

Figure 4.3

Immediate next stage to determine in the process of unit costing is the component of cost of sales. The cost of sales is the blend of both, selling overheads and cost of production.

What ever the cost involved in the production process in the factory as well in the administrative proceedings are clubbed with the selling overheads to determine the cost of sales.

$$\text{Cost of sales} = \text{Cost of production} + \text{Selling overheads}$$

Selling overheads are nothing but the indirect expenses incurred by the firm at the moment of selling products. In brief, whatever the expenses in relevance with the selling and distribution are known as selling overheads.

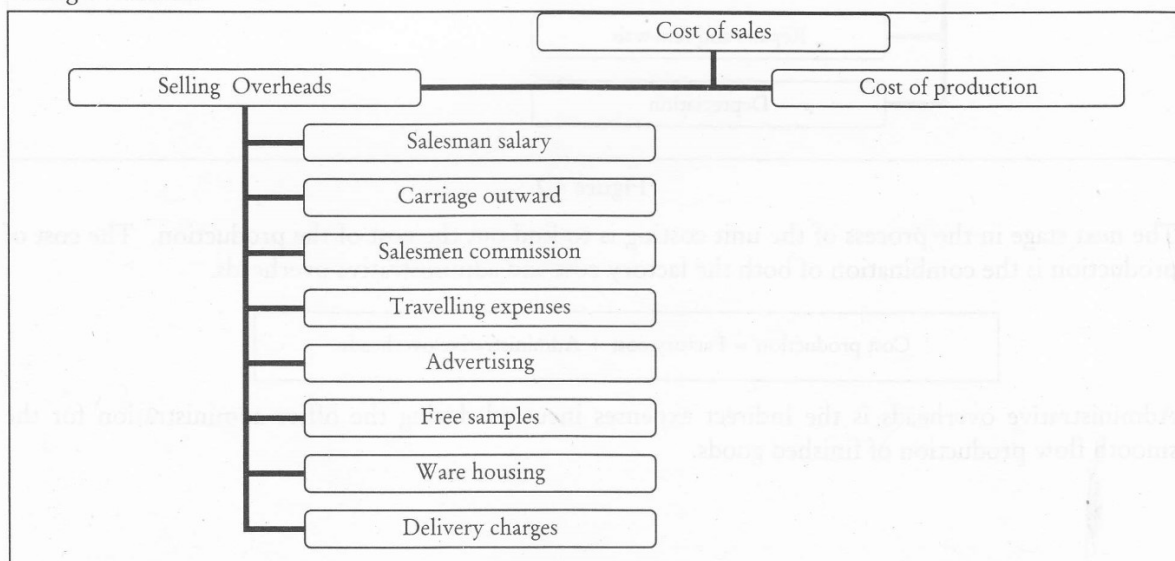


Figure 4.4

The last but most important stage in the unit costing is determining the selling price of the commodities. The selling price of the commodities is fixed by way of adding both the cost of sales and profit margin out of the product sales.

$$\text{Sales} = \text{Cost of sales} + \text{Margin of Profit}$$

Under the unit costing, the selling price of the product can be determined through the statement form.

**For Example:** Calculate the prime cost, factory cost, cost of production cost of sales and Profit form the following particulars:

	Rs.		Rs.
Direct Materials	2,00,000	Office stationery	1000
Direct wages	50,000	Telephone charges	250
Direct expenses	10,000	Postage and telegrams	500
Wages of foreman	5,000	Sales mens' salaries	2500
Electric power	1,000	Travelling expenses	1,000
Lighting :Factory	3,000	Repairs and renewal Plant	7,000
Office	1,000	Office premises	1,000
Storekeeper's wages	2,000	Carriage outward	750
Oil and water	10,00	Transfer to reserves	1,000
Rent: Factory	10,000	Discount on shares written off	1000
:Office	5,000	Advertising	2,500
Depreciation Plant	1000	Warehouse charges	1000
office	2,500	Sales	3,79,000
Consumable store	5,000	Income tax	20,000
Managers' salary	10,000	Dividend	4,000
Directors' fees	2,500		

#### Cost statement/Cost Sheet

Particulars	Rs	Rs
Direct Materials	2,00,000	
Direct wages	50,000	
Direct expenses	10,000	
<b>PRIME COST</b>		2,60,000
<b>Factory Overheads:</b>		
Wages of foreman	5,000	
Electric power	1,000	
Lighting :Factory	3,000	
Storekeeper's wages	2,000	
Oil and water	1000	
Rent:Factory	10,000	

Contd...

Depreciation Plant	1000	
Consumable store	5,000	
Repairs and renewal Plant	7,000	
	35,000	
<b>Factory cost</b>		2,95,000
<b>Administration overheads</b>		
Rent Office	5,000	
Depreciation office	2,500	
Managers' salary	10,000	
Directors' fees	2,500	
Office stationery	1000	
Telephone charges	250	
Postage and telegrams	500	
Office premises	1,000	
Lighting Office	1,000	
	23,750	
Cost of production		3,18,750
<b>Selling and distribution overheads</b>		
Carriage outward	750	
Salesmen's salaries	2500	
Traveling expenses	1,000	

The Next stage in the preparation of the cost statement is to induct the stock of raw materials, work in progress and finished goods.

#### 4.7.3 Stock of Raw Materials

The raw materials stock should be taken into consideration for the preparation of the cost sheet. The cost of the raw materials is nothing but the direct materials cost of the product. The cost of the materials is in other words cost of the materials consumed for the production of a product.

Particulars	Rs
Opening stock of Raw materials	XXXXXX
(+)Purchases of Raw materials	XXXXXX
(-)Closing stock of Raw materials	XXXXXX
<b>Cost of Materials consumed</b>	<b>XXXXXX</b>

#### 4.7.4 Stock of Semi Finished Goods

The treatment of the stock of semi finished goods is mainly depending upon the two different approaches, viz.

- Prime cost basis and
- Factory cost basis.

The factory cost basis is considered to be predominant over the early one due to the consideration of factory overheads at the moment of semi finished goods treatment. The indirect expenses are the expenses converting the raw materials into semi finished goods which should be relatively considered for the treatment of the stock valuation rather than on the basis of prime cost.

Particulars	Rs
Prime cost	XXXXXXX
(+)Factory overheads incurred	XXXXXXX
(+)Opening work in progress	XXXXXXX
(-)Closing work in progress	XXXXXXX
Factory cost	XXXXXXX

#### 4.7.5 Stock of Finished Goods

The treatment of the stock of finished goods should carried over in between the opening stock and closing stock and adjusted among them before the finding the cost of goods sold.

Particulars	Rs
Cost of production	XXXXXX
(+)Opening stock of finished goods	XXXXXX
(-)Closing stock of finished goods	XXXXXX
Cost of goods sold	XXXXXX

*For Example:* The following data has been from the records of Centre corporation for the period from June 1 to June 30, 2005. Draft the cost sheet.

	2005 1 <sup>st</sup> Jan	2005 31 <sup>st</sup> Jan
Cost of raw materials	60,000	50,000
Cost of work in progress	24,000	30,000
Cost of finished good	1,20,000	1,10,000
<b>Transaction during the month</b>		
Purchase of raw materials		9,00,000
Wages paid		4,60,000
Factory overheads		1,84,000
Administration overheads		60,000
Selling overheads		40,000
Sales		18,00,000



**Solution:****Cost Sheet**

Particulars	Rs	Rs
Opening stock of raw materials 1st Jan	60,000	
(+)Purchase of raw materials	9,00,000	
(-)Closing stock of raw materials 31st Jan	50,000	
Raw materials consumed during the year		9,10,000
(+)Wages paid		4,60,000
<b>Prime cost</b>		<b>13,70,000</b>
Factory overheads	1,84,000	
(+)Opening stock of semi goods	24,000	
(-)Closing stock of semi goods	30,000	
Factory overheads		1,78,000
<b>Factory or Works cost</b>		<b>15,48,000</b>
(+)Administration overheads		60,000
<b>Cost of Production</b>		<b>16,08,000</b>
(+)Opening stock of finished goods	1,20,000	
(-)Closing stock of finished goods	1,10,000	
<b>Cost of goods sold</b>		<b>16,18,000</b>
(+)Selling overheads		40,000
<b>Cost of Sales</b>		<b>16,58,000</b>
<b>Net profit</b>		<b>1,42,000</b>
<b>Sales</b>		<b>18,00,000</b>

**Check Your Progress**

- Direct materials is
  - Opening stock + Purchases
  - Purchases + Closing stock
  - Opening stock + Purchases - closing stock
  - Purchases - Closing stock
- Salary paid to Supervisor is
  - Manufacturing overheads
  - Administrative overheads
  - Direct labour
  - Selling & Distribution overheads
- Fixed cost is the cost under the classification of
  - Variability
  - Normality
  - Controllability
  - Functions

Contd...

4. The cost classifications in the cost sheet is
  - (a) Functions
  - (b) Variability
  - (c) Controllability
5. Standard costing is brought under the classification of
  - (a) Controllability
  - (b) Functions
  - (c) Planning and control
  - (d) Both (a) & c)
6. Marginal costing is classified on the basis of
  - (a) Variability
  - (b) Managerial decisions
  - (c) Time
  - (d) Both a) & b)
7. Rs.10,000 paid on every month to the owner of the factory site is
  - (a) Fixed cost
  - (b) Semi-Variable cost
  - (c) Variable cost
  - (d) Semi-Fixed cost
8. Electricity charges incurred by the firm is
  - (a) Fixed cost
  - (b) Semi-Variable cost
  - (c) Variable cost
  - (d) None of the above
9. How is prime cost calculated?
10. True or False:
  - (a) Property tax on the plant is to included under the factory
  - (b) Among the classification of the overheads, the first and foremost is factory overheads.

#### 4.8 LET US SUM UP

Cost accountancy is the combination of both the application of costing and cost accounting principles, methods, techniques to science, art and practice of cost control and ascertainment of profitability. The scope of the cost accounting could be classified into three major segments viz. Cost Ascertainment, Cost accounting and Cost control. The methods of costing are normally classified into two major categories viz. Specific order costing and Operation costing. The various techniques of costing, nothing but vital tools of ascertaining costs, are, Uniform costing, Marginal Costing, Historical Costing, Direct Costing, Absorption costing, Standard Costing. The costs are classified into various categories according to the purpose and requirements of the firm. Some of the most important classifications are By nature or Element or Analytical segmentation, By functions, Direct and Indirect cost, By variability, By controllability, By normality, By time, According to planning and control, According to Managerial Decisions.

#### 4.9 KEYWORDS

**Operation Costing:** This is a suitable method of costing for the industries, which manufacture the standard or identical products.

**Historical Costing:** It is another technique of costing through which the costs of the yester horizon are ascertained.

**Absorption Costing:** It is unlike the marginal costing technique, includes the fixed cost of operations along with the variable cost of production.

**Indirect Material:** Cost of the thread cannot be conveniently measured for single unit of the product.

**Indirect Labour:** Salary paid to the supervisor.

**Fixed Cost:** It is cost, which do not vary irrespective level of an activity or production. Rent of the factory, salary to the manager and so on.

**Variable Cost:** It is a cost, which varies in along with the level of an activity or production.

**Predetermined Costs:** These costs are determined or estimated in advance to any activity by considering the past events, which are normally affecting the costs.

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#### 4.10 QUESTIONS FOR DISCUSSION

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1. Define cost.
2. Briefly write a note on the classification of costs.
3. Define direct cost.
4. Define indirect cost.
5. Explain the various components of the indirect cost.
6. Draft the proforma of Cost sheet.
7. Illustrate the various classifications of the cost.
8. What are the various techniques of costing? Discuss their uses and relative advantages.

#### Check Your Progress: Model Answers

- |  |          |        |        |
|--|----------|--------|--------|
| 1. (c)   | 2. (a)   | 3. (a) | 4. (a) |
| 5. (c)   | 6. (a)   | 7. (a) | 8. (b) |
| 9. Direct Materials + Direct Labour + Direct Expenses = Prime cost |          |        |        |
| 10. (a) True   | (b) True |        |        |

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#### 4.11 SUGGESTED READINGS

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- M.P. Pandikumar, *Accounting & Finance for Managers*, Excel Books, New Delhi.
- R.L. Gupta and Radhaswamy, *Advanced Accountancy*.
- V.K. Goyal, *Financial Accounting*, Excel Books, New Delhi.
- R. Narayanswamy, *Financial Accounting - A Managerial Perspective*, HPI.
- Nitin Balwani, *Accounting & Finance for Managers*, Excel Books, New Delhi.

## UNIT II



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## LESSON

# 5

## DEPRECIATION ACCOUNTING

### CONTENTS

- 5.0 Aims and Objectives
- 5.1 Introduction
- 5.2 Meaning of Fixed Assets
- 5.3 Cost of Acquisition
- 5.4 Meaning of Depreciation
- 5.5 Reasons and Aims of Depreciation
- 5.6 Types of Depreciation
  - 5.6.1 Straight Line Method
  - 5.6.2 Diminishing Balance/Written Down Value Method
  - 5.6.3 Accounting Standard (AS) related to Depreciation
  - 5.6.4 Dissimilarities in between Straight Line Method and Written Down Value Method
- 5.7 Depreciation in Income Tax Returns
- 5.8 Accounting for Intangible Assets
- 5.9 Accounting for Natural Resources
- 5.10 Capital Expenditure
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- 5.12 Let us Sum up
- 5.13 Keywords
- 5.14 Questions for Discussion
- 5.15 Suggested Readings

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### 5.0 AIMS AND OBJECTIVES

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After studying this lesson, you will be able to:

- Discuss meaning of depreciation
- Analyse reasons and aims of depreciation
- Understand methods for charging depreciation



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## 5.1 INTRODUCTION

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The depreciation accounting is mainly based on the concept of income. The concept of income is matching of revenues with expenses. The goods purchased are frequently matched through immediate sale or within a year. The crux of the concept of income is that the expenses are to be matched against the revenues. The ultimate aim of matching is done in order to determine the volume of profit or loss of the transaction. If the assets are nothing but long term assets procured by the enterprise should be matched against the revenues of them. The matching of expenditure of the assets incurred by the firm at the time of purchase against the revenues is the hard core task of the firm. Why it is being considered as a cumbersome task in matching? The benefits/revenues of the fixed assets expected to accrue for many number of years but not within a year. The initial investment on the assets at the time of purchase should be matched against the revenue pattern of the same year after year in order to find out the profitability of the long term investment. To have an effective matching against the revenues on every year, the amount of purchase has to be stretched. The stretching of expenses into many years is known as depreciation.

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## 5.2 MEANING OF FIXED ASSETS

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Fixed Assets are the assets which are purchased for the purpose of operating the business and not for resale such as land and building, plant & machinery and furniture etc.

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## 5.3 COST OF ACQUISITION

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The cost of acquisition of a fixed asset consist of its purchase price, import duties and taxes on purchase plus any other expenditure incurred to bring the asset into working condition. It can be computed in the following way.

Purchase Price (also know as list price)	× × ×
Less Trade discount	× × ×
Net price	× × ×
Add Import duties	× × ×
Add Tax on Purchase	× × ×
Add any insurance (if any)	× × ×
Add Installation charges	× × ×
Add Directly attributable expenditure (like registration fees)	× × ×
<b>Cost of acquisition</b>	<b>× × ×</b>

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## 5.4 MEANING OF DEPRECIATION

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It is a matching in between the fixed charge expense against the current year's revenue. The remaining /left which is unrecovered portion should be carried forward to forthcoming years in order to match against the respective revenues.

What is the ultimate of the purpose of the depreciation?

The ultimate purpose of the depreciation is to replace the fixed assets only at the moment of becoming useless through the current revenues.

According to Dickens, “depreciation is the permanent and continuous diminution in the quality /quantity/value of the asset.”

In simple words to understand the terminology depreciation is the permanent decrease in the value of the fixed assets.

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## 5.5 REASONS AND AIMS OF DEPRECIATION

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### *Reasons for Depreciation*

1. ***Wear and Tear of the Asset:*** The long term assets are becoming less efficient and poor quality in operations due to the continuous usage of the asset.
2. ***Exhaustion:*** Nothing will be remaining due to the continuous extraction of resources. The resources in the oil wells, mine fields will become nothing due to continuous extraction should be replaced by new exploration. To invest on the new exploration in order to have continuous exploration it requires the depreciation as a charge against the revenues of the fields.

Example, Oil & Natural Gas Corporation Ltd. (ONGC) indulges in the process of new oil exploration projects through research projects. Then the new projects should be identified and invested by huge initial investment outlay through the current revenues out of the existing projects on account of replacement due to depletion of resources.

3. ***To Face Technological Obsolescence:*** To replace the old machinery with new machinery before the expiry of the economic life period of the asset in order to maintain the efficiency and economy of the asset. The type writer was replaced by the electronic typewriter during the yester periods of office automation. To replace the old type writer which is not efficient as well as economical, should be replaced by the new electronic typewriter through the depreciation charge on the old one.
4. ***Accident:*** The value of the asset mainly depends upon the efficiency and economy; that gets affected due to the accident.

### *Aims of Charging Depreciation*

- ***To recover the cost:*** The depreciation charge is a mean to recover the cost of operations of the enterprise. More specifically to recover the cost of asset procured which is in usage.
- ***To facilitate the induction of new asset:*** To replace the old one, the new asset has to be purchased only with the help of depreciation charge.
- To find out the correct P&L accounting balance.
- To know the original position of the enterprise through proper adjustments on the fixed assets.

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## 5.6 TYPES OF DEPRECIATION

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There are various methods of depreciation:

1. Straight line method
2. Depletion or Output method
3. Machine hour rate method
4. Diminishing Balance or Written down method

5. Sum of digits method
6. Annuity method
7. Sinking fund method
8. Insurance policy method

Among the above mentioned methods, Straight line method and Diminishing balance or written down method are more important methods. These two methods are preferable and renowned methods among the industrialists in charging the depreciation on the fixed assets. The first method is as follows:

### 5.6.1 Straight Line Method

This method, depreciation is calculated as a fixed proportion on the original value of the asset. The depreciation is charged as fixed in volume on the original value of the asset at which it was purchased. The original value of the asset is nothing but the purchase value of the asset.

#### *Illustration 1*

Cost of Machine – Rs. 1, 00, 000

Estimated life of the machine – 5 years

Scrap value- Nil

$$\text{Depreciation} = \frac{\text{Cost of the machine} - \text{scrap value}}{\text{Economic life period of the asset in years}}$$

According to the concept of depreciation, the value of the asset is dispersed throughout the life of the period in order to match against the respective earnings of the year after year. The purchase value of the asset is an expenditure to be stretched to many number of years in order to equate with the revenues. To equate the revenues, the scrap value of the asset at the end of the life period is realized should be deducted and apportioned to the total number of the economic life period of the asset. The aim of deducting the scrap value of the asset is reducing the original value of the investment.

$$\text{Depreciation} = \frac{\text{Rs. 1, 00, 000}}{5} = \text{Rs. 20, 000}$$

To understand the above calculation, the following table is most inevitable

Value of the asset (Begin) Rs Col.1	Depreciation Rs Col.2	Value of the asset (End) Rs Col 3=Col.1-Col.2
1 <sup>st</sup> year – 1,00,000	20,000	80,000
2 <sup>nd</sup> year- 80,000	20,000	60,000
3 <sup>rd</sup> year- 60,000	20,000	40,000
4 <sup>th</sup> year- 40,000	20,000	20,000
5 <sup>th</sup> year- 20,000	20,000	"0"

From the above table, Rs. 20, 000 is charged on every year to recover Rs. 1, 00, 000 during its life period i.e. 5 years.

**Illustration 2**

Original value of the investment- Rs. 1, 00, 000

Scrap value - Rs. 10, 000

Life of the asset -5 years

$$\text{Depreciation} = \frac{\text{Rs. 1, 00, 000} - \text{Rs. 10, 000}}{5 \text{ year}} = \frac{\text{Rs. 90,000}}{5 \text{ year}} = \text{Rs. 18,000}$$

To understand the methodology of straight line depreciation, the following table will illustrate the process.

Value of the asset (Begin) Rs	Depreciation Rs	Value of the asset (End) Rs
1 <sup>st</sup> year - 1,00,000	18,000	82,000
2 <sup>nd</sup> year- 82,000	18,000	64,000
3 <sup>rd</sup> year- 64,000	18,000	46,000
4 <sup>th</sup> year- 46,000	18,000	28,000
5 <sup>th</sup> year- 28,000	18,000	10,000(Scrap value)*

The scrap value of the asset is expected to realize only at the end of the life period of the asset i.e. 5 years.

**Illustration 3**

Mr. Shankar purchased machine for Rs. 90, 000 on 1st April 1999. Its probable working life was estimated at 5 years and its probable scrap value at the end of that time is Rs. 10,000. You are required to prepare necessary accounts based on straight line method of depreciation for five years.

To prepare the various accounts of the enterprise connected to depreciation is as follows:

The depreciation charge process is carried out in three stages:

1. The asset to be initially purchased- Purchase entry has to be carried out. How the purchase is made? While making the purchase there are two different accounts get affected which are normally known as real accounts. At the moment of purchase on one side the asset is coming inside the firm; on the other side the cash resources are depleted due to the payment of purchase bill of the asset.

		Dr. Rs	Cr. Rs
1 April, 1999	Plant & Machinery A/c	90,000	
	To Cash A/c		90,000
Being plant & machinery purchased			

2. The next account involved in the process of accounting is depreciation account. Before transacting the depreciation entry in the books of accounts, we must find the amount of depreciation to be charged against on every year's revenue.

The amount of depreciation is to be calculated as follows:

$$\text{Depreciation} = \frac{\text{Original value of the asset} - \text{Scrap value}}{\text{Estimated life of the asset in years}}$$

$$= \frac{\text{Rs. } 90,000 - 10,000}{5 \text{ year}} = \text{Rs. } 16,000$$

Depreciation is a fixed charge to be calculated on the value of the asset on every year and deducted from the original value. Depreciation is nothing but charged as expenditure against the revenues in accordance with the matching concept. Hence the depreciation non recurring expenditure account and the plant & machinery account should be debited and credited respectively

For the accounting entry I year depreciation

		Rs	Rs
31 <sup>st</sup> March, 2000	Depreciation A/c Dr	16,000	
	To Plant Machinery A/c Cr		16,000
<b>Being the first year depreciation is charged</b>			

For the accounting entry II year depreciation

		Rs	Rs
31 <sup>st</sup> March, 2001	Depreciation A/c Dr	16,000	
	To Plant Machinery A/c Cr		16,000
<b>Being the second year depreciation is charged</b>			

For the accounting entry III year depreciation

		Rs	Rs
31 <sup>st</sup> March, 2002	Depreciation A/c Dr	16,000	
	To Plant Machinery A/c Cr		16,000
<b>Being the Third year depreciation is charged</b>			

For the accounting entry IV year depreciation

		Rs	Rs
31 <sup>st</sup> March, 2003	Depreciation A/c Dr	16,000	
	To Plant Machinery A/c Cr		16,000
<b>Being the fourth year depreciation is charged</b>			

For the accounting entry V year depreciation

		Rs	Rs
31 <sup>st</sup> March, 2004	Depreciation A/c Dr	16,000	
	To Plant Machinery A/c Cr		16,000
<b>Being the fifth year depreciation is charged</b>			



The next account involved is the scrap value account which amounted Rs 10,000.

While selling the residual portion of the asset, the firm is able to receive Rs. 10,000 as receipt as cash. The sale of residual part of the machinery leads to bring cash resources inside the firm and return the plant and machinery is going out of the firm.

For the accounting entry of scrap value

		Rs	Rs
31 <sup>st</sup> March, 2004	Cash A/c Dr	10,000	
	To Plant Machinery A/c Cr		10,000
Being the residual part of the machinery is sold			

3. The next transaction is the final transaction pertaining to the posting of depreciation accounting balance under the P&L account.

It is nothing but the transfer of Depreciation accounting balance into P&L account at the end of every year immediately after finalizing the accounting balance of depreciation is regularly posted under the P&L account.

The journal entry transfer is carried out as follows:

For the I year depreciation transfer to P&L A/c

		Rs	Rs
31 <sup>st</sup> March, 2000	P&L A/c Dr	16,000	
	To Depreciation A/c Cr		16,000
Being the first year depreciation is transferred to P&L A/c			

For the II depreciation transfer to P&L A/c

		Rs	Rs
31 <sup>st</sup> March, 2001	P&L A/c Dr	16,000	
	To Depreciation A/c Cr		16,000
Being the second year depreciation is transferred to P&L A/c			

For the III year depreciation transfer to P&L A/c

		Rs	Rs
31 <sup>st</sup> March, 2002	P&L A/c Dr	16,000	
	To Depreciation A/c Cr		16,000
Being the third year depreciation is transferred to P&L A/c			



For the IV year depreciation transfer to P&L A/c

		Rs	Rs
31 <sup>st</sup> March, 2003	P&L A/c Dr	16,000	
	To Depreciation A/c Cr		16,000
Being the fourth year depreciation is transferred to P&L A/c			

For the V year depreciation transfer to P&L A/c

		Rs	Rs
31 <sup>st</sup> March, 2004	P&L A/c Dr	16,000	
	To Depreciation A/c Cr		16,000
Being the fifth year depreciation is transferred to P&L A/c			

The preparation of Plant & Machinery account: It is very simple to prepare the machinery Ledger account.

Dr		Plant & Machinery (I <sup>st</sup> Year)		Cr	
Date	Particular	Rs	Date	Particulars	Rs
1 April, 1999	To Cash A/c	90,000	31 <sup>st</sup> Mar, 2000	By Depreciation	16,000
				By Balance c/d transferred to	
				Second year Plant & Machinery A/C	74,000
		90,000			90,000

To Balance B/d 74,000

Dr Plant & Machinery A/C (II<sup>nd</sup> Year) Cr

Date	Particular	Rs	Date	Particulars	Rs
1 April, 2000	To Balance B/d (Transferred from I Yr Plant & Machinery)	74,000	31 <sup>st</sup> Mar, 2001	By Depreciation	16,000
				By Balance c/d transferred to	
				III Yr Plant & Machinery A/C	58,000
		74,000			74,000

To Balance B/d 58,000

Dr Plant & Machinery A/C (III<sup>rd</sup> Year) Cr

Date	Particular	Rs	Date	Particulars	Rs
1 April, 2001	To Balance B/d (Transferred from II Yr Plant & Machinery)	58,000	31 <sup>st</sup> Mar, 2002	By Depreciation	16,000
				By Balance c/d (Transferred to IV Yr Plant & Machinery A/C)	42,000
		58,000			58,000

To Balance B/d 45,000

Dr Plant & Machinery A/c (IV<sup>th</sup> Year) Cr

Date	Particular	Rs	Date	Particulars	Rs
1 April, 2002	To Balance B/d (transferred from III Yr Plant & Machinery)	42,000	31 <sup>st</sup> Mar, 2003	By Depreciation	16,000
				By Balance c/d (transferred to V Yr Plant & Machinery A/C)	26,000
		42,000			42,000

To Balance B/d 26,000

Dr Plant & Machinery A/c (V<sup>th</sup> Year) Cr

Date	Particular	Rs	Date	Particulars	Rs
1 <sup>st</sup> April, 2003	To Balance B/d (Transferred from IV Yr Plant & Machinery)	26,000	31 <sup>st</sup> Mar, 2004	By Depreciation	16,000
				By Cash	10,000
		26,000			26,000

The next ledger account to be prepared is Depreciation A/c

Dr Depreciation A/c Cr

Date	Particulars	Amount Rs	Date	Particulars	Amount Rs
31 <sup>st</sup> Mar,2000	To Plant & Machinery	16,000	31 <sup>st</sup> Mar,2000	By P& L A/c	16,000
31 <sup>st</sup> Mar,2001	To Plant & Machinery	16,000	31 <sup>st</sup> Mar,2001	By P& L A/c	16,000
31 <sup>st</sup> Mar,2002	To Plant & Machinery	16,000	31 <sup>st</sup> Mar,2002	By P& L A/c	16,000
31 <sup>st</sup> Mar,2003	To Plant & Machinery	16,000	31 <sup>st</sup> Mar,2003	By P& L A/c	16,000
31 <sup>st</sup> Mar,2004	To Plant & Machinery	16,000	31 <sup>st</sup> Mar,2004	By P& L A/c	16,000

**Merits**

- It is simple to calculate only due to fixed depreciation charge on the value of the asset
- The value of the asset is depleted to either zero or scrap value of the asset
- This method is most suited for patents trade marks and so on.

**Demerits**

- The utility of the asset is not considered at the moment of charging constant depreciation over the asset.
- During the later years of the asset, the efficiency will automatically come down and imultaneously the maintenance cost of the asset will rigger up which is illogical in charging fixed charge throughout the life period of the asset.

**5.6.2 Diminishing Balance/Written Down Value Method**

This method also has the same methodology in charging depreciation on the fixed assets like fixed percentage. Though it bears similar approach in charging depreciation but it is different in application from the straight line method. Under this method, the depreciation is charged on the value of the asset available at the beginning of the year.

The following formula highlights the application of this method in charging depreciation.

$$= 1 - (S/C)^{1/n}$$

The meaning of the above illustrated formulae is discussed through the explanation of two different components.

First one is  $(S/C)^{1/n}$ , the ration of the scrap value of the asset on the original value of the asset is appropriately apportioned throughout the life period of the assets. It is nothing but the percentage of scrap value widened across the life period of the asset. Once the scrap value percentage is known, the next important step is to determine the depreciable value of the asset. The depreciable value of the asset can be derived by deducting the percentage from No 1.

**Illustration 4**

Life of the asset (n) = 3 years

Expected scrap value at the end of 3 years = Rs. 12, 800

Original Investment = Rs. 2, 00, 000

Find out the percentage of depreciation to be charged.

Under this method, to charge depreciation as well as to find out the value of the asset as on a particular date, the depreciation percentage must be given. In this problem, depreciation % is not given, in order to determine the above illustrated formulae should be applied

$$\begin{aligned}
 &= 1 - (S/C)^{1/n} \\
 &= 1 - (\text{Rs. } 12,800/\text{Rs. } 2,00,000)^{(1/3)} \\
 &= 1 - 4/10 = 6/10 = 60\%
 \end{aligned}$$

The following workings will obviously facilitate to understand the charge of depreciation

The value of the Asset at the beginning of 1st Year	=	Rs. 2, 00, 000
(-) Depreciation 60% on Rs. 2, 00, 000 (Original value)	=	Rs. 1, 20, 000
Value of the asset at the beginning of 2nd Year	=	Rs. 80, 000
(-) Depreciation 60% on Rs 1, 20, 000 (Book Value)	=	Rs. 48, 000
Value of the asset at the beginning of 3rd Year	=	Rs. 32, 000
(-) Depreciation 60% on Rs 32, 000(Book Value)	=	Rs. 19, 200
Value of the asset at the end of the year	=	Rs. 12, 800

**5.6.3 Accounting Standard (AS) related to Depreciation**

1. Depreciation is a measure of the wearing out, consumption or other loss of value of a depreciable asset arising from use, effluxion of time or obsolescence through technology and market changes. Depreciation is allocated so as to charge a fair proportion of the depreciable amount in each accounting period during the expected useful life of the asset. Depreciation includes amortisation of assets whose useful life is predetermined.
2. Useful life is either (i) the period over which a depreciable asset is expected to be used by the enterprise; or (ii) the number of production or similar units expected to be obtained from the use of the asset by the enterprise.
3. Depreciable amount of a depreciable asset is its historical cost, or other amount substituted for historical cost in the financial statements, less the estimated residual value.
4. The depreciation method selected should be applied consistently from period to period. A change from one method of providing depreciation to another should be made only if the adoption of the new method is required by statute or for compliance with an accounting standard or if it is considered that the change would result in a more appropriate preparation or presentation of the financial statements of the enterprise. When such a change in the method of depreciation is made, depreciation should be recalculated in accordance with the new method from the date of the asset coming into use. The deficiency or surplus arising from retrospective recomputation of depreciation in accordance with the new method should be adjusted in the accounts in the year in which the method of depreciation is changed. In case the change in the method results in

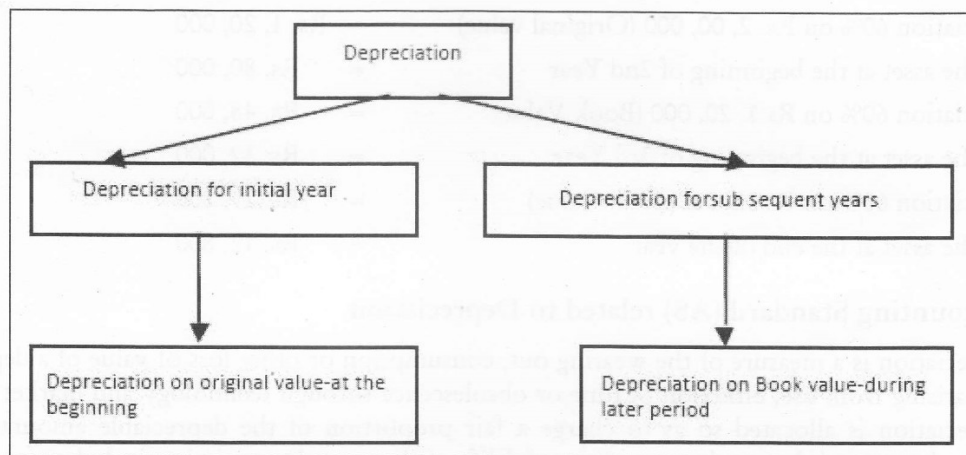
deficiency in depreciation in respect of past years, the deficiency should be charged in the statement of profit and loss. In case the change in the method results in surplus, the surplus should be credited to the statement of profit and loss. Such a change should be treated as a change in accounting policy and its effect should be quantified and disclosed.

5. The useful life of a depreciable asset should be estimated after considering the following factors:
- (i) expected physical wear and tear;
  - (ii) obsolescence;
  - (iii) legal or other limits on the use of the asset.

#### 5.6.4 Dissimilarities in between Straight Line Method and Written Down Value Method

Under this method of charging depreciation unlike the straight line method, the percentage is usually given for calculation.

While calculating this method, the depreciation is calculated on two different values.



#### Illustration 5

On 1st April, 2000, a firm purchases machinery worth Rs. 3, 00, 000. On 1st Oct, 2002 it buys additional machinery worth Rs. 60, 000 and spends Rs. 6, 000 on its erection. The accounts are closed normally on 31 Mar. Assuming the annual depreciation to be 10% Show the machinery account for 3 years under the written down value method.

#### Accounting Journal entries for the year 2000-01

During the year 1st April 2, 000; Rs. 3, 00, 000 worth of machinery was bought.

		Rs	Rs
1 April, 2000	Machinery A/c Dr	3,00,000	
	To Bank A/c Cr		3,00,000
(Being the machinery is purchased)			



Depreciation for the year 2000 for the first machinery.

		Rs	Rs
31 <sup>st</sup> Mar, 2001	Depreciation A/c Dr	30,000	
	To Machinery A/c		30,000
(Being depreciation charged)			

*Accounting Journal entries for the year 2001-02*

Depreciation for the year 2001 for the first machinery

		Rs	Rs
31 <sup>st</sup> Mar, 2001	Depreciation A/c Dr	27,000	
	To Machinery A/c		27,000
(Being depreciation charged)			

*Journal entries for the year 2002-03*

During the year 2002 new machinery worth of Rs. 60, 000 was purchased. Before determining the volume of depreciation, the amount of original value of the machinery should be found out.

$$\begin{aligned} \text{Original value of the asset} &= \text{The purchase price of the asset} + \text{Erection charges incurred} \\ &= \text{Rs. } 60,000 + \text{Rs. } 6,000 = \text{Rs. } 66,000 \end{aligned}$$

		Rs	Rs
1 April, 2002	Machinery A/c Dr	66,000	
	To Bank A/c Cr		66,000
(Being the machinery is purchased)			

Depreciation for the year 2002 for the first machinery

		Rs	Rs
31 <sup>st</sup> Mar, 2003	Depreciation A/c Dr	24,300	
	To Machinery A/c		24,300
(Being depreciation charged)			

Depreciation for the year 2002 for the second machinery.

		Rs	Rs
31 <sup>st</sup> Mar, 2003	Depreciation A/c Dr	3,300	
	To Machinery A/c		3,300
(Being depreciation charged)			



After passing the journal entries, the next step is to prepare ledger account of machinery

Dr			Cr		
Date	Particulars	Amount Rs	Date	Particulars	Amount Rs
1 <sup>st</sup> April, 2000	To Bank	3,00,000	31 <sup>st</sup> Mar, 2001	By Depreciation	30,000
				By Balance c/d	2,70,000
		3,00,000			3,00,000
31 <sup>st</sup> Mar, 2001	To Balance B/d Transfer to Machinery A/c (20001-02)	2,70,000			

Machinery A /c (2000-01)

Dr			Cr		
Date	Particulars	Amount Rs	Date	Particulars	Amount Rs
1 <sup>st</sup> April, 2000	To Balance B/d	2,70,000	31 <sup>st</sup> Mar, 2001	By Depreciation	27,000
				By Balance c/d	2,43,000
		2,70,000			2,70,000
31 <sup>st</sup> Mar, 2001	To Balance B/d Transfer to Machinery A/c (2002-03)	2,43,000			

Machinery A/c (2001-02)

Dr			Cr		
Date	Particulars	Amount Rs	Date	Particulars	Amount Rs
1 <sup>st</sup> April, 2000	To Balance B/d	2,43,000	31 <sup>st</sup> Mar, 2001	By Depreciation First machinery	24,300
1 <sup>st</sup> Oct, 2002	To Bank	66,000		By Depreciation Second machinery	3,300
				By Balance c/d	2,81,400
		3,09,000			3,09,000
31 <sup>st</sup> Mar, 2003	To Balance B/d	2,81,400			

31<sup>st</sup> Mar, 2003 to Balance B/d 2, 81, 400.

**Merits**

- The depreciation is charged under this method only in line with the efficiency. It means that during the early years of the usage, the efficiency of the asset is more than that of the later part of the life of the asset.
- The depreciation volume under this method is greater during the early years of the asset than the later periods of the asset.
- It evades the possibility of incurring losses due to obsolescence.

**Demerits**

- It is a tedious method in computation.
- Under this method, the book value of the asset at end of the economic life period is never equivalent to zero.

**Suitability:** This method is most suitable in the case of depreciating the worth of patent which is subject greater risk of technological obsolescence. This method is most suitable in the case of patent design of a car, cellular phone design, pharmaceutical patent and so on. These are having greater technological risk which prefers the firms to write off the expenditures in more volume during the early years in order to recover the investment through matching early period revenues. “Early recovery is better the principle”

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## 5.7 DEPRECIATION IN INCOME TAX RETURNS

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Under the income tax rules tax payers are allowed to claim the benefit of depreciation as the time-to-time prescribed rates by the written-down-value method. No other method such as straight line method is acceptable for tax purposes.

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## 5.8 ACCOUNTING FOR INTANGIBLE ASSETS

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Intangible assets are those which do not have physical existence but helps the organizations to generate earnings. Examples are patents, copyright, goodwill etc. AS 26 deals with most intangible assets. Amortisation is charged to these intangible assets. If one company is having a patent of Rs. 2,00,000 for 4 years then amortisation charged will be recorded as.

Amortisation of Patent A/c	Rs. 50,000
To Patent A/c	50,000

**Accounting Standard (AS) 26 Intangible Assets**

1. The objective of this Statement is to prescribe the accounting treatment for intangible assets that are not dealt with specifically in another Accounting Standard. This Statement requires an enterprise to recognise an intangible asset if, and only if, certain criteria are met.
2. The Statement also specifies how to measure the carrying amount of intangible assets and requires certain disclosures about intangible assets.
3. Enterprises frequently expend resources, or incur liabilities, on the acquisition, development, maintenance or enhancement of intangible resources such as scientific or technical knowledge,

design and implementation of new processes or systems, licences, intellectual property, market knowledge and trademarks (including brand names and publishing titles). Common examples of items encompassed by these broad headings are computer software, patents, copyrights, motion picture films, customer lists, mortgage servicing rights, fishing licences, import quotas, franchises, customer or supplier relationships, customer loyalty, market share and marketing rights. Goodwill is another example of an item of intangible nature which either arises on acquisition or is internally generated.

4. An intangible asset should be recognised if, and only if:
- it is probable that the future economic benefits that are attributable to the asset will flow to the enterprise; and
  - the cost of the asset can be measured reliably.

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## 5.9 ACCOUNTING FOR NATURAL RESOURCES

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Natural resources like oil, Coal mines, Gas are also classified under fixed assets in the balance sheet of an organisation. Instead of depreciation, depletion is charged to these natural resources.

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## 5.10 CAPITAL EXPENDITURE

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Expenditure incurred for the purchase or expansion of long-term assets or fixed assets are known as capital expenditure. Any expenditure which helps to increase life of a fixed asset is also treated as capital expenditure.

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## 5.11 REVENUE EXPENDITURE

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Except normal revenue generated expenses, any expenditure to fixed assets which is normal in nature is also known as revenue expenditure.

### Check Your Progress

- Depreciation is
  - Capital expenditure
  - Revenue expenditure
  - Expense
  - Non recurring expenditure
- Depreciation accounting facilitates to know
  - Original value of the asset
  - Realisable value of the asset
  - Book value of the asset
  - Both (a) & (c)
- Depreciation is an item to be recorded finally in the
  - Trading account
  - Profit & Loss account
  - Balance sheet
  - Profit & Loss A/c and Balance Sheet
- Under straight line method, depreciation is charged on
  - The value of the asset at the beginning
  - The average value of the asset
  - The value of the asset
  - None of the above at the end

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## 5.12 LET US SUM UP

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Depreciation is the permanent and continuous diminution in the quality / quantity / value of the asset. The long term assets are becoming less efficient and poor quality in operations due to the continuous usage of the asset. The value of the asset mainly depends upon the efficiency and economy; which gets affected due to the accident. According to the concept of depreciation, the value of the asset is dispersed throughout the life of the period in order to match against the respective earnings of the year after year. The purchase value of the asset is an expenditure to be stretched to many number of years in order to equate with the revenues. The value of the asset after deducting the depreciation from the value of the asset at the beginning is the net book value of the asset.

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## 5.13 KEYWORDS

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**Depreciation:** Continuous reduction/decrease/diminution in the value of the asset. Depreciation accounting: Recording the entries of depreciation through journal, ledger accounts of Depreciation, Fixed asset and Profit & Loss account.

**Original Value of the Asset:** The value of the asset at the time of purchase or acquisition. **Book Value of the asset:** The value of the asset after deducting the depreciation from the value of the asset at the beginning.

**Scrap Value of the Asset:** It is the value at the end of the life period of the asset; at when the asset cannot be put for further usage.

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## 5.14 REVIEW QUESTIONS

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1. Define Depreciation. Explain the meaning of the term “Depreciation”.
2. Elucidate the process of Depreciation Accounting.
3. Explain the various methods of depreciation and their merits and demerits.
4. Highlight the suitability of depreciation method to the tune of business environment.

<b>Check Your Progress: Model Answers</b>			
1. (b)	2. (d)	3. (d)	4. (a)

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## 5.15 SUGGESTED READINGS

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M.P. Pandikumar, *Accounting & Finance for Managers*, Excel Books, New Delhi.

R.L. Gupta and Radhaswamy, *Advanced Accountancy*.

V.K. Goyal, *Financial Accounting*, Excel Books, New Delhi.

R. Narayanswamy, *Financial Accounting - A Managerial Perspective*, HPI.

Nitin Balwani, *Accounting & Finance for Managers*, Excel Books, New Delhi.

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## LESSON

# 6

## FINANCIAL STATEMENT ANALYSIS

### CONTENTS

- 6.0 Aims and Objectives
- 6.1 Introduction
- 6.2 Concepts
- 6.3 Purpose
- 6.4 Common-Size Financial Statements
- 6.5 Comparative Statements
  - 6.5.1 Comparative Balance Sheet
  - 6.5.2 Comparative (Income) Financial Statement Analysis
  - 6.5.3 Comparative Common Size Statement
  - 6.5.4 Trend Analysis
- 6.6 Let us Sum up
- 6.7 Keywords
- 6.8 Questions for Discussion
- 6.9 Suggested Readings

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### 6.0 AIMS AND OBJECTIVES

After studying this lesson, you will be able to:

- Explain the concept and objective of financial statement analysis
- Know tools for analysis and interpretation of financial statement analysis
- Understand common-size financial statements
- Discuss comparative statements
- Define trend analysis

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### 6.1 INTRODUCTION

Financial statement analysis is the process of examining relationships among financial statement elements and making comparisons with relevant information. It is a valuable tool used by investors and creditors, financial analysts, and others in their decision-making processes related to stocks, bonds,



and other financial instruments. The goal in analyzing financial statements is to assess past performance and current financial position and to make predictions about the future performance of a company. Investors who buy stock are primarily interested in a company's profitability and their prospects for earning a return on their investment by receiving dividends and/or increasing the market value of their stock holdings. Creditors and investors who buy debt securities, such as bonds, are more interested in liquidity and solvency: the company's short-and long-run ability to pay its debts. Financial analysts, who frequently specialize in following certain industries, routinely assess the profitability, liquidity, and solvency of companies in order to make recommendations about the purchase or sale of securities, such as stocks and bonds.

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## 6.2 CONCEPTS

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Analysts can obtain useful information by comparing a company's most recent financial statements with its results in previous years and with the results of other companies in the same industry. Three primary types of financial statement analysis are commonly known as horizontal analysis, vertical analysis, and ratio analysis.

1. **Horizontal Analysis:** When an analyst compares financial information for two or more years for a single company, the process is referred to as horizontal analysis, since the analyst is reading across the page to compare any single line item, such as sales revenues.
2. **Vertical Analysis:** When using vertical analysis, the analyst calculates each item on a single financial statement as a percentage of a total. The term vertical analysis applies because each year's figures are listed vertically on a financial statement. The total used by the analyst on the income statement is net sales revenue, while on the balance sheet it is total assets.
3. **Ratio Analysis:** Ratio analysis enables the analyst to compare items on a single financial statement or to examine the relationships between items on two financial statements. After calculating ratios for each year's financial data, the analyst can then examine trends for the company across years. Since ratios adjust for size, using this analytical tool facilitates inter-company as well as intra-company comparisons.

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## 6.3 PURPOSE

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Businesses can be seen as having three main activities:

1. Producing and or distributing a good or service
2. Raising capital to fund operations – through common stock, bonds, preferred stock or bank financing
3. Investing the capital in Property, Plant & Equipment (PPE)

Financial Statement Analysis is used to see how well a firm is doing these three activities. Thus the main objectives of Financial Statement Analysis can be understood as under:

1. **Equity Investment:** Here look at risk vs. return, take into account inflation, recessions, etc.
2. **Credit Extension:** Look at financial statements to determine the short term cash generating ability
3. **Corporate bond Investment:** Here look at the long-run viability of the firm - based on financial statements and the economic factors.



4. *Supplier/Customer health*: Use financial statements to assess the health of key suppliers or customers to whom you extend credit
5. *Competitor analyses*: Analyze financial statements to determine market share, pricing, product mix, etc

### *Procedures for Interpretation and Tools for Analysis*

In assessing the significance of various financial data, experts engage in ratio analyses, the process of determining and evaluating financial ratios. A financial ratio is a relationship that indicates something about a company's activities, such as the ratio between the company's current assets, current liabilities or between its accounts receivable and its annual sales. The basic source for these ratios are the company's financial statements that contain figures on assets, liabilities, profits, or losses. Financial ratios are only meaningful when compared with other information. Since they are most often compared with industry data, ratios help an individual understand a company's performance relative to that of competitors; they are often used to trace performance over time.

Ratio analysis can reveal much about a company and its operations. However, there are several points to keep in mind about ratios. First, financial statement ratios are "flags" indicating areas of strength or weakness. One or even several ratios might be misleading, but when combined with other knowledge of a company's management and economic circumstances, ratio analysis can tell much about a corporation. Second, there is no single correct value for a ratio. The observation that the value of a particular ratio is too high, too low, or just right depends on the perspective of the analyst and on the company's competitive strategy. Third, a ratio is meaningful only when it is compared with some standard, such as an industry trend, ratio trend, a ratio trend for the specific company being analyzed, or a stated management objective.

In trend analysis, financial ratios are compared over time, typically years. Year-to-year comparisons can highlight trends, pointing to the need for action. Trend analysis works best with five years of data.

The second type of ratio analysis, cross-sectional analysis, compares the ratios of two or more companies in similar lines of business. One of the most popular forms of cross-sectional analysis compares a company's financial ratios to industry ratio averages.

Your report containing the analysis of the financial statements is broken down into the various ratio categories:

- Predictor Ratios indicate the potential for growth or failure.
- Profitability Ratios which use margin analysis and show the return on sales and capital employed.
- Asset Management Ratios which use turnover measures to show how efficient a company is in its operations and use of assets.
- Liquidity Ratios which give a picture of a company's short term financial situation or solvency.
- Debt Management Ratios which show the extent that debt is used in a company's capital structure
- Tools employed in the horizontal analysis are Comparative statements and Trend percentages.
- Tools employed in the vertical analysis are Common-size Financial statements and Financial ratios.

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## 6.4 COMMON-SIZE FINANCIAL STATEMENTS

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A company financial statement that displays all items as percentages of a common base figure is known as common size financial statement. This type of financial statement allows for easy analysis between companies or between time periods of a company.

The values on the common size statement are expressed as percentages of a statement component such as revenue. While most firms don't report their statements in common size, it is beneficial to compute if you want to analyze two or more companies of differing size against each other.

Formatting financial statements in this way reduces the bias that can occur when analyzing companies of differing sizes. It also allows for the analysis of a company over various time periods, revealing

For example, what percentage of sales is cost of goods sold and how that value has changed over time.

Common size financial statements put all numbers in context, since the act of producing them involves calculating a ratio for each number on the statements. Without common sizing the statements, it is difficult to attach meaning to the numbers or to pick up trends. That is why common size financial statements are used for financial analysis instead of the actual statements themselves.

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## 6.5 COMPARATIVE STATEMENTS

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Comparative statements are the financial statements which follow a consistent format but which cover different periods of time. Comparative statements are very useful for spotting trends.

### *Objectives of Comparative Financial Statements*

- Changes taken place in the financial performance are taken into consideration for further analysis.
- To reveal qualitative information about the firm in terms of solvency, liquidity profitability and so on are extracted from the analysis of financial statements.
- With reference to yester financial data of the enterprise, the firm is facilitated to undergo for the preparation of forecasting and planning.

The major part of financial statement analysis is mainly focused on the comparative analysis.

The comparative analysis classified into four different analyses, viz.

1. Comparative Balance Sheet
2. Comparative Profit and Loss Account
3. Common Size Statement
4. Trend Percentage

Let us understand them one by one.

### **6.5.1. Comparative Balance Sheet**

The first and foremost important step is to have the following information and should take preparatory steps

- While preparing the comparative statement of balance sheet, the particulars for the financial factors are required.
- The second most important for the preparation of the comparative balance sheet is yester financial data extracted from the balance sheet or balance sheets.
- The next most important requirement to have an effective comparison with the yester financial data is current year information extracted from the balance sheet or balance sheet of the firms.
- After having been procured the financial data pertaining to various time periods are ready for comparison; to determine or identify the level of increase or decrease taken place in the financial position of the firms.
- To determine the level of increase or decrease in financial position, the percentage analysis to carried out in between them.

**For Example:**

From the following information, Prepare comparative Balance sheet of X Ltd

Particulars	31 <sup>st</sup> Mar,2004	31 <sup>st</sup> Mar,2005
Equit share capital	50,00,000	50,00,000
Fixed Assets	60,00,000	72,00,000
Reserves and surpluses	10,00,000	12,00,000
Investments	10,00,000	10,00,000
Long term loans	30,00,000	30,00,000
Current assets	30,00,000	21,00,000
Current liabilities	10,00,000	11,00,000

**Solution:** As the first step, we have to segregate the available information into two different categories, viz. Assets and Liabilities.

Particulars	2004 Rs	2005 Rs	Absolute Change Rs	% Increase	% Decrease
Fixed Assets	60,00,000	72,00,000	12,00,000	20	-
Investments	10,00,000	10,00,000	N.C	-	-
Current assets	30,00,000	21,00,000	(9,00,000)		30
Total Assets	1,00,00,000	1,03,00,000	3,00,000	3	-
Equity share capital	50,00,000	50,00,000	N.C	-	-
Reserves & surpluses	10,00,000	12,00,000	2,00,000	20	-
Long term loans	30,00,000	30,00,000	N.C	-	-
Current liabilities	10,00,000	11,00,000	1,00,000	10	-
	1,00,00,000	1,03,00,000	3,00,000	3	-

N.C= No change in the position during the two years.

From the above table, the following are basic inferences.

- The fixed assets volume got increased 20% from the year 2004 to 2005, amounted Rs.12,00,000.
- Rs 9,00,000 worth of current assets decrease from the year 2004 to 2005 recorded 30%.

- The total volume of assets recorded 3% increase from the year 2004 to 2005.
- It obviously understood that 20% increase taken place on the reserves and surpluses.
- It clearly evidenced that the current liabilities of the firm increased 10% from the year 2004 to 2005.
- The firm has not recorded any changes in the investments, equity share capital and long term loans.

### 6.5.2 Comparative (Income) Financial Statement Analysis

This analysis is being carried out in between the income statements of the various accounting durations of the firm, with other firms in the industry and with the industrial average.

This will facilitate the firm to know about the stature of itself regarding the financial performance. It facilitates to understand about the changes pertaining to various financial data which closely relevantly connected with the financial performance.

- Change in the gross sales
- Change in the net sales
- Change in gross profit and net profit
- Change in operating profit
- Change in operating expenses
- Change in the volume of non operating income
- Change in the non operating expenses

The ultimate purpose of the comparative (Income) financial statement analysis is as follows:

- (a) To study the income earning and expenditure spending pattern of the firm for two or more years.
- (b) To identify the changing pattern of the income and expenditure of the firms.
- (c) The preparatory steps for the preparation of the comparative financial statement (Income) analysis.

The first and foremost important step is to have the following information and should take preparatory steps:

- (a) While preparing the comparative statement of Profit and Loss Account, the particulars for the financial factors are required.
- (b) The second most important for the preparation of the comparative Profit & Loss account is yester financial data extracted from the Profit & Loss A/c or Profit & Loss Accounts.
- (c) The next most important requirement to have an effective comparison with the yester financial data is current year information extracted from the balance sheet of the firm or of the other firms.
- (d) After having been procured the financial data pertaining to various time periods are ready for comparison; to determine or identify the level of increase or decrease taken place in the operating financial performance of the firms.

- (e) To determine the level of increase or decrease in financial performance, the percentage analysis to be carried out in between them.

*For Example:*

Prepare the comparative income statement from the following:

Particulars	2004 Rs	2005 Rs
Sales	2,00,000	2,50,000
Cost of goods sold	1,00,000	1,30,000
	1,00,000	1,20,000
Operating expenses	10,000	10,000
Net profit	90,000	1,10,000

#### Comparative Income Statement

Particulars	2004 Rs	2005 Rs	Absolute Change Rs	% Increase	% Decrease
Sales	2,00,000	2,50,000	50,000	25	-
(-)Cost of goods sold	1,00,000	1,30,000	30,000	30	-
	1,00,000	1,20,000	20,000	20	-
(-)Operating expenses	10,000	10,000	N.C	-	-
Net profit	90,000	1,10,000	20,000	22.22	

From the above table, the following inferences can be had

- The firm has registered 25% increase in sales from the year 2004 to 2005
- Cost of goods sold raised 30% from the year 2004 to 2005
- There is no change in the level of operating expenses
- The firm has got 22.22% increase in the level of net profits from the year 2004 to 2005

#### 6.5.3 Comparative Common Size Statement

The next important tool of financial statement analysis is a common size statement analysis which known as predominant tool in intra firm analysis in studying the share of each component.

The components are translated into percentage for analysis and interpretations. For profit and loss account, Net sales is considered as a base for the computation of a share of each financial factor available.

For Balance sheet, total volume of assets and liabilities are taken into consideration for the computation of a share of each financial factor available under the heading of assets and liabilities.

*For Example:*

Prepare the Common Size Statement Analysis for the Firm ABC Ltd.



**Balance Sheet of ABC Ltd.**

Liabilities	1990Rs	1991Rs	Assets	1990Rs	1991 Rs
Share capital	2,00,000	3,00,000	Fixed assets	2,25,000	4,00,000
Reserves and surpluses	1,00,000	2,00,000	Stock	1,29,000	2,00,000
Bank overdraft	60,000	2,00,000	Quick assets	46,000	2,00,000
Quick liabilities	40,000	1,00,000			
	4,00,000	8,00,000		4,00,000	8,00,000

**Common Size Statement Analysis of the Balance Sheet of the Firm ABC Ltd**

Particulars	Amount		% of Balance sheet total	
	1990Rs	1991Rs	1990	1991
Assets				
Fixed assets	2,25,000	4,00,000	56.25	50
Stock	1,29,000	2,00,000	32.25	25
Quick assets	46,000	2,00,000	11.5	25
Total	4,00,000	8,00,000	100	100
Liabilities				
Share capital	2,00,000	3,00,000	50	37.5
Reserves and surpluses	1,00,000	2,00,000	25	25
Bank overdraft	60,000	2,00,000	15	25
Quick liabilities	40,000	1,00,000	10	12.5
	4,00,000	8,00,000	100	100

The above illustration highlights the share of every component in the balance sheet out of the total volume of assets and liabilities.

This will certainly facilitate the firm to easily understand not only the share of every component but also facilitates to have a meaningful and relevant comparison with various time horizons.

**6.5.4 Trend Analysis**

The next important tools of analysis is trend percentage which plays significant role in analyzing the financial stature of the enterprise through base years' performance ratio computation. This not only reveals the trend movement of the financial performance of the enterprise but also highlights the strengths and weaknesses of the enterprise

The following ratio is being used to compute the trend percentage

$$= \frac{\text{Current year} \times 100}{\text{Base year}}$$

This trend ratio is being computed for every component for many numbers of years which not only facilitates comparison but also guides the firm to understand the trend path of the firm.

#### Check Your Progress

1. What are main objectives of the financial statements analysis?
2. True or False:
  - (a) Common size financial statements are a widely used vertical analysis technique.
  - (b) A common-size income statement usually shows each revenue or expense item as a percentage of net sales.
  - (c) Comparability between enterprises is more difficult to obtain than comparability within a single enterprise.
  - (d) Computation of ratios for an accounting period is a form of horizontal analysis.
  - (e) Generally, the last concern of a financial analyst is a firm's liquidity.

### 6.6 LET US SUM UP

Financial statement analysis can be explained as a method used by interested parties such as investors, creditors, and management to evaluate the past, current, and projected conditions and performance of the firm. Under the financial statement analysis, the information available are grouped together in order to cull out the meaningful relationship which is already available among them; for interpretation and analysis. To reveal qualitative information about the firm in terms of solvency, liquidity, profitability, etc., are extracted from the analysis of financial statements. Comparative (Income) financial statement analysis is being carried out in between the income statements of the various accounting durations of the firm, with other firms in the industry and with the industrial average. After having been procured the financial data pertaining to various time periods are ready for comparison; to determine or identify the level of increase or decrease taken place in the operating financial performance of the firms. Trend analysis involves calculating each year's financial statement balances as percentages of the first year, also known as the base year. When expressed as percentages, the base year figures are always 100 percent, and percentage changes from the base year can be determined.

### 6.7 KEYWORDS

**Assets:** Assets are economic resources owned by business or company.

**Balance Sheet:** A balance sheet or statement of financial position is a summary of a person's or organization's balances.

**Financial Statement:** A written report which quantitatively describes the financial health of a company.

**Firm:** A business organization or the members of a business organization that owns or operates one or more establishments.

## 6.8 QUESTIONS FOR DISCUSSION

1. From the following information, prepare a comparative income statement

Particulars	2001 Rs	2002 Rs
Sales	10,00,000	8,00,000
Cost of goods sold	6,00,000	4,00,000
Administration Expenses	2,00,000	1,40,000
Other Income	40,000	20,000
Income tax	1,20,000	1,40,000

2. From the following table, prepare the common size statement analysis.

	2000 Rs	2001 Rs
Sales	20,00,000	24,00,000
Miscellaneous Income	20,000	16,000
	20,20,000	24,16,000
Materials consumed	11,00,000	12,96,000
Wages	3,00,000	4,08,000
Factory expenses	2,00,000	2,16,000
Office expenses	90,000	1,00,000
Interest	1,00,000	1,20,000
Depreciation	1,40,000	1,50,000
Profit	90,000	1,26,000
	20,20,000	24,16,000

3. A company has owner's equity of Rs.1,00,000. It has supplied the following accounting ratios:

- 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

With the information given above, you are required to prepare a summarised Balance Sheet of the company.

4. How is an available-for-sale investment recorded on the financial statements?

5. Comment on the following statements:

- An increase in money sales should always be viewed favorably.
- The influence of price-level changes cannot be detected by using a comparative statement.

- (c) An expansion of plant, property, and equipment should be financed by sales of capital stock.
  - (d) Intangible assets should be eliminated when the balance sheet is reconstructed for analytical purposes.
  - (e) An increase in liabilities should be viewed with alarm.
6. Is the trend of total liabilities of significance in analyzing the financial condition of a business? If so, what other trends should be used in connection therewith?
7. Write a report in which you list and discuss favorable and unfavorable financial and operating tendencies.

### Check Your Progress: Model Answers

1. To study the changes in the financial performance
- (b) To study the liquidity, solvency of the firm
  - (c) To undergo financial planning based upon the yester financial performance
2. (a) True (b) True (c) True (d) True (e) False

## 6.9 SUGGESTED READINGS

- M.P. Pandikumar, *Accounting & Finance for Managers*, Excel Books, New Delhi.
- R.L. Gupta and Radhaswamy, *Advanced Accountancy*.
- V.K. Goyal, *Financial Accounting*, Excel Books, New Delhi.
- R. Narayanswamy, *Financial Accounting - A Managerial Perspective*, HPI.
- Nitin Balwani, *Accounting & Finance for Managers*, Excel Books, New Delhi.

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## LESSON

# 7

## RATIO ANALYSIS

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### 7.0 AIMS AND OBJECTIVES

After studying this lesson, you will be able to:

- Apply the accounting ratios to extract the financial performance of the firm from the financial statements
- Study not only the quantitative results of the firm but also qualitative factors viz solvency, liquidity and so on.

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### 7.1 INTRODUCTION

The ratio analysis is one of the important tools of financial statement analysis to study the financial stature of the business concerns, corporate houses and so on.

How the ratios are able to facilitate to study the financial status of the enterprise?



What is meant by ratio?

The ratio illustrates the relationship in between the two related variables.

What is meant by the accounting ratio?

The accounting ratios are computed on the basis available accounting information extracted from the financial statements which are not in a position to reveal the status of the enterprise.

The accounting ratios are applied to study the relationship in between the quantitative information available and to take decision on the financial performance of the firm.

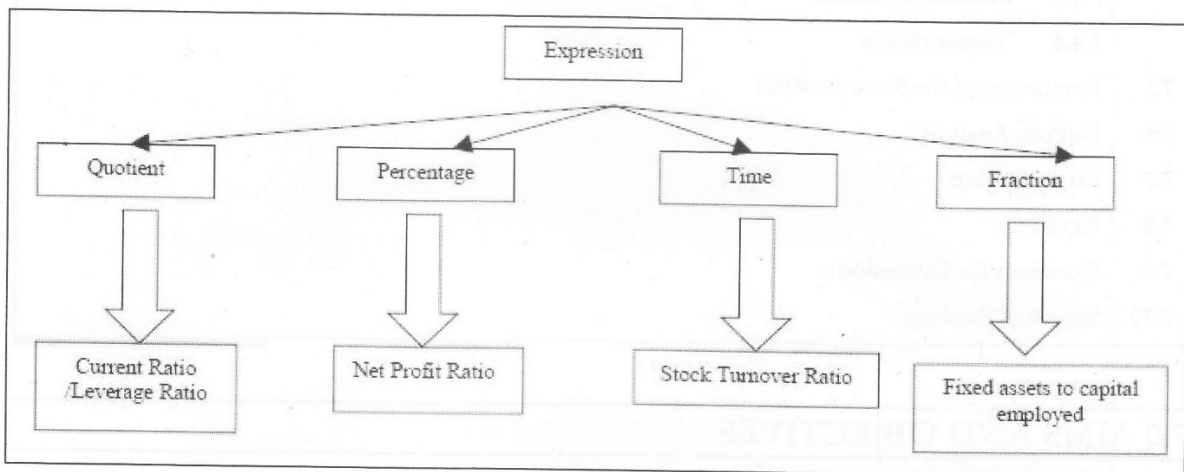
## 7.2 DEFINITION

According to J. Betty, “The term accounting is used to describe relationships significantly which exist in between figures shown in a balance sheet, Profit & Loss A/c, Trading A/c, Budgetary control system or in any part of the accounting organization.”

According to Myers “Study of relationship among the various financial factors of the enterprise”.

How the Accounting Ratios are expressed?

To understand the methodology of expressing the ratios, the expression of ratios should highlighted in the following discussion



## 7.3 PURPOSES OF THE RATIO ANALYSIS

- To study the short term solvency of the firm – Liquidity of the firm.
- To study the long term solvency of the firm – Leverage position of the firm.
- To interpret the profitability of the firm – Profit earning capacity of the firm.
- To identify the operating efficiency of the firm – Turnover of the ratios.

### *Utility of the Ratio Analysis*

- **Easy to understand the financial position of the firm:** The ratio analysis facilitates the parties to read the changes taken place in the financial performance of the firm from one time period to another.

- *Measure of expressing the financial performance and position:* It acts as a measure of financial position through Liquidity ratios and Leverage ratios and also a measure of financial performance through Profitability ratios and Turnover Ratios.
- *Intra firm analysis on the financial information over many number of years:* The financial performance and position of the firm can be analysed and interpreted with in the firm in between the available financial information of many number of years; which portrays either increase or decrease in the financial performance.
- *Inter firm analysis on the financial information within the industry:* The financial performance of the firm is studied and interpreted along with the similar firms in the industry to identify the presence and status of the respective firm among others
- *Possibility for Financial planning and control:* It not only guides the firm to earn in accordance with the financial forecasting but also facilitates the firm to identify the major source of expense, which drastically has greater influence on the earnings.

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## 7.4 CLASSIFICATION OF RATIOS

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The accounting ratios are classified into various categories viz, on the basis of financial statements and on the basis of functions.

### *On the basis of Financial Statements*

1. *Income statement Ratios:* These ratios are computed from the statements of Trading, Profit & Loss account of the enterprise. Some of the major ratios are as following GP ratio, NP ratio, Expenses Ratio and so on
2. *Balance sheet or Positional Statement Ratios:* These type of ratios are calculated from the balance sheet of the enterprise which normally reveals the financial status of the position i-e short term, Long term financial position, Share of the owners on the total assets of the enterprise and so on.
3. *Inter statement or Composite Mixture of Ratios:* These ratios are calculated by extracting the accounting information from the both financial statements, in order to identify stock turnover ratio, debtor turnover ratio, return on capital employed and so on.

### *On the basis of Functions*

1. *On the basis of Solvency position of the firms:* Short term and Long term solvency position of the firms.
2. *On the basis of Profitability of the firms:* The profitability of the firms are studied on the basis of the total capital employed, total asset employed and so on.
3. *On the basis of Effectiveness of the firms:* The effectiveness is studied through the turnover ratios – Stock turnover ratio, Debtor turnover ratio and so on.
4. *Capital Structure ratios:* The capital structure position are analysed through leverage ratios as well as coverage ratios.

#### 7.4.1 Short-term Solvency Ratios

To study the short-term solvency or liquidity of the firm, the following are various ratios