

MANAGEMENT ACCOUNTING

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Dr.S.V.SOUNDARAVALLI,
M.Com., M.Phil., M.B.A., P.G.D.B.A., Ph.D., NET & SLET
**PG & RESEARCH DEPARTMENT OF
COMMERCE,
K.N.GOV.T. ARTS COLLEGE (W) –
AUTONOMOUS,
THANJAVUR.**

MAIL ID :

s.v.soundaravalli@gmail.com



MANAGEMENT ACCOUNTING

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TEXT BOOK:

Management Accounting – Dr.S.N.Maheswari

Management Accounting – R.S.N.Pillai & V. Bhagavathy

Management Accounting – Dr. Ramachandran & Dr. Srinivasan



MANAGEMENT ACCOUNTING

INTRODUCTION

- In order to overcome the limitations of financial accounting and to provide necessary information to management for taking vital decisions, a new system of accounting was developed, which is known as “**Management Accounting**”.
- The term ‘Management Accounting’ was first coined and used by the British Team of Accountants that visited the U.S.A. in 1950 under the auspices of Anglo-American Productivity Council.
- Since then, Management Accounting has grown into a full fledged subject and is looked upon as a subject distinct from traditional accounting in recent years.

Meaning of Management Accounting

- The term management accounting refers to accounting for management. In broader sense, it refers to *presentation of accounting information in such a way as to assist management in the creation of policy* to manage the day-to-day operations of an undertakings.
- It is a form of accounting which uses financial and cost data for the purpose of policy formulation, planning, control and decision making by the management.
- It can be variously described as Management Oriented Accounting or The Study of Management Aspect of Accounting for Management.

Definition of Management

Accounting

Following are some of the standard definitions of management accounting:

1. **Harper W.M.** “management accounting is concerned with management”.
2. **N.K. Bose** “management accounting is accounting for effective management”
3. **Robert N. Antony** “management accounting is concerned with accounting information that is useful to management”.
4. **I.C.M.A.** “management accounting is the presentation of accounting information in such a way as to assist management in the creation of policy and in the day-to-day operations of an undertaking”

Objectives of Management Accounting

- To assist the management in promoting efficiency.
- To prepare budgets covering all functions of a business. i.e. production, sales, research and finance.
- To analyze monetary and non-monetary transactions
- To compare the actual performance with plan for identifying deviations and their causes.
- To interpret financial statements to enable the management to formulate future policies.
- To submit to the management frequent intervals operating statements and short-term financial statements.
- To arrange for the systematic allocation of responsibilities.
- To provide a suitable organization for discharging the responsibilities.



Scope of Management Accounting

1. Financial Accounting:

Financial accounting provides historical information. It forms the basis for further planning and financial forecasting.

2. Cost Accounting:

Cost accounting provides various techniques of costing like marginal costing, standard costing, operation costing etc. these techniques play an important role in assisting the management.

Scope of Management Accounting (Contd.)

3. Budgetary Control:

This includes framing of budgets , comparison of actual performance with budgeted performance, computation of variances, finding out their causes and suggesting remedial measures.

4. Inventory Control:

It is concerned with control over inventory from the time it is received till its disposal.

Scope of Management Accounting (Contd.)

5. Reporting:

Reporting includes the preparation of monthly, quarterly, half-yearly income statements and other related reports such as cash flow and fund flow.

6. Statistical Methods:

Statistical tools like graphs, charts, index numbers etc. are used for presentation of information to various departments.

Scope of Management Accounting (Contd.)

7. Taxation:

It includes preparation of income statement, assessing the effect of tax on capital expenditure proposals and pricing.

8. Methods and Procedures:

They deal with organizational methods for cost reduction, procedures for improving the efficiency of accounting and office operations.

9. Internal Audit:

This refers to the establishment of a suitable internal audit system for internal control.

10. Office Services:

They cover a wide range of activities like data processing, filing, copying, printing, communication etc.

Functions of Management Accounting

Functions of management accounting include all activities concerned with collecting, processing, interpreting, and presenting information to the management. The main functions are:

1. Forecasting:

Making short-term and long-term forecasts and planning the future operations of the business.

2. Organising:

Organising the human and physical resources of the business. This is done by assigning specific responsibilities to different people.



Functions of Management Accounting (contd.)

3. Co-ordinating:

Providing different tools of co-ordination. Examples of such tools are budgeting, financial reporting, financial analysis, interpretation etc.

4. Controlling:

Controlling performance by using standard costing, variance analysis and budgetary control.

5. Analysis and Interpretation:

Analyzing and interpreting financial data in simple and purposeful manner.



Functions of Management Accounting (contd.)

6. Communicating:

Communicating the results of business activities through prompt and accurate reporting system.

7. Economic Appraisal:

Appraising of social and economic forces and government policies and interpreting their effect on business.

Distinguish Between Management Accounting and Financial Accounting

Basis	Financial Accounting	Management Accounting
1. Uses of Information	Financial accounting information is mainly used by investors, shareholders, creditors, Govt. authorities etc.	Management accounting information is mainly used by management and employees.
2. Method of Accounting	It is based on double entry system for recording business transactions.	There is no method used in management accounting.
3. Statutory Requirements	Financial accounting is obligatory to satisfy various statutory provisions like income tax act, companies act etc.	Management accounting is optional though its utility makes it highly desirable to adopt it.

Distinguish Between Management Accounting and Financial Accounting

Basis	Financial Accounting	Management Accounting
4. Analysis of Cost and Profit	It shows the profit or loss of the business as a whole. It does not show the cost and profit for individual products, process or departments.	It provides detailed information about the individual products etc.
5. Past and Future Data	It is concerned with transaction which have already taken place and which are historical in nature.	It concentrates on what is likely to happen in future though it may use past data for future needs.

Distinguish Between Management Accounting and Financial Accounting

Basis	Financial Accounting	Management Accounting
<p>6. Accounting Standards</p>	<p>Organization are required to prepare financial accounts according to accounting standards issued by the Accounting bodies.</p>	<p>There are no such accounting standards to be used by management accounting unlike in financial accounting.</p>
<p>7. Types of Statements Prepared</p>	<p>Financial accounting prepares general purpose statements which are used by external users.</p>	<p>In management accounting specific purpose reports are prepared . E.g. performance report of sales manager or any other department manager.</p>

Differences Between Management Accounting and Cost Accounting

Basis	Cost Accounting	Management Accounting
1. Scope	Cost accounting has a limited scope for providing information to managerial uses.	It has a broader scope as it provides information relating to cost accounting and financial accounting for managerial uses.
2. Statutory Requirements	In the modern system maintenance of cost accounting is becoming compulsory in some of the industries.	It is purely voluntary and useful to the management and there is no statutory requirements.
3. Employment of Techniques	It uses certain techniques like budgetary control, marginal costing, standard costing, variance analysis etc.	It uses all techniques use by cost accounting in addition to some additional techniques like ratio analysis, fund flow statement etc.

Differences Between Management Accounting and Cost Accounting

Basis	Cost Accounting	Management Accounting
4. Installation	Cost accounting system can be installed without management accounting.	Management accounting cannot be installed without a proper system of cost accounting.
5. Data Base	The information in cost accounting is derived from financial accounting records.	Information is derived from financial accounting, cost accounting and other reliable sources.
6. Organization Status	It is used generally at the middle and lower level of management.	It is used generally at a higher level in the organizational structure.

Differences Between Management Accounting and Cost Accounting

Basis	Cost Accounting	Management Accounting
7. Evolution	Cost accounting is evolved due to limitations of financial accounting.	Management accounting is evolved due to limitations of cost accounting.
8. Purpose	The purpose of cost accounting is to ascertain the cost and to ensure maximum profit.	Planning, controlling and decision making is the purpose of management accounting.

Advantages of Management Accounting

1. Helps in Decision Making:

It helps in decision making such as pricing, make or buy, acceptance of additional orders, selection of suitable product mix etc.

2. Helps in Planning:

Planning includes profit planning, preparation of budgets, programmes of capital investment and financing. It assist in planning through budgetary control, capital budgeting and cost-volume-profit analysis.

Advantages of Management Accounting (contd.)

3. Helps in Organizing:

Management accounting uses various tools and techniques like budgeting, responsibility accounting and standard costing. A sound organizational structure is developed to facilitate the use of these techniques.

4. Facilitate Communication:

Management is provided with up-to-date information through periodical reports. These reports assist the management in the evaluation of performance and control.

Advantages of Management Accounting (contd.)

5. Helps in Co-Ordinating:

The functional budgets (purchase, sales budget, overhead budget etc.) are integrated into one known as master budget. This facilitates clear definition of departmental goals and co-ordination of their activities.

6. Evaluation and Control of Performance:

It is a convenient tool for evaluation of performance. With the help of ratios and variance analysis, the efficiency of departments can be measured. It assist the management in the location of weak spots and in taking corrective actions.

Advantages of Management Accounting (contd.)

7. Interpretation of Financial Information:

Management accounting presents information in a simple and purposeful manner. This facilitates quick decision making.

8. Economic Appraisal:

Management accounting includes appraisal of social and economic forces and government policies. This appraisal helps the management in assessing their impact on the business.

Limitations of Management Accounting

1. Based on Accounting Information:

Management accounting derives information from past financial accounting and cost accounting records. If the past records are not reliable, it will affect the effectiveness of management accounting.

2. Wide Scope:

Management accounting has a very wide scope incorporating many disciplines. This results in inaccuracy and other practical difficulties.

Limitations of Management Accounting (contd.)

3. Costly:

The installation of management accounting system requires a large organization. Hence, it is very costly and only big concerns can afford to adopt it.

4. Evolutionary Stage:

Management accounting is still in its initial stages. Tools and techniques are not fully developed. This creates doubts about the utility of management accounting.

Limitations of Management Accounting (contd.)

5. Opposition of Change:

Introduction of management accounting system requires a number of changes in the organization structure, rules and regulations. This rearrangement is not generally liked by the people involved.

6. Intuitive Decisions:

Management accounting helps in scientific decision making. Yet, because of simplicity and personal factors the management has a tendency to arrive at decisions by intuition.



UNIT - II

FINANCIAL STATEMENT ANALYSIS



FINANCIAL STATEMENT ANALYSIS

Meaning of Financial Statement

- Financial statement refers to formal and original statements prepared by a business concern to disclose its financial information.
- The term financial statement has been widely used to represent two statements prepared by accountants at the end of specific period. They are;
 1. Profit and Loss Account or Income Statement
 2. Balance Sheet or Statement of Financial Position



Financial Statement Analysis

Introduction

- The financial statements are helpful to the executives to assess the implications of their decisions, evaluate and review their performance and implement corrective action.
- The financial statements are mere the presentation of statement of historical data only. It does not serve any purpose to any of the parties involved or connected with that business.
- The financial statements are useful and meaningful only when they are analyzed and interpreted.

Meaning of Analysis and Interpretation

Analysis and Interpretation :

- F.Wood in his work 'Business Accounting' has defined the term interpretation as follows, “ to interpret means to put the meaning of a statement in simple terms for the benefit of a person”.
- Analysis may be defined as a critical examination of financial transactions effected during a definite period of time.
- Kennedy and Muller said “ analysis and interpretation of financial statements are an attempt to determine the significance and meaning of financial statement data so that forecast may be made of the prospects for future earnings, ability to pay interest and debt maturities (both current and long term) and probability of a sound dividend policy”.

Meaning of Financial Statement Analysis

- Analysis and interpretation of financial statement is the most important step in accounting.
- To have a very clear understanding of the profitability and financial position of a company, the financial statements have to be analyzed and interpreted.
- It refers to the treatment of information contained in the financial statements in a way so as to afford a full diagnosis of the profitability and the financial position of the firm.

Definition of Financial Statement Analysis

According to Myers “ Financial statement Analysis is largely a study of relationship among various financial factors in a business as disclosed by a single set of statements and a study of the trend of these factors as shown in a series of statements.”

Objectives of Financial Statement Analysis

The following are the main objectives of financial statement analysis;

- To estimate the earning capacity of the concern.
- To judge the financial position and financial performance of the concern.
- To determine the debt capacity of the concern.
- To decide about the future prospects of the concern.

Methods, Tools or Techniques of Financial Analysis

Management accounting uses a number of tools and techniques to help management in achieving its objectives. The techniques are as follows;

- Analysis of financial statements
- Ratio Analysis
- Fund Flow statement
- Cash Flow statement
- Marginal Costing
- Budgetary Control



Meaning of Ratio

The relationship between two figures expressed mathematically is called a 'Ratio'. It is a numerical relationship between two numbers which are related in some manner.



Ratio Analysis

Meaning of Ratio Analysis:

- An analysis of financial statements based on ratios is known as ratio analysis.
- It is a technique of analysis and interpretation of financial statement.
- Ratio analysis is helpful to management and outsiders to diagnose the financial position of a business concern.
- It helps in measuring the profitability, solvency and activity of a firm.



Ratio Analysis (contd.)

- It is the process of determination and interpretation of various ratios for helping in decision making.
- It also includes comparison and interpretation of ratios and using them as basis for the future projections.
- **Ratio analysis involves three steps.**
 1. Calculation of appropriate ratios from the financial statements.
 2. Comparison of the ratios with standards or with ratios of the past periods. Comparison can also be made with the ratios of other firms.
 3. Interpretation of ratios.



Uses of Ratio Analysis

- It simplifies the understanding of financial statements.
- They establish the interrelationship between the various financial figures.
- They evaluate the important aspects of business like liquidity, solvency and profitability.
- It provides relevant data for comparison of the performance of the different departments.



Uses of Ratio Analysis(Contd.)

- They also help in establishing standard costing and budgetary control.
- It provides necessary information to insiders and outsiders.
- It is a useful instrument of management control particularly in the area of sales and costs.



Classification of Ratios

Accounting ratios can be classified in a number of ways. Important among them are stated below;

I. Classification according to statement

1. Profit and loss account ratios – Ratios calculated on the basis of the items of the profit and loss account only. E.g. gross profit ratio, net profit ratio etc.

2. Balance sheet ratios – Ratios are calculated on the basis of the figures of the balance sheet only. E.g. current ratio, quick ratio, proprietary ratio etc.

3. Composite ratios - Ratios based on figures of profit and loss account as well as the balance sheet. E.g. debtors and creditors turnover ratio, return on capital employed, etc.



Classification of Ratios(contd.)

II. Classification according to function

1. **Solvency ratios** – Short-term and long-term solvency ratios. E.g. current ratio, debt equity ratio.
2. **Profitability Ratios** - Gross profit ratio, net profit ratio, operating ratio, return on capital employed.
3. **Turnover or Activity Ratios** – e.g. stock turnover ratio, debtors turnover ratio, creditors turnover ratio.
4. **Capital Structure Ratio**- eg. Capital gearing ratio.



Advantages of Ratio Analysis

- Ratio analysis simplifies the understanding of financial statement.
- They establish the interrelationship between the various financial figures.
- They evaluate the important aspects of business like liquidity, solvency, and profitability.
- Ratios are a useful instrument of management control particularly in the areas of sales and costs.
- It provides the relevant data for comparison of the performance of the different departments of the same firm.
- They also help in establishing standard costing and budgetary control.
- It provides necessary information to insiders and outsiders.



Limitations of Ratio Analysis

- The accounting figures used to calculate ratios are not authentic.
- They are non-comparable.
- Financial analysis based on accounting ratios will give misleading results.
- Ratios are not adequate for judging the financial of the business and cannot be taken as final.
- They give just a fraction of information needed for judging the financial soundness of the firm.
- There is a danger of window dressing in ratio analysis.
- They are quantitative in nature but not qualitative.
- The success of ratio analysis depends upon the proper diagnosis.
- Ratios are computed from historical data and cannot be used for forecasting.

Ratio Analysis - Formulae

I . Short-term Solvency Ratio / Liquidity Ratio

1. current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

2. Liquid Ratio = $\frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$

Liquid Assets = Current Assets – (Stock + Prepaid Expenses)

Liquid Liabilities = Current Liabilities – Bank Over Draft

3. Absolute Liquidity Ratio

$$= \frac{\text{Cash and Cash Balances} + \text{Marketable Securities}}{\text{Quick Liabilities}}$$

(This ratio is also called cash position ratio or cash ratio or super quick ratio)

(Here Quick liabilities represents current liabilities – (Bank Overdraft + cash credit))

Formulae (contd.)

II. Long-term Solvency Ratio or Solvency Ratio

1. Debt Equity Ratio = $\frac{\text{Debt}}{\text{Equity}}$
(OR)
= $\frac{\text{Outsiders' funds}}{\text{Shareholders' funds}}$
2. Proprietary Ratio = $\frac{\text{Shareholders' funds}}{\text{Total tangible assets}}$
3. Capital gearing Ratio
= $\frac{\text{Pref. Share Capital} + \text{Long term debt bearing fixed interest}}{\text{Equity share capital} + \text{Reserves and surplus}}$



Formulae (contd.)

III. Over all Solvency

Solvency Ratio (Total Debt Ratio (or) Debt Ratio)

$$= \frac{\text{Total Assets}}{\text{Total Tangible Assets}}$$



Formulae (contd.)

IV. Profitability Ratio

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

2. Net Profit Ratio = $\frac{\text{Net Profit} \times 100}{\text{Net Sales}}$

3. Operating Profit Ratio = $\frac{\text{Operating Profit} \times 100}{\text{Net Sales}}$

4. Operating Ratio = $\frac{\text{Cost of goods sold} + \text{Operating Expenses} \times 100}{\text{Net Sales}}$

Formulae (contd.)

5. Return on capital employed

$$= \frac{\text{Net profit} + \text{Interest} + \text{Taxes}}{\text{Average Capital Employed}} \times 100$$

6. Pay Out Ratio = $\frac{\text{Equity Dividend}}{\text{Net Profit after tax and pref. dividend}} \times 100$

7. Retained Earning Ratio

$$= \frac{\text{Retained Earnings}}{\text{Net Profit after Tax and Pref. dividend}} \times 100$$



Formulae (contd.)

8. Return on shareholders' funds

$$= \frac{\text{Net Profit after interest and tax}}{\text{Shareholders' Funds}} \times 100$$

9. Return on Total Assets

$$= \frac{\text{Net Profit after tax + Interest}}{\text{Total Assets - Fictitious Assets}} \times 100$$

Formulae (contd.)

V. Activity Ratio or Turnover Ratio

1. Inventory Turnover Ratio (Stock Turnover or stock velocity)

$$= \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

2. Inventory Turnover Period

$$= \frac{\text{Days / Months in the year}}{\text{Inventory Turnover Ratio}}$$



Formulae (contd.)

3. Debtors Turnover Ratio (Debtors Velocity)

= Net Credit Sales

Average Receivables

4. Debtors Collection Period(Average Collection Period)

= Days / Months in the year

Debtors Turnover Ratio



Formulae (contd.)

5. Creditors Turnover Ratio (Creditors Velocity)

= Net Credit Purchases

Average Accounts Payables

6. Average Payment Period(Creditors Payment Period)

= Days / Months in the year

Creditors Turnover Ratio



Formulae (contd.)

7. Working Capital Turnover Ratio

$$= \frac{\text{Cost of Sales (or) Sales}}{\text{Net Working Capital}}$$

8. Fixed Assets Turnover Ratio

$$= \frac{\text{Cost of Goods Sold or Sales}}{\text{Net Fixed Assets}}$$

9. Capital Turnover Ratio

$$= \frac{\text{Cost of Goods Sold or Sales}}{\text{Capital Employed}}$$

Formulae (contd.)

VI. Other Ratio

1. Earnings per share (E.P.S)

$$= \frac{\text{Net Profit after Tax and Preference Dividend}}{\text{No. of Equity Shares}}$$

2. Dividend Yield Ratio

$$= \frac{\text{Dividend Per Share}}{\text{Market Price Per Share}} \times 100$$

RATIO ANALYSIS - SUMS

1. M/S Asoka Ltd. Has submitted the following Balance sheet as on 30th June 2020. Find the current ratio and quick ratio and comment on the financial condition of the company.

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
Equity Capital	1,50,000	Fixed Assets	1,62,000
Revenue Reserves	30,000	<u>Current Assets:</u>	
8% Debentures	20,000	Stock	22,000
<u>Current Liabilities:</u>		Debtors	51,000
Sundry Creditors	49,000	Bills Receivable	2,000
		Bank	12,000
	2,49,000		2,49,000

Solution – sum 1.

Current Ratio	=	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Current Assets	=	Stock+Debtors+BillsReceivable+Bank
	=	22,000+51,000+2,000+12,000 = 87,000
Current Liabilities	=	49,000
Current Ratio	=	87,000/49,000
Current Ratio	=	1.79 : 1
Current Ratio	=	$\frac{\text{Quick Assets}}{\text{Quick Liabilities}}$
Quick Assets	=	Current Assets – Stock
	=	87,000 - 22,000 = Rs.65,000
Current liabilities is treated as quick liabilities as there is no Over draft.		
Quick Ratio	=	65,000/49,000
Quick Ratio	=	1.32 : 1



Comment

- Judging by current ratio and quick ratio, the liquidity position of M/S Asoka Ltd. Is satisfactory. The current ratio of the company is slightly less than the ideal ratio 2:1.
- The quick ratio of the company is 1.32:1 while the ideal ratio is 1:1. As the ratio is higher, the company's liquidity position is better.
- This indicates a very comfortable position for creditors. In short, the short- term solvency position can be regarded as good.

Long Term Solvency Ratio – Sum 2

From the following particulars pertaining to assets and liabilities of a company calculate 1. current ratio 2. Liquid Ratio 3. Proprietary Ratio 4. Debt Equity Ratio 5. Capital Gearing Ratio.

Liabilities	Amount (Rs.)	Assets	Amount (Rs.)
5000 Equity Shares of Rs.100 each	5,00,000	Land and Building	6,00,000
2000 8% Pref. Shares of Rs.100 each	2,00,000	Plant and Machinery	5,00,000
4000 9% Debentures of Rs.100 each	4,00,000	Stock	2,40,000
Reserves	3,00,000	Debtors	2,00,000
Creditors	1,50,000	Cash and Bank	55,000
Bank Overdraft	50,000	Pre-paid Expenses	5,000
	16,00,000		16,00,000

Solution For Sum - 2

$$1. \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\begin{aligned} \text{Current Assets} &= \text{Stock} + \text{Debtors} + \text{Cash \& Bank} + \text{Prepaid Expenses} \\ &= 2,40,000 + 2,00,000 + 55,000 + 5,000 \\ &= \text{Rs. } 5,00,000 \end{aligned}$$

$$\begin{aligned} \text{Current Liabilities} &= \text{Creditors} + \text{Bank Overdraft} \\ &= 1,50,000 + 50,000 \\ &= \text{Rs. } 2,00,000 \end{aligned}$$

$$\text{Current Ratio} = \text{Rs. } 5,00,000 / \text{Rs. } 2,00,000 = 2.5 : 1$$

$$\underline{\text{Current Ratio} = 2.5 : 1}$$

Solution For Sum – 2(contd.)

$$2. \text{ Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

$$\begin{aligned} \text{Liquid Assets} &= \text{Current Assets} - (\text{Stock} + \text{Prepaid Expenses}) \\ &= \text{Rs. } 5,00,000 - (2,40,000 + 5,000) \\ &= \text{Rs. } 5,00,000 - 2,45,000 = \text{Rs. } 2,55,000 \end{aligned}$$

$$\text{Liquid Assets} = \text{Rs. } 2,55,000$$

$$\begin{aligned} \text{Liquid Liabilities} &= \text{Current Liabilities} - \text{Bank Overdraft} \\ &= \text{Rs. } 2,00,000 - \text{Rs. } 50,000 \\ &= \text{Rs. } 1,50,000 \end{aligned}$$

$$\text{Liquid Ratio} = 2,55,000 / 1,50,000 = 1.7 : 1$$

$$\underline{\text{Liquid Ratio}} = \underline{1.7 : 1}$$

Solution For Sum – 2(contd.)

$$3. \text{ Proprietary Ratio} = \frac{\text{Proprietors' Funds}}{\text{Total Tangible Assets}}$$

Proprietors' Funds = Equity share capital+ Preference share capital + Reserves and Surplus.

$$= 5,00,000+2,00,000+3,00,000$$

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

Total Tangible Assets = Rs. 16,00,000

$$\text{Proprietary Ratio} = 10,00,000/16,00,000 = 0.625 : 1$$

Proprietary Ratio = 0.625 : 1

Solution For Sum – 2(contd.)

$$4. \text{ Debt-Equity Ratio} = \frac{\text{External Equities or Debt}}{\text{Internal Equities or Equity}}$$

$$\text{External Equities or Debt} = \text{Debenture} + \text{Current Liabilities}$$

$$= 4,00,000 + 2,00,000$$

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

$$\text{Internal Equities or Equity} = \text{Proprietors' funds}$$

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

$$\text{Debt-Equity Ratio} = 6,00,000/10,00,000 = 0.6 : 1$$

$$\underline{\text{Debt-Equity Ratio}} = \underline{0.6 : 1}$$

Solution For Sum – 2(contd.)

5. Capital Gearing Ratio:

$$= \frac{\text{Preference capital plus Long term debt}}{\text{Equity share capital + Reserves and Surplus}}$$

$$= \frac{2,00,000 + 4,00,000}{5,00,000 + 3,00,000}$$

$$= \frac{6,00,000}{8,00,000} = 0.75 : 1$$

$$= \frac{6,00,000}{8,00,000} = 0.75 : 1$$

$$8,00,000$$

Capital Gearing Ratio = 0.75 : 1

Sum : 3 . Following is the Balance Sheet of Y Limited.

Liabilities	Amount	Assets	Amount
Equity Share Capital	1,00,000	Cash in hand	2,000
6% Preference Share capital	1,00,000	Cash at bank	10,000
7% Debentures -10 years	40,000	Bills Receivable	30,000
8% Public Debt – 5 years	20,000	Investment (short term)	20,000
Bank Overdraft	40,000	Debtors	70,000
Creditors	60,000	Stock	40,000
Outstanding Creditors	7,000	Furniture	30,000
Proposed Dividend	10,000	Machinery	1,00,000
Reserves	1,50,000	Land & Building	2,20,000
Provision for Taxation	20,000	Goodwill	35,000
Profit and Loss a/c	20,000	Preliminary Expenses	10,000
	5,67,000		5,67,000

During the year provision for taxation was Rs. 20,000. Dividend proposed was Rs.10,000.

Profit carried forward from the last year was Rs.15,000. You are required to calculate (a) Short term solvency ratios and (b) long term solvency ratio.

Solution For Sum – 3

(a) Short – Term Solvency Ratio:

(i) Current Ratio = Current Assets

Current Liabilities

$$= \frac{2000+10000+30000+20000+70000+40000}{40000+60000+7000+10000+20000}$$

$$= \frac{172,000}{137,000} = 1.3 : 1$$

$$= 172,000/137,000 = 1.3 : 1$$

Current Ratio = 1.3 : 1

Solution For Sum – 3 (contd.)

$$(ii) \text{ Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\begin{aligned} \text{Quick Assets} &= \text{Current Assets} - \text{Stock} \\ &= 172,000 - 40,000 \\ &= 1,32,000 \end{aligned}$$

$$\begin{aligned} \text{Quick Liabilities} &= \text{Current Liabilities} - \text{Bank overdraft} \\ &= 1,37,000 - 40,000 \\ &= 97,000 \end{aligned}$$

$$\text{Quick Ratio} = 1,32,000 / 97,000 = 1.35 : 1$$

$$\underline{\text{Quick Ratio} = 1.35 : 1}$$

Solution For Sum – 3 (contd.)

(b) Long – Term Solvency Ratio:

(iii) Proprietary Ratio = $\frac{\text{Proprietors' Funds}}{\text{Total Tangible Assets}}$

$$= \frac{100,000+100,000+150,000+20,000}{5,67,000 - 35,000 - 10,000}$$

$$= \frac{3,70,000}{5,22,000} = 0.71 : 1$$

$$= 3,70,000 / 5,22,000 = 0.71 : 1$$

Proprietary Ratio = 0.71 : 1

Solution For Sum – 3 (contd.)

(iv) Capital Gearing Ratio:

$$= \frac{\text{Preference capital plus Long term debt}}{\text{Equity share capital + Reserves and Surplus}}$$

$$= \frac{1,00,000+40,000+20,000}{1,00,000+1,50,000+20,000}$$

$$= \frac{1,60,000}{2,70,000} = 0.59 : 1$$

$$= 1,60,000/2,70,000 = 0.59 : 1$$

$$\underline{\text{Capital Gearing Ratio = 0.59 : 1}}$$

Solution For Sum – 3 (contd.)

(v) Debt-Equity Ratio = $\frac{\text{External Equities or Debt}}{\text{Internal Equities or Equity}}$

Debt = Long term debt + current liabilities

$$= 60,000 + 1,37,000 = 1,97,000$$

Equity = Proprietors' funds

$$= 3,70,000$$

Debt equity ratio = $1,97,000 / 3,70,000 = 0.53 : 1$

Debt Equity Ratio = 0.53 : 1

Gross Profit Ratio: sum - 4

4. Calculate gross profit ratio

	Rs.		Rs.
Sales	2,20,000	Purchases	1,75,000
Sales Return	20,000	Purchase return	15,000
Opening Stock	30,000	Closing stock	40,000

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

$$\text{Gross Profit} = \text{Sales} - \text{Cost of Goods sold}$$

$$\text{Net Sales} = \text{Sales} - \text{Sales Return}$$

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

$$\text{Net sales} = 2,00,000$$

$$\text{Net Purchase} = \text{Purchases} - \text{purchases Return}$$

$$= 1,75,000 - 15,000 = 1,60,000$$

$$\text{Net purchases} = 1,60,000$$

Gross Profit Ratio: sum - 4

**Cost of goods sold = opening stock + net purchases
– closing stock**

$$= 30,000 + 1,60,000 - 40,000$$

$$= 1,90,000 - 40,000$$

$$= 1,50,000$$

Cost of goods sold = 1,50,000

Gross Profit = Sales – Cost of goods sold

$$= 2,00,000 - 1,50,000 = 50,000$$

Gross Profit = 50,000

Gross profit ratio = $\frac{50,000}{2,00,000} \times 100$

$$= 25\%$$

$$= 25\%$$

Gross profit ratio = 25 %

Operating Profit Ratio: sum - 5

5. Calculate operating profit ratio and net profit ratio.

	Rs.		Rs.
Sales	2,00,000	Administrative Expenses	20,000
Gross profit	70,000	Income from investment	22,000
Selling Expenses	10,000	Loss due to fire	12,000

Solution For Sum – 5

$$(i) \text{ Operating profit ratio} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100$$

$$\text{Operating profit} = \text{Gross profit} - \text{Operating Expenses}$$

$$\text{Operating profit} = 70,000 - 10,000 - 20,000$$

$$= 70,000 - 30,000 = 40,000$$

$$\text{Operating profit ratio} = \frac{40,000}{2,00,000} \times 100$$

$$= 20\%$$

$$\underline{\text{Operating profit ratio}} = 20\%$$

(Note : selling expenses and administrative expenses are operating expenses.)

Solution For Sum – 5 (contd.)

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

Particulars	Rs.	Rs.
Gross profit		70,000
Add : Income from investment		22,000
		92,000
Less: Selling expenses	10,000	
Administrative expenses	20,000	
Loss due to fire	12,000	42,000
NET PROFIT		50,000

Solution For Sum – 5 (contd.)

Net Profit Ratio = Net Profit X 100

Sales

= 50,000 X 100

2,00,000

= 25%

Net profit ratio = 25 %

Profitability Ratio: sum -6

6. Calculate 1. Gross profit ratio, 2. Operating ratio, 3. Operating profit ratio, 4. Net profit ratio.

	Rs.		Rs.
Sales	21,000	Income from investments	200
Sales return	1000	Administration expenses	1,300
Cost of sales	16,400	Selling expenses	700
Interest expenses (non-operating)	100	Depreciation	200

Income statement

Particulars	Rs.	Rs.
Sales		21,000
Less : Sales Return		1,000
NET SALES		20,000
Less : Cost of sales		16,400
GROSS PROFIT		3,600
Less : Operating Expenses:		
Administrative Expenses	1,300	
Selling Expense	700	
Depreciation	200	2,200
OPERATING PROFIT		1,400
Add : Non-operating expenses: Income from investment		200
		1,600
Less : Non - operating expenses		100
NET PROFIT		1,500

Solution for sum No. 6

$$\begin{aligned} 1. \text{ Gross Profit Ratio} &= \frac{\text{Gross Profit}}{\text{Sales}} \times 100 \\ &= \frac{3,600}{20,000} \times 100 = 18\% \end{aligned}$$

$$\text{Gross Profit Ratio} = 18\%$$

$$\begin{aligned} 2. \text{ Operating Ratio} &= \frac{\text{Cost of goods sold} + \text{operating expenses}}{\text{Sales}} \times 100 \\ &= \frac{16,400 + 2,200}{20,000} \times 100 = 93\% \end{aligned}$$

$$\text{Operating Ratio} = 93\%$$

$$\begin{aligned} 3. \text{ Operating Profit Ratio} &= \frac{\text{Operating Profit}}{\text{Sales}} \times 100 \\ &= \frac{1,400}{20,000} \times 100 = 7\% \end{aligned}$$

$$\text{Operating Profit Ratio} = 7\%$$

$$\begin{aligned} 4. \text{ Net Profit Ratio} &= \frac{\text{Net Profit}}{\text{Sales}} \times 100 \\ &= \frac{1,500}{20,000} \times 100 = 7.5\% \end{aligned}$$

$$\text{Net Profit Ratio} = 7.5\%$$

Sum No. 7. The following figures relate to Nirma Traders Ltd. For the year Ended 31st March 2000.

	Rs.		Rs.
To Opening stock	75,000	By Sales	5,20,000
To Purchases	3,25,000	Less: Sales Return	20,000
To Gross Profit	2,00,000		5,00,000
		By Closing Stock	1,00,000
	6,00,000		6,00,000
To Operating Expenses:		By Gross Profit	2,00,000
Administration - 40000		By Non-operating income:	
Selling - <u>25000</u>	65,000	Dividend - 9,000	
		Profit on sale of share- <u>11000</u>	20,000
To Non-operating expenses			
Loss on sale of assets	5,000		
To Net Profit	1,50,000		
	2,20,000		2,20,000

Balance Sheet as on 31st March 2000

liabilities	Rs.	Assets	Rs.
2000 Equity shares of Rs.100 each	2,00,000	Land and Building	1,50,000
Reserves	90,000	Plant and Machinery	80,000
Current Liabilities	1,50,000	Stock	1,00,000
Profit and Loss a/c	60,000	Debtors	1,40,000
		Cash and Bank	30,000
	5,00,000		5,00,000

Calculate (1) Gross profit ratio (2) Operating ratio (3) Operating Profit ratio (4) Net profit Ratio (5) Expenses ratio (6) Stock turnover ratio (7) Return on total resources (8) Turnover Of fixed assets (9) Turnover to total assets.

Solution – Sum No. : 7

$$\begin{aligned} 1. \text{ Gross Profit Ratio} &= \frac{\text{Gross Profit}}{\text{Sales}} \times 100 \\ &= \frac{2,00,000}{5,00,000} \times 100 = 40\% \end{aligned}$$

$$\text{Gross Profit Ratio} = 40\%$$

$$2. \text{ Operating Ratio} = \frac{\text{Cost of goods sold} + \text{operating expenses}}{\text{Sales}} \times 100$$

$$\begin{aligned} \text{Cost of goods sold} &= \text{opening stock} + \text{purchases} - \text{closing stock} \\ &= 75,000 + 3,25,000 - 1,00,000 \\ &= \text{Rs. } 3,00,000 \end{aligned}$$

$$\text{Operating Ratio} = \frac{3,00,000 + 25,000}{5,00,000} \times 100 = 73\%$$

$$\text{Operating Ratio} = 73\%$$

$$3. \text{ Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100$$

$$\begin{aligned} \text{Operating profit} &= \text{Gross profit} - \text{operating expenses} \\ &= 2,00,000 - 65,000 = 1,35,000 \end{aligned}$$

$$\text{Operating profit} = 1,35,000$$

$$\text{Operating profit ratio} = \frac{1,35,000}{5,00,000} \times 100 = 27\%$$

$$\text{Operating Profit Ratio} = 27\%$$

$$\begin{aligned}
 4. \text{ Net Profit Ratio} &= \frac{\text{Net Profit}}{\text{Sales}} \times 100 \\
 &= \frac{1,50,000}{5,00,000} \times 100 = 30\%
 \end{aligned}$$

$$\text{Net Profit Ratio} = 30\%$$

5. Expenses Ratio:

$$\begin{aligned}
 (a) \text{ Administrative expenses ratio} &= \frac{\text{Administrative Expenses}}{\text{Sales}} \times 100 \\
 &= \frac{40,000}{5,00,000} \times 100 = 8\%
 \end{aligned}$$

$$\text{Administrative Ratio} = 8\%$$

$$(b) \text{ Selling \& Distribution Expenses Ratio} = \frac{\text{Selling \& Distribution Expenses}}{\text{Sales}} \times 100$$

$$= \frac{25,000}{5,00,000} \times 100 = 5\%$$

$$\text{Selling \& Distribution Expenses Ratio} = 5\%$$

$$6. \text{ Stock Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

$$= \frac{75,000 + 100,000}{2} = 87,500$$

$$\text{Average Stock} = 87,500$$

$$\begin{aligned} \text{Stock Turnover Ratio} &= \frac{\text{Cost of goods sold}}{\text{Average Stock}} \\ &= \frac{3,00,000}{87,500} = 3.43 \text{ times} \end{aligned}$$

Stock Turnover Ratio = 3.43 times.

$$\begin{aligned} 7. \text{ Return on Total Resources} &= \frac{\text{Net Profit}}{\text{Total Assets}} \times 100 \\ &= \frac{1,50,000}{5,00,000} \times 100 = 30\% \end{aligned}$$

Return on Total Resources = 30%

$$\begin{aligned} 8. \text{ Turnover of Fixed Assets} &= \frac{\text{Sales}}{\text{Fixed Assets}} \times 100 \\ &= \frac{5,00,000}{2,30,000} = 2.17 : 1 \end{aligned}$$

Turnover of Fixed Assets = 2.17 : 1

$$\begin{aligned} 9. \text{ Turnover to Total Assets} &= \frac{\text{Sales}}{\text{Total Assets}} \\ &= 5,00,000 / 5,00,000 = 1:1 \end{aligned}$$

Turnover to Total Assets 1 : 1

Sum No. - 8

Calculate the Earning per share (EPS) from the following data.

Net profit before tax Rs. 50,000 ; Tax Rate 50%

10% Preference Share Capital (Rs. 10 each) Rs. 50,000

Equity Share Capital (Rs. 10 each) Rs. 50,000

Solution – Sum No. : 8

Earning Per Share = $\frac{\text{Net profit After Tax} - \text{Preference Dividend}}{\text{Number of Equity Shares}}$

Net profit after tax = Profit before tax – tax

$$= \text{Rs. } 50,000 - \text{Rs. } 25,000 \text{ (} 50/100 \times 50,000 \text{)}$$

$$= \text{Rs. } 25,000$$

Preference Dividend = 10% on 50,000 = Rs. 5000

Number of Equity Share = Rs.50,000/Rs.10 = 5000 Shares

Earning Per Share = $\frac{25,000 - 5000}{5000}$

$$= \frac{20,000}{5000} = \text{Rs. } 4$$

$$= \text{Rs. } 4$$

Earning Per Share = Rs.4

Sum No. - 9

Compute the pay out ratio and retained earnings ratio from the following data.

Net Profit - Rs. 10,000

Provision for tax - Rs. 5,000

No. of Equity Shares - 3,000

Preference Dividend - Rs.2,000

Dividend per equity shares = 40 paise.

Solution Sum No. : 9

(i) Pay Out Ratio = $\frac{\text{Dividend Per Share or DPS}}{\text{Earning Per Share or EPS}}$

Earning Per Share = $\frac{\text{Net profit After Tax - Preference Dividend}}{\text{Number of Equity Shares}}$

$$\text{EPS} = \frac{10,000 - 5,000 - 2,000}{3,000} = 3,000/3,000 = \text{Re. 1}$$

Dividend Per Share (DPS) = .40 paise or 0.40

Pay out ratio = $\text{DPS/EPS} = 0.40/1 = 0.40$ or 40%

Pay out ratio = 0.40 or 40%

Solution Sum No. : 9

$$\begin{aligned} \text{(ii) Retained Earning Ratio} &= \frac{\text{Retained Earnings}}{\text{Net profit} - \text{Tax} - \text{Preference Dividend}} \\ \text{Retained Earnings} &= \text{Net Profit} - \text{Tax} - \text{Dividend} - \text{Equity Dividend} \\ &= 10,000 - 5,000 - 2,000 - 1,200 \\ &= 1,800 \end{aligned}$$

$$\text{Retained Earnings} = 1,800$$

$$\begin{aligned} \text{Retained Earnings Ratio} &= \frac{1,800}{10,000 - 5,000 - 2,000} \\ &= 1,800 / 3,000 = 0.60 \text{ or } 60\% \end{aligned}$$

$$\underline{\text{Retained Earnings Ratio} = 0.60 \text{ or } 60\%}$$

Alternatively,

$$\begin{aligned} \text{Retained Earnings Ratio} &= 1 - \text{Payout Ratio} \\ &= 1 - 0.40 \\ &= 0.60 \text{ or } 60\% \end{aligned}$$

(Note : Equity Dividend = 0.40 X 3000 shares = Rs. 1,200)

ACTIVITY OR TURNOVER RATIO

SUM No. 10

Pankajam Ltd. Sells goods on cash as well as on credit basis. The following Information is extracted from their books of accounts for 2000.

particulars	Rs.
Total Sales	1,00,000
Cash sales (included in the above)	20,000
Sales return	7,000
Total debtors for sales as on 31-12-2000	9,000
Bills receivables as on 31-12-2000	2,000
Provision for doubtful debts	1,000
Trade creditors as on 31-12-2000	10,000

You are required to calculate

- (1) Debtors or Receivable Turnover Ratio;**
- (2) The average collection period.**

SOLUTION : SUM No. 10

(1) Debtors or Receivables Turnover Ratio = $\frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}$

Calculation of Credit Sales :

particulars	Rs.
Total Sales	1,00,000
Less: Cash Sales	20,000
	80,000
Less: Sales Return	7,000
CREDIT SALES	73,000

Average Accounts Receivables:

= $\frac{(\text{Opening Debtors} + \text{Bills Receivable}) + (\text{Closing Debtors} + \text{Bills Receivable})}{2}$

(Note : Since opening items are not given, closing debtors and bills receivables are to be Taken as average accounts receivables.)

Average Accounts Receivable = $9,000 + 2,000 = \text{Rs.}11,000$

Debtors turnover ratio = $73,000 / 11,000 = 6.636$ times

Debtors turnover ratio = 6.636 times

SOLUTION : SUM No. 10

(2) Average Collection Period

**= Average Debtors + Bills Receivables X Days/Months in
the year**

$$\begin{aligned} \text{Average Collection Period in days} &= \frac{\text{Credit Sales}}{73,000} \times 365 \\ &= 55 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Average Collection Period in months} &= \frac{9,000 + 2,000}{73,000} \times 12 \\ &= 1.8 \text{ months} \end{aligned}$$

Average Collection Period = 1.8 months

Alternatively,

**Average Collection Period = Days / Months in the year
Debtors Turnover Ratio**

$$\text{Average Collection Period in days} = 365 / 6.636 = 55 \text{ days}$$

$$\text{Average Collection Period in Months} = 12 / 6.636 = 1.8 \text{ months}$$

SUM No. 11

A trader purchases goods both on cash as well as on credit terms. The following Particulars are obtained from the books:

particulars	Rs.
Total purchases (gross)	2,00,000
Cash purchases	20,000
Purchase return	34,000
Creditors at the end	70,000
Bills payable at the end	40,000

You are required to

- (1) Calculate creditors turnover ratio
- (2) Calculate average payment period

SOLUTION : SUM No. 11

$$1) \text{ Creditors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Payables}}$$

Particulars	Rs.
Total purchases	2,00,000
Less: Cash Purchases	20,000
	1,80,000
Less: Purchase returns	34,000
NET CREDIT PURCHASES	1,46,000

Average Accounts Payables:

$$= \frac{(\text{Opening Creditors} + \text{Bills Payable}) + (\text{Closing Creditors} + \text{Bills Payable})}{2}$$

(Note :Since opening items are not given, closing creditors and bills payables are to be Taken as average accounts payables.)

$$\text{Average Accounts Payable} = 70,000 + 40,000 = \text{Rs.1,10,000}$$

$$\text{Creditors turnover ratio} = 1,46,000 / 1,10,000 = 1.327 \text{ times}$$

$$\underline{\text{Creditors turnover ratio} = 1.327 \text{ times}}$$

SOLUTION : SUM No. 11

(2) Average Payment Period

$$= \frac{\text{Average Creditors + Bills Payables}}{\text{Credit Purchases}} \times \text{Days/Months in the year}$$

$$\begin{aligned} \text{Average Payment Period in days} &= \frac{1,10,000}{1,46,000} \times 365 \\ &= 275 \text{ days} \end{aligned}$$

$$\begin{aligned} \text{Average Payment Period in months} &= \frac{1,10,000}{1,46,000} \times 12 \\ &= 9.04 \text{ months} \end{aligned}$$

$$\underline{\text{Average Collection Period}} = 9.04 \text{ months}$$

Alternatively,

$$\text{Average Payment Period} = \frac{\text{Days / Months in the year}}{\text{Creditors Turnover Ratio}}$$

$$\text{Average Payment Period in days} = 365 / 1.327 = 275 \text{ days}$$

$$\text{Average Payment Period in Months} = 12 / 1.327 = 9.04 \text{ months}$$

SUM No. 12. Ganesh Bros. Sells goods on cash and credit terms and also purchased goods on cash and credit terms. The following particulars are obtained from their books. Calculate activity ratios (turnover ratios).

Particulars	Rs.
Total sales	5,00,000
Cash sales	40,000
Sales return	20,000
Debtors at the end	80,000
Bills receivables at the end	20,000
Reserves for Doubtful debts	1,000
Total purchases	3,00,000
Cash purchases	50,000
Purchase return	10,000
Creditors at the end	60,000
Bills payable at the end	20,000
Opening stock	50,000
Closing stock	40,000
Gross Profit - Rs.100,000 and Fixed Assets –Rs.10,00,000	

SOLUTION : SUM No. 12

$$(1) \text{ Stock Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}}$$

$$\begin{aligned} \text{Cost of sales} &= \text{Sales} - \text{Gross Profit} \\ &= 4,80,000 - 1,00,000 \\ &= 3,80,000 \end{aligned}$$

$$\begin{aligned} \text{Net sales} &= \text{Sales} - \text{sales return} \\ &= 5,00,000 - 20,000 \\ &= 4,80,000 \end{aligned}$$

$$\begin{aligned} \text{Average Stock} &= \text{Opening Stock} + \text{Closing Stock} / 2 \\ &= 50,000 + 40,000 / 2 = 45,000 \end{aligned}$$

$$\text{Stock Turnover Ratio} = 3,80,000 / 45,000 = 8.44 \text{ times}$$

$$\underline{\text{Stock Turnover Ratio} = 8.44 \text{ times}}$$

$$(2) \text{ Fixed Assets Turnover Ratio} = \frac{\text{Cost of Sales or Sales}}{\text{Fixed Assets}}$$

$$\begin{aligned} \text{On cost of sales basis} &= 3,80,000 / 10,00,000 \\ &= 0.38 \text{ times} \end{aligned}$$

$$\begin{aligned} \text{On Sales basis} &= 4,80,000 / 10,00,000 \\ &= 0.48 \text{ times} \end{aligned}$$

SOLUTION : SUM No. 12

$$(3) \text{ Debtors Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}.$$

Credit Sales = Total Sales – Cash Sales – Sales Return

$$= 5,00,000 - 40,000 - 20,000 = 4,40,000$$

Net Credit Sales = 4,40,000

Accounts receivable = Debtors + Bills Receivables

$$= 80,000 + 20,000 = 1,00,000$$

Accounts Receivable = 1,00,000

(Note: closing receivables alone are used in the absence of opening figures)

Debtors Turnover Ratio = $4,40,000 / 1,00,000 = 4.4$ times

Debtors Turnover Ratio = 4.4 times

(4) Average Collection Period = $\frac{\text{Days / Months in the year}}{\text{Debtors Turnover Ratio}}$

Average Collection Period in days = $365 / 4.4 = 83$ days

Average Collection Period in Months = $12 / 4.4 = 2.73$ months

SOLUTION : SUM No. 12

$$(5) \text{ Creditors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Payables}}$$

$$\text{Net credit purchase} = \text{Purchase} - \text{Purchase Returns} - \text{Cash purchase}$$

$$= 3,00,000 - 10,000 - 50,000$$

$$= 2,40,000$$

$$\text{Average Accounts Payable} = \text{Creditors} + \text{Bills Payable}$$

$$= 60,000 + 20,000 = 80,000$$

$$\text{Creditors Turnover Ratio} = 2,40,000 / 80,000 = 3 \text{ times}$$

$$\underline{\text{Creditors Turnover Ratio} = 3 \text{ times}}$$

$$(6) \text{ Average Payment Period} = \frac{\text{Days / Months in the year}}{\text{Creditors Turnover Ratio}}$$

$$\text{Average Payment Period in days} = 365 / 3 = 122 \text{ days}$$

$$\text{Average Payment Period in Months} = 12 / 3 = 4 \text{ months}$$

Computation of Items of Financial Statements from Ratios & Other Data

SUM No. 13. Given:

current ratio	= 2.8	
Acid-test ratio	=1.5	
Working capital		=Rs.1,62,000

Calculate:

- (1) Current assets
- (2) Current liabilities
- (3) Liquid assets
- (4) Stock

Solution :

Calculation of current assets and current liabilities:

Current Ratio Given = 2.8 (or) 2.8

1

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

Therefore, if current assets are 2.8, current liabilities are 1

Working capital = current assets - current liabilities

$$= 2.8 - 1 = 1.8$$

Therefore, working capital (given) = 1,62,000

$$\text{i.e } 1.8 = 1,62,000$$

Solution : Sum No.13

Working capital (1.8) = 1,62,000

(1) Current Assets :

working capital (1.8) = 1,62,000

Current Assets (2.8) = ?

Apply cross multiplication,

= 1,62,000 X $\frac{2.8}{1.8}$

1.8

= Rs. 2,52,000

Current Assets = Rs.2,52,000

(2) Current Liabilities:

working capital (1.8) = 1,62,000

Current Liabilities(1) = ?

Apply cross multiplication,

= 1,62,000 X $\frac{1}{1.8}$

= Rs. 90,000

Current Liabilities = Rs.90,000

Solution : Sum No.13

(3) Calculation of Liquid assets:

liquid Ratio Given = 1.5 (or) 1.5

$$\text{Liquid ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

Note : There is no bank overdraft given in the sum for calculating Liquid liabilities, so current liability is treated as a liquid liabilities.

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

Apply the values,

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

Apply cross multiplication,

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

$$\underline{\text{Liquid Assets} = 1,35,000}$$

(4) Calculation of stock:

$$\text{Liquid Assets} = \text{Current Assets} - \text{Stock}$$

$$1,35,000 = 2,52,000 - \text{Stock}$$

$$\text{Stock} = 2,52,000 - 1,35,000 = 1,17,000$$

$$\underline{\text{Stock} = \text{Rs. } 1,17,000}$$

SUM No. 14.

From the following details, compute (1) current assets (2) Quick assets and (3) Stock.

Current Liabilities Rs.9,00,000

Current Ratio = 2.5

Acid Test Ratio = 2 (without prepaid expenses)

Solution: Sum No. 14

(1) Calculation of Current Assets:

Current Ratio Given = 2.5 (or) 2.5

1

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

If the current liabilities are 1, current assets are 2.5

Current liabilities (1) = Rs. 9,00,000

current liabilities(1) = 9,00,000

Current Assets (2.5) = ?

Apply cross multiplication,

= 9,00,000 X 2.5 = Rs. 22,50,000

1

Current Assets = Rs. 22,50,000

Solution: Sum No. 14

(2) Calculation of Quick Assets

Acid Test Ratio or Quick Ratio Given = 2 (or) $\frac{2}{1}$

Quick or Acid test ratio = $\frac{\text{Quick Assets}}{\text{Quick Liabilities}}$

Note : There is no bank overdraft given in the sum for calculating Liquid liabilities, so current liability is treated as a quick liabilities.

Liquid ratio = $\frac{\text{Quick Assets}}{\text{Current Liabilities}}$

Apply the values,

$$2 = \frac{\text{Quick Assets}}{9,00,000}$$

Apply cross multiplication,

$$2 \times 9,00,000 = \text{Quick Assets}$$
$$\underline{\text{Quick Assets} = 18,00,000}$$

(3) Calculation of Stock:

Quick Assets = Current Assets - Stock

18,00,000 = 22,50,000 - Stock

Stock = 22,50,000 - 18,00,000

Stock = Rs. 4,50,000

SUM No. 15

Determine the value of closing stock from the following details:

Sales Rs.4,00,000

Gross Profit - 10% on Sales

Stock Velocity = 4 times

Closing stock was Rs.10,000 in excess of opening stock.

Solution :

$$\text{Stock Velocity} = \frac{\text{Cost of goods Sold}}{\text{Average Stock}} = 4$$

$$\begin{aligned}\text{Cost of Goods Sold} &= \text{Sales} - \text{Gross profit} \\ &= \text{Rs.4,00,000} - \text{Rs. 40,000 (i.e 10/100 X 4,00,000)} \\ &= \text{Rs. 3,60,000} \\ &= \frac{\text{Rs. 3,60,000}}{\text{Average Stock}} = 4\end{aligned}$$

Adopting cross multiplication

$$4 \times \text{Average Stock} = \text{Rs. 3,60,000}$$

$$\text{Average Stock} = 3,60,000 / 4 = \text{Rs.90,000}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = 90,000$$

$$\text{Total Stock (90,000 X 2)} = \text{Rs. 1,80,000} \quad \text{Opening Stock} = 1,70,000/2 = 85000$$

$$\text{Less: Excess of closing Stock} = \text{Rs. } \underline{10,000} \quad \text{Closing Stock} =$$

$$85000 + 10000 = 95000$$

$$\underline{1,70,000} \quad \underline{\text{Closing Stock} = \text{Rs.95,000}}$$

SUM No. 15

From the following details determine the value of debtors.

Total sales Rs. 5,00,000 Debtors Velocity = 30 days

Cash Sales Rs. 2,00,000 Bills Receivable = Rs.5,000.

Solution:

Debtors Velocity = $\frac{\text{Debtors} + \text{Bills Receivable}}{\text{Credit Sales}} \times \text{No. of Working Days}$

Net credit sales = Total Sales – Cash Sales

$$= 5,00,000 - 2,00,000 = \text{Rs. } 3,00,000$$

Apply the available values in the formula,

$$\frac{\text{Debtors} + \text{Bills Receivable}}{3,00,000} \times 360 = 30$$

Adopting Cross Multiplication,

$$\begin{aligned} \text{Debtors} + \text{Bills receivable} &= \frac{30 \times 3,00,000}{360} \\ &= \text{Rs. } 25,000 \end{aligned}$$

$$\text{Debtors} + 5000 = \text{Rs. } 25,000$$

$$\text{Debtors} = \text{Rs. } 25,000 - 5,000$$

$$\underline{\text{Debtors} = \text{Rs. } 20,000.}$$

SUM No. 16

From the following information, prepare a Balance Sheet . Show the workings.

S.No.	Particulars	Amount (Rs.)
1	Working capital	75,000
2	Reserves and surplus	1,00,000
3	Bank Overdraft	60,000
4	Current Ratio	1.75
5	Liquid Ratio	1.15
6	Fixed Assets to Proprietors' funds	0.75
7	Long - Term Liabilities	Nil

Solution : Sum No. 16

(a) Current Assets

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\begin{aligned} \text{Working Capital} &= \text{Current Assets} - \text{Current Liabilities} \\ &= 1.75 - 1 = 0.75 \end{aligned}$$

Solution : Sum No. 16

If working capital is 0.75, current assets are 1.75

If working capital is Rs.75,000 , the current assets are,

$$= 75,000 \times \frac{1.75}{0.75} = \text{Rs. } 1,75,000$$

Current Assets = Rs. 1,75,000.

(b) Current Liabilities:

If working capital is 0.75, current liabilities are 1

If working capital is Rs.75,000 , the current liabilities are,

$$= 75,000 \times \frac{1}{0.75} = \text{Rs. } 1,00,000$$

Current Liabilities = Rs. 1,00,000.

(c) Quick Assets:

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = 1.15$$

Quick Liabilities = Current Liabilities – Bank Overdraft

$$= \text{Rs. } 1,00,000 - \text{Rs. } 60,000 = \text{Rs. } 40,000$$

$$= \frac{\text{Quick Assets}}{40,000} \times 1.15$$

$$\text{Quick assets} = 40,000 \times 1.15 = \text{Rs. } 46,000$$

Quick Assets = Rs. 46,000

Solution : Sum No. 16

(d) Stock:

$$\begin{aligned}\text{Stock} &= \text{Current Assets} - \text{Quick Assets} \\ &= \text{Rs. } 1,75,000 - \text{Rs. } 46,000 \\ &= \text{Rs. } 1,29,000\end{aligned}$$

(e) Proprietors' funds:

$$\text{Fixed assets to proprietors' funds} = \frac{\text{Fixed Assets}}{\text{Proprietors' funds}} = 0.75 : 1$$

Note: In the absence of long term loan, following equation can be had from the balance sheet. i.e. Total Liabilities = Total Assets
i.e. Proprietors' funds + current liabilities = Fixed assets + current assets

Proprietors' funds - fixed assets = current assets - current liabilities

$$1 - 0.75 = \text{Rs. } 1,75,000 - \text{Rs. } 1,00,000$$

$$0.25 = \text{Rs. } 75,000$$

Therefore, Proprietors Funds (1) = Rs.3,00,000

$$\text{Fixed Assets (0.75)} = \text{Rs. } 2,25,000$$

Proprietors' funds = Rs.3,00,000

Less: Reserves & Surplus = Rs.1,00,000

SHARE CAPITAL = Rs. 2,00,000

Solution : Sum No. 16

The Balance Sheet will appear as follows:

Balance Sheet as on _____

Liabilities	Rs.	Assets	Rs.
Share Capital	2,00,000	Fixed Assets	2,25,000
Reserves and Surplus	1,00,000	<u>Current Assets:</u>	
<u>Current Liabilities:</u>		Stock	1,29,000
Bank Overdraft	60,000	Quick assets	46,000
Quick Liabilities	40,000		
	4,00,000		4,00,000

References

Books Referred

1. Ramachandran & Srinivasan : Management Accounting, Sriram Publications, Trichy.
2. S.N. Maheswari : Management Accounting, Sultan Chand & Sons, New Delhi.
3. R.S.N. Pillai and V. Bhagavathy : Management Accounting, S. Chand & Sons, New Delhi.