepared by the Reserve Bank of India can be taken for conversion of historical costs.

The main objective of this method is to take into consideration the changes in the value of money as a result of changes in the general price levels. It helps in presenting the financial statements in terms of a unit of measurement of constant value when both cost and revenue have been changing due to changes in the price levels.

4. Current Cost Accounting Method.

Ans :

The British Government had appointed a committee known as Sandilands Committee under the chairmanship of Mr. Francis C.R Sandilands to consider and recommend the accounting for price level changes. The committee presented its report in the year 1975 and recommended the adoption of Current Cost Accounting Technique in place of Current Purchasing Power of Replacement Cost Accounting Technique for price level changes. The current cost accounting technique is the preparation of financial statements (Balance Sheet and Profit and Loss Account) on the current values of individual items and note on the historical (or) original cost.

The essential characteristics of current cost accounting technique are as follows :

1. The fixed assets are shown in the balance sheet at their current values and not on historical costs.
2. The depreciation is charged on the current values of the fixed assets and not on original costs.
3. Inventories or stocks are valued in the balance sheet at their current replacement costs on the date of the balance sheet and not cost or market price whichever is lower.
4. The cost of goods sold is calculated on the basis of their replacement cost to the business and not on their original cost.
5. The surpluses arising out of revaluation are transferred to Revaluation Reserve Account and are not available for distribution as dividend to the shareholders.
6. In addition to the balance sheet and profit and loss account, an appropriation account and a statement of changes is prepared.

5. Monetary Working Capital Adjustment.

Ans :

Working capital is that part of capital which is required to meet the day to day expenses and for holding current assets for the normal operations of the business. It is referred to as the excess of current assets over current liabilities. The changes in the price levels disturb the working capital position of a concern. CCA method requires a financing adjustment reflecting the effects of changing prices on net monetary items, leading to a loss from holding net monetary assets or to a gain from holding net monetary liabilities when prices are rising, and vice-versa, in order to maintain the monetary working capital of the enterprise. This adjustment reflects the amount of additional finance needed to maintain the same working capital due to the changes in price levels. The method of calculating MWCA is the same as that of COSA. Symbolically.

$$\text{MWCA} = (C - O) - I_a\left(\frac{C}{I_c} - \frac{O}{I_o}\right)$$

Where C = Closing Monetary Working Capital

O = Opening MWC

I_a = Average Index for the period

I_c = Appropriate Index for closing MWC

I_o = Appropriate index for opening MWC

6. Measurement of Recognized Revenues.

Ans :

Measurement of revenue recognized, needs the following adjustments to the agreed cash price of the goods :

i) Discounts

Discounts may be of two types viz trade discounts and cash discounts. Both are given for promoting and increasing sales. Trade discount is given at the time of sale, which is to be deducted from the invoice and after such deduction only the remaining is recognized as value of revenue. Cash discounts are given as an incentive for prompt payment. If cash is paid on the spot after sale as an incentive for prompt payment, the value of revenue is equivalent to value of goods sold at agreed price less agreed discount. If cash is paid with in stipulated period and availed the facility of cash discount, the value of revenue is equivalent to the gross sales value. (quantity sold multiplied by agreed price before deducting cash discount). The cash discount provided at the time of payment at a latter agreed date will be deducted as expenditure from the profit and loss account.

ii) Sales Returns and allowances

After the sale, customers may return the goods for various reasons such as inferior quality, damaged stock etc. In such cases the value of revenue recognized should be equivalent to total sales less value of goods returned and allowances. However care must be taken that the goods returned are related to the sales made during the period so that the matching principle may be satisfied.

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Sales tax is an indirect tax which the seller collects as a percentage of sales and remits to the government. There is no uniformity in accounting for sales tax. In most of the case the value of sale is recognized net of sales tax. However some companies prefer to present sales on gross basis and sales tax paid is considered as expense.

7. Measurement and Reporting of Gains and Losses.

Ans :

Gains are increases in equity or net assets from incidental or peripheral transactions, all other transactions and events and circumstances affecting an entity during a specified period except those that result from revenues or investments by the owners. Losses are decrease in net assets or equity from incidental or peripheral transactions ,all other transactions and events and circumstances affecting an entity during a specified period except those that result from expenses or distribution to owners. Thus, the gains and losses are not directly concerned with the main or prime activity of entities.

The following are the features of gains & losses :

i) Gains and losses takes place from incidental and peripheral activities and not from revenue generating activities.

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a) Some gains and losses takes place on account of comparing proceed and sacrifices. For example when investments are sold if proceeds are more than the amount invested on it (sacrifices) it is known as gain and if proceeds are lesser than the sacrifices made, the difference is known as loss

b) Some gains and losses takes place from non reciprocal transactions between the enterprise and outsiders other than owners.

c) Some gains and losses takes place from changes in the values of assets that were in possession of the firm (holding of assets). It takes place when such assets are revalued as per the standards.

d) Some other gains and losses result from environmental factors.

Examples are destruction of property due to earth quakes, fire accidents, obsolescence due to technological changes.

8. Useful ness of Gross profit Analysis.

Ans :

- The gross profit figure is very important for any business and must be closely watched. The gross profit analysis uncovers inefficiencies in company's performance during the period and enables management to take remedial actions to correct the situation.
- The manufacturing and marketing departments of business are mostly responsible to meet or exceed the planned gross profit.
- In case the business fails to achieve the desired gross profit, the manufacturing department must explain the changes in manufacturing costs and marketing department must explain the changes in prices, decrease in number of units of each product sold and/or shift in sales mix during the period.

➢ This way, the gross profit analysis brings together the two major functional areas of the business and focuses on the need of more study by these two departments.

9. Gross Profit Analysis.

Ans :

Gross profit is the difference between net sales and cost of goods sold and is computed as a part of income statement or profit and loss account of a business. It is computed for a specific period by deducting the cost of goods sold (COGS) from net sales revenue realized during that period. In equation form, it can be presented as follows:

Gross profit = Nets sales revenue - Cost of goods sold

For example, if the annual net sales revenue of a company is 1,000,000 and its cost of goods sold is 600,000, the gross profit would be 400,000 (= 1000,000 – 600,000), The gross profit figure is very important for any business because it is used to cover all operating expenses and provide for operating profit. The higher the gross profit, the better it is.

A company (or) firm may experience a significant positive or negative change in gross profit. In order to maintain profitability and avoid operating losses, any unexpected or significant change in gross profit for a period must be timely investigated.

Gross profit analysis is the procedure of finding the causes of changes in gross profit percentage from budgeted to actual or from one period to another period. The major purpose of gross profit analysis is to reveal the unexpected changes in gross profit and their causes so that they can be brought to the attention of management in a timely manner. A change in gross profit usually occurs due to one or more of the following reasons:

1. Changes in total revenue for the period due to changes in selling prices of goods and services.
2. Changes in total revenue for the period due to changes in quantity of goods and services sold during the period.
3. Changes in proportion in which a multi-product company sells its products (usually termed as shift in sales mix or product mix).
4. Changes in basic manufacturing cost elements i.e., direct materials, direct labor and manufacturing overhead.

Choose the Correct Answer

1. Revenue recognition is __________ [a]
   (a) Takes place at the point of sale
   (b) Takes place when goods are received
   (c) Takes place only after a purchase order is signed
   (d) All of the above

2. Revenue and Expenses are normally dispolayed as __________ & gains & losses normally displayed __________ [c]
   (a) Net & Gross (b) Expenses & Income
   (c) Gross & net (d) Only Incomes

3. __________ is the first level of profitability [a]
   (a) Gross Profit (b) Net Profit
   (c) Nominal Profit (d) Net Loss

4. __________ reserves should be provided in addition to the normal depreciation provided on actual cost of the asset [a]
   (a) Specific Capital Reserves (b) Statutary Reserves
   (c) General Reserve (d) Company Reserves

5. Under __________ method . the historical income statement is converted in current purchasing power terms. [b]
   (a) Net change method (b) Conversion of Income Method
   (c) Mid - period conversion (d) Net Income method

6. __________ Technique is an improvement over current purchasing power technique [a]
   (a) Replacement cost accounting (b) Responsibility accounting
   (c) Current cost accounting (d) Capital cost

7. Backlog depreciation should be charged to __________ account [c]
   (a) Current reserve account (b) P & L A /C
   (c) Revaluation reserve account (d) Trading a/c

8. __________ is the difference between the replacement cost of an asset and its acquisition cost [a]
   (a) Holding gain (b) Holding losses
   (c) Gains (d) All of the above

9. __________ is the ratio of borrowed capital & shareholders funds [c]
   (a) COSA (b) MWCA
   (c) Gearing (d) None of the above

10. Accounting for changing prices is also known as __________ [c]
    (a) Management accounting (b) Current cost accounting
    (c) Inflation accounting (d) Capital cost accounting

Fill in the blanks

1. Gross Profit = __________
2. __________ are earned from the sale of goods or services done by a business entity to the others.
3. In construction project revenues are recognised by the __________
4. __________ is incurred when goods or services are consumed or used in the process of obtaining revenue.
5. __________ is increase in net assets other than from revenues or from changes in capital.
6. Financial statements are usually based on __________ concept.
7. Return on capital emplayed = __________
8. Conversion factor = __________
9. COSA = __________
10. Gearing adjustment = __________

Answers

1. Net Sales revenue - cost of goods sold
2. Revenues
3. Percentage completion method, complete contract method
4. Expenses
5. Gains
6. Actual or historical cost
7. $\dfrac{\text{Net Profit}}{\text{Capital Employed}} \times 100$
8. $\dfrac{\text{Current Price Index}}{\text{Previous Price Index at the date of Existing figure}}$
9. Current cost of sales adjustment
10. $\dfrac{B}{B+S} \times A$

UNIT IV	**FINANCIAL MEASURES OF PERFORMANCE:** Introduction – Return On Investment (ROI) – Concept – Uses and Limitations – Economic Value Added (EVA) – Concept – Significance of EVA – Measurement of EVA (Theory only) Balanced Score Card (BSC) – Concept – Objectives – Perspectives of BSC - Multiple Scorecard measures into a single strategy

4.1 Financial Measures of Performance

4.1.1 Introduction

Q1. Explain briefly about Financial Measures of Performance.

Ans :

Business performance measurement is receiving a lot of attention today due to a variety of reasons. The important ones seem to be as follows:

1. **Heightened Competition**

   Global competition has become a fact of life. In the wake of increased competition, firms are emphasising quality, productivity, cost, innovation, flexibility, and customisation. Improvement initiatives such as total quality management, world class manufacturing, total productivity management, and total cost management are gaining currency. All these tools and techniques rely on performance measurement.

2. **Growing Empowerment**

   Many organizations have realised the benefits of empowering people down the line. Empowerment works well when the top management spells out clearly what it expects from people at various levels. For this purpose, well-defined performance measures are required.

3. **Quality Awards**

   To recognise outstanding performance and motivate companies to excel, a number of national and international awards have been established. Notable among them are the Balridge Award (US), the European Business Excellence Model (Europe), and the Deming Prize (Japan and Asia).

   Each of these awards requires a comprehensive self-assessment by the companies who wish to be considered for these awards. As more and more companies are applying for these awards, the interest in business performance measurement is growing.

4. **Expanding Organizational Roles**

   Professional bodies like the Institute of Chartered Accountants in England and Wales (ICAEW), the Chartered Institute of Management (CIMA), the Institute of Chartered Accountants of India (ICAI), and the Institute of Cost and Works Accountants of India (ICWAI) are prodding their members to participate actively in developing balanced performance measurement systems. They are arguing that the role of the management accountant is to provide comprehensive information to run the business, and not just to prepare information required for external reporting.

5. **Greater External Demands**

   Organizations today have to satisfy various external demands. One such demand comes from the regulatory authorities. In the wake of deregulation of sectors such as telecommunications, power, airlines, and insurance, regulatory authorities have been set up. The regulatory authorities demand certain performance standards from the firms falling under their jurisdiction. This has implications for business performance measurement.

Financial community is another group which is exerting pressure on firms to disclose information about different dimensions of performance and thereby influencing performance measurement. A1997 survey conducted by the Financial Executives Research Foundation found that "investors, analysts, and other users of financial reports would find value in more extensive disclosure of the company's market and competitive position, management goals and objectives, and business segment data."

6. Power of Information Technology

The power of information technology has had a significant effect on performance measurement. Not only has information technology made it easier to capture and analyse data, but it has also provided new ways of performance monitoring.

Q2. Explain briefly about non - Financial Measures.

Ans:

Performance measurement sometimes relies heavily on financial measures. An excessive emphasis on financial measures in a business is like an obsession with the score card while playing cricket (or any other game). The score in a game, like financial results in a business, reflects the outcome of past performance. While it is important to know the score it must be recognised that the success in a game or business calls for paying considerable attention to the steps required for competing effectively in the game or the marketplace. Just as a cricket player must focus on batting, bowling, and fielding, a company must concentrate on activities like product development, manufacturing, marketing, and customer service. Well-conceived performance measures in these areas are essential for monitoring improvements required for maintaining competitive edge.

As financial measures like TSR or EVA are lagging indicators, companies concerned with long-term value creation use a variety of nonfinancial measures which are leading indicators of value. A representative list is given below:

- Customer satisfaction index
- Customer returns
- Market share
- New product introduction
- On-time delivery
- Manufacturing cycle time
- Defects percentage
- Throughput
- Employee productivity index
- Patents obtained

For most businesses 3 to 6 leading indicators capture the bulk of their long-term value creation potential. While identifying them is not easy, the process of doing so is very illuminating. As Alfred Rappaport put it: "It takes more than an impressive knowledge of customers, products, suppliers, and technology for managers to understand the sources and value of their businesses. The process of identifying leading indicators is challenging, revealing, and rewarding."

Strengths of Non-financial Measures

Non-financial measures offer the following advantages :

- Non-financial measures are directly traceable to key success factors like customer satisfaction, market leadership, manufacturing excellence, quality and technological competence.
- Non-financial measures are actionable. A major problem about a standard cost system is that it is not often easy to determine the cause and cure of unfavourable variances. In contrast, non-financial measures are actionable at the plant level.
- Non-financial measures may predict better the future cash flows of the firm. For example, the long-term performance of a firm may be substantially influenced by its ability to improve product quality.

Problems with Non-financial Measures

While non-financial measures are useful, there are certain problems associated with them :

- It is difficult to assign rupee value to improvements in non-financial measures.
- Non-financial measures may conflict with each other. In the absence of a theoretical framework, it is difficult to make proper trade offs.
- Managers may resort to gaming. There are opportunities for managers to optimise their performance at the expense of others.

Q3. Explain various ways to measure financial performance.

Ans :

1. Profit

"How much money are we making?" Find the answer on your P&L (Profit and Loss Statement, Income Statement). Profit describes how much wealth your company created (profit) or consumed (loss) over a certain period of time. Other words for profit are earnings, net income, and the bottom line. A full measurement of profit must include owner's compensation. More profit is good.

2. Cash flow

The difference between the amount of cash you end up with at the end of a certain period of time versus how much you started with. More positive cash flow is good.

3. Balance sheet strength

Generally speaking, your company's assets relative to its liabilities at a specific point in time. More assets (what the company owns) and fewer liabilities (what the company owes) results in a stronger balance sheet. Except when you're intentionally running a highly leveraged company, a stronger balance sheet is good.

4. Risk

Business is risky. You might not get paid by a customer, you might default on a bank loan, your company might get sued, etc. Risk is sometimes defined as probability times consequence, the likelihood of something occurring multiplied by the damage it would cause if it does occur. To earn the same dollar of profit with less risk is good. Or, to earn more profit with the same amount of risk is good. Hence, the risk/reward relationship.

Risk is often not priced correctly, as we learned all too well through the collapse of gigantic U.S. financial institutions during The Great Recession.

5. Owner's time invested

How many hours per day, week, month, and year do you put into your business? To earn the same dollar of profit while investing less of your time is good.

6. Valuation

What is the fair market value (FMV) of your business? Is it rising or falling? In addition to providing current income, businesses create wealth for their owners by having a resale value. When it comes time for you to sell your business (whole or in part), a higher business valuation is better.

7. Business owner's net worth

Financially, the purpose of a business is to create wealth for its owners. Does the owner(s) have substantial investments in retirement accounts, real estate, and other holdings? Has the owner's net worth increased a result of money she/he has taken out of the business? Look to the owner's personal balance sheet for a full understanding of a small business' financial performance.

4.2 Return On Investment (ROI)

4.2. 1 Concept

Q4. What is the ROI ?

(OR)

Explain the concept of ROI.

Ans : **(May-17, May-16, Imp.)**

"Return on Investment (ROI) is a performance measure used to evaluate the efficience of an investment or compare the efficiency of a number of different investments. ROI tries to directly measure the amount of return on a particular investment, relative to the investment's cost, of calculate ROI, the benefit (or return) of an investment is divided by the cost of the investment. The result is expressed as a percentage or a ratio.

Return on investment = Net income / Investment

where, Net income = gross profit - expenses

Investment = stock + market outstanding + claims

(or)

Return on investment = (gain from investment - cost of investment) / cost of investment

(or)

Return on investment = (revenue - cost of goods sold) / cost of goods sold

4.2.2 Uses

Q5. Explain the uses of Return on investment..

Ans : **(Dec.-20)**

Uses of ROI

- ROI can be computed on a company-wide basis by dividing net income by owners' equity. This measure indicates how well the overall company is utilizing its equity investment.
- ROI provides a good indicator of profitability that can be compared against competitors (or) an industry average.
- Experts suggest that companies usually need at least 10-14 percent ROI in order to fund future growth. If this ratio is too low, it can indicate poor management performance (or) a highly conservative business approach.
- On the other hand, a high ROI can either mean that management is doing a good job, or that the firm is undercapitalized.
- ROI can also be computed for various divisions, product lines, or profit centers within a small business. In this way, it gives management a basis for comparing the performance of different areas.
- One large division may generate much higher profits than another, smaller division, for example, which might encourage management to consider investing further in that division.
- An ROI analysis might reveal that a great deal more capital investment was required by the large division than by the smaller one. The smaller division may have generated a lower dollar amount of profit, but a greater percentage of profit on every dollar of investment.

- ROI can also be used to evaluate a proposed investment in new equipment by dividing the increase in profit attributable to the new equipment by the increase in invested capital needed to acquire it.
- **For example,** a small business may be able to save 5,000 in operating expenses (and thus raise profit by the same amount) by spending 25,000 on a piece of new equipment. This yields an ROI of 5,000 / 25,000 (or) 20 percent. If this figure is higher than the company's cost of capital (the interest paid on debt and the dividends paid to investors) prior to the investment, and no better investment opportunities exist for those funds, it may make sense to purchase the equipment.
- In addition to the various uses ROI holds for a small business managers, it can also be a useful measure for investors.
- **For example,** a stockholder might calculate the return of investing in a company by the following formula: dividends stock price change / stock price paid. This calculation of ROI measures the gain (or loss) achieved by placing an investment over a period of time.

4.2.3 Limitations

Q6. Explain the advantages and disadvantages of ROI.

Ans : **(Dec.-20, Imp.)**

Advantagesof ROI:

1. Better Measure of Profitability

It relates net income to investments made in a division giving a better measure of divisional profitability. All divisional managers know that their performance will be judged in terms of how they have utilized assets to earn profit, this will encourage them to make optimum use of assets. Also, it ensures that assets are acquired only when they are sure to give returns in consonance with the organization's policy.

Thus, the major focus of ROI is on the required level of investment. For a given business unit at a given point of time, there is an optimum level of investment in each asset that helps maximise earnings. A cost-benefit analysis of this kind helps managers find out the rate of return that can be expected from different investment proposals. This allows them to choose an investment that will enhance both divisional and organizational profit performance as well as enable effective utilization of existing investments.

2. Achieving Goal Congruence

ROI ensures goal congruence between the different divisions and the firm. Any increase in divisional ROI will bring improvement in overall ROI of the entire organization.

3. Comparative Analysis

ROI helps in making comparison between different business units in terms of profitability and asset utilization. It may be used for inter firm comparisons, provided that the firms whose results are being compared are of comparable size and of the same industry. ROI a good measure because it can be easily compared with the related cost of capital to decide the selection of investment opportunities.

4. Performance of Investment Division

ROI is significant in measuring the performance of investment division which focuses on earning maximum profit and making appropriate decisions regarding acquisition and disposal of capital assets. Performance of investment centre manager can also be assessed advantageously with ROI.

5. ROI as Indicator of Other Performance Ingredients

ROI is considered the single most important measure of performance of an investment division and it includes other performance aspects of a business unit. A better ROI means that an investment centre has satisfactory results in other fields of performance such as cost management, effective asset utilization, selling price strategy, marketing and promotional strategy etc.

6. **Matching with Accounting Measurements**

ROI is based on financial accounting measurements accepted in traditional accounting. It does not require a new accounting measurement to generate information for calculating ROI. All the numbers required for calculating ROI are easily available in financial statements prepared in conventional accounting system. Some adjustments in existing accounting numbers may be necessary to compute ROI, but this does not pose any problem in calculating ROI

Disadvantages of ROI

1. Satisfactory definition of profit and investment are difficult to find. Profit has many concepts such as profit before interest and tax, profit after interest and tax, controllable profit, profit after deducting all allocated fixed costs. Similarly, the term investment may have many connotations such as gross book value, net book value, historical cost of assets, current cost of assets, assets including or excluding intangible assets.

2. While comparing ROI of different companies, it is necessary that the companies use similar accounting policies and methods in respect of valuation of stocks, valuation of fixed assets, apportionment of overheads, treatment of research and development expenditure, etc.

3. ROI may influence a divisional manager to select only investments with high rates of return (i.e., rates which are in line or above his target ROI). Other investments that would reduce the division's ROI but could increase the value of the business may be rejected by the divisional manager. It is likely that another division may invest the available funds in a project that might improve its existing ROI (which may be lower than a division's ROI which has rejected the investment) but which will not contribute as much to the enterprise as a whole.

   These types of decisions are sub-optimal and can distort an enterprise's overall allocation of resources and can motivate a manager to make under investing in order to preserve its existing ROI. A good or satisfactory return is defined as an ROI in excess of some minimum desired rate of return, usually based on the firm's cost of capital.

4. ROI provides focus on short term results and profitability; long term profitability focus is ignored. ROI considers current period's revenue and cost and do not pay attention to those expenditures and investments that will increase long term profitability of a business unit. Based on ROI, the managers tend to avoid the new investments and expenditure due to returns being uncertain or return may not be realized for sometime.

   Managers using ROI may cut spending on employee training, productivity improvements, advertising, research and development with the narrow objective of improving the current ROI However, these decisions may impact long term profitability negatively. Therefore it is advisable for the investment division or business unit to use ROI as only one parameter of an overall evaluation criteria to decide the acceptances/rejection of new' investment

5. Investment Centre managers can influence (manipulate) ROI by changing accounting policies, determination of investment size or asset, treatment of certain items as revenue or capital. Sometimes, managers may reduce the investment base by scrapping old machines that still earn a positive return but less than others. Thus, the practice of abandoning old machines that are still serviceable may be used by managers to increase their ROI and a series of such actions may be harmful to the organization as a whole.

4.3 Economic Value Added (EVA)

4.3.1 Concept

Q7. What is Economic Value Added (EVA)?

Ans :

Economic value added is a measure of performance evaluation that was originally employed by Stem Stewart & Co. It is very popular measure today which is used to measure the surplus value created by an investment or a portfolio of investments. EVA has been considered as a better measure of divisional performance compared to the Return on Assets ROA or ROI. It is also being used to determine whether and investment positively contributes to the shareholders wealth. The economic value added of an investment is simply equal to the after tax operating profits generated by the investment minus the cost of funds used to finance the investment.

EVA can be calculated as below :

EVA = (Net Operating profit after tax – Cost of capital x Capital invested)

or, EVA = Return on investment – Cost of capital × Capital employed

According to this approach, an investment can be accepted only if the surplus (EVA) is positive. It is only the positive EVA that will add value and enhance the shareholders wealth. However, to calculate the economic value added we need to estimate the net operating profit after tax and cost of funds invested.

4.3.2 Significance of EVA

Q8. Explain the need and Significance of EVA.

(OR)

State the Significance of EVA

(OR)

Discuss the Significance of EVA

(OR)

Explain the Significance of EVA

Ans : **(May-17, May-16, May-15, May-14, Imp.)**

Importance of EVA

The importance of EVA can be realised in the following fields :

1. **It helps the Company for Better Financial Management :** A financial management system consists of all the financial policies, procedures and measures that guide a company's operations and its strategies. It addresses the following questions as: What are our overall corporate financial goals and how are they to be communicated both internally as well as to the external investing community? How are business plans to be evaluated? How are resources to be allocated? How is the ongoing operation performance to be evaluated and what is our corporate reward system for the employees? Companies generally use different measures for answering each of these questions for example for evaluating an investment proposal a company may use one of the discounted cash flow methods like net present value or internal rate of return, while for setting goals and communicating they may use measures such as profit margins, ROE, earnings growth etc. and the management may be compensated based on achieving some target profit figures.

2. **Its Analysis Helps in Capital Budgeting Decisions :** The EVA concept is very closely related to the NPV concept. The present value of an investment's annual EVA stream is the same as its NPV. However while NPV analysis is a one-time measure of the value added by an investment, EVA is a continuous annual value-added measure.

3. **It Helps for Measuring Performance and Management Compensation :** Firms compete with each other for getting the scarce capital from the shareholders. To be able to get the capital firm must perform better than those with whom it competes for capital and once it gets the capital it must earn a return on it that is more than that earned by similar risky seekers of capital. If it can achieve this objective, it has created value for the shareholder and its stock price will command a higher premium in the market. This is a well-known concept and EVA is one measure that takes this concept into account.

Q9 Explain the limitation of EVA.

Ans :

Drawbacks of EVA

(i) It ignores inflation. So it is biased against new assets. Whenever a new investment is made capital charge is on the full cost initially, so EVA figure is low. But as the depreciation is written off the capital charge decreases and hence EVA goes up. This problem existed with measures like ROI also.

(ii) It is biased. EVA is measured in rupee terms, so it is biased in favour of large, low return businesses. Large businesses that have returns only slightly above the cost of capital can have higher EVA than smaller businesses that earn returns much higher than the costs. This makes EVA a poor metric for comparing businesses.

(iii) In the short term EVA can be improved by reducing assets faster than the earnings. If this is pursued for long, it can lead to problems in the longer run when new improvements to the asset base are made. This new investment can have a high negative effect on EVA because the asset base would have been reduced to a large extent and improvements will involve huge investments.

Q10. What are the advantages of EVA?

Ans :

- It acts as performance measure which is linked to share holder value creation in all directions.
- It is useful in providing business knowledge to everyone.
- It is an efficient method for communicating to investors.
- It transforms the accounting information into economic quality which can be easily understood by non financial managers.
- It is useful in evaluating Net Present Value (NPV) of projects in capital budgeting which is contradictory to IRR.
- Instead of writing the value of firm in terms of discounted cash flow, it can be expressed in terms of EVA of projects.

4.3.3 Measurement of EVA

Q11. Explain the Measurement of EVA.

(OR)

Discuss the Measurement of EVA.

(OR)

Explain the EVA concept in measuring financial performance of a company.

(OR)

Discuss the various techniques of EVA.

Ans : **(May-18, May-17, May-16, May-15, May-12, Imp.)**

1. **Calculation of NOPAT (Net Operating Profit After Tax)**

NOPAT is measured from the Income Statement by adding back interest payments and subtracting and adding non-operating income and expenses, respectively, to the Net Profit figure and after making certain other adjustments which turn accounting profits into economic profits.

Some of the adjustments and the reasons follows :

(i) Accounting principles allows companies to write-off R & D expenses. But these expenses may not be truly revenue in nature. For successful R & D projects EVA calculations writes back the R & D expenses and amortises them over a period during which benefits of the successful R & D projects will be reaped. The NOPAT figure calculated from P & L account is adjusted by adding back the R & D expenses and capitalising them in the balance sheet. Only those R & D expenses and that have no future value are charged to the income statement.

(ii) During periods of rising prices companies save taxes by adopting the LIFO system of inventory valuation. Under the LIFO method, costs of the recently acquired raw materials are charged to the production while the costs of earlier purchases. For accumulated in inventory thereby understating the inventory and the profits ? calculating EVA the LIFO system of valuation is changed to FIFO basis which is a better basis for estimating current replacement costs. NOPAT and Equity are adjusted for this change from LIFO to FIFO by adding the difference between the LIFO and FIFO inventory (or LIFO and FIFO cost of goods sold) to the equity and NOPAT. This way the tax benefits of LIFO are retained.

(iii) Deferred taxes arise due to the difference in timing of recognition of revenues and expenses for financial reporting versus reporting for tax purposes. It is basically the accumulation of the difference between accounting provision of taxes and the tax amount actually paid under the head 'Reserve for Deferred Taxes'. NOPAT is adjusted for the tax actually paid instead of the accounting provisions. The reserves for deferred taxes are added to the equity.

(iv) The depreciation charge if excessive needs adjustments.

(v) Certain marketing expenses like advertising or sales promotion for a new brand launch are capitalised and amortised over the period during which benefits will be reaped.

(vi) Goodwill of an acquired business, if written off, is capitalised and adjusted in NOPAT and equity.

(vii) Expenses incurred on employee training again will provide benefits over a period, so these expenses are also capitalised.

(viii) Operating leases are to be capitalised. The net present value of the lease payments is capitalised.

(ix) Restructuring expenses and such other expenses which will benefit the firm in the long run are capitalised and written-off over a period.

(x) Other adjustments like adding back the provision for warranty claims, provisions for bad and doubtful debts are also made. They are accounted for on cash basis.

Similarly other non-cash book-keeping entries are adjusted and accounted for on cash basis.

(xi) Provision for gratuity and pension should be recognised and provided for properly.

2. Calculation of Capital Employed

The next element required for calculating EVA is the capital employed. Capital employed consists of adjusted Equity Shareholders fund, all interest bearing obligations and preference Capital (if any). The capital employed can be calculated through the assets side of the balance sheet or the liability side. From the assets side, capital employed is the current assets less the non-interest bearing current liabilities i.e. the net working capital (current assets—non-interest bearing current liabilities) plus the net fixed assets. From the liabilities side it is the sum of interest bearing debt (short-term as well as long term) and net worth less any non-operating assets. The pertinent questions are whether the capital employed be taken at its opening value at the beginning of the year or the year end value or the average of the two? And should the capital employed be taken at the book value or the market value? The answer to the first question is to use the beginning of the year capital employed for calculating EVA as this was the capital available to the management to earn the returns on and further as we will see, taking the beginning of the year capital employed helps in evaluating capital budgeting decisions.

3. Calculation of Weighted Average Cost of Capital (WACC)

The third element in EVA calculation is the cost of capital, which is weighted the average of the cost of debt, cost of equity and cost of preference capital with is weights equivalent to the proportion of each in the total capital. While the cost of debt is the average interest rate paid by the company on its debt, the cost of equity can be found out using the Capital Asset Pricing Model (CAPM) and the cost of preference shares can be taken as the fixed rate of dividend.

Improving EVA

The following are the ways in which the EVA can be improved :

(a) Increasing NOPAT with the same amount of capital.

(b) Reducing the capital employed without affecting the earnings i.e., discarding the unproducting assets.

(c) Investing in those projects that earn a return greater than the cost of capital.

(d) By reducing the cost of capital, which means employing more debt as debt is cheaper than equity or preference capital.

4.4 Balanced Score Card (BSC)

4.4.1 Concept

Q12. What is Balanced Score Card (BSC)?

Ans : **(May-16, May-14, May-13, Imp.)**

Definition

According to RS Kaplan and D P Norton came out with a popular, Balanced Scorecard approach in the early 90s linking corporate goals with strategic actions undertaken at the business unit, departmental and individual level. The scorecard allows managers to evaluate a firm from different complementary perspectives. The arguments run thus:

(i) A firm can offer superior returns to stockholders if it has a competitive advantage in its product or service offerings as compared to its rivals,

(ii) In order to sustain a competitive advantage, a firm must offer superior value to customers,

(iii) This, in turn, requires development of operations with necessary capabilities,

(iv) In order to develop the needed operational capabilities, a firm requires the services of employees having requisite skills, creativity, diversity and motivations. Thus, the performance as assessed in one perspective supports performance in other areas.

The balance scorecard is used in order for the organisation to work in an efficient manner keeping its direction on the mission and the vision that is to be achieved. In order to truly make use of the balance scorecard, a firm must understand the two important aspects of the firm: (i) 'The company's mission statement' and (ii) 'The company's vision statement'

After that, the firm needs data on the following:

➢ Financial status of the organisation

- Current structure and operations of the organisation
- Level of expertise of the employees
- Level of customer satisfaction

4.4.2 Objectives

Q13. Explain the Objectives of balance Score Card.

Ans : **(May-16, May-13, May-12, Imp.)**

A balanced scorecard is a strategic management performance metric used to identify and improve various internal business functions and their resulting external outcomes. Balanced scorecards are used to measure and provide feedback to organizations. Data collection is crucial to providing quantitative results as managers and executives gather and interpret the information and use it to make better decisions for the organization.

1. **Better Strategic Planning :** The Balanced Scorecard provides a powerful framework for building and communicating strategy. The business model is visualized in a strategy map which helps managers to think about cause-and-effect relationships between the different strategic objectives. The process of creating a Strategy Map ensures that consensus is reached over a set of interrelated strategic objectives. It means that performance outcomes as well as key enablers or drivers of future performance are identified to create a complete picture of the strategy.

2. **Improved Strategy Communication & Execution :** Having a one-page picture of the strategy allows companies to easily communicate strategy internally and externally. We have known for a long time that a picture is worth a thousand words. This 'plan on a page' facilitates the understanding of the strategy and helps to engage staff and external stakeholders in the delivery and review of the strategy. The thing to remember is that it is difficult for people to help execute a strategy which they don't fully understand.

3. **Better Alignment of Projects and Initiatives :** The Balanced Scorecard help organizations map their projects and initiatives to the different strategic objectives, which in turn ensures that the projects and initiatives are tightly focused on delivering the most strategic objectives

4. **Better Management Information :** The Balanced Scorecard approach helps organizations design key performance indicators for their various strategic objectives. This ensures that companies are measuring what actually matters. Research shows that companies with a BSC approach tend to report higher quality management information and better decision-making.

5. **Improved Performance Reporting :** The Balanced Scorecard can be used to guide the design of performance reports and dashboards. This ensures that the management reporting focuses on the most important strategic issues and helps companies monitor the execution of their plan.

6. **Better Organizational Alignment :** The Balanced Scorecard enables companies to better align their organizational structure with the strategic objectives. In order to execute a plan well, organizations need to ensure that all business units and support functions are working towards the same goals. Cascading the Balanced Scorecard into those units will help to achieve that and link strategy to operations.

7. **Better Process Alignment :** Well implemented Balanced Scorecards also help to align organizational processes such as budgeting, risk management and analytics with the strategic priorities. This will help to create a truly strategy focused organization.

Q14. Explain the importance of Balanced Score Card (BSC).

Ans :

It highlights the importance of non-financial drivers of performance, and clarifies vision throughout the organization. Specifically the benefits are :

1. Greater Participation

After constructing the Balanced Scorecard leaders cascade strategy down to business units, divisions and support functions. In doing so, top management does not dictate strategy to operating units. Instead it recognizes that operating units have a better 'feel' for local conditions, operating technologies, and competition. So it encourages the latter to define their own strategy so as to dovetail with the organization's overall strategy.

2. Improved Communication

Top management explains the Balanced Scorecard and the strategy map through newsletters, brochures, bulletin boards, meetings, training, and education programs. This is reinforced by the top management's conviction in the efficacy of the Balanced Scorecard. This conviction gets translated into their personal behavior and their commitment is reflected in the initiatives taken to accomplish their strategy.

3. Improved Understanding of Mission

Departments performing line functions (such as the production department in a manufacturing concern) as well as those in staff functions such as human resources, purchase, finance and internal audit, are asked to define what services ought to be provided, as also the quality of these services and their cost. They examine and understand the interrelationships between each staff function and line functions. In doing so they realize what each function (whether line or staff), contributes to overall organizational success. The concept of partnerships with each other and with the corporate parent is grasped, enabling the emergence of corporate-level synergies.

4. Empowerment

Employees get a clearer understanding of what the organization wishes to accomplish, and how they can contribute to these accomplishments. They realize that their work can and does make a difference to the organization, and this increases their intrinsic motivation. They come to work with enthusiasm, creativity and initiatives, actively searching for better ways in which they can help the organization succeed. Personal objectives arc linked to team objectives. Typically a new incentive plan is drawn up that enables employees to benefit financially when targets for strategic measures are achieved.

5. Style of management

Chief executive officers (CEOs) understand that they cannot implement corporate strategy alone. They need contribution, cooperation and ideas from everyone in the organization. Persons far from corporate headquarters whether they are employees, vendors, or distributors can suggest new ways of doing business. So CEOs need to alter their style of management from autocratic to participative. They discard top down direction and embrace top down communication, helping the 'partners' learn how they can contribute to successful implementation of corporate strategy.

6. Improved Training

Top management is aware that employee skills enhance internal processes. The strategy map reveals the strategic chain of cause and effect relationships that link greater investment in improving employee skills to improved financial performance. Top management realizes the importance of skill upgradation and the specific skills that should be enhanced. The Balanced Scorecard shows people how improving of capabilities leads to the organization achieving it's long term financial goals. The organization implements the learning and growth objectives, by focusing on sustained investment in training.

7. Selection of Suppliers

In choosing strategic partners, the organization pays as much attention to low cost supplies as quality of supplies, lead time, on time delivery performance of suppliers, defect free supplies, and whether suppliers are electronically connected to the organization. This last factor allows the online ordering of supplies as well as online payment. Attention to cost of supplies alone is dangerous. Low cost suppliers may turn out to be extremely high cost if they fail to deliver supplies on schedule, or the deliveries do not conform to quality standards. The organization will have to spend considerable time, effort and cost, in monitoring quality, arranging for replacement of defective goods, sourcing supplies from other vendors at short notice, and stocking up of inventory when the supply is known to be erratic. By incorporating measures for superior supplier relationships into the Balanced Scorecard, employees understand the value of forging long term relationships with key suppliers. This recognition generates initiatives from the employees and feedback on the most critical elements of the supplier relationship.

8. Enhancement of value in the community

Organizations cannot afford to ignore the community within which they operate. They may wish to move beyond mere compliance, setting industry standards in areas such as corporate governance, community concern, and environmental protection. One chemical company Stated - 'Our strategy is to be seen by the community within which Mr operate, ax not only a law abiding corporate citizen, but as an outstanding. corporate citizen, measured both environmentally and by creating well paying, safe, and productive jobs. If regulations are tightened, though other firms may get affected, we expect to have earned the right to continue operations.' In recognition of this, environmental and community performance was a key part of its strategy. Such recognition enables an organization to successfully operate in markets that differ in terms of cultural, linguistic, and economic bases and geographic locations.-

Thus the balanced scorecard provides a framework to align the organization, focuses teams and individuals on strategic priorities, provides a structure for multiple initiatives, drives this capital and resource allocation process, integrates strategic management across the organization, and integrates the entire supply chain.

4.4.3 Perspectives of BSC

Q15. Explain the various Perspectives of Balanced Score Card.

Ans : **(May-15, May-13, Imp.)**

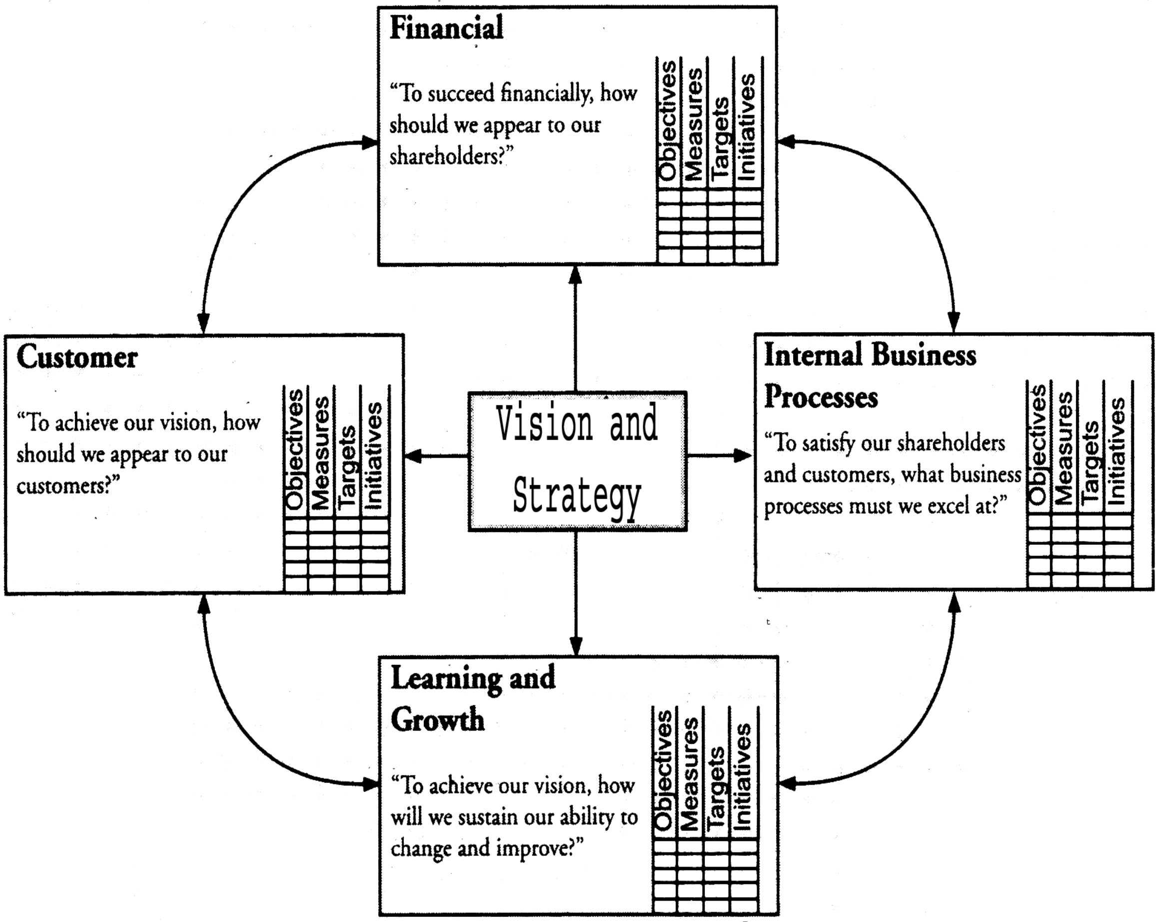


Fig.: Firm's Mission Statement

The metrics should be SMART (Specific, Measurable, Achievable, Realistic and Timely). One can't improve what can't be measured, and the metrics must be aligned with the company's strategic plan. The balanced scorecard directs us to visualise the organisation to have four perspectives that are inter-dependent, yet improving one area doesn't mean success for the other areas as well; all four must work in sync.

1. Financial Perspective

The balanced scorecard uses financial performance measures, such as net income and return on investment, because all for-profit organizations use them. Financial performance measures provide a common language for analyzing and comparing companies. People who provide funds to companies, such as financial institutions and shareholders, rely heavily on financial performance measures in deciding whether to lend or invest funds. Properly designed financial measures can provide an ag-gregate view of an organization's success.

Financial measures by themselves do not provide incentives for success. Financial measures tell a story about the past, but not the future; they have importance, but will not guide performance in creating value.

2. Customer Perspective

In the customer perspective of the Balanced Scorecard, managers identify the customer and market segments in which the business unit will compete and the measures of the business unit's performance in these targeted segments. This perspective typically includes several core or generic measures of the successful outcomes from a well-formulated and implemented strategy.

The core out-come measures include customer satisfaction, customer retention, new customer acquisition, customer profitability, and market share in targeted segments. But the customer perspective should also include specific measures of the value propositions that the company will deliver to customers in targeted market segments.

The segment-specific drivers of core customer outcomes represent those factors that are critical for customers to switch to or remain loyal to their suppliers. For example, customers could value short lead times and on-time delivery. Or a constant stream of innovative products and services. Or a supplier able to anticipate their emerging needs and capable of developing new products and approaches to satisfy those needs. The customer perspective enables business unit managers to articulate the customer and market-based strategy.

The core measurement group of customer outcomes is generic across all kinds of organizations.hat will deliver superior future financial returns.

3. Internal-Business-Process Perspective

i. Deliver the value propositions that will attract and retain customers in targeted market segments, and

ii. Satisfy shareholder expectations of excellent financial returns.

The key to excellence in any organization is control of its processes to produce reliable and consistent products and services. Performing the right processes in the right manner leads to consis-tent levels of product and service quality. The difficulty lies in finding the right process variables to measure and setting the standards appropriate to performance levels of each of the process measures.

Process and operational measures are leading-edge measures that are more short-term-focused.

These are the measures that are typically monitored every day or at least every week. Some process variables are even monitored continuously to ensure the production and delivery of high-quality products and services. Achieving good performance levels on process or operational measures leads to high-quality products and services, which, in turn, lead to satisfied or delighted customers, which lead to repeat business and promote an organization's long-term survival and success

In order to achieve consistently high performance, an organization must control its inputs. The two most important inputs to good performance are knowledge of customer requirements and high- quality goods and services from key suppliers.

Process measures provide with the data needed to predict and control the quality of products and services. When a problem occurs with a product or service, the cause is usually found by looking at the process data. Results and outcomes are important for all organizations. In fact, they may be the most important thing. But how those results are achieved the process measures is also very important to tract.

Brown finds that excellent organizations measure processes and operational results in the following manner:

a. Cycle time for all key processes is measured.

b. Rework time and/or costs are tracked for key production and service delivery processes.

c. Key measures of productivity are identified and tracked for major processes in the organization.

d. Key processes have been identified in each unit, function, and department of the organization, and process measures have been defined for each key process.

e. Process measures are correlated directly with product/service characteristics or performance factors that are of prime importance to customers.

f. Standards or goals are set for all key process measures, and those standards are based upon benchmark organizations and customer requirements

g. Process measures promote a preventive approach to achieving consistently high-quality products and services.

h. The organization has developed an overall safety index that is tracked at least once a month, and consists of several output measures like lost-time accidents, as well as a number of preventive or behavioral measures.

i. A few future-oriented process measures are tracked that will help ensure long-term survival and success.

4. The Learning and Growth Perspective

For incentive purposes, the learning and growth perspective focuses on the capabilities of people. Managers would be responsible for developing employee capabilities. Key measures for evaluating managers' performance would be employee satisfaction, employee retention, and em-ployee productivity.

(a) Employee Satisfaction

Employee satisfaction recognizes the importance of employee morale for improving productivity, quality, customer satisfaction and responsiveness to situations. Managers can measure employee satisfaction by sending surveys, interviewing employees, or observing employees at work.

(b) Employee Retention

Firms committed to retaining employees recognize that employees develop organization-specific intellectual capital and provide a valuable non-financial asset to the company. Furthermore, firms incur costs when they must find and hire good talent to replace people who leave. Firms measure employee retention as the inverse of employee turnover—the percent of people who leave each year.

(c) Employee Productivity

Employee productivity recognizes the importance of output per employee. Employees create physical output (i.e., miles driven, pages produced, or lawns mowed), or financial output (i.e., revenue per employee or profits per employee). The number of loans processed per loan officer per month would provide a simple measure of productivity for loan officers at a bank.

Within this core, the employee satisfaction objective is generally considered the driver of the other two measures, employee retention and employee productivity

4.4.4 Multiple Scorecard measures into a single strategy

Q16. Explain the Multiple Scorecard measures into a single strategy.

Ans : **(Imp.)**

Linking Multiple Scorecard Measures to a Single Strategy

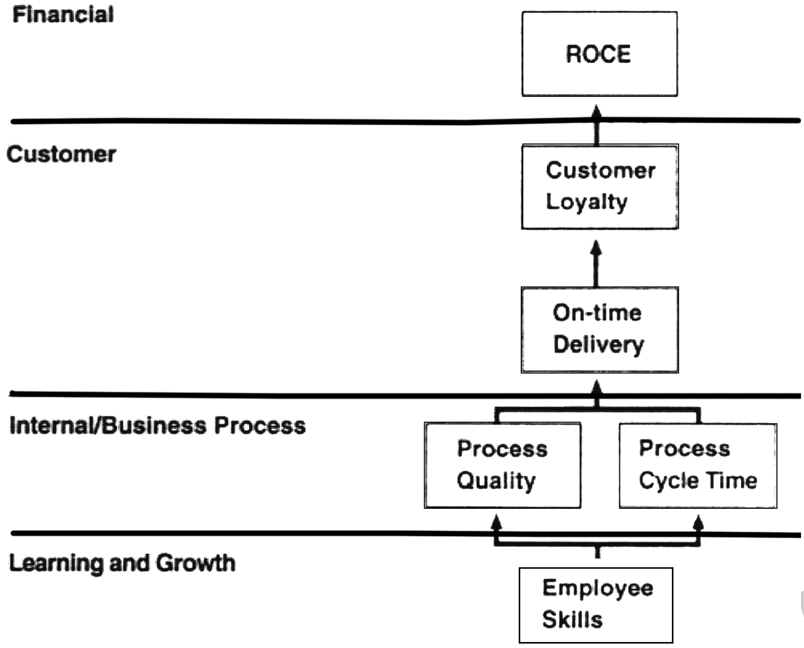
Many companies may already be using a mixture of financial and nonfinancial measures, even in senior management reviews and to communicate with boards of directors. Especially in recent years, the renewed focus on customers and process quality has caused many organizations to track and communicate measures on customer satisfaction and complaints, product and process defect levels, and missed delivery dates. In France, companies have developed and used, for more than two decades, the Tableau de Bard, a dashboard of key indicators of organizational success. The Tableau de Bord is designed to help employees "pilot" the organization by identifying key success factors, especially those that can be measured as physical variables.

Our experience is that the best Balanced Scorecards are more than collections of critical indicators or key success factors. The multiple measures on a properly constructed Balanced Scorecard should consist of a linked series of objectives and measures that are both consistent and mutually reinforcing. The metaphor should be a flight simulator, not a dashboard of instrument dials. Like a flight simulator, the scorecard should incorporate the complex set of cause-and-effect relationships among the critical variables, including leads, lags, and feedback loops, that describe the trajectory, the flight plan, of the strategy. The linkages should incorporate both cause-and-effect relationships, and mixtures of outcome measures and performance drivers.

Cause-and-Effect Relationships

A strategy is a set of hypotheses about cause and effect. The measurement system should make the relationships (hypotheses) among objectives (and measures) in the various perspectives explicit so that they can be managed and validated. The chain of cause and effect should pervade all four perspectives of a Balanced Scorecard. For example, retun-on-capital-employed may be a scorecard measure in the financial perspective. The driver of this measure could be repeat and expanded sales from existing customers, the result of a high degree of loyalty among those customers. So. customer loyalty is included on the scorecard (in the customer perspective) because it is expected to have a strong influence on ROCE, Analysis of customer preferences may reveal that on-time delivery of orders is highly valued by customers. Thus, improved OTD (On time delivery) is expected to lead to higher customer loyalty, which, in turn, is expected to lead to higher financial performance. So both customer loyalty and OTD are incorporated into the customer perspective of the scorecard.

The process continues by asking what internal processes must the company excel at to achieve exceptional on-time delivery. To achieve improved OTD, the business may need to achieve short cycle times in operating processes and high-quality internal processes, both factors that could be scorecard measures in the internal perspective. And how do organizations improve the quality and reduce the cycle times of their internal processes? By training and improving the skills of their operating employees, an objective that would be a candidate for the learning and growth perspective. We can now see how an entire chain of cause-and- effect relationships can be established as a vertical vector through the four BSC perspectives:



Performance Drivers

A good Balanced Scorecard should also have a mix of outcome measures and performance drivers. Outcome measures without performance drivers do not communicate how the outcomes are to be achieved. They also do not provide an early indication about whether the strategy is being implemented successfully. Conversely, performance drivers such as cycle ments, but will fail to reveal whether the operational improvements have been translated into expanded business with existing and new customers, and, eventually, to enhanced financial performance. A good Balanced Score-card should have an appropriate mix of outcomes (lagging indicators) and performance drivers (leading indicators) of the business unit's strategy.

Short Question and Answers

1. State the Significance of EVA

Ans :

The importance of EVA can be realised in the following fields :

1. **It helps the Company for Better Financial Management :** A financial management system consists of all the financial policies, procedures and measures that guide a company's operations and its strategies. It addresses the following questions as: What are our overall corporate financial goals and how are they to be communicated both internally as well as to the external investing community? How are business plans to be evaluated? How are resources to be allocated? How is the ongoing operation performance to be evaluated and what is our corporate reward system for the employees? Companies generally use different measures for answering each of these questions for example for evaluating an investment proposal a company may use one of the discounted cash flow methods like net present value or internal rate of return, while for setting goals and communicating they may use measures such as profit margins, ROE, earnings growth etc. and the management may be compensated based on achieving some target profit figures.

2. **Its Analysis Helps in Capital Budgeting Decisions :** The EVA concept is very closely related to the NPV concept. The present value of an investment's annual EVA stream is the same as its NPV. However while NPV analysis is a one-time measure of the value added by an investment, EVA is a continuous annual value-added measure.

3. **It Helps for Measuring Performance and Management Compensation :** Firms compete with each other for getting the scarce capital from the shareholders. To be able to get the capital firm must perform better than those with whom it competes for capital and once it gets the capital it must earn a return on it that is more than that earned by similar risky seekers of capital. If it can achieve this objective, it has created value for the shareholder and its stock price will command a higher premium in the market. This is a well-known concept and EVA is one measure that takes this concept into account.

2. Financial Measures of Performance.

Ans :

1. **Heightened Competition**

Global competition has become a fact of life. In the wake of increased competition, firms are emphasising quality, productivity, cost, innovation, flexibility, and customisation. Improvement initiatives such as total quality management, world class manufacturing, total productivity management, and total cost management are gaining currency. All these tools and techniques rely on performance measurement.

2. **Growing Empowerment**

Many organizations have realised the benefits of empowering people down the line. Empowerment works well when the top management spells out clearly what it expects from people at various levels. For this purpose, well-defined performance measures are required.

3. **Quality Awards**

To recognise outstanding performance and motivate companies to excel, a number of national and international awards have been established. Notable among them are the Balridge Award (US), the European Business Excellence Model (Europe), and the Deming Prize (Japan and Asia).

Each of these awards requires a comprehensive self-assessment by the companies who wish to be considered for these awards. As more and more companies are applying for these awards, the interest in business performance measurement is growing.

3. Strengths of Non-financial Measures.

Ans :

Non-financial measures offer the following advantages :

- Non-financial measures are directly traceable to key success factors like customer satisfaction, market leadership, manufacturing excellence, quality and technological competence.
- Non-financial measures are actionable. A major problem about a standard cost system is that it is not often easy to determine the cause and cure of unfavourable variances. In contrast, non-financial measures are actionable at the plant level.
- Non-financial measures may predict better the future cash flows of the firm. For example, the long-term performance of a firm may be substantially influenced by its ability to improve product quality.

4. What is the ROI

Ans :

"Return on Investment (ROI) is a performance measure used to evaluate the efficience of an investment or compare the efficiency of a number of different investments. ROI tries to directly measure the amount of return on a particular investment, relative to the investment's cost, of calculate ROI, the benefit (or return) of an investment is divided by the cost of the investment. The result is expressed as a percentage or a ratio.

Return on investment = Net income / Investment

where, Net income = gross profit - expenses

Investment = stock + market outstanding + claims

5. Uses of ROI

Ans :

- ROI can be computed on a company-wide basis by dividing net income by owners' equity. This measure indicates how well the overall company is utilizing its equity investment.
- ROI provides a good indicator of profitability that can be compared against competitors (or) an industry average.
- Experts suggest that companies usually need at least 10-14 percent ROI in order to fund future growth. If this ratio is too low, it can indicate poor management performance (or) a highly conservative business approach.
- On the other hand, a high ROI can either mean that management is doing a good job, or that the firm is undercapitalized.
- ROI can also be computed for various divisions, product lines, or profit centers within a small business. In this way, it gives management a basis for comparing the performance of different areas.
- One large division may generate much higher profits than another, smaller division, for example, which might encourage management to consider investing further in that division.

6. Disadvantages of ROI

Ans :

1. Satisfactory definition of profit and investment are difficult to find. Profit has many concepts such as profit before interest and tax, profit after interest and tax, controllable profit, profit after deducting

all allocated fixed costs. Similarly, the term investment may have many connotations such as gross book value, net book value, historical cost of assets, current cost of assets, assets including or excluding intangible assets.

2. While comparing ROI of different companies, it is necessary that the companies use similar accounting policies and methods in respect of valuation of stocks, valuation of fixed assets, apportionment of overheads, treatment of research and development expenditure, etc.

3. ROI may influence a divisional manager to select only investments with high rates of return (i.e., rates which are in line or above his target ROI). Other investments that would reduce the division's ROI but could increase the value of the business may be rejected by the divisional manager. It is likely that another division may invest the available funds in a project that might improve its existing ROI (which may be lower than a division's ROI which has rejected the investment) but which will not contribute as much to the enterprise as a whole.

   These types of decisions are sub-optimal and can distort an enterprise's overall allocation of resources and can motivate a manager to make under investing in order to preserve its existing ROI. A good or satisfactory return is defined as an ROI in excess of some minimum desired rate of return, usually based on the firm's cost of capital.

4. ROI provides focus on short term results and profitability; long term profitability focus is ignored. ROI considers current period's revenue and cost and do not pay attention to those expenditures and investments that will increase long term profitability of a business unit. Based on ROI, the managers tend to avoid the new investments and expenditure due to returns being uncertain or return may not be realized for sometime.

   Managers using ROI may cut spending on employee training, productivity improve-ments, advertising, research and develop-ment with the narrow objective of improving the current ROI However, these decisions may impact long term profitability negatively. Therefore it is advisable for the investment division or business unit to use ROI as only one parameter of an overall evaluation criteria to decide the acceptances/rejection of new' investment

7. What is Economic Value Added (EVA)

Ans :

Economic value added is a measure of performance evaluation that was originally employed by Stem Stewart & Co. It is very popular measure today which is used to measure the surplus value created by an investment or a portfolio of investments. EVA has been considered as a better measure of divisional performance compared to the Return on Assets ROA or ROI. It is also being used to determine whether and investment positively contributes to the shareholders wealth. The economic value added of an investment is simply equal to the after tax operating profits generated by the investment minus the cost of funds used to finance the investment.

EVA can be calculated as below :

EVA = (Net Operating profit after tax – Cost of capital x Capital invested)

or, EVA = Return on investment – Cost of capital × Capital employed

According to this approach, an investment can be accepted only if the surplus (EVA) is positive. It is only the positive EVA that will add value and enhance the shareholders wealth. However, to calculate the economic value added we need to estimate the net operating profit after tax and cost of funds invested.

8. Weighted Average Cost of Capital (WACC)

Ans :

The third element in EVA calculation is the cost of capital, which is weighted the average of the cost of debt, cost of equity and cost of preference capital with is weights equivalent to the proportion of each in the total capital. While the cost of debt is the average interest rate paid by the company on its debt, the cost of equity can be found out using the Capital Asset Pricing Model (CAPM) and the cost of preference shares can be taken as the fixed rate of dividend.

Improving EVA

The following are the ways in which the EVA can be improved :

(a) Increasing NOPAT with the same amount of capital.

(b) Reducing the capital employed without affecting the earnings i.e., discarding the unproducting assets.

(c) Investing in those projects that earn a return greater than the cost of capital.

(d) By reducing the cost of capital, which means employing more debt as debt is cheaper than equity or preference capital.

9. Balanced Score Card (BSC)

Ans :

Definition

According to RS Kaplan and D P Norton came out with a popular, Balanced Scorecard approach in the early 90s linking corporate goals with strategic actions undertaken at the business unit, departmental and individual level. The scorecard allows managers to evaluate a firm from different complementary perspectives. The arguments run thus:

(i) A firm can offer superior returns to stockholders if it has a competitive advantage in its product or service offerings as compared to its rivals,

(ii) In order to sustain a competitive advantage, a firm must offer superior value to customers,

(iii) This, in turn, requires development of operations with necessary capabilities,

(iv) In order to develop the needed operational capabilities, a firm requires the services of employees having requisite skills, creativity, diversity and motivations. Thus, the performance as assessed in one perspective supports performance in other areas.

10. Objectives of balance Score Card.

Ans :

A balanced scorecard is a strategic management performance metric used to identify and improve various internal business functions and their resulting external outcomes. Balanced scorecards are used to measure and provide feedback to organizations. Data collection is crucial to providing quantitative results as managers and executives gather and interpret the information and use it to make better decisions for the organization.

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3. **Better Alignment of Projects and Initiatives :** The Balanced Scorecard help organizations map their projects and initiatives to the different strategic objectives, which in turn ensures that the projects and initiatives are tightly focused on delivering the most strategic objectives

Choose the Correct Answer

1. Any increase in divisional ROI will bring improvement in overall ROI of the entire organization. [b]
   (a) Decrease (b) Increase
   (c) Change (d) None of the above
2. ROI considers current period's revenue & cost & do not pay attention to those expenditures & investments that will increase long term probability of a business unit. [a]
   (a) Long term (b) Short term
   (c) Medium term (d) All of the above
3. ROI may influence a divisional manager to select only investments with _______ rates of return [c]
   (a) Low (b) Medium
   (c) High (d) both (a, b)
4. WACC _______ . [b]
   (a) Weighted average capital control (b) Weighted average cost of capital
   (c) Weighted average cost control (d) Weighted average capital cost
5. Finance charge _______ . [a]
   (a) Capital invested *WACC (b) NOPAT *WACC
   (c) WACC*NOPAT (d) Capital invested*NOPAT
6. Which of the following is not a dimension of balance score card [d]
   (a) Customer (b) Interval processes
   (c) Innovation (d) Stakeholder
7. Which of the following is not an extrisic reward. [a]
   (a) Satisfaction (b) Prizes
   (c) Recognition (d) Awards
8. _______ prepecture refers to interval business processes. [d]
   (a) Financial (b) Customer
   (c) Innovation (d) Interval process
9. Poor performance from customer perspecture is a leading indicator of _______ . [c]
   (a) Present decline (b) Future improvement
   (c) Future decline (d) Present inprovement
10. Which of the following is not true for the balanced score card. [c]
    (a) Top-down reflection of mission & strategy
    (b) Forward looking
    (c) External measure
    (d) Help to focus

11. As financial measures like logging Indicators [c]
    (a) TSR (b) FIR
    (c) TSR &EVA (d) EVA
12. For most business leading Indicator's a bulk for long term [c]
    (a) 3 to 4 (b) 3 to 1
    (c) 3 to 6 (d) 3 to 8
13. The three most widely used definitions of this term [b]
    (a) Gross Capital (b) Gross Capital Employed
    (c) Net Profit (d) Net Profit Employed
14. For most businesses leading Indicators are bulk for longterm [c]
    (a) 3 to 4 (b) 3 to 1
    (c) 3 to 6 (d) 3 to 8
15. Proprietors are Capital employed [a]
    (a) Fixed Assets + Current Assets – outside liabilities
    (b) Fixed Assets + Current Assets
    (c) Fixed Assets – Current Assets
    (d) Fixed Assets + Current Assets + outside liabilities
16. Total of all liabilities [a]
    (a) Increase in value of Assets- Accumulated Losses
    (b) Increase in value of Assets + Accumulated Profit
    (c) Increase in profit
    (d) Increase in losses
17. Average Capital employed [c]
    (a) $\frac{\text{Opening capital employed + closing capital}}{2}$
    (b) $\frac{\text{Opening stock + closing stock}}{2}$
    (c) $\frac{\text{Opening Capital employed + closing capital employed}}{2}$
    (d) $\frac{\text{Opening capital employed + sales}}{2}$
18. EVA and its calculation [c]
    (a) All Capital (b) Value Added
    (c) Concept of all capital (d) Capital
19. EVA = (r - c)* capital [a]
    (a) EVA (b) CCA
    (c) CPP (d) CAC
20. EVA Calculation [c]
    (a) EVA = (r* capital + capital) (b) EVA =(r* capital + capital)
    (c) EVA = (r* capital – (c* capital) (d) EVA =(r* capital + capital)

Fill in the blanks

1. __________ is a performance measure used to evaluate the efficiency of an investment.

2. Net income = __________ .

3. If is too __________ is indicate poor management performance.

4. If ROI ratio is __________ it indicate good performance by the management.

5. __________ helps in making comparision between different business units in terms of profitability & asset utilization

6. __________ managers can influence ROI by changing accounting policies.

7. ROI provides focus on short term results __________ long term profitability focus is ignored.

8. ROI = __________ .

9. C __________ is a measure based on the residual income technique.

10. EVA serves as an indicator of the __________ of profits undertaken.

11. EVA __________ .

12. NOPAT __________ .

13. A Balance Score Card is a __________ performance metric used to improve interval business functions.

14. The __________ provides a powerful framework for building & communicating strategy.

15. A good Balance Score Card should also have a mix of outcome measures and __________ .

16. Business performance meaurement is receiving a lot of __________ due to a variety of reasons.

17. __________ has become a fact of life. In the wake of increased competition.

18. Many organisations have realised the benefits of __________ down the line.

19. To recognise outstanding performance and __________ to excel.

20. Professional bodies like the Institute of __________

ANSWERS

1. ROI
2. Gross profit – Expenses
3. Low
4. High
5. ROI
6. Investment centre
7. Profitability
8. Revenue – Cost of goods sold / Cost of goods sold
9. EVA
10. Profitability
11. NOPAT – (WACC*capital invested)
12. Net operating profit after tax
13. Strategic management
14. Balance Score Card
15. Performance drivers
16. attention today
17. Global competition
18. empowering people
19. motivate companies
20. Chartered Accountants

UNIT V

CONTEMPORARY ISSUES IN MANAGEMENT ACCOUNTING:

Management Control Systems – Characteristics (Technical Considerations & Behavioural Considerations) – Problems in implementing an effective Management Control System – Anticipating and avoiding the problems – Indirect costs of MCS – Design and Evaluation of MCS- Organizational Ethical code of conduct and Management Accounting and Control System Design. (Theory only)

Mergers and Acquisitions: Introduction – Forms of Combinations – Reasons for Mergers – Legal and Procedural aspects of merger – Valuation of firms – Forms of financing a merger – Capital structure after merger and consolidation – Financial problems of merger and consolidation – Accounting for Amalgamations – SEBI Regulations. (Including problems)

5.1 Management Control Systems

Q1. What is Management Control Systems

Ans : **(Dec.-20, Imp.)**

Introduction

Management control system is defined "as a means of gathering and using information to aid and coordinate the process of making planning and control decisions through-out the organization and to guide the behaviour of its managers and employees. The goal of management control system is to improve the collective decisions within an organization in an economically feasible way."

Broadly, management control system (MCS) refers to the design, installation and operation of management planning and control systems.

The term 'management control systems' emphasises on two distinct, but highly interrelated and sometimes indistinguishable, subdivisions of controls systems:

(i) Structure (or) organization structure (or) relationships among the units in the organization, more specifically the responsibility centres, the relationship among responsibility centres, performance measures and the information that flows among these responsibility centres.

(ii) Process or set of activities, or steps or decisions that are taken by an organization or managers to establish purposes, allocate resources and achieve organizational purposes.

The process consists of interrelated phases of programming (programme selection), budgeting, execution, measurement and evaluation of actual performance.

The structure of a management control system indicates what the system "is" and process of a management control system indicates what the system "does." The management control systems know the organization together so that each part, by exercising the autonomy given to it, fulfills a purpose that is consistent with and contributes to the fulfillment of the overall purpose of the organization.

5.1.1 Characteristics (Technical Considerations & Behavioural Considerations)

Q2. Explain the Characteristics of management Control Systems.

Ans : **(Imp.)**

Characteristics of Management Control Systems

Management control systems designed in an organization should fulfill the following characteristics:

(i) Management control systems should be closely aligned to an organization's

(ii) Management control systems should be designed to fit the organization's structure and the decision-making responsibility of individual managers.

Effective management control systems should motivate managers and employees to exert efforts toward attaining organization goals through a variety of rewards tied to the achievement of those goals.

Factors Influencing Management Control Systems:

Factors influencing the design of Management Control Systems are as follows:

(i) Size and Spread of the Enterprise

The size and spread of a large firm is bound to be different compared with that of a small firm. This would certainly determine the content and nature of the control system for each organization.

(ii) Organizational Structure, Delegation and Decentralisation

Statutes and conventions govern organizational structure, and the extent of decentralisation and delegation in all enterprises.

For example, the management philosophy of the State Bank of India is bound to be different from that of the State Trading Corporation. Also, within an enterprise, the degree of decentralisation and delegation changes from one point of time to another to meet changed environmental challenges and the opportunities that these may present. All these influence management control systems practiced in organizations.

(iii) Nature of Operations and Divisibility

Nature of operations and their divisibility affect management control systems. For example, in the oil industry, for instance, sub-units can not be formed on the basis of products. In many large trading companies, however, divisions can be created on the basis of products. Again, in the paper industry, the different stages in pulp making can not be subdivided for the purposes of management control, though pulp making as a whole can be regarded as a division.

(iv) Types of Responsibility Centres

Different control systems are needed for the various responsibility centres or sub-systems within an organization. Whether the performance of a responsibility centre should be measured in terms of expenses or profitability or return on investment depends on the type of responsibility centre. For example, a bank may apply different performance measures to measure performance of its different branches.

There are transactional differences between branches; some are deposit heavy or advance heavy, some are with or without safe deposit facilities or foreign exchange transaction. It is, therefore, not possible to have profit as the sole criteria for performance evaluation of all branches. Hence, control systems with different criteria of performance should be used for different sub-units.

(v) People and their Perceptions

Perceptions of people in the organization about the likely effects of the control system on their work life, job satisfaction, job security, promotion and general well-being could differ across organizations. These considerations will significantly influence the nature and content of the management control system needed in the organization and must be duly considered while designing management control systems.

5.2 Problems in Implementing an Effective Management Control System

Q3. What are the Problems in implementing an effective Management Control System

Ans : **(Dec.-20)**

- There is no certainty that management control systems will always be effective, either in terms of design or in terms of implementation.
- These systems can only increase the probability of achievement of organizational objectives of effectiveness, efficiency, accuracy of financial reporting, and compliance.
- Management controls should be integrated (or) in-built into the organization's activities.
- These in-built control systems will influence the organization's capability to achieve its

objectives and also help in improving the quality of its business operations. There are five components of management control- control environment, risk assessment, control activities, information and communication, and monitoring the control system.

- The management controls are designed in such a way that the control activities involved are monitored on a continuous basis or separately.
- Continuous monitoring helps the organization by offering feedback on whether the control components are effective or ineffective. Separate assessment of activities helps in understanding the effectiveness of the control system as a whole and, in turn, of the continuous monitoring processes.
- The most important factor while implementing control systems is that the organizations should have proper processes in place to identify, communicate, follow up, and rectify discrepancies (if any) in the set plans and objectives.
- Management control is implemented by a number of people both internal and external to the organization. Each of them plays a different role and has different responsibilities toward the effective implementation of a management control system.
- The entities internal to the organization are the management, the board of directors, the internal auditors, and most of the employees; the entities external to the organization include external auditors, regulatory bodies, customers, suppliers, and financial analysts.
- Some issues that hinder management control process are: lack of proper organizational structure, management style, well-defined hierarchy, etc. lack of proper person-job and person-reward fit; deficiencies in training and developing employees; collusion between the controlled person and the controlling person; illegitimate use of management authority and lack of proper communication.

5.2.1 Anticipating and avoiding the problems

Q4. Discuss the Anticipating and avoiding the problems of Management Control System

Ans :

I. Create Effective Controls

Perhaps the best way to overcome resistance to control is to create effective control to begin with. If control systems are properly integrated with an organization's planning system and if the controls are, subsequently, flexible, accurate, timely and objective, the organization is unlikely to fall prey to the problems of over-control, incorrect focus, or rewarding inefficiency.

Further more, those employees who fear accountability most will perhaps be held accountable for their poor performance.

2. Encourage Participation

Moreover, employee participation in management can help overcome resistance to change. In a like manner, when employees are involved with planning and implementing the control systems, they are less likely to resist it

3. Using MBO

Management by objectives (or MBO) can also overcome employee resistance to control.

As P.F. Drucker, the originator of the concept, suggests

"When MBO is used properly employees help establish their own goals or standards. They also know in advance that their rewards will be based on the extent to which they achieve and maintain those goals and standards. MBO, then, is a vehicle for facilitating the integration of planning and control."

4. Checks and Balances

Another way to overcome employee resistance to control is to maintain a system of checks and balances. In truth, multiple standards and information systems provide checks and balances for control. Resistance declines because this system of checks and balances serves to protect employees as well as management.

5.3 Indirect Costs of MCS

Q5. Explain briefly about the Indirect costs of management control system.

Ans :

Indirect costs are costs that are not directly accountable to a cost object (such as a particular project, facility, function or product). Indirect costs may be either fixed or variable. Indirect costs include administration, personnel and security costs. These are those costs which are not directly related to production. Some indirect costs may be overhead. But some overhead costs can be directly attributed to a project and are direct costs.

There are two types of indirect costs. One are the fixed indirect costs which contains activities or costs that are fixed for a particular project or company like transportation of labor to the working site, building temporary roads, etc. The other are recurring indirect costs which contains activities that repeat for a particular company like maintenance of records or payment of salaries.

Management accounting costs have a direct impact on profit margins and the viability of businesses. Whether you are looking at variable costs, fixed costs or a specific costing method used to track production, measurement of expenses is important for financial reporting and management decision-making. There are multiple types of costs in management accounting that business owners and their accountants evaluate on a regular basis.

(i) Manufacturing Costs

Manufacturing costs include direct labor, direct materials and manufacturing overhead, which are important determinants in a company's overall profitability. Direct labor consists of the line workers that physically manufacture products, despite whether they are hourly or salaried employees. Direct materials are processed into finished goods inventory and are essential for production. Manufacturing overhead includes indirect materials, indirect labor and factory operating costs such as utilities and real estate taxes.

(ii) Non-manufacturing Costs

Marketing costs, sales professionals' salaries and administrative expenses are considered non-manufacturing costs. These expenses also play an important role in the profitability of a company and its ability to compete in the marketplace. Costs associated with support services, such as accounting and quality assurance personnel, are essential for a business to be able to produce products or services. However, these costs must be kept at the appropriate amount relative to a company's profit margins and other operating expenses.

(iii) Opportunity Costs

An opportunity cost is viewed as the value of an alternate investment or asset allocation decision, when funds are spent on a particular project. Opportunity costs are good for management decision-making and evaluating the various investment opportunities a company faces. It is important to look at risk when comparing opportunity costs, as well as the potential for a favorable return on investment. Although opportunity costs are not actually incurred, they are important for analysis and planning purposes.

(iv) Sunk Costs

When a company spends money on a project, the funds invested become a sunk cost. Once funds are spent, there is no reversing the cost. While sunk costs do not normally factor into a decision to proceed with a project or acquire a new investment, they do factor into additional spending decisions. If a project has a large dollar amount of sunk costs, business leaders or investors may be more inclined to invest additional funds to help struggling projects generate favorable retums.

5.4 Design and Evaluation of MCS

Q6. Briefly explain the Design and Evaluation of management control system.

Ans :

A management control system basically seeks to gather information and use the information gathered to evaluate the performance of different organizational resources like human, physical, financial and also organization as a whole.

In designing a management control system, we ask ourselves two questions They are

What is desired: Here we critically examine the roles of each member of the company, from the top to the bottom. Then we develop an understanding of the critical determinants of success. What is desired entails assessing what an organization wants the employees to do; For example, where I work every employee on appointment is given a detailed list of job goals. The job goal list the activities they would be performing, What is desired of them and what they are expected to achieve under normal working conditions. Also there has to be a link between the organization's overall objectives and employee's job goals.

In setting up a management control system, the more knowledge of the company's objectives, the better. Greater and more certain knowledge yields a larger set of feasible control alternatives, provides a better chance of being able to apply each alternative tightly and reduces the chance of creating a behavioral displacement problem

What is likely to happen: Managers are needed to investigate the potentials for each of the control problems, lack of direction, motivational problems or personal limitations They should dig deep by interviewing employees, finding out if the employees understand their tasks (key actions) or what they are to accomplish (key results) Whether there is proper motivation and whether they are able to fulfill their desired role

If what is desired and what is likely to happen are in sync, or not greatly different, then the organization has an effective management control system. If they are different, then the organization has to address the basic management control system design questions which are: What controls should be used? And how tightly should each be applied

Decisions to be taken in Designing a Management Control System

(i) Choice of Controls

The specific set of management control mechanisms to be selected from among the feasible alternatives should be those that the benefits would exceed the costs. They can be ranked, and it is advisable that the proposed management control system with the highest net benefit be chosen. The benefits of a management control system are derived from the increased probability of success; but since management controls are usually costly to implement and operate, then the costs must be subtracted from the benefits provided.

(ii) Choice of Control tightness

In any organization, tight control is most beneficial over the area's most critical to the organization's success. The decisions as to whether controls should be tight or loose depends on three factors which are.

1. The potential benefit(s) of the tight control
2. What the cost would be
3. Harmful side effects if any

5.5 Organizational Ethical code of conduct and Management Accounting and Control System Design

Q7. What are the Organizational Ethical code of conduct and Management Accounting and Control System Design.

Ans : **(Imp.)**

A code of ethics is a guide of principles designed to help professionals conduct business honestly and with integrity. A code of ethics document may outline the mission and values of the business or organization, how professionals are supposed to approach problems, the ethical principles based on the organization's core values, and the standards to which the professional is held.

A code of ethics also referred to as an "ethical code," may encompass areas such as business ethics, a code of professional practice and an employee code of conduct.

Management accountants should behave ethically. They have an obligation to follow the highest standards of ethical responsibility and maintain good professional image.

The Institute of Management Accountants (IMA) has developed four standards of ethical professional conduct.

The IMA Statement of Ethical Professional Practice has been revered as the central code of ethics for management accountants.

1. Competence

- Maintain an appropriate level of professional expertise by continually developing knowledge and skills.
- Perform professional duties in accordance with relevant laws, regulations, and technical standards.
- Provide decision support information and recommendations that are accurate, clear concise, and timely recognize and communicate professional limitations or other constraints that would include responsible judgment or successful performance of an activity.

2. Confidentiality

- Keep information confidential except when disclosure is authorized or legally required.
- Inform all relevant parties regarding appropriate use of confidential information. Monitor subordinates' activities to ensure compliance.
- Refrain from using confidential information for unethical or illegal advantage.

3. Integrity

- Mitigate actual conflicts of interest; regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts
- Refrain from engaging in any conduct that would prejudice carrying out duties ethically
- Abstain from engaging in or supporting any activity that might discredit the profession

4. Credibility

- Communicate information fairly and objectively.
- Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations
- Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/ or applicable law

5.6 Mergers and Acquisitions

5.6.1 Introduction

Q8. What do you understand by expansion of business discuss the various reason for expansion of business

Ans :

Growth is always essential for the existence of a business concern. A concern is bound to die if it does not try to expand its activities. There may be a number of reasons which are responsible for the expansion of business concerns. Predominant reasons for expansion are economic but there may be some other reasons too.

Following are the reasons for expansion :

1. Existence

The existence of the concern depends upon its ability to expand. In a competitive world only the fittest survives. The firm needs to control its costs and improve its efficiency so that it may be achieved if the activities of the firm are expanded. So, expansion is essential for the existence of the firm otherwise it may result into failure and may be out of business.

2. Advantages of Large Scale

A large scale business enjoys a number of economies in production, finance, marketing and management. All these economies enable a firm to keep its costs under control and have an upper hand over its competitors. A large scale concern can also withstand the cyclical changes in the demands of their products.

3. Use for Higher Profits

Every businessman aspires to earn more and more profits. The volume of profits can be increased by the expansion of business activities. Undoubtedly, profit is the main motive behind all types of expansions. The incurring of higher costs at the time of expansion may not be associated with higher profits. If a new concern is purchased at a higher price without considering economic aspects, it will not be wise expansion plan. One should be very careful while planning expansion scheme and economic factors should be the motivating forces to enable a concern to increase its profits.

4. Monopolistic Ambitions

One of the important factors behind business expansion is the monopolistic ambitions of business leaders. They try to control more and more concerns in the same line so that they may be able to dictate their terms. So expansions also result out of monopolistic ambitions.

5. Better Management

A bigger business concern can afford to use the services of experts. Various managerial functions can be efficiently managed by those persons who are qualified for such jobs. On the other hand, a smaller concern is generally managed by the owners themselves and they may not be experts in all departments of the business.

6. Natural Urge

The expansion is also a way of life. As everybody wants to go higher and in his private life and this is applicable to a business concern too. Every businessman wants to expand its activities in a natural way. It not only gives him more profits but also gives him satisfaction.

5.6.2 Forms of Combinations

Q9. Explain the various Forms of Combinations.

Ans : **(Imp.)**

There is some disagreement on the precise meaning of various terms relating to the forms of business combinations, viz; merger, amalgamation, absorption, consolidation, acquisition, takeover, etc. Sometimes, these terms are used interchangeably, in broad sense even when there are legal distinctions between the kinds of combinations.

(a) Merger (or) Amalgamation

A merger is a combination of two or more companies into one company. It may be in the form of or more companies being merged into an existing company or a new company may be formed to merge two or more existing companies. The Income Tax Act, 1961 of India uses the term *amalgamation*' for merger.

According to Section 2 (1A) of the Income Tax Act, 1961, the term amalgamation means the merger of one or more companies with another company or merger of two or more companies to form one company in such a manner that :

(i) All the property of the amalgamating company or companies immediately before the amalgamation becomes the property of the amalgamated company by virtue of the amalgamation .

(ii) All the liabilities of the amalgamating company or companies immediately before the amalgamation become the liabilities of the amalgamated company by virtue of the amalgamation.

(iii) Shareholders holding not less than nine-tenths in value of the shares in the amalgamating company or companies (other than shares already held therein

Immediately before the amalgamation by or by a nominee for, the amalgamated company by virtue of the amalgamation.

According to the Companies Act, 1956, the term amalgamation includes ‘absorption’.

In S.S Somayajula v. Hop Prudhommee and Co. Ltd., the learned Judge refers to amalgamation as “a state of things under which either two companies are joined so as to form a third entity (or) one is absorbed into (or) blended with another.”

Thus, merger (or) amalgamation may take any of the two forms:

(i) Merger or amalgamation through absorption.

(ii) Merger or amalgamation through consolidation.

(a) Absorption

A combination of two or more companies into an existing company is known as 'absorption.' In a merger through absorption all companies except one go into liquidation and lose their separate identities. Suppose, there are two companies, A Ltd. and B Ltd, Company B Ltd. is merged into A Ltd leaving its assets and liabilities to the acquiring company A Ltd; and company B Ltd. is liquidated. It is a case of absorption. An example of this type of merger in India is the absorption of Reliance Polyproplene Ltd. (RPPL) by Reliance Industries Ltd. As a result of the absorption, the RPPL was liquidated and its shareholders were offered 20 shares of RIL for every 100 shares of RPPL held by them.

(b) Consolidation

A consolidation is a combination of two or more companies into a new company. In this form of merger, all the existing companies, which combine, go into liquidation and form a new company with a different entity. The entity of consolidating corporations is lost and their assets and liabilities are taken over by the new corporation or company. The assets of old concerns are sold to the new concern and their management and control also passes into the hands of the new concern. Suppose, there are two companies called A Ltd. and B. Ltd ; and they merge together to form a new company called AB Ltd. or C Ltd; it is a case of consolidation. The term 'consolidation' is also, sometimes used as 'amalgamation.

(b) Acquisition and Take-Over

An essential feature of merger through absorption as well as consolidation is the combination of the companies. The acquiring company takes over the ownership of one or more other companies and combine their operations. However, an acquisition does not involve combination of companies. It is simply an act of acquiring control over management of other companies The control over management of another company can be acquired through either a 'friendly take-over' or through 'forced' or 'unwilling acquisition'. When a company takes-over the control of another company through mutual agreement, it is called acquisition or friendly take-over. On the other hand, if the control is acquired through unwilling acquisition, i.e., when the take-over is opposed by the 'target' company it is known as hostile take -over.

(c) Holding Companies

The other form of partial consolidation is a holding company which generally arises out of lust for power. A holding company is a form of business organization which is created for the purpose of combining industrial units by owning a controlling amount of their share capital. Legally, a holding company is one which holds directly or through a nominee, a majority of the voting shares in the subsidiary company or possesses the power to nominate the majority of the directors. A holding company may have a number of subsidiary companies or subsidiary company may be a holding company of another company or companies.

5.6.3 Reasons for Mergers

Q10. Explain the various reasons of mergers

Ans : **(Imp.)**

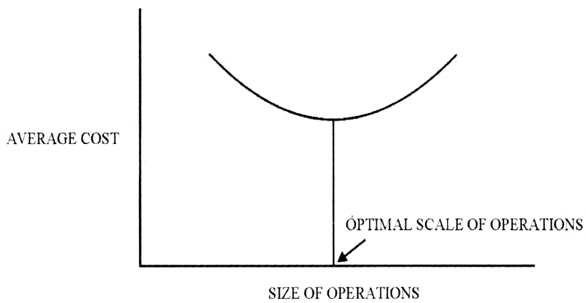
A number of mergers, take-overs and consolidation have taken place in our country in the recent times.

The following are the other important reasons for mergers or amalgamations :

1. Economies of Scale

An amalgamated company will have more resources at its command than the individual companies. This will help in increasing the scale of operations and the economies of large scale will be availed. These economies will occur because of more intensive utilization of production facilities, distribution network, research and development facilities, etc. These economies will be available in horizontal mergers (companies dealing in same line of products) where scope of more intensive use of resources is greater.

The economies will occur only upto a certain point of operations known as optimal point. It is a point where average costs are minimum. When production increases from this point, the cost per unit will go up. The optimal point of production is shown with the help of a diagram.



2. Operating Economies

A number of operating economies will be available with the merger of two or more companies. Duplicating facilities in accounting, purchasing, marketing, etc. will be eliminated. Operating inefficiencies of small concerns will be controlled by the superior management emerging from the amalgamation. The amalgamated companies will be in a better position to operate than the amalgamation companies individually.

3. Synergy

Synergy refers to the greater combined value of merged firms than the sum of the use of the individual units. It is something like one plus one more than two. It results from benefits other than those related to economies of scale. Operating economies are one of the various synergy benefits of merger or consolidation.

4. Growth

A company may not grow rapidly through internal expansion. Merger or amalgamation enables satisfactory and balanced growth of a company. It can cross many stages of growth at one time through amalgamation. Growth through merger or amalgamation is also cheaper and less risky.

5. Diversification

Two or more companies operating in different lines can diversify their activities through amalgamation. Since different companies are already dealing in their respective lines there will be less risk in diversification. When a company tries to enter new lines of activities then it may face a number of problems in production, marketing etc. When some concerns are already operating in different lines, they must have crossed many obstacles and difficulties. Amalgamation will bring together the experiences of different persons in varied activities. So amalgamation will be the best way diversification.

6. Utilization of Tax Shields

When a company with accumulated losses merges with a profit making company it is able to utilize tax shields. A company having losses will not be able to set off losses against future profits, because it is not a profit earning unit. On the other hand if it merges with a concern earning profits then the accumulated losses of one unit will be set off against the future profits of the other unit. In this way the merger (or) amalgamation will enable the concern to avail tax benefits.

7. Increase in Value

One of he main reasons of merger (or) amalgamation is the increase in value of the merged company. The value of the merged company is greater than the sum of the independent values of the merged companies. For example, if X Ld. and Y Ltd. merge and form Z Ltd., the value of Z Ltd. is expected to be greater than the sum of the independent values of X Ltd. and Y Ltd.

8. Eliminations of Competition

The merger or amalgamation of two or more companies will eliminate competition among them. The companies will be able to save their advertising expenses thus enabling them to reduce their prices. The consumers will also benefit in the form of cheap or goods being made available to them.

9. Better Financial Planning

The merged companies will be able to plan their resources in a better way. The collective finances of merged companies will be more and their utilization may be better than in the separate concerns. It may happen that one of the merging companies has short gestation period. While the other has longer gestation period. The profits of the company with short destain period will be utilized to finance the other company. When the company with longer gestation period starts earning profits then it will improve financial position as a whole.

10. Economic Necessity

Economic necessity may force the merger of some units. If there are two sick units, government may force their merger to improve their financial position and overall working. A sick unit may be required to merge with a healthy unit to ensure better utilization of resources, improve returns and better management. Rehabilitation of sick units is a social necessity because their closure may result in unemployment etc.

Q11. Explain the different types of mergers

Ans : **(Imp.)**

Mergers can be broadly classified into three major types:

1. Horizontal Merger

When two or more concerns dealing in same product or service join together, it is known as a horizontal merger. The idea behind this type of merger is to avoid competition between the units, for example, two manufacturers of same type of cloth, two book sellers, two transport companies operating on the same route-the merger in all these cases will be horizontal merger.

Besides avoiding competition, there are economies of scale, marketing economies, elimination of duplication of facilities, etc.

2. Vertical Merger

A vertical merger represents a merger of firms engaged at different stages of production or distribution of the same product or service. In this case two or more companies dealing in the same product but at different stages may join to carry out the whole process itself. A petroleum producing company may set up its own petrol pumps for its selling. A railway company may join with coal mining company for carrying coal to different industrial centres. Similarly, a textile unit may merge a transport company for carrying its products to different places. All these are the examples of vertical merger. The idea behind this type of merger is to take up two different stages of work to ensure speedy production or quick service.

3. Conglomerate Merger

When two concerns dealing in totally different activities join hands it will be a case of conglomerate merger. The merging concerns are neither horizontally nor vertically related to each other. For example, a manufacturing company may merge with an insurance company, a textile company may merge with a vegetable oil mill. There may be some common features in merging companies, such as distribution channels, technology, etc. This type of merger is undertaken to diversify the activities.

5.6.4 Legal and Procedural aspects of merger

Q12. Discuss the Legal and Procedural aspects of merger.

(OR)

Explain the regulatory mechanism of mergers.

Ans : **(Imp.)**

The procedure of amalgamation or merger is long-drawn and involves some important legal dimensions.

Following steps are taken in this procedure :

1. Analysis of Proposal by the Companies

Whenever a proposal for amalgamation or merger up then managements of concerned companies look into the pros and cons of the scheme. The likely benefits such as economies of scale, operational economies, improvements in efficiency, reduction in costs, benefits of diversification, etc. are clearly evaluated. The likely reactions of shareholders, creditors and others are also assessed. The taxation implications are also studied. After going through the whole analysis work, it is seen whether the scheme will be beneficial or not. It is pursued further only if it will benefit the interested parties otherwise the scheme is shelved.

2. Determining Exchange Ratios

The amalgamation (or) merger schemes involve exchange of shares. The shareholders of amalgamated companies are given shares of the amalgamated company. It is very important that a rational ratio of exchange of shares should be decided. Normally a number of factors like book value per share, market value per share, potential earnings, value of assets to be taken over are considered for determining exchange ratios.

3. Approval of Board of Directors

After discussing the amalgamation scheme throughly and negotiating the exchange ratios, it is put before the respective Board of Directors for approval.

4. Approval of Shareholders

After the approval of this scheme by the respective Boards of Directors, it must be put before the shareholders. According to section 391 of Indian Companies Act, the amalgamation scheme should be approved at a meeting of the members or class the of members, as the case may be, of the respective companies representing three-fourth in value and majority in number, whether present in person or by proxies. In case the scheme involves exchange of shares, it is necessary that is approved by not less than 90 per cent of the shareholders (in value) of the transferor company to deal effectively with he dissenting shareholders.

5. Consideration of Interests of the Creditors

The views of creditors should also be taken into consideration. According to section 391, amalgamation scheme should be approved by majority of creditors in numbers and three-fourth in value.

6. Approval of the Court

After getting the scheme approved, an application is filed in the court for its sanction. The court will consider the viewpoint of all parties appearing, if any, before it before giving its consent. It will see that the interest of all concerned parties are protected in the amalgation scheme. The court may accept, modify or reject an amalgamation scheme and pass orders accordingly. However, it is upto the shareholders whether to accept the modified scheme or not.

It may be noted that no scheme of amalgamation can go through unless the Registrar of Companies sends a report to Court to the effect that the affairs of the company have not been conducted as to be prejudicial to the interests of its members or to the public interest.

7. Approval of Reserve Bank of India

In terms of Section 19 (1) (d) of the Foreign Exchange Regulation Act, 1973, permission of the RBI is required for the issue of any security to a person resident outside India Accordingly, in a merger, the transferee company has to obtain permission before issuing shares in exchange of shares held in the transferor company. Further, Section 29 restricts the acquisition of the whole or any part of any undertaking in India in which non-residents' interest is more than the specified percentage.

5.6.5 Valuation of firms

Q13. Explain the various methods of Valuation of firms

Ans :

Some of the important methods for valuing property of companies are discussed as follows:

1. Capitalized Earnings

The capitalized earnings method is based on the philosophy that the price which a buyer would like to pay for the property of a concern will depend upon the present and expected earning capacity of the business. The present price is paid in the expectations of future returns from such investments. The capitalised earnings will depend upon the

(i) Estimate of earnings, and

(ii) Rate of capitalisation.

The estimation of earnings will involve the study of past earnings. The past earnings over a long period will give an exact idea about the earning position of the business. The past earnings of one or two years may be influenced by abnormal causes such as price fluctuations, etc.; so, a true and fair opinion will not be made available and nothing should be concealed. If the earnings are showing a stability then the earnings will be easily calculated; if, on the other hand, the earnings are showing a trend then some allowance should be made for the conditions prevailing at that time.

After estimating the average earnings, the earnings should be capitalized to arrive at an investment value. A decision about the rate of earnings at which the profits are to be capitalised is very difficult.

2. Assets Approach

Assets approach is the commonly used method of valuation. The assets may be taken at book value, reproduction value and liquidation value. In book value method, the values of assets are taken from a current balance sheet. The excess of assets over debts will determine the assets values divided by the number of equity shares will give the value of one share. If preference stock is also outstanding then preference stock should be deducted before dividing the assets values by the number of equity shares. This approach is also known as net worth value. There is a difference of opinion about the assets to be included and assets such as goodwill, patent rights, deferred expenses should be excluded. Another view is that goodwill and patents should be included while fictitious assets such as deferred expenses should only be excluded. The fixed assets are taken at book value less depreciation upto present balance sheet period. A company following a rigorous depreciation policy may be at a disadvantage than the company providing lower depreciations. Public utilities may use the reproduction value of assets while valuing the propery. Liquidation values of assets are used on the assumption that if the concern is liquidated at present then what values will be fetched by the assets. The concern is taken as a going concern and as such current book values of assets are used in most cases.

3. Market Value Approach

This approach is based on the actual market price of securities settled between the buyer and the seller. The market value will be the realistic value because buyers will be ready to pay in lieu of a purchase. The price of a security in the free market will be its most appropriate value. Market price is affected by the factors like demand and supply and position of money market. The price of a security in the free market will be its most appropriate value. Market value is a device which can be readily applied at any time.

The number of shares offered in the market is generally small and it will not be advisable to apply the same value to the whole lot of shares of the company. Another objection against this method is that there are many upward and downward trends in values of securities in the stock exchanges and it becomes a problem to decide about the price to be for valutaion. Despite practical limitations, market value approach may be used under many conditions.

4. Earnings per Share(EPS)

Another method of determining the values of the firms under merger or consolidation is the earnings per share According to this approach, the value of a prospective merger or acquisition is a function of the impact of merger/acquisition on the earnings per share. Such impact could either be positive resulting into the increases in EPS or may be negative resulting into dilution of EPS. As the market price per share is a function (product) of EPS and Price-Earning Ratio, the future EPS will have an impact on the market value of the firm.

PROBLEMS

1. A Ltd. wants to take over B Ltd. and the financial details of both the companies are as below :

Particulars	A Ltd. (`)	B Ltd. (`)
Equity share capital of ` 10 each	2,00,000	1,00,000
Preference share capital	40,000	—
Share premium	—	4,000
Profit and loss account	76,000	8,000
10% Debentures	30,000	10,000
Total liabilities	3,46,000	1,22,000
Fixed assets	2,44,000	70,000
Current assets	1,02,000	52,000
Total assets	3,46,000	1,22,000
Profit after tax and preference dividend	48,000	30,000
Market price per share	24	27

You are required to determine the share exchange ratio to be offered to the shareholders of B Ltd., based on

(i) Net assets value , (ii) EPS, and

(iii) Market price. Which should be preferred from the point of view of A Ltd. ?

Sol :

(i) Calculation of share exchange ratio based on net assets value

Particulars	Amount	A Ltd. (`)	Amount	B Ltd. (`)
Total assets		3,46,000		1,22,000
Less : 10% Debentures	30,000		10,000	
Preference share capital	40,000	70,000	—	10,000
Net worth (Net assets value) [a]		2,76,000		1,12,000
Number of equity shares [b]		20,000		10,000
Net worth (assets) per share [a +b]		` 13.80		` 11.20

$$\text{Share Exchange Ratio} = \frac{\text{Net worth per share of target firm}}{\text{Net worth per share of acquiring firm}}$$

$$= \frac{11.20}{13.80} = 0.81$$

Thus, number of shares to be issued by A Ltd. = 10,000 × 0.81 = 8,100

(ii) Calculation of share exchange ratio based on earnings per share (EPS)

Particulars	A Ltd. (Rs)	B Ltd. (Rs)
Profit after tax and preference dividend	` 48,000	` 30,000
Number of equity shares	20,000	10,000
Earnings per share (EPS)	` 2.40	` 3.00

Share exchange ratio $= \frac{\text{EPS of target firm}}{\text{EPS of acquiring firm}}$

Share exchange ratio $= \frac{3.00}{2.40} = 1.25$

Thus, number of shares to be issued by A Ltd. = 10,000 × 1.25 = 12,500

(iii) Calculation of share exchange ratio based on market price

Particulars	A Ltd.	B Ltd.
Market price per share		
Share exchange ratio $= \frac{\text{Market price per share of B Ltd.}}{\text{Market price per share of A Ltd.}}$	**Rs. 24**	**Rs.27**
$= \frac{27}{24} = 1.125$		
Thus, number of shares to be issued by A Ltd. = 10,000 × 1.125 = 11, 250		

Comments : A Ltd. should prefer the share exchange ratio based on net assets value as it has to issue minimum number of shares i.e., 8,100 in that case.

2. Company X is considering the purchase of company Y. The following are the financial data of the two companies :

Particulars	Company X	Company Y
Number of Shares	4,00,000	1,00,000
Earnings Per (EPS)	6.00	4.50
Market Value Per Share	30.00	20.00

Assuming that the management of the two companies have agreed to exchange shares in proportion to :

(i) The relative earnings per share of the two firms ;

(ii) 4 shares of company X for every 5 shares held in company Y.

You are required to illustrate and comment on the impact of merger on the EPS.

Sol :

(i) Effect of Merger on EPS When the Exchange Ratio is in Proportion to Relative Earnings Per Share

Particulars	`
Earnings of company X (No. of Shares × EPS)	24,00,000
Earnings of company Y (1,00,000 × 4.50)	4,50,000
Total Earnings after the merger (as no economies/synergies are given)	28,50,000

Number of shares After the merger $= 4{,}00{,}000 + \left(1{,}00{,}000 \times \dfrac{4.5}{6}\right) = 4{,}75{,}000$

Earnings per share (EPS) After the merger $= \dfrac{28{,}50{,}000}{4{,}75{,}000} =$ Rs.6.00

Hence, there is no impact on EPS for the shareholders of Company X
Equivalent Earnings Per Share for the share for the shareholders of company Y After Merger
= Earnings After the merger × Exchange Ratio

$$= \text{Rs. } 6 \times \frac{4.5}{6} = \text{Rs. } 4.5$$

Comments from the above, it is clear that there is no impact of merger on EPS when the exchange ratio is in proportion to relative earnings per share of the two companies.

(ii) Effect of Merger on EPS when the Exchange Ratio is 4 :5 or 8 : 1

Total Earnings After the Merger = ` 28,50,000

Number of shares after the merger $= 4{,}00{,}000 + \left(1{,}00{,}000 \times \dfrac{4}{5}\right)$

$= 4{,}80{,}000$

Earnings Per Share (EPS) after the merger $= \dfrac{28{,}50{,}000}{4{,}80{,}000} =$ Rs. 5.937

Impact on EPS of Company X's Shareholders

Particulars	`
EPS Before Merger	6.000
EPS After merger	5.937
Dilution in EPS	0.063

Impact on EPS for Company Y's Shareholders

Particulars	`
Equivalent Earnings Per Share before the merger (4.50 ÷ 4/5)	5.625
EPS after the merger	5.937
Increase or Accretion in EPS	0.312

Comments : When the exchange ratio is 4 :5, the impact of merger on EPS is dilution of ` 0.063 per share on the earnings per share for the shareholders of the acquiring company and accretion in the EPS of the acquired firm amounting to ` 0.312 per share. However, for a more reliable analysis of the impact of merger on EPS, the growth rate of the two companies should also have been considered.

3. Sunny Lamps Ltd. is taking over Moon Lamps Ltd. As per the understanding between the managements of the two companies, shareholders of Moon Lamps Ltd. would receive 0.7 shares of Sunny Lamps Ltd. for each share held by them. The relevent data for the two companies are as follows:

Particulars	Sunny Lamps Ltd	Moon Lamps Ltd.
Net Sales (`Lakhs)	80	30
Profit after tax (` Lakhs)	16	4
Number of Shares (Lakhs)	3.2	1
Earnings Per Share (EPS `)	5	4
Market Value Per Share (`)	30	20
Price-Earnings Ratio (P/E)	6	5

Ignoring the economics of scale and the operating synergy, you are required to calculate (i) premium paid by Sunny Lamps Ltd. to the shareholders of Moon Lamps Ltd, (ii) number of shares after the merger; (iii) combined EPS; (iv) combined P/E ratio; (v) market value per share; and (iv) total market capitalisation after the merger.

Sol :

(i) Premium paid by Sunny Lamps Ltd. to shareholder of Moon Lamps Ltd :

Particulars		Amount
Value of each share of Sunny Lamps Ltd	= 30 × 0.7	21.00
Value of each share in Moon Lamps Ltd.		20.00
Premium paid per share		1.00
Premium inpercentage	= 1/20 ×100 =	5%

(ii) Number of shares after merger

Particulars	Amount
Number of shares before merger in Sunny Lamps Ltd	3,20,000
Number of shares paid to shareholders of Moon Lamps Ltd. (1,00,000 × 0.7)	70,000
Total Number of shares after merger	3,90,000

(iii) Combined EPS

Combined Profit after tax = ` 16,00,000 + 4,00,000 = ` 20,00,000

$$\text{Combine EPS} = \frac{\text{Combined Profit After Tax}}{\text{Number of Share Aftern Merger}}$$

$$= \frac{20,00,000}{3,90,000} = \text{Rs. } 5.13$$

(iv) Combined Price-Earning Ratio

$$= \left(6 \times \frac{16}{20}\right) + \left(5 \times \frac{4}{20}\right) = 5.80$$

4.8 + 1 = 5.8

(v) Market Value per share After Merger

= P/E Ratio × EPS

= 5.80 × 5.13

= ` 29.754

(vi) Total Market Capitalization After Merger

= Market value per share × No. of shares

= 29.754 × 3,90,000

= ` 116.04 lakhs

5.7 Forms of Financing a Merger

Q14. Explain the various financing Forms of a merger

Ans : **(Imp.)**

A merger can be financed through various modes of payment, viz, cash , exchange of shares, debt or combination of cash, shares and debt. Deferred payment plans, leveraged buy-outs and tender offers are also being used as financial techniques in financing of mergers in the recent times. The choice of the means of financing primarily depends upon the financial position and liquidity of the acquiring firm, its impact on capital structure and EPS, availability of debt and market conditions.

1. Cash Offer

After the value of the firm to be acquired has been determined, the most straight forward method of making the payment could be by way of offer for cash payment. The major advantage of cash offer is that it will not cause any dilution in the ownership as well as earnings per share of the company. However, the shareholders of the acquired company will be liable to pay tax on any gains made by them. Another important consideration could be the adverse effect on liquidity position of the company. Thus, only a company having very sound liquidity position may offer cash for financing a merger.

2. Equity Share Financing (or) Exchange of Shares

It is one of the most commonly used methods of financing mergers. Under this method shareholders of the acquired company are given shares of the acquiring company. It results into sharing of benefits and earnings of merger between the shareholders of the acquired companies and the acquiring company. The determination of a rational exchange ratio is the most important factor in this form of financing a merger. The actual net benefits to the shareholders of the two companies depend upon the exchange ratio and the price-earning ratio of the companies. Usually, it is an ideal method of financing a merger in case the price-earning ratio of the acquiring company is comparatively high as compared to that of the acquired company.

3. Debt and Preference Share Financing

A company may also finance a merger through issue of fixed interest bearing convertible debentures and convertible preference shares bearing a fixed rate of dividend. The shareholders of the acquired company sometimes prefer such a mode of payment because of security of income along with an option of conversion into equity within a stated period. The acquiring company is also benefited on account of lesser or no dilution of earnings per share as well as voting/ controlling power of its existing shareholders.

4. Deferred Payment (or) Earn - Out Plan

Deferred payment also known as earn-out plan is a method of making payment to the target firm which is being acquired in such a manner that only a part of the payment is made initially either in cash or securities. In addition to the initial payment, the acquiring company undertakes to make additional payment in future years if it is able of increase the earnings after the merger or acquisition. It is known as earn -out plan because the future payments are linked with the firm's future earnings. This method enables the acquiring company to negotiate successfully with the target company and also helps in increasing the earning per share because of lesser number of shares being issued in the initial years. However, to make it successful, the acquiring company should be prepared to co-operate towards the growth and success of the target firm.

5. Leveraged Buy - Out

A merger of a company which is substantially financed through debt is known as leveraged buy-out. Debt, usually, forms more than 70 percent of the purchase price The shares of such a firm are concentrated in the hands of a few investors and are not generally, traced in the stock, exchange. It is known as leveraged buy out because of the leverage provided by debt source of financing over equity. A leveraged buy-out is also called Management Buy-Out (MBO). However, a leveraged buy-out may be possible only in case of a financially sound acquiring company which is viewed by the lenders as risk free.

6. Tender Offer

Under this method, the purchaser, who is interested in acquisition of some company, approaches the shareholders of the target firm directly and offers them a price (which is usually more than the market price) to encourage them sell their shares to him. It is a method that result into hostile or forced take-over. The management of the target firm may also tender a counter offer at still a higher price to avoid the take over. It may also educate the shareholders by informing them that the acquisition offer is not in the interest of the shareholders in the long-run.

Q15. State the advantages and disadvantages of mergers.

Ans :

Advantages of Merger

The following are the advantages of mergers and acquisitions,

1. A firm can get an easy access to the market and technology through mergers and acquisitions.
2. It becomes easy to gair access to patent rights and technology through mergers and acquisitions.
3. With the help of mergers and acquisitions, the firm can get the firms ownership and control immediately on the factoiies, technology, employees and distribution networks of the acquired firm.
4. In mergers and acquisitions, when the industry had attained the optimum capacity level in the host nation, then this strategy will assist the economy of the host country.
5. The firms can attain more profits with the formulation of international strategy.

Disadvantages of Mergers

The following are the disadvantages of mergers and acquisitions,

(a) Many companies have landed themselves into financial and other problems due to indiscriminate acquisitions.

(b) If the evaluations are not done properly, then the decision of acquisition can be wrong or ineffective.

(c) If an enterprise in taken over, its problems are also usually taken over by the firms.

(d) Certain units which have been acquired may have problems like obsolete technology, old plant, surplus labour etc.

(e) In some situations, restrictions are levied by the host countries on the acquisition of domestic firms by the foreign firms.

(f) It is very difficult to acquire a firm in a foreign country as it involves lawyers, bankers, mergers and acquisition specialists, from both the countries.

(g) This strategy does not add any capacity to the industry.

Q16. Discuss various theories of mergers. Evaluate each theory.

Ans :

Efficiency Theories

Efficiency theories believe that mergers and some other forms of asset reinstallation have the ability that leads to social benefits. These theories are engaged in improving the performance of management or to accomplish synergy in management, but for various reasons it could not happen. In late 1960's the synergy which is formed to gain benefit resulted in "2 + 2 = 5" effect. Even though synergy was not achieved, it formed the basis for improving net present value investments which is possible through recombining all the activities involved in business operations.

Many of the efficiency theories have been combined with conglomerate type of mergers.

(a) Differential managerial efficiency

(b) Inefficient management

(c) Operating synergy

(d) Pure diversification

(e) Strategic realignment to changing environments

(f) Under valuation.

(a) Differential Managerial Efficiency

Differential efficiency is the most simple form of theory of merger which can be implemented. This theory can be understood by the following example.

Example

If the management of firm 'P' performs efficiently than firm 'Q' then firm P can acquire firm Q. So that, efficiency of firm Q can match up with the standards of firm P and it is only possible through mergers. The increased efficiency can be both social and private gain.

The differential efficiency theory faces difficulty, if it is continued to implement beyond its limits. This theory would face the problems in coordination or managerial capacity limit, before it can enjoy the benefits.

The differential efficiency theory can be defined as managerial synergy hypothesis. A firm with an effective management can acquire a firm which is unproductive, may be because of shortage of resources or any other reason, such firm can perform effectively if it is merged with efficient firm and it is advantageous to both the firms.

(b) Inefficient Management

Inefficient management is nothing but a management that could not be able to carry out its operations effectively. In other words, in place of this management, almost anyone or any other control group can carry out the same operations more effectively. In such case, conglomerate type of merger is more suitable.

In differential efficiency theory, the efficient management enhances the management of inefficient firm and have proficiency in the specific line of business activity and form a basis for horizontal mergers. Whereas inefficient management theory forms a basis for mergers of unrelated business firms. Following are the few remarks on this theory,

1. This theory involves the assumption that owners (shareholders) of acquired firm cannot replace their own managers, hence, they have to invest huge amount on mergers to replace inefficient managers.

2. If the aim of shareholders is to replace inefficient managers, then it is advisable to the acquired firm, to be a subsidiary firm instead of becoming acquires. The merged firm should incur profits rather than cost after replacement of inefficient management otherwise it would not be beneficial for the firms to merge.

3. This theory predicts that after the merger, managers of acquiring company will be substituted. But according to facts in conglomerate type of mergers, the acquiring firm managers will not be replaced.

(c) Operating Synergy

Operating synergy may be possible in all types of mergers like horizontal, vertical and conglomerate mergers. The operating synergy theory holds that economies of scale exists in the firm before the merger, firms which are engaged in lower level of activity may not accomplish the potentials for economies of scale.

Economies of scale occurs on account of indivisibility and expansion of output which is not possible in manufacturing operations. One of the major limitations of firms which are merging with existing firms cannot combine essential parts and remove those which are not required. Firm A can be excellent in marketing but may be poor in production and firm B might be vice versa, so they combine and act as complementary for each other.

Economies of scale cannot be achieved if some of the factors are under or over utilized and insufficient investment in factors of production.

Operating economies can be accomplished in vertical integration. Firms combined at various stages lead to efficient coordination and reduces bargaining.

(d) Pure Diversification

Diversification create values for several reasons such as demand for diversification by managers and other employees or retaining organizational and reputational capital, tax advantage, etc.

Shareholders can diversify in capital market whereas employees can avail little scope to diversify their labour income sources. Skills gathered by employees during their employment is useful for that specific firm only.

Liquidation may windup the company, whereas diversification makes sure that all activities of firm will function smoothly and effectively. A firm can maintain its relationship with customers, suppliers and employees through reputational capital which is possible with diversification.

Diversification improves corporate debt and helps in reducing present value of future tax liability.

(e) Strategic Realignment to Changing Environments

Strategic planning does not make only decisions, but it is related to firms changing environments and constituencies. Strategic planning with respect to merger can either increase economies of scale or under utilize managerial potentials. External diversification helps in achieving management skills. Timing is a critical factor in developing new markets internally.

(f) Under Valuation

The main aim of merger is to undervalue the target companies. Undervaluation may be a result of improper utilization of capabilities by management or when secret information is leaked out to acquirers. The difference between market value of assets and cost of their replacement is known as undervaluation theory. Some companies adopt acquisition programmes in order to acquire new product market on bargain basis.

PROBLEMS

4. The following data relates to two companies M and N :

Particulars	Company M	Company N
Number of Equity Shares	20,000	10,000
Profit After Tax	` 60,000	` 20,000
Price -Earning (P/E) Ratio	20	12
EPS	` 3	` 2

Company M is considering the purchase of company N in exchange of 1 share in 'M' for every 2 shares held in 'N'. You are required to illustrate the impact of merger on earnings per share assuming that there would be synergy benefits equal to 25 percent increase in the present earnings after tax due to merger.

Sol :

Particulars	`
Total Present Earnings of M and N = ` 60,000 + 20,000	80,000
Add : 25% of increase in Earnings due to synergy benefits	20,000
Total Earnings After Merger	1,00,000
Total Number of Shares After the Merger = 20,000 + (10,000 × 1/2) = 25,000	

Earnings Per Share After the Merger $= \dfrac{1,00,000}{25,000} =$ ` 4

Impact on EPS of company M's shareholders	
EPS Before Meger	3.00
EPS After merger	4.00
Accretion in EPS	1.00
Impact on EPS of company N's shareholders	
Equivalent Earnings Per share Before Merger $\left(2 \div \frac{1}{2}\right)$?	4.00
Earnings Per share After Merger	4.00
Dilution /Accretion in EPS	Nil

5. Company B is being acquired by company A on share exchange basis. The relevent data for the two companies are given below :

Particulars	Company A	Company B
Number of Equity Shares (Lakhs)	6	4
Earnings After Tax (` Lakhs)	30	12
EPS (`)	5	3
Price-Earning Ratio	16	8

You are required to determine (a) pre-merger market value per share; and (b) the maximum share exchange ratio that company A should offer without the dilution of (i) EPS, (ii) market value per share.

Sol : **(Imp.)**

(a) Pre-merger market value per share

Market value per share = EPS × P/E Ratio

Company A = 5 × 16 = ` 80 per share

Company B = 3 × 8 = ` 24 per share

(b) (i) Maximum exchange ratio without the dilution of EPS

Combined Earnings of company A and B = ` 30 + 12 lakhs = ` 42 lakhs

Earnings per share (EPS) of company A = ` 5

Maximum Number of shares of company A after merger $\left(\dfrac{42}{5}\right)$	= 8.4 lakhs
Less : Number of Existing shares of company A	= 6.0 lakhs
Maximum Number of shares that could be offered	= 2.4 lakhs
Hence, Maximum Exchange Ratio	= 2.4 : 4
	= 0.6 : 1

(b) (ii) Maximum exchange ratio without dilution of market value per share :

Pre-Merger Market Capitalisation of company A	= 80 × 6 = ` 480 lakhs
Pre-Merger Market Capitalisation of company B	= 24 × 4 = ` 96 lakhs
Total market capitalisation	= ` 576 lakhs
Maximum Number of shares of company A (to maintain same market value per share)	
Less: Existing number of shares of company A	= 6.0 lakhs
Maximum number of shares to be exchanged	= 1.2 lakhs
Hence, Maximum Exchange Ratio	= 1.2:4 = 0.3:1

6. East Co. Ltd. is studying the possible acquisition of Fast Co. Ltd. by way of merger. The following data are available in respect of the companies :

Particulars	East Co. Ltd	Fast Co. Ltd.
Earnings after tax (`)	2,00,000	60,000
Number of equity shares	40,000	10,000
Market value per share (`)	15	12

(i) If the merger goes through by exchange of equity share and the exchange ratio is based on the current market price, what is the new earnings per share of East Co. Ltd. ?

(ii) Fast Co. Ltd. wants to be sure that the earnings available to its shareholders will not be diminished by the merger. What should be the exchange ratio in that case ?

Sol :

(i) Calculation of new earnings per share (EPS) of East Co. Ltd. after merger

Number of shares after merger = 40,000 + (10,000 × 12/15) = 48,000

Total earnings after the merger = ` 2,00,000 + 60,000 = ` 2,60,000

EPS of East Co. Ltd. after merger $= \frac{2,60,000}{48,000} =$ Rs.5.42

(ii) Calculation exchange ratio which will not diminish EPS of shareholders of Fast Co. Ltd.

Pre-merger EPS of Fast Co. Ltd. $= \frac{60,000}{10,000} =$ Rs. 6.00

Pre-merger EPS of East Co. Ltd. $= \frac{2,00,000}{40,000} =$ Rs. 5.00

Share exchange ratio based on EPS $= \frac{\text{EPS of Fost Co. Ltd.}}{\text{EPS of East CO. Ltd.}} = \frac{6}{5} = 1.20$

Thus, number of shares to be issued by East Co. Ltd. = 10,000 × 1.20 = 12,000

Verification :

$$\text{Earnings per share after merger} = \frac{2,00,000+60,000}{40,000+12,000} = \frac{2,60,000}{52,000} = \text{Rs. } 5.00$$

Total earnings available to shareholders of Fost Co. Ltd. = 12,000 × 5

= ` 60,000 (which is same as pre-merger)

7. Olive Ltd. is acquiring all the outstanding equity shares of Star Ltd. by exchanging one share of its own equity shares for each share of Star Ltd. Olive Ltd. has a policy of keeping 50 percent of its capital structure in debt. The capital structure of both these firms before the merger is as follows,

Particulars	**Olive Ltd (in ` Lakhs)**	**Star Ltd (in ` Lakhs)**
Equity Capital (of ? 100 each)	20	5
Retained Earnings	25	25
14% Preference Shares	5	–
13% debt	50	–

(a) What will the capital structure of the merged firm be? Determine the percentage share of the debt in the merged firm.

(b) Has the merged firm's Financial risk declined.

(c) How much additional debt can be combined firm borrow to retain a capital structure, 50% of which is debt?

Sol :

(a) (i) Capital Structure of Merged firm

Particulars	**Amount (in ` Lakhs)**
Equity Capital (20,00,000 + 5,00,000)	25,00,000
Retained Earnings (25,00,000 + 25,00,000)	50,00,000
14% Preference Shares	5,00,000
13% Debt	50,00,000
	1,30,00,000

(ii) Percentage Share of Debt :

(b) Yes. there is decline in financial risk due to low debt ratio of the merged firm.

(c) $\frac{\text{Debt}}{\text{Total Capital}} \times 100 = \frac{50,00,000}{1,30,00,000} \times 100 = 38.46 = 38.5$ percent

x is additional debt

0.5 (1,30,00,000 + x) = 50,00,000 + x

65,00,000 + 0.5x = 50,00,000 + x

65,00,000 - 50,00,000 = - 0.5 x + x

15,00,000 = 0.5 x

$$x = \frac{15,00,000}{0.5}$$

= ` 30,00,000.

8. Jay Manufacturing Company is going to acquire OM Distributors. The shareholders of OM Distributors will get 0.9 shares of Jay manufacturing company for each share held by them. The merger is not expected toyTeld in economies of scale and operating synergy. The relevant data for the two corhpanies are as follows,

Particulars	Jay	OM
Net sales (` in lakhs)	600	500
Profit after tax (` in lakhs)	60	15
Number of shares (lakhs)	15	5
Earnings per share (`)	4	3
Market value per share (`)	45	30
Price-earning ratio	11.25	10

For the combined company (after merger) you need to calculate (a) EPS, (b) P/E ratio, (c) Market value per share, (d) Number of shares and (e) Total market capitalization. Also calculate the premium paid by Jay Co. to the shareholders of OM distributors.

Sol :

Premium paid to the shareholders of OM distributors,

Value of each share in Jay Co. = 0.9 × ` 45 = 40.5

Value of OM's share before merger = 30

Premium is `10.5

Premium percentage = 10.5/30 = 35%

Number of shares paid to OM's shareholders = 5 x 0.9

= 4.5 lakhs

Number of shares of the combined company = 15 + 4.5

= 19.5 lakhs

Combined profit after tax = 60 + 15 = ` 75 lakhs

$$\text{EPS} = \frac{\text{Net profit after taxes}}{\text{Number of shares of a combined company}}$$

Combined EPS = 75/19.5 = ` 3.85

Combined price-earning ratio = 11.25 × (60/75) + 10 × (15/75) = 11

Combined firms market capitalization:

Market value per share = P/E ratio x EPS

= 11 x 3.85 = ` 42.35

Capitalization:

MVPs × Number of shares = ` 42.35×19.5

= ` 825.8 Lakhs

9. The following data relate to companies BPL and CPL,

Particulars	BPL	CPL
Earning after taxes (`)	7,00,000	1,87,500
Equity shares outstanding	1,00,000	37,500
P/E ratio (times)	10	8
Market price (`)	70	40

Company BPL is the acquiring company, exchanging its one share for every 1.5 shares of CPL. Assume that company expects to have the same earnings and P/E ratio after the merger as before (no synergy effect), show the extent of gain accruing to the shareholders of the two companies as a result of the merger. Are they better or worse off than they were before the merger?

Sol :

$$\text{EPS after the merger} = \frac{7,00,000+1,87,500}{1,00,000+25,000} = \frac{8,87,500}{1,25,000} = 7.1$$

Market price after the merger = ` 7.1 × 10 times = 71

Total market value = ` 71× 1,25,000 = 88,75,000

Gain from the Merger

Post - Merger Market value of the firm =	88,75,000
Less: Pre-merger market value	
Company BPL (1,00,000×70) = 70,00,000	
Company CPL (37,500 x 40) = 15,00,000	
	85,00,000
Total Gain	3,75,000

Apportionment is gain among share holders.

Particulars	Post-MergerValue	Pre-MergerValue	Difference
BPL	` 71,00,000	70,00,000	1,00,000
	(1,00,000 × 71)		
CPL	17,75,000	15,00,000	2,75,000
	(25,000 × 71)		

Thus, the shareholders are better off after the merger.

5.7.1 Capital structure after merger and consolidation

Q17. What will be the Capital structure of a concern after merger and consolidation?

Ans :

The acquiring company in case of merger and the new company in case of consolidation takes over assets and liabilities of the merging companies and new shares are issued in lieu of the old. The capital structure is found to be affected by new changes. The capital structure should be properly balanced so as to avoid complications at a later stage.

A significant shift may be in the debt-equity balance. The acquiring company will be requiring cash for making the payments. If it does not have sufficient cash then it will have to give new securities for purposes of an exchange. In all cases the balance of debt and equity will change. The possibility is that equity may be increased more than the debt.

The mergers and consolidations result into the combining of profits of concerned companies. The increase in profitability will reduce risks and uncertainties. It will affect the earnings per share. The investors will be favourably inclined towards the securities of the company. The expectancy of dividend declarations in the future will also have a positive effect. If merging companies had different pay-out policies, then shareholders of one company will experience a change in dividend rate. The overall effect on earnings will be favourable because the increased size of business will experience a number of economies in costs and marketing which will increase profits of the company.

The capital structure should be adjusted according to the present needs and requirements. The concern should assess the effects of merger and consolidation on earning pattern, rate of growth, risks and uncertainties. The capital can be increased by issuing new preference and equity shares. The capital can be increased by issuing bonus shares too. On the other hand, if long-term debt is to be increased then it can be done by the issue of debentures, conversion of redeemable preference shares into debentures and renewal of bonded indebtness.

5.7.2 Financial problems of merger and consolidation

Q18. Describe the Financial problems face to by the concern after merger and consolidation.

Ans : **(Imp.)**

After merger and consolidation the companies face a number of financial problems. The liquidity of the companies has to be established afresh. The merging and consolidating companies pursue their own financial policies when they are working independently. A number of adjustments are required to be made in financial planning and policies so that consolidated efforts may enable to improve short-term and long-term finances of the companies.

Some of the financial problems of merging and consolidating companies are discussed as follows :

1. Cash Management

The liquidity problem is the usual problem faced by acquiring companies. Before merger and consolidation, the companies had their own methods of payments, cash behaviour patterns and arrangements with financial institutions. The cash pattern will have to be adjusted according to the present needs of the business.

2. Credit Policy

The credit policies of the companies are unified so that same terms and conditions may be applied to the customers. If the market areas of the companies are different, then same old may be followed. The problem will arise only when operating areas of the companies are the same and same credit policy will have to be pursued.

3. Financial Planning

The companies may be following different financial plans before merger and consolidation. The methods of budgeting and financial controls may also be different. After merger and consolidation, a unified financial planning is followed. The divergent financial controls will be unified to suit the needs of the acquiring concerns.

4. Dividend Policy

The companies may be following different policies for paying dividend. The stockholders will be expecting higher rates of dividend after merger and consolidation on belief that financial position and earning capacity has increased after combining the resources of the companies. This is a ticklish problem and management will have to devise an acceptable pay-out policy. In the earlier of stages of merger and consolidation it may be difficult to maintain even the old rates of dividend.

5. Depreciation Policy

The companies follow different depreciation policies. The methods of ciation, the rates of depreciation, and the amounts to be taken to revenue accounts will be different. After merger and consolidation the first thing to be decided will be about the depreciable and non depreciable assets. The second will be about the rates of depreciation. Different assets will be in different stages of use and appropriate amounts of depreciation should be decided.

5.8 Accounting for Amalgamations

Q19. Define Amalgamations. What are the different types of Amalgamations?

Ans : **(Imp.)**

The term amalgamation is used when two or more companies carrying on similar business go into liquidation and a new company is formed to take over their business. The term absorption is also used when an existing company takes over the business of one or more existing companies, The concept have been modified by the Accounting Standard 14 (AS-14) “Accounting for Amalgamation” issued by the Institute of Chartered Accountants of India. This standard is applicable in respect of accounting periods commencing on or after 1st April, 1995 and is mandatory in nature. This standard specifies the procedure of accounting for amalgamations and the treatment of any resultant goodwill or reserve.

1. Amalgamation in the Nature of Merger (or) Pooling Interests Method of Amalgamation

An amalgamation should be considered to be an amalgamation in the nature of merger when all the following conditions are satisfied :

(i) All the assets and liabilities of the transferor company become after amalgamation, the assets and liabilities of the transferee company.

(ii) Shareholders holding not less than 90% of the face value of the equity share of the transferor company (other than the equity shares already held there in immediately before the amalgamation, by the transferee company or its subsidiaries or their nominees) become equity shareholders of the transferee company by virtue of the amalgamation.

(iii) The consideration for the amalgamation receivable by those equity shareholders of the transferor company who agree to become equity shareholders of the transferee company is discharged by the transferee company wholly by the issue of equity shares in the transferee company, except that cash may be paid in respect of any fractional shares.

(iv) The business of the transferor company is intended to be carried on, after the amalgamation, by the transferee company.

(v) No adjustment is intended to be made to the book values of the assets and liabilities of the transferor company when they are incorporated in the financial statements of the transferee company except to ensure uniformity of accounting policies

2. Amalgamation in the Nature of Purchase

An amalgamation should be considered to be an amalgamation in the nature of purchase, when any one or more of the conditions specified for amalgamation in the nature of merger is not satisfied. In fact under this type of amalgamation generally one company acquires another company and equity shareholders of the combining entities do not continue to have proportionate share in the equity of the combined entity or the business of the acquired company is not intended to be combined after the amalgamation.

Q20. Discuss the methods of purchase consideration.

Ans :

1. Lump Sum Method.

When the transferee company agrees to pay a fixed sum to the transferor company, it is called a lump sum payment of purchase consideration. For example, if X Ltd. purchases the business of Y Ltd. and agrees to pay Rs. 25,00,000.

2. Net Worth (or) Net Assets Method

According to this method, the purchase consideration is calculated by calculating the net worth of the assets taken over by the transferee company. The net worth is arrived at by adding the agreed value of assets taken over by the transferee company minus agreed value of liabilities to be assumed by the transferee company. While calculating purchase consideration under this method the following points merit attention :

a) The term 'Assets' will always include cash in hand and cash at bank unless otherwise specified but shall not include fictitious assets as preliminary expenses, discount on the issue of shares or debentures, underwriting commission, debit balance of Profit & Loss Account, etc.

b) If a particular asset is not taken over by the transferee company, it should not be included in the purchase consideration.

c) The term 'liabilities' will mean all liabilities to third parties (i.e. excluding company and shareholders).

d) The term 'trade liabilities' will include trade creditors and bills payable. It will exclude other liabilities to third party as bank overdraft, debentures, outstanding expenses, tax liability etc.

e) If a fund or portion of a fund denotes liability to third parties, the same must be included in the liability as staff provident fund, workmens' savings bank account.

Workmens' profit sharing fund, workmens' compensation fund.

(f) The 'term liabilities' will not include past accumulated profits or reserves such as general reserve, dividend equalization fund, reserve fund, sinking fund, capital reserve securities premium account, capital redemption reserve account, profit and loss account etc. as these are payable to shareholders and not to third parties.

(g) The term 'business' will always mean both the assets and the liabilities.

(h) If any liability is not taken over by the transferee company, the same should not included in the purchase consideration.

(i) Goodwill value agreed to be paid by the transfere company is added in the purchase consideration.

3. Net Payment Method.

Under this method purchase consideration is calculated by adding the various payments in the form of shares, securities, cash etc. made by the transferee company. No amount of liabilities is deducted even if these are assumed by the purchasing company. Thus purchase consideration is the total of all the payments whether in shares, securities or cash.

4. Shares Exchange Method

Under this method purchase consideration is required to be calculated on the basis of intrinsic value of shares. The intrinsic value of share is calculated by dividing the net assets available for equity shareholders by the number of equity shares. This value determines the ratio of exchange of the shares between the transferee and transferor companies. In some cases the agreed values of the shares of both the companies are given. In that case the purchase consideration is calculated with reference to the value of shares of two companies involved.

PROBLEMS

10. On 31st March, 2003, Thin Ltd. was absorbed by Thick Ltd., the later taking over all the assets and liabilities of the former at book values the consideration for the business was fixed at Rs. 4,00,000 to be discharged by the transferee company in the form of its fully paid equity shares of Rs. 10 each, to be distributed among the shareholders of the transferor company, each shareholder getting two shares for every share held in the transferor company. The balance sheets of two companies as on 31st March, 2003 stood as under :

Liabilities	Thick Ltd. Rs.	Thin Ltd. Rs.	Assets	Thick Ltd. Rs.	Thin Ltd Rs.
Share Capital:			Goodwill	2,00,000	60,000
Authorised	15,00,000	5,00,000	Plant and Machinery	4,12,000	1,00,000
Issued and			Furniture	80,000	30,000
Subscribed :			Stock in Trade	2,65,500	60,000
Equity shares of			Sundry Debtors	2,21,200	46,000
Rs. 10 each, fully			Prepaid Insurance	—	700
paid	9,00,000	2,00,000	Income Tax Refund		
General Reserve	1,80,000	50,000	Claim	—	6,000
Profit and Loss			Cash in Hand	869	356
Account	20,502	12,900	Cash at Bank	14,000	8,300
Workmen's Compen-					
sation Fund	12,000	9,000			
Sundry Creditors	58,567	30,456			
Staff Provident Fund	10,200	4,000			
Provision for Taxation	12,300	5,000			
	11,93,569	3,11,356		11,93,569	3,11,356

Amalgamation expenses amounting to Rs. 1,000 were paid by Thick Ltd

required to :

(i) Prepare realisation account and equity shareholders account in the books of Thin Ltd.

(ii) Pass the necessary journal entries in the books of Thick Ltd. and

(iii) Prepared the balance sheet of Thick Ltd. after the amalgamation in the nature of merger.

Ans :

In the Books of thin Ltd.

Realisation Account

Particulars	Rs.	Particulars	Rs.
To Good will	60,000	By Sundry Creditors	30,456
To Plant & Machinery	1,00,000	By Staff Provident Fund	4,000
To Furniture	30,000	By provision for Taxation	5,000
To Stock in Trade	60,000	By Thick Ltd. (Purchase Consideration)	4,00,000
To Sundry Debtors	46,000		
To Prepaid Insurance	700		
To Income Tax Refund Claim	6,000		
To Cash in Hand	356		
To Cash at Bank	8,300		
To Profit on Realisation transferred to Equity Share holders A/c	1,28,100		
	4,39,456		4,39,456

Equity Shareholders Account

Particulars	Rs.	Particulars	Rs.
To Equity Shares in Thick Ltd.	4,00,000	By Equity Share Capital	2,00,000
		By General Reserve	50,000
		By Profit & Loss A/c	12,900
		By Workmen Compensation Fund	9,000
		By Realisation A/c (Profit)	1,28,100
	4,00,000		4,00,000

In the Books of Thick Ltd

Journal Entries

	Particulars		L.F	Rs.	Rs.
2003	Business Purchase Account	Dr.		4,00,000	
March 31	To Liquidator of Thin Ltd.				4,00,000
	(Being purchase consideration agreed to be paid for taking over the business of Thin Ltd.)				
	Goodwill	Dr.		60,000	
	Plant & Machinery	Dr.		1,00,000	
	Furniture	Dr.		30,000	
	Stock in Trade	Dr.		60,000	
	Sundry Debtors	Dr.		46,000	
	Prepaid Insurance	Dr.		700	
	Income Tax Refund Claim	Dr.		6,000	
	Cash in Hand	Dr.		356	
	Cash at Bank	Dr.		8,300	
	General Reserve (Balancing Figure) (1)	Dr.		1,37,100	
	To Workmen Compensation Fund				9,000
	To Sundry Creditors				30,456
	To Staff Provident Fund				4,000
	To Provision for Taxation				5,000
	To Business Purchase Account				4,00,000
	(Being incorporation of all the assets and liabilities and reserves of Thin Ltd. at book values on amalgamation, the excess of purchase consideration over the share capital of the transferor company adjusted in General Reserve)				
	Liquidator of Thin Ltd.	Dr.		4,00,000	
	To Equity Share Capital Account				4,00,000
	(Being payment of purchase consideration by issue of 40,000 shares of Rs. 10 each issued as fully paid)				
	General Reserve	Dr.		1,000	
	To Bank				1,000
	(Being payment of amalgamation expenses)				

Balance Sheet of Thick Ltd.
as on 31st March, 2003

Liabilities	Rs	Assets	Rs.
Share Capital :		**Fixed Assets :**	
Authorised	15,00,000	Goodwill	2,60,000
Issued and Subscribed :			
Issued and Subscribed :		Plant and Machinery	5,12,000
1,30,000 Equity Shares of Rs. 10		Furniture	1,10,000
each issued as fully paid	13,00,000	Current Assets, Loans and Advances	
(Of the above shares, 40,000 shares		**(A) Current Assets :**	
have been allotted as fully paid up		Stock in Trade	3,25,500
pursuant to a contract for purchase		Sundry Debtors	2,67,200
of business of Thin Ltd.)		Cash in Hand	1,225
Reserves & Surplus:		Cash at Bank	21,300
General Reserve (2)	41,900		
Profit & Loss Account	33,402		
Workmen Compensation Fund	21,000	**(B) Loans and Advances :**	
Current Liabilities & Provisions :		Prepaid Insurance	700
(A) Current Liabilities :		Income Tax Refund Claim	6,000
Sundry Creditors	89,023		
(B) Provisions			
Provision for Taxation	17,300		
Staff Provident Fund	14,200		
	15,03,925		15,03925

Working Notes:

(1) Calculation of the Amount Adjusted in General Reserve of Thick Ltd.

purchase consideration agreed to be paid for Thin Ltd.'s business		4,00,000
Less : Equity Share Capital of Thin Ltd.	2,00,000	
Thin Ltd.'s General Reserve	50,000	
Thin Ltd.'s Profit & Loss A/c	12,900	2,62.900
		1,37,100

Amount debited to Thick Ltd.'s General Reserve

(2) Calculation of the Amount of General Reserve Shown in the Balance Sheet of Thick Ltd.

Particulars	Rs.
Thick Ltd.'s General Reserve before take over of Thin Ltd.	1,80,000
Less : Debit given to General Reserve as per working note (1)	1,37,100
	42,900
Less : Amalgamation expenses debited to General Reserve	1,000
Balance of General Reserve after amalgamation	41,900

11. A Ltd. and B Ltd. were amalgamated on and from 1st April, 2003 A new company AB Ltd. was formed to take over the business of existing companies. The balance sheets of A Ltd. and B Ltd. as on 31st March, 2003 are given(figures in thousands)

Liabilities	A Ltd.	B Ltd.	Assets	A Ltd.	B Ltd.
Share Capital			Fixed Assets	4,800	3,200
Equity shares of Rs. 10 each	2,400	1,600	Less : Depn.	800	600
12% Preference shares of Rs.100 each	1,200	800	Investments	1,600	600
Reserves and Surplus			**Current Assets :**		
Capital Reserve	800	600	Stock	1,200	600
General Reserve	1,200	600	Debtors	1,600	800
Profit and Loss A/c 600	400	200	Cash & Bank Balance	—	1,200
Secured Loans	1,600	800			
Trade Crecitors	1,200	400			
Tax Provivision	800	200			
	9,600	5,200		9,600	5,200

Other Information

(i) Preference shareholders of the two companies are issued equivalent number of 15% preference shares of AB Ltd. at an issue price of Rs. 125 per share.

(ii) AB Ltd. will issue one equity share of Rs. 10 each for every share of A Ltd. and B Ltd. The shares are issued at a premium of Rs. 5 per share. Prepare the balance sheet of AB Ltd. on the assumption that the amalgamation is in the nature of merger.

Sol : **(Imp.)**

Calculation of Purchase Consideration

Particulars	A Ltd. Rs.	B Ltd. Rs.
(a) Prefererence Shareholders		
12,000 shares at Rs. 125 each	15,00,000	
8,000 shares at Rs. 125 each		10,00,000
(b) Equity shareholders		
2,40.000 shares of Rs. 15 each	36,00,000	
1,60,000 shares of Rs. 15 each		24,00,000
Total Purchase Consideration	51,00,000	34,00,000

Amount to be Adjusted Against the Reserves

Share capital of transferor companies

Particulars	A Ltd. Rs.'000	B Ltd. Rs.'000
Equity Share Capital	2,400	1,600
Preeference Share Capital	1,200	800
	3,600	2,400
Purchase Consideration [as per working (i)]	5,100	3,400
Difference to be adjusted against reserves	1,500	1,000

The total difference of Rs. 25,00,000 should be adjusted in the balance sheet of AB Ltd. against reserves as shown below :

(Figures in Rs. '000)

	A Ltd.	B Ltd.	Total	Adjust	Balance
Capital Reserve	800	600	1,400	1,400	Nil
General Reserve	1,200	600	1,800	1,100	700
	2,000	1,200	3,200	2,500	700

Balance Sheet AB Ltd.

as on 1-4-2003

Liabilities	Rs. (in '000)	Assets	Rs. (in '000)
Share Capital:		Fixed Assets :	8,000
20,000 Pref. Shares of Rs. 100 each	2,000	Less : Depriciation	1,400
4,00,000 Equity Shares of Rs.10 each	4,000		6,600
Reserves & Surplus :		Investments	2,200
Securities Premium	2,500	**Current Assets :**	
General Reserve	1,300	Stock	1,800
Secured Loan	2,400	Debtors	2,400
Trade Creditors	1,600	Cash & Bank Balances	1,800
Tax Provision	1,000		
	14,800		14,800

As per AS-14 Profit and Loss Accounts' balances of A Ltd. and B Ltd. have been transferred to General Reserve. '

12. Blue Ltd. and Star Ltd. were amalgamated on and from 1st April 2002. A new company called Yellow Star Ltd. was formed to take over the business of the above said companies. The balance sheets of Blue Ltd. and Star Ltd. as on 31st March, 2002 are given hereunder

(Rs.in lakhs)

Liabilities	Blue Ltd.	Star Ltd.
Share Capital:		
Equity Shares of Rs. 100 each	2,000	1,600
15% Preference Shares of Rs. 100 each	800	600
Revaluation Reserve	200	160
General Reserve	400	300
Profit and Loss Account	160	120
12% Debentures of Rs. 100 each	192	160
Current Liabilities	408	190
	4,160	3,130
Assets :		
Fixed Assets	2,400	2,000
Current Assets Loans and Advances	1,760	1,130
	4,160	3,130

Additional information

(i) Preference shareholders of Blue Ltd. and Star Ltd. have received same number of 15% preference shares of Rs. 100 each in the new company.

(ii) 12% Debentures of Blue Ltd. and Star Ltd. are discharged by the new company by issuing adequate number of 16% debentures of Rs. 100 each to ensure that they continue to receive the same amount of interest.

(iii) Yellow Star Ltd. has issued 1.5 equity shares for each equity share of Blue Ltd. and 1 equity share for each equity share of Star Ltd.

The face value of shares issued by Yellow Star Ltd. is Rs. 100 each.

You are required to prepare the balance sheet of Yellow Star Ltd. as on 1st April, 2002 after the amalgamation has been carried out using the 'pooling of interest method'.

Sol :

Balance Sheet of Yellow Star Ltd.

as on 1-4-2002

(Rs. in lakhs)

Liabilities	Rs.	Assets	Rs.
Share Capital		Fixed Assets	4,400
46,00,000 Equity Shares of Rs. 100 each	4,600	Current Assets, Loan and Advances	2,890
14,00,00 15% Preference Shares of Rs. 100 each	1,400		
(All the above shares have been issued for consideration other than cash) Reserves & Surplus			
Revaluation Reserve	360		
General Reserve (1)	68		
Secured Loans			
16% Debentures of Rs. 100 each	264		
Current Liabilities	598		
	7,290		7,290

Working Note (1)

(Rs. in lakhs)

Calculation of Purchase Consideration

Particulars	Blue Ltd.	Star Ltd.	Total
15% Preference Share Capital	800	600	1,400
(Issued same number of shares)			
Equity Share Capital	3,000	1,600	4,600
	(issued 1.5 share for each share : $2,000 \times \frac{1.5}{1}$	(issued 1 share for each share)	
	3,800	2,200	6,000
Difference in Share Capital of two companies aquired and Purchase Consideration			1,000 (6,000 - 5,000)

Amount of Rs. 1,000 lakhs to be adjusted in General Reserve and Profit & Loss A/c acquired :			
General Reserve	400	300	700
Profit and Loss Account	160	120	280
			980
Less : Difference in Share Capital and Purchase Consideration Adjusted			1,000
Balance			20
Add : Difference in issue of 16% Debentures for discharge of 12% Debentures to pay the same amount of debentures :			
Total 12% Debentures = Rs. 192 lakhs			
Rs. 160 lakhs = Rs. 352 lakhs			
Total interest on Rs. 352 lakhs debentures 12			
of two companies = $\frac{12}{100}$ x Rs. 352 lakhs			
= Rs. 42.24 lakhs			
16% Debentures to be issued for payment of Rs. 42.24			
lakhs interest = Rs. 42.24 x $\frac{100}{16}$ = Rs. 264 lakhs			
Difference in issue of debentures (Rs. 352 lakhs - Rs. 264 lakhs)			88
Amount to be credited to General Reserve			68

5.9 SEBI Regulations

Q21. Discuss the SEBI Regulations with records to mergers and acquisition.

Ans : **(Imp.)**

SEBI Regulations

Securities and Exchange Board of India (Substantial Acquisition of Shares and Takeovers) Regulations, 1997

Securities and Exchange Board of India (SEBI) is "an Act to provide for the establishment of a board to protect the interest of investors in securities and to promote the development of and to regulate the securities market and for matters connected therewith or incidental thereto."

The SEBI's Substantial Acquisition of Shares and Takeovers Regulations, 1994 are a first and significant step in laying down rules to be followed when corporate takeover is planned Regulation 3 of Substantial Acquisition of Shares and Takeovers Regulations, 1994 provides that Chapter III of the Regulations (relating to takeovers) would not apply to acquisitions of shares pursuant to a scheme of amalgamation under Sections 391 and 394 of Companies Act, 1956 and to the acquisition of shares pursuant to a scheme framed under the Sick Industrial Company (Special Provision) Act by B1FR.

These regulations remained in force till 20 February, 1997 when revised Substantial Acquisition of Shares and Takeovers Regulations, 1997 were reinforced to regulate the takeovers bids. The main objectives of these regulations are to provide greater transparency in acquisitions of shares and takeovers of companies through a system of disclosure of information. Chapter III of the regulations deals with substantial acquisition of shares or voting rights and acquisition of control over a listed company. No acquirer can acquire shares or voting rights of a company if the proposed acquisition, together with his holding of shares or voting rights and of persons in concert with him will entitle him to exercise 15 percent or more voting rights in a company unless he makes a public announcement to acquire shares of such company in accordance with the regulations. So, further shares can be acquired only from Shareholders of the company by making public announcement' in the following way :

1. Appoint a merchant banker in category one holding a certificate of registration granted by SEBI who is not an associate of group of acquirer or target company.

2. The public announcement shall be made not later than four working days of entering into an agreement for acquisition of shares.

3. Copy of public announcement must be submitted to SEBI through merchant banker at least two working days prior to such issuance. Also, copies should be sent to all stock exchanges on which shares are listed and to Registrar's office of the company for being placed before Board of Directors of the company.

4. Public announcement shall be made by the acquirer in all the editions of one English and Hindi daily each with wide circulation and one vernacular newspaper of the place where shares of that company are listed and traded. It must be ensured that, announcement, any other advertisement, circular, brochure, material or letter of offer issued after acquisition of shares do not contain any misleading information.

The other disclosures in this announcement include the offer price, number of shares to be acquired from the public, identity of acquirer, purpose of acquisition, future plans of acquirer, if any, regarding the target company, change in control of target company if any, procedure to be followed by the acquirer in accepting shares tendered by the shareholders and period within which all formalities pertaining to the offer will be complete.

The offer price in the public announcement is not approved by SEBI but has to be justified in the offer document after taking into consideration the relevant parameters. In order to cover the events and market functions just prior to the public announcement, the concept of average of daily high and low of the closing prices of shares during the two weeks proceeding the date of public announcement has been included in determining the offer price. In case where target company's shares are frequently traded on Stock Exchange, the offer price is the higher of average of weekly high and low of closing prices of shares as quoted on Stock Exchange during the twenty-six weeks prior to date of public announcement and average of daily high and low of closing prices of shares during the two weeks preceding the date to public announcement, me other price of infrequently traded shares is determined by taking into consideration the negotiated price under agreement, or parameters like return on net worth, book value of shares of target company, earning per share and price earning multiple vis d-vis the industry average.

Within fourteen days from the date of announcement, a draft of letter of offer at minimum price has to be filed with SEBI through merchant bankers and twenty-one days thereafter, the letter of offer shall be despatched to shareholders. Within twenty-one days of submission of offer, SEBI may specify some changes which have to be incorporated before despatching to shareholders.

The offer at minimum price should be to acquire an aggregate minimum of 20% voting capital. If the offer results in decreasing public shareholding to less than or equal to 10% of voting capital of the company, then acquirer can make another offer. This offer can be made within three months from close of public offer to acquire remaining shares at same price, or disinvest, or offer for sale, or issue fresh share capital to public within six months, such number of shares so as to satisfy Listing Agreements.

The acquirer, under regulation 28 is required by way of security for his performance, to deposit in an Escrow A/c such sum as specified in the form of cash deposit, bank guarantee (or) deposit of acceptable security. No public offer, once made can be withdrawn except under special circumstances.

Exercises Problems

1. The following are the abridge balance sheets of A Ltd. and B Ltd. as at 31st March, 2003

Liabilities	A Ltd.	B Ltd	Assets	A Ltd.	B Ltd
Equity Share Capital			Fixed Assets	33,000	14,190
(Rs. 10 each)	24,000	9,000	Current Assets	12,000	5,910
12% Pref. Share Capital					
(Rs. 100 each)	–	3,000			
General Reserve	13,830	2,940			
Statutory Reserves	1,170	375			
Profit and Loss A/c	1,689	1,065			
13% Debentures	–	750			
Current Liabilities	4,311	2,970			
	45,000	20,100		45,000	20,100

On 1st April, 2003 A takes over B Ltd. on the following terms :

(i) A Ltd. will issue 10,50,000 equity shares of Rs. 10 each at par to the equity shareholders of B Ltd.

(ii) A Ltd. will issue 33,000 12% preference shares of Rs. 100 each at par to the preference shareholders of B Ltd.

(iii) The debentures of B Ltd. will be converted into equal no. of 14% debentures of the same denomination.

You are informed that the statutory reserves of B Ltd. are to be maintained for two more years. You are required to show the balance sheet of A Ltd. immediately after the above mentioned scheme of amalgamation has been implemented assuming that :

(a) the amalgamation is in the nature of merger and

(b) the amalgamation is in the nature of purchase.

[Ans : B/S Total (i) Rs.6,51,00,000; (ii) Rs.6,54,75,000]

2. A Ltd. and B Ltd. carrying on similar business decided to amalgamate and for this purpose a new company being formed to take over assets and liabilities of both companies and it is agreed that fully paid shares of Rs. 100 each shall be issued by the new company to the values of the net assets of each of the old companies.

Balance Sheets

as on 31st march, 2003

Liabilities	A Ltd.	B Ltd	Assets	A Ltd.	B Ltd
Share Capital of Rs.5			Goodwill	5,000	2,000
each	50,000	40,000	Land & Buildings	17,000	10,000
General Reserve	20,000	–	Plant & Machinery	24,000	16,000
Profit & Loss A/c	3,000	–	Furniture & Fittings	5,000	7,500
Sundry Creditors	4,000	–	Stock	10,000	7,500
Bank Payable	4,000	–	Debtors	12,000	7,000
Bank Overdraft	–	8,000	Cash	8,000	300
			Profit & Loss A/c	–	5,700
	81,000	56,000		81,000	56,000

The following is the accepted scheme of valuation of the business of the two companies :

A Ltd. (a) to provide for reserve for bad debts at the rate of 5% on debtors ;

(b) to write off Rs. 400 from stock ; and

(c) to write off the 33½% from plant & machinery.

B Ltd. (a) to eliminate its goodwill and profit and loss account balance ;

(b) to write off bad debts to the amount of Rs. 1,000 and to provide reserve of 5% on the balance of debtors :

(c) to write down plant and machinery at the rate of 10% ; and

(d) to write off Rs. 1,400 from the values of stock

You are required to compute purchase consideration and present balance sheet of AB

[Ans : Purchase Consideration : A Ltd. Rs. 64,000 ; B Ltd. Rs. 28,000 ; B/S Total Rs. 1,16,000]

Short Question and Answers

1. What is Management Control Systems

Ans :

Introduction

Management control system is defined "as a means of gathering and using information to aid and coordinate the process of making planning and control decisions through-out the organization and to guide the behaviour of its managers and employees. The goal of management control system is to improve the collective decisions within an organization in an economically feasible way."

Broadly, management control system (MCS) refers to the design, installation and operation of management planning and control systems.

The term 'management control systems' emphasises on two distinct, but highly interrelated and sometimes indistinguishable, subdivisions of controls systems:

(i) Structure (or) organization structure (or) relationships among the units in the organization, more specifically the responsibility centres, the relationship among responsibility centres, performance measures and the information that flows among these responsibility centres.

(ii) Process or set of activities, or steps or decisions that are taken by an organization or managers to establish purposes, allocate resources and achieve organizational purposes.

The process consists of interrelated phases of programming (programme selection), budgeting, execution, measurement and evaluation of actual performance.

The structure of a management control system indicates what the system "is" and process of a management control system indicates what the system "does." The management control systems know the organization together so that each part, by exercising the autonomy given to it, fulfills a purpose that is consistent with and contributes to the fulfillment of the overall purpose of the organization.

2 Characteristics of Management Control Systems

Ans :

Management control systems designed in an organization should fulfill the following characteristics:

(i) Management control systems should be closely aligned to an organization's

(ii) Management control systems should be designed to fit the organization's structure and the decision-making responsibility of individual managers.

Effective management control systems should motivate managers and employees to exert efforts toward attaining organization goals through a variety of rewards tied to the achievement of those goals.

Factors Influencing Management Control Systems:

Factors influencing the design of Management Control Systems are as follows:

(i) Size and Spread of the Enterprise

The size and spread of a large firm is bound to be different compared with that of a small firm. This would certainly determine the content and nature of the control system for each organization.

(ii) Organizational Structure, Delegation and Decentralisation

Statutes and conventions govern organizational structure, and the extent of decentralisation and delegation in all enterprises.

For example, the management philosophy of the State Bank of India is bound to be different from that of the State Trading

Corporation. Also, within an enterprise, the degree of decentralisation and delegation changes from one point of time to another to meet changed environmental challenges and the opportunities that these may present. All these influence management control systems practiced in organizations.

3. Merger

Ans :

A merger is a combination of two or more companies into one company. It may be in the form of or more companies being merged into an existing company or a new company may be formed to merge two or more existing companies. The Income Tax Act, 1961 of India uses the term *amalgamation*' for merger.

According to Section 2 (1A) of the Income Tax Act, 1961, the term amalgamation means the merger of one or more companies with another company or merger of two or more companies to form one company in such a manner that :

(i) All the property of the amalgamating company or companies immediately before the amalgamation becomes the property of the amalgamated company by virtue of the amalgamation .

(ii) All the liabilities of the amalgamating company or companies immediately before the amalgamation become the liabilities of the amalgamated company by virtue of the amalgamation.

(iii) Shareholders holding not less than nine-tenths in value of the shares in the amalgamating company or companies (other than shares already held therein

Immediately before the amalgamation by or by a nominee for, the amalgamated company by virtue of the amalgamation.

According to the Companies Act, 1956, the term amalgamation includes 'absorption'.

4. Different types of mergers

Ans :

Mergers can be broadly classified into three major types:

1. Horizontal Merger

When two or more concerns dealing in same product or service join together, it is known as a horizontal merger. The idea behind this type of merger is to avoid competition between the units, for example, two manufacturers of same type of cloth, two book sellers, two transport companies operating on the same route-the merger in all these cases will be horizontal merger.

Besides avoiding competition, there are economies of scale, marketing economies, elimination of duplication of facilities, etc.

2. Vertical Merger

A vertical merger represents a merger of firms engaged at different stages of production or distribution of the same product or service. In this case two or more companies dealing in the same product but at different stages may join to carry out the whole process itself. A petroleum producing company may set up its own petrol pumps for its selling. A railway company may join with coal mining company for carrying coal to different industrial centres. Similarly, a textile unit may merge a transport company for carrying its products to different places. All these are the examples of vertical merger. The idea behind this type of merger is to take up two different stages of work to ensure speedy production or quick service.

3. Conglomerate Merger

When two concerns dealing in totally different activities join hands it will be a case of conglomerate merger. The merging concerns are neither horizontally nor vertically related to each other. For example, a manufacturing company may merge with an insurance company, a textile company may merge with a vegetable oil mill. There may be some common features in merging companies, such as distribution channels, technology, etc. This type of merger is undertaken to diversify the activities.

5. Define Amalgamations

Ans :

The term amalgamation is used when two or more companies carrying on similar business go into liquidation and a new company is formed to take over their business. The term absorption is also used when an existing company takes over the business of one or more existing companies, The concept have been modified by the Accounting Standard 14 (AS-14) "Accounting for Amalgamation" issued by the Institute of Chartered Accountants of India. This standard is applicable in respect of accounting periods commencing on or after 1st April, 1995 and is mandatory in nature. This standard specifies the procedure of accounting for amalgamations and the treatment of any resultant goodwill or reserve.

6. Methods of purchase consideration

Ans :

1. Lump Sum Method.

When the transferee company agrees to pay a fixed sum to the transferor company, it is called a lump sum payment of purchase consideration. For example, if X Ltd. purchases the business of Y Ltd. and agrees to pay Rs. 25,00,000.

2. Net Worth (or) Net Assets Method

According to this method, the purchase consideration is calculated by calculating the net worth of the assets taken over by the transferee company. The net worth is arrived at by adding the agreed value of assets taken over by the transferee company minus agreed value of liabilities to be assumed by the transferee company. While calculating purchase consideration under this method the following points merit attention :

a) The term 'Assets' will always include cash in hand and cash at bank unless otherwise specified but shall not include fictitious assets as preliminary expenses, discount on the issue of shares or debentures, underwriting commission, debit balance of Profit & Loss Account, etc.

b) If a particular asset is not taken over by the transferee company, it should not be included in the purchase consideration.

c) The term 'liabilities' will mean all liabilities to third parties (i.e. excluding company and shareholders).

d) The term 'trade liabilities' will include trade creditors and bills payable. It will exclude other liabilities to third party as bank overdraft, debentures, outstanding expenses, tax liability etc.

3. Net Payment Method.

Under this method purchase consideration is calculated by adding the various payments in the form of shares, securities, cash etc. made by the transferee company. No amount of liabilities is deducted even if these are assumed by the purchasing company. Thus purchase consideration is the total of all the payments whether in shares, securities or cash.

4. Shares Exchange Method

Under this method purchase consideration is required to be calculated on the basis of intrinsic value of shares. The intrinsic value of share is calculated by dividing the net assets available for equity shareholders by the number of equity shares. This value determines the ratio of exchange of the shares between the transferee and transferor companies. In some cases the agreed values of the shares of both the companies are given. In that case the purchase consideration is calculated with reference to the value of shares of two companies involved.

7. Explain briefly about the Indirect costs of management control system

Ans :

(i) Manufacturing Costs

Manufacturing costs include direct labor, direct materials and manufacturing overhead, which are important determinants in a company's overall profitability. Direct labor consists of the line workers that physically manufacture products, despite whether they are hourly or salaried employees. Direct materials are processed into finished goods inventory and are essential for production. Manufacturing overhead includes indirect materials, indirect labor and factory operating costs such as utilities and real estate taxes.

(ii) Non-manufacturing Costs

Marketing costs, sales professionals' salaries and administrative expenses are considered non-manufacturing costs. These expenses also play an important role in the profitability of a company and its ability to compete in the marketplace. Costs associated with support services, such as accounting and quality assurance personnel, are essential for a business to be able to produce products or services. However, these costs must be kept at the appropriate amount relative to a company's profit margins and other operating expenses.

(iii) Opportunity Costs

An opportunity cost is viewed as the value of an alternate investment or asset allocation decision, when funds are spent on a particular project. Opportunity costs are good for management decision-making and evaluating the various investment opportunities a company faces. It is important to look at risk when comparing opportunity costs, as well as the potential for a favorable return on investment. Although opportunity costs are not actually incurred, they are important for analysis and planning purposes.

(iv) Sunk Costs

When a company spends money on a project, the funds invested become a sunk cost. Once funds are spent, there is no reversing the cost. While sunk costs do not normally factor into a decision to proceed with a project or acquire a new investment, they do factor into additional spending decisions. If a project has a large dollar amount of sunk costs, business leaders or investors may be more inclined to invest additional funds to help struggling projects generate favorable retums.

8. Advantages of mergers

Ans :

The following are the advantages of mergers and acquisitions,

1. A firm can get an easy access to the market and technology through mergers and acquisitions.
2. It becomes easy to gair access to patent rights and technology through mergers and acquisitions.
3. With the help of mergers and acquisitions, the firm can get the firms ownership and control immediately on the factoiies, technology, employees and distribution networks of the acquired firm.
4. In mergers and acquisitions, when the industry had attained the optimum capacity level in the host nation, then this strategy will assist the economy of the host country.
5. The firms can attain more profits with the formulation of international strategy.

9. Disadvantages of mergers

Ans :

The following are the disadvantages of mergers and acquisitions,

(a) Many companies have landed themselves into financial and other problems due to indiscriminate acquisitions.

(b) If the evaluations are not done properly, then the decision of acquisition can be wrong or ineffective.

(c) If an enterprise in taken over, its problems are also usually taken over by the firms.

(d) Certain units which have been acquired may have problems like obsolete technology, old plant, surplus labour etc.

(e) In some situations, restrictions are levied by the host countries on the acquisition of domestic firms by the foreign firms.

(f) It is very difficult to acquire a firm in a foreign country as it involves lawyers, bankers, mergers and acquisition specialists, from both the countries.

(g) This strategy does not add any capacity to the industry.

10. Absorption

Ans :

A combination of two or more companies into an existing company is known as 'absorption.' In a merger through absorption all companies except one go into liquidation and lose their separate identities. Suppose, there are two companies, A Ltd. and B Ltd, Company B Ltd. is merged into A Ltd leaving its assets and liabilities to the acquiring company A Ltd; and company B Ltd. is liquidated. It is a case of absorption. An example of this type of merger in India is the absorption of Reliance Polypropylene Ltd. (RPPL) by Reliance Industries Ltd. As a result of the absorption, the RPPL was liquidated and its shareholders were offered 20 shares of RIL for every 100 shares of RPPL held by them.

Choose the Correct Answer

1. Under ________ method purchase consideration is calculated on the basis of intrinisic value of share of both transferor & transferer companies. [b]
   (a) Net payment method (b) Share exchange method
   (c) Lump sum method (d) All of the above
2. When two or more companies in the similar line of business merge together is called ________ . [a]
   (a) Horizontal merger (b) Vertical merger
   (c) Congolomerate merger (d) Concentric merger
3. When a new product line is added to the existing product line is called ________ . [a]
   (a) Product extension (b) Market extension
   (c) both a & b (d) None of the above
4. ________ includes purchase of brand, asset, division, planted [c]
   (a) Takeover (b) Amalgamation
   (c) Acquisition (d) Merger
5. ________ involves abandonment of outmoded ways of running an organization and adopting new ones. [b]
   (a) Expansion (b) Takeover
   (c) Restructuring (d) Merger
6. ________ includes written formalized & codified statements [a]
   (a) Formulated (b) Informulated
   (c) Organizational (d) None of the above
7. The real of a good management ________ is right action at the right time [c]
   (a) Management structure (b) Management structure
   (c) Management control system (d) All of the above
8. ________ implies the control exercised by an individual on himself or herself [a]
   (a) Self control (b) Social control
   (c) Organizational control (d) Tactic control
9. The ________ controls refers to the formal rules & standard operating procedures [b]
   (a) Social (b) Organizational
   (c) Self control (b) Self esteem
10. ________ does not contain any written rules. [b]
   (a) Formal control (b) Informal control
   (c) Organizational control (d) None of the above

Fill in the blanks

1. A _______ is a combination of two or more companies into one company.
2. A combination of two or more companies into an existing company is known as _______ .
3. A _______ is a combination of two or more companies into a new company.
4. _______ refers to the greater combined value of merged firms than the sum of the value of individual units.
5. The capitalized earnings depend upon the _______, _______ .
6. _______ influences the behaviour of organizational resources to implement organizational strategies.
7. Factors of management control system are _______ .
8. Nature of operations and their _______ affect MCS.
9. _______ should aim to provide financial as well as nonfinancial information.
10. _______ is viewed as the value of an alternate investment or asset allocation decision.

ANSWERS

1. Merger
2. Absorption
3. Consolidation
4. Synergy
5. Estimate of earnings, Rate of capitalization
6. Management control system
7. Strategy Technology, Environment, Organizational structure
8. Divisibility
9. Management control system
10. Opportunity cost

FACULTY OF COMMERCE

M.Com (CBCS) (New Syllabus) II - Semester Examination

December - 2020

ADVANCED MANAGERIAL ACCOUNTING

Time : 2 Hours] **[Max. Marks : 80**

PART - A - (4 × 5 = 20 Marks)

ANSWERS

Note : Answer any four questions.

1. Who are the users of Financial Statements ? **(Unit - I, SQA-3)**
2. What is human Resource Accounting ? **(Unit - II, SQA-1)**
3. What is Inflation Accounting ? **(Unit - III, SQA-1)**
4. What are the objectives of Balanced Score Card ? **(Unit - IV, SQA-10)**
5. What are the reasons for mergers ? **(Unit - V, Q.No.10)**

PART - B - (4 × 15 = 60 Marks)

Note : Answer any four questions.

6. The following Trading and Profit and Loss Account of Fantasy Ltd. for the year 31-3-2000 is given below :

Dr Cr

Particulars	Amount	Particulars	Amount
To Opening Stock	76,250	By Sales	5,00,000
To Purchases	3,15,250	By Closing Stock	98,500
To Carriage and Freight	2,000		
To Wages	5,000		
To Gross Profit b/d	2,00,000		
	5,98,500		5,98,500
To Administration Expenses	1,01,000	By Gross Profit b/d	2,00,000
To Selling Distribution Expenses	12,000	By Non-operating Incomes	
To Non-operating Expenses	2,000	By Interest on Securities	1,500
To Financial Expenses	7,000	By Dividend on Shares	3,750
Net Profit c/d	84,000	By Profit on Sale of Shares	750
	2,06,000		2,06,000

Calculate :

1. Gross Profit Ratio
2. Expenses Ratio
3. Operating Ratio
4. Net Profit Ratio
5. Operating (Net) Profit Ratio
6. Stock Turnover Ratio

Sol :

1. Gross Profit Ratio $= \frac{\text{Gross profit}}{\text{Sales}} \times 100$

$$\frac{2,00,000}{5,00,000} \times 100$$

$= 40\%$

2. Expenses Ratio $= \frac{\text{Operating Expenses}}{\text{Net Sales}} \times 100$

$$\frac{1,13,000}{5,00,000} \times 100$$

$= 22.60\%$

3. Operating Ratio $= \frac{\text{Cost of goods sold} + \text{Operating Expenses}}{\text{Net Sales}} \times 100$

$$\frac{3,00,000+1,13,000}{5,00,000} \times 100$$

$= 82.60\%$

Cost of Goods sold = Opening stock + purchases + carriage and Freight + wages – Closing Stock

= 76250 + 315250 + 2000 + 5000 – 98500

= Rs. 3,00,000

4. Net Profit Ratio $= \frac{\text{Net Profit}}{\text{Net Sales}} \times 100$

$$= \frac{84,000}{5,00,000} \times 100$$

$= 16.8\%$

5. Operating Profit Ratio $= \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$

Operating Profit = Sales – (Operating Expenses + Administration Expenses)

$$\frac{87,000}{5,00,000} \times 100$$

$$= 17.40\%$$

6. Stock Turnover Ratio $= \frac{\text{Cost of goods sold}}{\text{Avg. Stock}}$

$$\frac{3,00,000}{87,375}$$

$$= 3.43 \text{ times}$$

7. Explain briefly the steps to be followed in preparing a Fund Flow Statement. **(Unit - I, Q.No.22)**

8. Discuss the merits and limitations of different approaches in Human Resources Accounting. **(Unit - II, Q.No.3,5)**

9. Describe the different types of Responsibility Centres with an example. **(Unit - II, Q.No.10, 11)**

10. The following facts are established :

(1) The price indices of tangible assets had climbed to 200 in the beginning of 2011-2012 and to 225 by the end of the year with the prices ten years ago being 100; the price increase in 2010-2011 was only 6%. Till the end of 2010-2011 the company had not made any substantial additions to the tangible assets. The company considers the life of the tangible assets to the 20 years and would prefer the straight line basis of depreciation.

(2) Prices of materials rose by 54% and of finished goods by 35% during 2011-2012; rates relating to manufacturing costs increased by 20%.

(3) The value of Finished Goods Stock in the beginning and at the end of the year was respectively Rs. 158 lakhs and Rs. 203 lakhs.

Prepare the Current Cost Accounting Balance Sheet as at 31st March, 2012 and Statement of Profit and Loss for the year 2011-2012 on that basis. **(Incomplete Problem)**

11. What are the concepts for Financial Reporting ? Explain measurement and reporting of the revenues, expenses, gains and losses. **(Unit - III, Q.No. 8, 9, 10,11)**

12. What do you understand by Return on Investment? Describe the uses and limitations Return on Investment. **(Unit - IV, Q.No.5, 6)**

13. Explain in detail the procedure of Multiple Scorecard measures into a single strategy. **(Unit - IV, Q.No.16)**

14. What is the meaning of Management Control System? Discuss the problems in implementing an Effective Management Control System. **(Unit - V, Q.No.1,3)**

15. A Ltd. is considering takeover of B Ltd. and C Ltd. The financial data for the three Companies are as follows :

Particulars	A Ltd.	B Ltd.	C Ltd.
Equity Shares Capital of Rs.10 each (Rs. Crores)	450	180	90
Earnings (Rs. Crores)	90	18	18
Market price of each share (Rs.)	60	37	46

Calculate :

(i) Price Earnings ratios.

(ii) Earnings per Share of A Ltd. after the acquisition of B Ltd and C Ltd. separately.

Will you recommend the merger of either / both of the companies? Justify your answer.

Sol :

Calculation of Price Earnings ratios

Particulars	A Ltd.	B Ltd.	C Ltd.
Earnings (Rs. crores)	90	18	18
No. of shares (crores)	45	18	9
EPS (Rs.)	2	1	2
Market price per share (Rs.)	60	37	46
PE Ratio	40	37	23

Calculation of EPS of A Ltd. after acquisition of B Ltd. can C Ltd.

$$\text{Exchange ratio or rate} = \frac{\text{Buyer's P/E Ratio}}{\text{Seller's P/E Ratio}}$$

Particulars	A Ltd.	B Ltd.	C Ltd.
Exchange ratio in A Ltd.	-	81	1.30
Value of shares (Rs. crores)	2700	666	414
No. of A Ltd.'s share to be given			
(crores) EPS (Rs.)	-	666/60	414/60
EPS (Rs.)	-	11.11	6.9
Total earings after acquisition (Rs. crores)	-	108	108
Total number of shares (crores)	-	56.1	51.9
EPS after acquisition (Rs.)	-	1.93	2.08

Analysis : After merger of C Ltd. with A Ltd's. EPS is higher than A Ltd. (` 2.08). Hence merger with only C Ltd. is suggested to increase the value to the shareholders of A Ltd.

FACULTY OF COMMERCE

M.Com II - Semester (CBCS) Examination

MODEL PAPER - I

ADVANCED MANAGERIAL ACCOUNTING

Time : 3 Hours] **[Max. Marks : 80**

Note: Answer all the questions from Part - A and Part - B

Each question carries 4 marks in Part - A and 12 marks in Part - B

PART - A (5 × 4 = 20 Marks)

[Short Answer Type]

ANSWERS

1. Uses of financial statements **(Unit-I, SQA - 3)**
2. Define Human Resources Accounting. **(Unit-II, SQA - 1)**
3. Advantages of Inflation Accounting. **(Unit-III, SQA - 2)**
4. State the Significance of EVA **(Unit-IV, SQA -1)**
5. What is Management Control Systems **(Unit-V, SQA - 1)**

PART - B (5 × 12 = 60 Marks)

[Essay Answer Type]

Note: Answer the following questions in not more than FOUR pages each

6. (a) Discuss the various of Techniques of analysis of financial statements **(Unit-I, Q.No. 7)**

(OR)

(b) From the following information, make out a statement of Properietor's Funds with as many details as possible :

(i)	Current Ratio	2.5
(ii)	Liquid Ratio	1.5
(iii)	Proprietary Ratio (Fixed Assets/Proprietors' Funds)	0.75
		`
(iv)	Working Capital	60,000
(v)	Reserves and Surplus	40,000
(vi)	Bank Overdraft	10,000
(vii)	There is no long-term loan or fictitious assets	

(Unit-I, Prob. 10)

7. (a) Define Human Resources Accounting. Explain the need and significance of Human Resources Accounting **(Unit-II, Q.No. 1)**

(OR)

(b) The following information relating to the operating performance of three divisions of X Limited.

Particulars	A Rs.	B Rs.	C Rs.
	Divisions		
Operating profit	32,000	1,50,000	3,00,000
Investment	4,00,000	7,50,000	18,00,000

i) Calculate the Return on Investment

ii) Assume that a charge in levied on each division for the use of capita. The charge is 10% on investment and it is deducted in measuring divisional net income. Recalculate ROI using net income after deduction of the use of capital charge in the numerator.

iii) Which of these two measures do you think better indication of operating performance ? Explain your reasoning.

(Unit-II, Prob. 6)

8. (a) Explain the technique of Current purchasing power. **(Unit-III, Q.No.4)**

(OR)

(b) From the following information, prepare a statement of changes in gross profit forthe years 2014 and 2015.

Particulars	2014 (Rs.)	2015 (Rs.)
Sales	5,00,000	5,50,000
Cost of sales	3,00,000	3,25,000
Gross profit	2,00,000	2,25,000
No. of units sold	20,000	25,000

(Unit-III, Prob.12)

9. (a) Explain the need and Significance of EVA. **(Unit-IV, Q.No. 8)**

(OR)

(b) Explain the various Perspectives of Balanced Score Card. **(Unit-IV, Q.No.15)**

10. (a) A Ltd. wants to take over B Ltd. and the financial details of both the companies are as below :

Particulars	A Ltd. (`)	B Ltd. (`)
Equity share capital of ` 10 each	2,00,000	1,00,000
Preference share capital	40,000	—
Share premium	—	4,000
Profit and loss account	76,000	8,000
10% Debentures	30,000	10,000
Total liabilities	3,46,000	1,22,000
Fixed assets	2,44,000	70,000
Current assets	1,02,000	52,000
Total assets	3,46,000	1,22,000
Profit after tax and preference dividend	48,000	30,000
Market price per share	24	27

You are required to determine the share exchange ratio to be offered to the shareholders of B Ltd., based on

(i) Net assets value , (ii) EPS, and

(iii) Market price. Which should be preferred from the point of view of A Ltd. ?

(Unit- V, Prob.1)

(OR)

(b) Discuss the SEBI Regulations with records to mergers and acquisition.

(Unit-V, Q.No. 21)

FACULTY OF COMMERCE

M.Com II - Semester (CBCS) Examination

MODEL PAPER - II

ADVANCED MANAGERIAL ACCOUNTING

Time : 3 Hours] **[Max. Marks : 80**

Note: Answer all the questions from Part - A and Part - B

Each question carries 4 marks in Part - A and 12 marks in Part - B

PART - A (5 × 4 = 20 Marks)

[Short Answer Type]

ANSWERS

1. Limitations of Financial Statements **(Unit-I, SQA - 4)**
2. Objectives of Human Resources Accounting. **(Unit-II, SQA - 3)**
3. Gross Profit Analysis. **(Unit-III, SQA - 9)**
4. Balanced Score Card (BSC) **(Unit-IV, SQA -9)**
5. Different types of mergers **(Unit-V, SQA - 4)**

PART - B (5 × 12 = 60 Marks)

[Essay Answer Type]

Note: Answer the following questions in not more than FOUR pages each

6. (a) Following are the summarized balance sheets of ESS GEE Ltd. as on March 31, 2010 and 2011.

Liabilities	2010 `	2011 `	Assets	2010 `	2011 `
Share Capital	1,00,000	1,30,000	Land & Building	1,00,000	95,000
General Reserve	25,000	30,000	Machinery	75,000	84,500
Profit and Loss A/c	15,200	15,400	Stock	50,000	37,000
Bank Loan (Long-term)	35,000	–	Sundry Debtors	40,000	32,100
Sundry Creditors	75,000	67,500	Cash	200	300
Provision for Tax	15,000	17,500	Bank	–	4,000
			Goodwill		7.500
	2,65,200	2,60,400		2,65,200	2,60,400

Additional Information :

(i) Dividend of ` 11,500 was paid.

(ii) Assets of another company were purchased for a consideration of ` 30,000 payable in shares. The following assets were purchased : Stock ` 10,000 ; machinery ` 12,500

(iii) Machinery was further purchased for ` 4,000.

(iv) Depreciation written off machinery ` 6,000.

(v) Income tax provided during the year ` 16,500.

(vi) Loss on sale of machine ` 100 was written off to General Reserve.

You are required to prepare a cash flow statement for the year ended 31st March 2011.

(Unit-I, Prob. 25)

(OR)

(b) What are the difference between funds flows statement cash flows statement.

(Unit-I, Q.No. 28)

7. (a) Explain the various Approaches of Human Resources Accounting.

(Unit-II, Q.No. 4)

(OR)

(b) A Company has 10 cars i n operation. The budget for the transport department based on 25,000 km of run for a month is ` 87,500 out of which a sum of ` 25,000 is fixed. During the last month, the total kilometres run by all the 10 cars were 22,400 and the costs incurred were ` 83,150. The cost of hiring a car would have been ` 4 per km. Evaluate the performance of the transport department on the basis of (a) Cost Centre, (b) Profit Centre.

(Unit-II, Prob. 1)

8. (a) Arjun Ltd. furnishes the following income statement for the year ending 31st December 2007, prepared on the basis of conventional accounting. You are required to adjust the same for price level changes under CPP method.

Particulars	`	`
Sales		90,000
Less : Cost of goods sold :		
Opening inventory	8,000	
+ Purchases	60,000	
	68,000	
– Closing inventory	6,000	
Add	62,000	
Expenses		
Wages & salaries	6,000	
Other expenses	4,500	
Depreciation on building	700	
Interest	300	73,500
Net Income	16,500	
Dividends	4,000	
Retained Earnings	12,500	

Additional Information

1. Index of general price level:

January 1, 2007	100
December 31,2007	200
Average Index	150

2. Interest and dividends are paid on December 31.
3. Building was purchased when the index was 50.

(Unit-III, Prob.5)

(OR)

(b) Explain briefly about Measurement and Reporting of Revenues

(Unit-III, Q.No. 9)

9. (a) Explain the Multiple Scorecard measures into a single strategy.

(Unit-IV, Q.No.16)

(OR)

(b) Explain the advantages and disadvan-tages of ROI. **(Unit-IV, Q.No.6)**

10. (a) A Ltd. and B Ltd. were amalgamated on and from 1st April, 2003 A new company AB Ltd. was formed to take over the business of existing companies. The balance sheets of A Ltd. and B Ltd. as on 31st March, 2003 are given(figures in thousands)

Particulars	A Ltd.	B Ltd.	Particulars	A Ltd.	B Ltd.
Share Capital			Fixed Assets	4,800	3,200
Equity shares of Rs. 10 each	2,400	1,600	Less : Depn.	800	600
12% Preference shares of Rs.100 each	1,200	800	Investments	1,600	600
Reserves and Surplus			**Current Assets :**		
Capital Reserve	800	600	Stock	1,200	600
General Reserve	1,200	600	Debtors	1,600	800
Profit and Loss A/c 600	400	200	Cash & Bank Balance	—	1,200
Secured Loans	1,600	800			
Trade Crecitors	1,200	400			
Tax Provivision	800	200			
	9,600	5,200		9,600	5,200

Other Information

(i) Preference shareholders of the two companies are issued equivalent number of 15% preference shares of AB Ltd. at an issue price of Rs. 125 per share.

(ii) AB Ltd. will issue one equity share of Rs. 10 each for every share of A Ltd. and B Ltd. The shares are issued at a premium of Rs. 5 per share. Prepare the balance sheet of AB Ltd. on the assumption that the amalgamation is in the nature of merger.

(Unit- V, Prob.11)

(OR)

(b) Explain the various financing Forms of a merger **(Unit-V, Q.No. 14)**

FACULTY OF COMMERCE

M.Com II - Semester (CBCS) Examination

MODEL PAPER - III

ADVANCED MANAGERIAL ACCOUNTING

Time : 3 Hours] **[Max. Marks : 80**

Note: Answer all the questions from Part - A and Part - B

Each question carries 4 marks in Part - A and 12 marks in Part - B

PART - A (5 × 4 = 20 Marks)

[Short Answer Type]

ANSWERS

1. Objectives of Financial Statements **(Unit-I, SQA - 2)**
2. Define Responsibility Accounting. **(Unit-II, SQA - 7)**
3. Define Inflation Accounting **(Unit-III, SQA - 1)**
4. What is Economic Value Added (EVA) **(Unit-IV, SQA -7)**
5. Methods of purchase consideration **(Unit-V, SQA - 6)**

PART - B (5 × 12 = 60 Marks)

[Essay Answer Type]

Note: Answer the following questions in not more than FOUR pages each

6. (a) From the following two Balance Sheets as on 31st March 2013, and 2014, prepare statement showing flow of funds.

Particulars	31.3.2013 (Rs.)	31.3.2014 (Rs.)
Assets :		
Cash	30,000	47,000
Debtors	1,20,000	1,15,000
Stock in-trade	80,000	90,000
Plant	50,000	66,000
	2,80,000	3,18,000
Capital & Liabilities :		
Share Capital	2,00,000	2,50,000
Trade Creditors	70,000	45,000
Retained Earnings	10,000	23,000
	2,80,000	3,18,000

Additional Information :

(i) Net profit for the year was Rs. 25,000 was credited to share capital account.

(ii) The provision for depreciation against plant as on 31.3.2013 was Rs. 10,000/- and on 31.3.2014 was Rs. 12,000/-

(Unit-I, Prob. 22)

(OR)

(b) Explain briefly about DuPont Analysis. **(Unit-I, Q.No. 17)**

7. (a) From the following details analyze the relative performance of two independent responsibility centres.

Particulars	**A (Rs.)**	**B (Rs.)**
Sales	10,00,000	12,00,000
Divisional assets	15,00,000	14,00,000
Fixed cost	3,00,000	3,50,000
Variable cost	2,50,000	3,00,000
Capital employed	20,00,000	25,00,000
Cost of capital	8%	9%

(Unit-II, Prob.7)

(OR)

(b) Explain the advantages of Human Resources Accounting. **(Unit-II, Q.No. 3)**

8. (a) Explain briefly about Current Cost Accounting Method **(Unit-III, Q.No.5)**

(OR)

(b) Discuss briefly Measurement and Reporting of Gains and Losses. **(Unit-III, Q.No. 11)**

9. (a) Explain briefly about Financial Measures of Performance. **(Unit-IV, Q.No.1)**

(OR)

(b) Explain the Measurement of EVA. **(Unit-IV, Q.No.11)**

10. (a) What are the Organizational Ethical code of conduct and Management Accounting and Control System Design.

(Unit- V, Q.No. 7)

(OR)

(b) Jay Manufacturing Company is going to acquire OM Distributors. The shareholders of OM Distributors will get 0.9 shares of Jay manufacturing company for each share held by them. The merger is not expected toyTeld in economies of scale and operating synergy. The relevant data for the two corhpanies are as follows,

Particulars	Jay	OM
Net sales (` in lakhs)	600	500
Profit after tax (` in lakhs)	60	15
Number of shares (lakhs)	15	5
Earnings per share (`)	4	3
Market value per share (`)	45	30
Price-earning ratio	11.25	10

For the combined company (after merger) you need to calculate (a) EPS, (b) P/E ratio, (c) Market value per share, (d) Number of shares and (e) Total market capitalization. Also calculate the premium paid by Jay Co. to the shareholders of OM distributors.

(Unit-V, Prob.8)