

# **Auditing Course Material**

Part 22 of 61 (Chapters 2101-2200)

### 3. Methods for Providing Depreciation

When the asset needs replacement at the end of its useful life, Sinking Fund Method will provide us with an amount of depreciation as well as provide funds for the replacement of the asset. Under this method, we charge depreciation on the value of asset, but this depreciation will not be credited to the asset account. Instead, we will credit the amount of depreciation to Sinking Fund Account. This account is shown on the liabilities side of the Balance Sheet and the asset will be shown at the original value on the assets side of the Balance Sheet.

At the end of each accounting year, the total amount of sinking fund credited in a year will be invested in the outside marketable security to provide cash for the replacement of an asset when needed. i.e., at the end of useful life of the asset. The interest on these marketable securities, when received, would be re-invested and the amount thereof would be credited to the Sinking Fund Account. When the asset is due for replacement, the securities are sold and the new asset is purchased with the proceeds of their sale.

The book value of the old asset, at this time, is transferred to the Sinking Fund Account. Any amount realised on sale of the old asset, and the profit or loss on sale of securities is transferred to the Sinking Fund Account and it is closed off by transfer of the balance of the Profit and Loss Account or General Reserve.

The amount to be set apart annually by way of depreciation is ascertained from Sinking Fund tables. They readily show the amount which must be invested each year to accumulate to Re. 1 at a given rate of interest within the stated period.

For example, XYZ Ltd. purchase a machine on 1<sup>st</sup> April 2017 on lease for 4 years for Rs 10,00,000. It decided to provide cash for the replacement of the lease at the end of the 4th year by setting up a sinking fund. It is expected that investment will fetch interest @ 5%. At the end of the 4th year investment is sold for Rs. 7,50,000. The Sinking fund table (only a part of it shown below) shows that an annual payment of Re. 1 at 5% compound interest in 4 years is equal to 0.232012. Investment is made to the nearest rupee.

Sinking Fund Table				
Period	3%	4%	5%	6%
1	1.000000	1.000000	1.000000	1.000000
2	0.492611	0.490196	0.487805	0.485437
3	0.323530	0.320349	0.317209	0.314110
4	0.239027	0.235490	0.232012	0.228591
5	0.188355	0.184627	0.180975	0.177396
6	0.154598	0.150762	0.147017	0.143363
7	0.130506	0.126610	0.122820	0.119135
8	0.112456	0.108528	0.104722	0.101036
9	0.098434	0.094493	0.090690	0.087022
10	0.087231	0.083291	0.079505	0.075868
11	0.078077	0.074149	0.070389	0.066793
12	0.070462	0.066552	0.062825	0.059277
13	0.064030	0.060144	0.056456	0.052960
14	0.058526	0.054669	0.051024	0.047585
15	0.053767	0.049941	0.046342	0.042963

$$\text{Annual Depreciation or Annual Investment} = \text{Total cost of Asset} \times \text{Value of Re. 1 after four years @ 5\%}$$

$$= \text{Rs. } 10,00,000 \times 0.232012$$

$$= \text{Rs } 2,32,012$$

Journal entries under Sinking Fund Method are as follows.

Transaction/Event	Journal Entry
1. For transfer of depreciation to Sinking Fund.*	Depreciation Account ...Dr. To Sinking Fund (S.F.) Account
2. For charging depreciation to profit and loss account.*	Profit and Loss Account ...Dr. To Depreciation Account
3. For investment of amount of depreciation	Sinking Fund Investment Account ...Dr. To Bank Account
4. In subsequent years, for interest earned on sinking fund investment and on investment of the interest and depreciation	Bank Account ...Dr. To Interest on Sinking Fund Investment Account  Interest on Sinking Fund Investment Account ...Dr. To Sinking Fund Account
*In addition to these entries, entries (1) and (2) will also be passed in subsequent years for transfer of depreciation to sinking fund and for charging it to profit and loss account.	Sinking Fund Investment Account ...Dr. To Bank Account (yearly depreciation + interest earned)
5. For sale of sinking fund investment at the end of useful life of the asset	Bank Account ...Dr. To Sinking Fund Investment Account
6. (i) If sales is at a profit  (ii) If sales is at loss	Sinking Fund Investment Account ...Dr. To Sinking Fund Account  Sinking Fund Account ...Dr. To Sinking Fund Investment Account
7. For transfer of the amount to the extent of book value of the asset from asset account to sinking fund account	Sinking Fund Account ...Dr. To Asset Account
8. Any surplus in Sinking Fund Account may be transferred to General Reserve Account and if any deficit, that may be transferred to Profit and Loss Account	Sinking Fund Account (Surplus) ...Dr. To General Reserve Account OR Profit and Loss Account ...Dr. To Sinking Fund Account

### 3. Methods for Providing Depreciation

In this method, depreciation may be calculated on the basis of hours that the concerned machine works. The machine hour rate shall be calculated after estimating the total number of hours that the machine would work during its whole life. Schedule II to the Companies Act, 2013, prescribes estimated useful life of different assets for companies. It prescribes that depreciation should be charged using estimated useful life.

Depreciation per annum will be computed as follows :

$$= \frac{\text{Depreciable Amount} \times \frac{\text{Number of Machine Hours for given period}}{\text{Total Machines hours during entire useful life}}}{}$$

$$\text{Depreciable amount} = \text{Cost of Asset} - \text{Estimated Residual Value}$$

For example, Yogesh Ltd. purchased a machine costing Rs. 23,00,000, having a scrap value of Rs. 2,30,000. The machine has a useful life of 20,700 machine hours. The distribution of machine hours is shown below:

Years 1 to 3: 2500 machine hours each;

Years 4 to 6: 2000 machine hours each; and

Years 7 to 10: 1800 machines hours each.

In this case, we use Machine Hour Method to calculate the depreciation on machinery.

Given, Cost of machine = Rs. 23,00,000; Scrap Value = Rs. 2,30,000; Useful life of machine = 20,700 machine hours

We know ,

$$\begin{aligned}\text{Depreciable Amount} &= \text{Cost of machine} - \text{Residual /scrap value} \\ &= \text{Rs } 23,00,000 - \text{Rs } 2,30,000 \\ &= \underline{\text{Rs } 20,70,000}\end{aligned}$$

Total Machine Hours

$$= [(3 \times 2500) + (3 \times 2000) + (4 \times 1800)]$$

$$= \underline{\underline{20,700 \text{ machine hours}}}$$

The depreciation amount for each of the years will be calculated as given below.

Particulars	Years 1 to 3	Years 4 to 6	Years 7 to 10
Depreciation	$20,70,000 \times 2500 / 20700$	$20,70,000 \times 2000 / 20700$	$20,70,000 \times 1800 / 20700$
Amount	Rs 2,50,000 p.a	Rs 2,00,000 p.a	Rs 1,80,000 p.a

### 3. Methods for Providing Depreciation

This method is used in case of mines, quarries etc. containing only a certain quantity of product. The depreciation rate is calculated by dividing the cost of the asset by the estimated quantity of product likely to be available. Annual depreciation will be the quantity extracted multiplied by the rate per unit.

$$\text{Depreciable Amount} = \text{Cost of Asset} - \text{Estimated Residual Value}$$

Depreciation amount per annum

$$= \frac{\text{Depreciable Amount} \times \text{Quantity of Mineral oil extracted during the current year}}{\text{Total estimated Quantity from the mine or quarry or well}}$$

For example, Suresh Ltd. took a quarry on lease by paying Rs. 75,00,000. As per technical estimate, the total quantity of mineral deposit is 1,00,000 tonnes. The extraction pattern is given below.

Year 1: 6000 tonnes;

Years 2 to 5: 15,000 tonnes each;

Years 6 and 7: 17,000 tonnes each.

In this case, we will use Depletion method to compute depreciation.

Given, Cost of Leasing Quarry = Rs. 75,00,000; Estimated Total Quantity of Mineral deposit = 1,00,000 tonnes

We know,

We know,

Depreciation Amount per annum

$$= \frac{\text{Depreciable Amount} \times \text{Quantity of mineral oil extracted during the current year}}{\text{Total estimated quantity from the mine or quarry or well}}$$

The depreciation amount for each of the years can be calculated as given below.

Year 1	Years 2-5	Years 6 and 7
$\text{Rs } 75,00,000 \times \frac{6000}{100,000}$ $= \text{Rs } 4,50,000 \text{ p.a}$	$\text{Rs } 75,00,000 \times \frac{15000}{100,000}$ $= \text{Rs } 11,25,000 \text{ p.a}$	$\text{Rs } 75,00,000 \times \frac{17000}{100,000}$ $= \text{Rs } 12,75,000 \text{ p.a}$

The *Income Tax Rules* prescribe the Diminishing Balance method except in the case of assets of an understanding engaged in the generation and distribution of power.

### 3. Methods for Providing Depreciation

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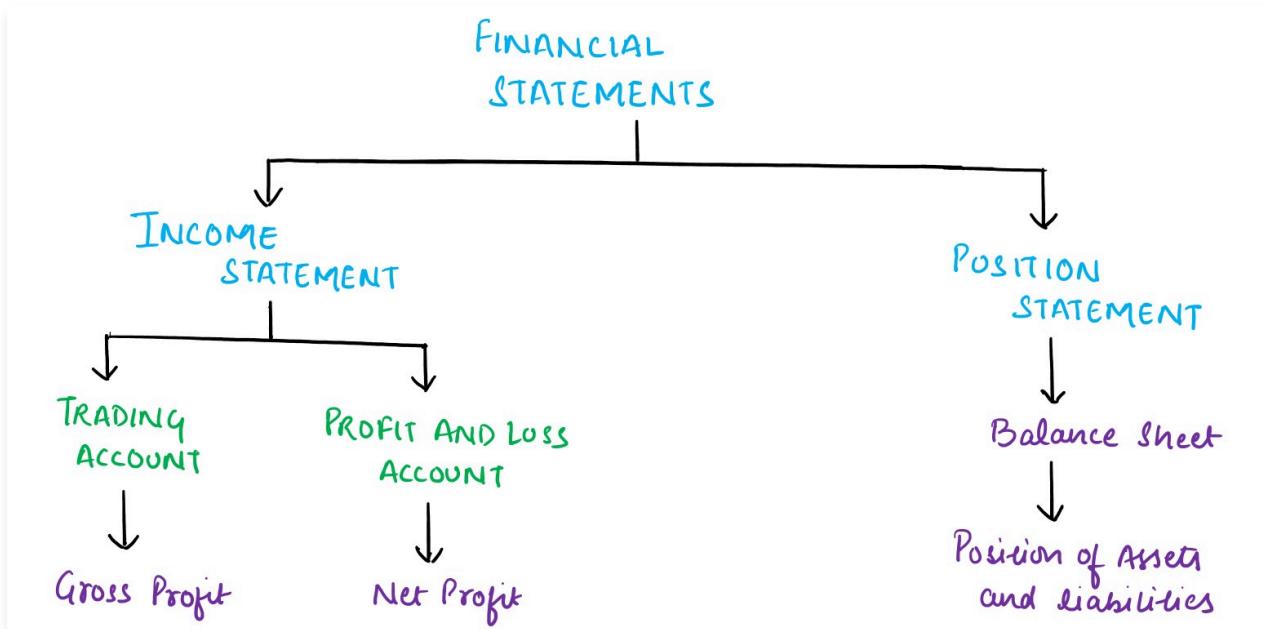
Whenever any depreciable asset is sold during the year, depreciation is charged on it for the period it has been used in the sale year. The written down value after charging such depreciation is used for calculating the profit or loss on the sale of that asset. The resulting profit or loss on sale of the asset is ultimately transferred to profit and loss account. For example, the book value of the asset as on 1<sup>st</sup> January, 2018 is Rs. 50,00,000. Depreciation is charged on the asset @10%. On 1<sup>st</sup> July 2018, the asset is sold for Rs. 32,00,000. In such a situation, profit or loss on the sale will be calculated as follows:

Particulars	Amount in Rs.
Book value as on 1 <sup>st</sup> January 2018	50,00,000
Less: Depreciation for 6 months @10% (from 1 <sup>st</sup> Jan., 2018 to 30 <sup>th</sup> June, 2018)	(2,50,000)
Written down value as on 1 <sup>st</sup> July, 2018	47,50,000
Less: Sale proceeds as on 1 <sup>st</sup> July, 2018	(32,00,000)
Loss on sale of the asset	15,50,000

# 1. Final Accounts of Non-Manufacturing Entities

Non-manufacturing entities refer to the trading entities. Trading entities are engaged in the purchase and sale of goods at profit without changing the form of the goods, i.e., non-manufacturing entities do not process the goods purchased and sell them in its original form. Meanwhile, it creates some liabilities, makes some assets and also incurs some expenses like salaries, advertisement, rent, stationery expenses, etc. to run the business. At the end of the accounting year, the entity is interested in knowing the results of the business. To ascertain the final outcome of the business i.e., the income and financial position, financial statements are prepared at the end of the year.

Financial Statements are the systematically organized summary of all the ledger account heads presented in such a manner that it gives detailed information about the financial position and the performance of the enterprise.



The financial statements are categorised into Income Statement & Position Statement and profit is measured at two levels: (a) Gross Profit; and (b) Net Profit.

The profit of the enterprise is obtained through the preparation of Income Statement, i.e., Trading and Profit & Loss Account. The financial position of the business enterprise is judged by measuring the assets, liabilities and capital of the enterprise and the same is communicated to the users of financial statements. The principle function of final accounts (Trading Account, Profit and Loss Account and the Balance Sheet) is to exhibit truly and fairly the profitability and the financial position of the business to which they relate.

# 1. Final Accounts of Non-Manufacturing Entities

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In order to properly prepare the final accounts of any entity, it is essential that a proper record of transactions entered into by the business is maintained during a particular accounting period.

Having regard to these basic accounting principles discussed in earlier chapters, some important matters to which attention should be paid to determine the different aspects of transactions and the different heads of account under which various items of income and expenditure should be accumulated, are stated below.

- a. **Distinction between personal and business income:** Financial statements are intended to show the profitability of the business and not that of its proprietors, thus, personal income and expenditure should be separated from business income and expenditure.
  - b. **Distinction between capital and revenue expenditure:** A distinction should be made between capital and revenue, for both receipts and expenditure. Assets should be included in the Balance Sheet by following accounting principles and accounting standards. Likewise, a provision for income, and outstanding expenses, should be made by estimation on the same basis as in the previous year.
  - c. **Material information to be disclosed:** All information that is considered material for judging the profitability of the business and its financial position should be disclosed. For example, if some of the items of inventory are not readily saleable, these should be valued at their approximate net realisable value and the basis of valuation and value of such inventory should be disclosed separately.
  - d. **Only current period transactions should be recorded:** The record of transactions should be maintained continuously, however, at the end of each accounting period, the transactions of the closing accounting period should be cut off from those of the succeeding period.
  - e. **Only transactions completed before close of accounts should be given effect:** Only the effect of transactions which were concluded before the closing of accounts, has to be adjusted in the accounts of the year. For example, a sale of goods is to take place only after the goods have been inspected by the purchaser, provided that such inspection had not been made before the closing of the year. It would be incorrect to treat the goods as a sale in the accounts of the year under this case. However, if such inspection is completed before the closing of the year, then this transaction must be given effect in the accounts.
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# 1. Final Accounts of Non-Manufacturing Entities

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The Profit and Loss Account and the Balance Sheet are thoroughly inter-related. The assets shown in Balance Sheet are mostly the remainder of the expenditure incurred after a suitable amount has been charged to the Profit and Loss Account or the Trading Account. To properly prepare the two statements, it is of utmost importance that the amounts to be charged to the Profit and Loss Account should be properly determined; otherwise both statements will show an incorrect position. The principle that governs this is called the **Matching Principle**.

For example, salaries paid are shown on the debit side of Profit and Loss Account but outstanding salaries (salaries due but not paid) are shown on liabilities side of Balance Sheet and are added to Salaries in the Profit and Loss Account (following matching concept). Similarly, when a machine is purchased, the part of its cost which is attributable to the year is considered as depreciation and is debited to the Profit and Loss Account, whereas, the remaining balance of the cost which is attributable in the current year is shown in the Balance Sheet as an asset.

The Matching principle states that expenses incurred to earn the revenue should be properly matched. In terms of preparation of final accounts, this principle demonstrates some important points which are given below.

- a. If a certain revenue and income is entered in the Trading Account or Profit and Loss Account, then all the expenses relating to it, whether or not payment has been actually made, should be debited to the Trading Account or Profit and Loss Account. This is the reason why at the end of the year, an entry is passed to bring into account the outstanding expenses. This is also the reason why the opening inventory of goods is debited to the Trading Account (Since the relevant sale is credited in the same account, i.e., opening inventory forms a part of sale in the current year, which is why it must be matched against the revenue of current year only).
- b. If some expense has been incurred, but sale against it will take place in the next year or income will be received next year, then the expense should not be debited to the current year's Profit and Loss Account. Instead, this expense should be carried forward as an asset and shown in the Balance Sheet. It will be debited to the Profit and Loss Account only when the relevant income will also be credited. The same reason applies to depreciation of assets also. The part of the cost which is used to earn current year's revenue is debited in same year in the Profit and Loss Account, but the remaining portion of cost of asset is shown in the Balance Sheet under Assets side.
- c. If an income or revenue is received in the current year, but the work against it has to be done and the cost in respect of it has to be incurred next year, i.e. income received in advance, the income or the revenue is considered to be of next year. It should be shown in the Balance Sheet on the liabilities side as "income received in advance" and should be credited to the Profit and Loss Account of the next year. For example, Newspapers or magazines usually receive subscriptions in advance for a year. The part of subscription that covers copies to be supplied in the next year is treated as income received in advance.

**Exception:** There is however one exception to the rule that only such costs as have yielded or is expected to yield revenue, should be debited to Profit and Loss Account. For example, if a fire has occurred and has damaged the firm's property, the loss must be debited to the Profit and Loss Account to the extent it is not covered by insurance. A loss, resulting from the fall of selling price below the cost or from some debts turning bad, must similarly be debited to the Profit and Loss Account. If these items are treated differently, the profit will be over-stated.

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# 1. Final Accounts of Non-Manufacturing Entities

It is necessary to determine the net profit or the net loss at the end of the accounting period. For this purpose, the first step is to know the gross profit or gross loss. Gross Profit is the difference between the selling price and the Cost of Goods Sold.

*Cost of Goods sold = Opening inventory + Net purchases + Direct Expenses - Closing inventory*

*Gross Profit = Net sales - COGS*

Trading account is these two formulas in the form of an account. The Pro-forma of Trading Account is provided below.

Dr.	Pro-forma of Trading Account of ..... for the year ended.....		Cr.	
	Particulars	Amount in Rs.	Particulars	Amount in Rs.
To Opening Stock				
To Purchases				
Less: Returns outwards or Purchase Returns			By Sales	
			Less: Return Inwards/ Sale Return	
To Direct expenses:				
Freight & Carriage			By Closing Stock**	
Customs & Insurance Wages				
Gas, Water & Fuel			By Gross Loss c/d*	
Factory Expenses				
Royalty on production				
To Gross Profit c/d*				

\*Only one will appear at a time

\*\*If Closing Stock appears in the Trial balance, the closing inventory is then not entered in the trading account; instead it is shown only in the balance sheet. This is because it has already been adjusted to arrive at Cost of Goods Sold.

# 1. Final Accounts of Non-Manufacturing Entities

The Profit and Loss Account starts with gross profit on the credit side; in case if there is gross loss, it will be written on the debit side. After that, all those expenses and losses which have not been entered in the Trading Account will be written on the debit side of Profit and Loss Account and incomes and gains, other than sales, will be written on the credit side.

We should also have proper understanding of the 'expenses' to distinguish between the items that will be debited to the Profit and Loss Account and those that will be shown as Assets in the balance sheet. The expenses which are personal in nature will not be charged to Profit and Loss Account.

Items should be recorded and distinguished according to the various functions, such as administration, selling and financing which will make it easier for the users of accounting information to understand the financial statement and assist them in taking better decisions. This rule should be followed wherever the number of items is rather large.

On the income side of the Profit and Loss Account, besides the gross profit, there can also be incomes in other form such as interest received, discount received, rent from subletting of premises, miscellaneous incomes such as from sale of junk material etc.

Interest on fixed deposits, interests on income from investments and other interest should be shown separately. Similarly, items which have to be debited/credited to the proprietor should be segregated from other items. Examples would be interest charged on drawings, interest allowed on capital and charges for services rendered by the firm to the proprietor personally.

Dr.	<b>Pro-Forma Profit and Loss Account of..... for the year ended.....</b>		Cr.
Particulars	Amount in Rs.	Particulars	Amount in Rs.
To Gross Loss b/d*		By Gross Profit b/d*	
<b>Management expenses:</b>		<b>Other Income:</b>	
To Office rent, rates and taxes		By Discount Received	
To Printing and stationery		By Commission Received	
To Telephone charges			
To Postage and telegrams		<b>Non-trading Income:</b>	
To Insurance		By Bank Interest	
To Audit Fees		By Rent of property let-out	
To Legal Charges		By Dividend from shares	
To Electricity Charges			
<b>Maintenance expenses:</b>		<b>Abnormal Gains:</b>	
To Repairs & renewals		By Profit on sale of machinery	
To Depreciation on:		By Profit on sale of investment	
Office Equipment			
Office Furniture			
Office Buildings			
		<b>By Net Loss** (transferred to capital A/c)</b>	
<b>Selling and Distribution expenses:</b>			
To Salaries (selling staff)			
To Advertisement			
To Godown rent			
To Carriage Outward			
To Bad Debts			
To Provision for bad debts			
To Selling commission			
<b>Financial expense:</b>			
To Bank charges			
To Interest on loans			
To Discount on bills			
To discount allowed to customers			

**Abnormal Losses:**

To Loss on sale of machinery

To Loss on sale of investment

To loss by fire

**To Net Profit\*\* (transferred to Capital A/c)**

\*Gross loss appears in the debit side of the Profit and Loss Account at the top; while Gross Profit on the credit side.

\*\*Net loss appears in the credit side of the Profit and Loss Account; while Net profit on debit side as balancing figures.

## 1. Final Accounts of Non-Manufacturing Entities

Transaction / Event	Journal Entry
(i) <b>Abnormal loss of Inventory:</b> Abnormal loss of goods occurs due to fire, theft, etc. First entry is passed to record the abnormal loss in the books, and the second entry is passed when amount, wholly or partly is recoverable from insurance company.	(a) Loss by Fire Account ...Dr. To Purchases/Trading Account  (b) Insurance Company's A/c (Insurance Claim) ...Dr. Profit & Loss A/c (Amount of loss not recovered) ... Dr. To Loss by Fire Account
(ii) <b>Goods used other than for sale:</b> At times, goods are used for purposes like distribution as free samples, in construction of assets or used by proprietor for personal use.	Donation/Drawings/Free Samples/Building/Plant and machinery/Repairs and maintenance Account ...Dr. To Purchases Account
(iii) <b>Commission based on profit:</b> Sometimes Commission is payable to manager based on net profit. First journal entry is passed to record the commission payable and second entry is passed to transfer Commission Account to Profit & Loss Account.	(a) Commission Account ...Dr. To Commission Payable Account  (b) Profit & Loss Account ...Dr. To Commission Account

## 1. Final Accounts of Non-Manufacturing Entities

The Balance Sheet is a statement which sets out the assets and liabilities of a firm or an institution as at a certain date. The Balance Sheet is true only at a particular point of time, since even a single transaction will make a difference to some of the assets or liabilities, and that is the significance of the word "as at."

While preparing a Balance Sheet for a sole proprietor firm, the assets are shown on the right hand side and liabilities and capital on the left hand side.

*Note:* In case of Companies, Companies Act, 2013 has prescribed the formats for Profit and Loss Statement and Balance Sheet in Schedule III, which must be strictly adhered to by the companies registered under The Companies Act, 2013.

# 1. Final Accounts of Non-Manufacturing Entities

Let us understand the arrangements of assets and liabilities in detail.

## Assets

Assets can be grouped either in the order of liquidity or permanence as explained below.

- i. **Liquidity:** Under this method, the asset which can be converted into cash first, is presented first. Those assets which are most difficult to be converted into cash are presented at the bottom.
- ii. **Permanence:** Under this approach, the assets which are to be used for long term in the business and are not meant to be sold, are presented first. Assets, which are most liquid, such as cash in hand, are presented at the bottom.

## Liabilities

Liabilities can also be arranged according to the urgency with which payment has to be made. One way is to first show the capital, then long-term liabilities and last of all short term liabilities like amounts due to suppliers of goods or bills payable. The other way is to start with short-term liabilities and then show long term liabilities and last of all capital.

Pro-forma of Balance Sheet of ..... As At .....			
Liabilities	Amount in Rs.	Assets	Amount in Rs.
Capital A/c		Tangible Fixed Assets	
Opening Balance		Land and Building	
Add: Net Profit		Plant and Machinery	
Less: Net Loss		Furniture and Fixture	
Less: Drawings		Vehicles	
Long Term Loans		Intangibles	
Term Loans		Goodwill	
Other Loans		Patent Rights	
Short Term Loans		Designs and Brand Names	
Cash Credit		Investments	
Overdrafts		Long term investments	
Other Loans		Current Assets	
Current Liabilities		Inventory in Trade	
Trade payables		Trade Receivables	
Outstanding Expenses		Short Term Investments	
Advances Taken		Prepayments	
Provisions		Advances paid	
Provisions for Bad Debts		Bank Balances	
Provisions for Retirement Benefits		Cash In Hand	
Provision for Taxation			

*Note:* There is no hard and fast rule regarding presentation of assets, liabilities and equities in the Balance Sheet (except in case of Companies or corporate or non-corporate entities covered under different acts). However, proper presentation of Balance Sheet items improves understandability of the information desired to be communicated to the users of accounting information.

## 1. Final Accounts of Non-Manufacturing Entities

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*Provision* is defined as any amount written off or retained by way of providing for depreciation, renewal or diminution in the value of the assets or retained by way of providing for any known liability of which the amount cannot be determined with substantial accuracy.

A provision is a liability which can be measured only by using a substantial degree of estimation. Thus, a provision can be in respect of loss in the value of an asset provided or written off on the basis of an estimate; or in respect of a liability for expenses incurred in respect of a claim which is disputed, i.e., when it is a contingent liability.

However, there are certain instances when some amount is retained in the business out of the earnings for different purposes that are described as provisions, which are mentioned below.

- a. Amount provided for meeting claims which are admissible in principle but the amount whereof has not been ascertained;
- b. An appropriation made for payment of taxes still to be assessed, i.e. Provision for taxation; and
- c. Amount set aside for writing off bad debts or payment of discounts.

**Reserves** refer to the portion of the earnings, receipts or other surplus of an enterprise (whether capital or revenue) appropriated by the management for a general or a specific purpose other than a provision for depreciation or diminution in the value of assets or for a known liability.

Reserves are primarily of 2 types, i.e., Capital Reserves and Revenue Reserves. The differences between Revenue Reserve and Capital Reserve is provided below.

Basis	Revenue Reserve	Capital Reserve
Meaning	Revenue Reserve refers to the sum of money retained in business, so as to meet future contingencies.	Capital Reserve is a fund that is created to finance long term project or write off capital expenses.
Source	Revenue profits of the firm are the source of revenue reserves.	Capital profits of the firm are the source of capital reserve.
Aim	To meet unforeseen contingencies and improve entity's financial position.	To adhere to the statutory requirements or accounting principles.
Utilization	Based on the type of reserve, it can be utilized for any or particular purpose only.	Capital reserve can be utilized for the purpose for which it is created.
Dividend	It is freely available for distribution as dividend.	It is not available for distribution as dividend.

One point to be noted is that provisions in excess of the amount considered necessary for the purposes these were originally made, or the provisions that ultimately prove to be in excess of amounts required or have been made too liberally, are to be considered as reserves. Thus, it is evident that provisions are a charge against profits, while reserve is an appropriation of profits.

**Reserve Fund** is the amount standing to the credit of the reserve that is invested outside the business in securities which are readily realisable. For example, when the amounts set apart for replacement of an asset are invested periodically, in government securities or shares, the account to which these amounts are annually credited is described as the Reserve Fund.

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## 2. Final Accounts of Manufacturing Entities

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The manufacturing entities prepare a *Manufacturing Account* as a part of Final accounts along with Trading Account, Profit and Loss Account and Balance Sheet. Manufacturing Account helps to ascertain manufacturing costs of finished goods to compute the cost effectiveness of manufacturing activities. Manufacturing costs of finished goods are then transferred from the Manufacturing Account to Trading Account.

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## 2. Final Accounts of Manufacturing Entities

Manufacturing cost is the sum total of all the resources consumed in the process of manufacturing of a product. In simple words, manufacturing cost is the sum of direct material, direct labour and manufacturing overhead.

**Total Manufacturing costs = Raw Material Consumed + Direct Manufacturing Wages + Direct Manufacturing Expenses + Indirect Manufacturing expenses or Manufacturing overhead**

or

**Total Manufacturing cost = Direct Manufacturing cost + Indirect Manufacturing Expenses or manufacturing overheads**

Note: Direct Manufacturing Cost = Raw Material Consumed + Direct Manufacturing Wages + Direct Manufacturing Expenses

### Raw Material consumed

This refers to the cost of direct material incurred in the manufacturing of a product. The formula to calculate Raw Material consumed is provided below.

**Raw Material consumed = Opening inventory of raw materials + purchases - closing inventory of raw material**

If there remain unfinished goods, i.e. Work-in-progress, at the beginning and at the end of the accounting period, then in such a case, Opening inventory of Work-in-Progress is posted to the debit of the Manufacturing Account and Closing Inventory of Work-in-Progress is posted to the credit of the Manufacturing Account.

### Direct Manufacturing Expenses

Direct manufacturing expenses refers to costs other than material or wages that are incurred for a particular product or saleable service.

For example, (i) Hire charges of a plant and machinery used on hire, if based on units produced, (ii) Royalties for using license or technology, if based on units produced. When royalty or hire charges are based on units produced, these expenses directly vary with production.

### Indirect Manufacturing Expenses or Manufacturing Overheads

Manufacturing overhead is defined as summation of indirect material, indirect wages and indirect expenses used in the process of production. These are also called as Production overheads or Works overheads.

**Manufacturing Overheads = Indirect Material + Indirect wages + Indirect Expenses**

Note: Overhead is the cost required to run a business, but which cannot be directly attributed to any specific business activity, product, or service. Thus, overhead costs do not directly lead to the generation of profits. Overhead is still necessary, since it provides critical support for the generation of profit-making activities. For example, a high-end clothier must pay a substantial amount for rent (a type of overhead) in order to be located in an adequate facility for the sale of clothes. The clothier must pay overhead to create the proper retail environment for its customers. Examples of overhead are Accounting and legal expenses, Administrative salaries, Depreciation, Insurance, Licenses and government fees, Property taxes, Rent, Utilities etc.

## 2. Final Accounts of Manufacturing Entities

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Usually, the production of the main product is accompanied by the production of a subsidiary product which has a value on sale. This subsidiary product is termed as a by-product because its production is not consciously undertaken but results out of the production of the main product. By Products form a very small percentage of the main product and is treated as a secondary product. For example, (i) Butter milk is the by-product of a dairy which produces butter and cheese. (ii) Molasses is the by-product in sugar manufacturing.

By-products usually have insignificant value as compared to the value of main product. If the cost of By-Products cannot be identified separately, then these are valued at **Net Realizable Value**. It is often treated, as **Miscellaneous income** but the correct treatment is to credit the sale value of the by-product to the Manufacturing Account to reduce the cost of manufacturing of main product.

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## 2. Final Accounts of Manufacturing Entities

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No standardized design for the presentation of a Manufacturing Account has been provided. However, a pro-forma of the Manufacturing Account covering various elements is provided next.

Dr.	Pro-Forma of Manufacturing Account for the year ended .....		Cr.	
	Particulars	Units Amount	Particulars	Units Amount
To Raw Material Consumed:				
Opening inventory				
Add: Purchases				
Less: Closing inventory				
To Direct Wages				
To Direct expenses:				
Prime cost			By By-Products at Net Realizable Value	
To Factory overheads:			By Closing Work-in-progress	
Royalty				
Hire charges			By Trading Account (Cost of Production)	
To Indirect expenses:				
Repairs & Maintenance				
Depreciation				
Factory cost				
To Opening Work-in-progress				

*Note:* However, nowadays, no manufacturing business entity prepares manufacturing account as part of its final accounts. The items of manufacturing account are shown either in trading account (in case of non-corporate entities) or in Statement of profit and loss (in case of corporate entities).

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### **3. Accounting for Not-for-Profit Organisation**

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There are certain organisations which are set up for providing service to its members and the public in general. Such organisations include clubs, charitable institutions, schools, religious organisations, trade unions, welfare societies and societies for the promotion of art and culture. These organisations have service as the main objective and not the profit as is the case of organisations in business. Normally, these organisations do not undertake any business activity, and are managed by trustees who are fully accountable to their members and the society for the utilization of the funds raised for meeting the objectives of the organisation. Hence, they also have to maintain proper accounts and prepare the financial statements.

The main characteristics of such organisations are discussed below.

(a) Such organisations are formed for providing service to a specific group or public at large such as education, health care, recreation, sports and so on without any consideration of caste, creed and colour. Its sole aim is to provide service either free of cost or at nominal cost, and not to earn profit.

(b) These are organised as charitable trusts/societies and subscribers to such organisation are called its members.

(c) Their affairs are usually managed by a managing/executive committee elected by its members.

(d) The main sources of income of such organisations are:

- Subscriptions from members
- Donations
- Legacies
- Grant-in-aid
- Income from investments, etc.

(e) The funds raised by such organisations through various sources are credited to capital fund or general fund.

(f) The surplus generated in the form of excess of income over expenditure is not distributed amongst the members. It is simply added in the capital fund.

(g) The Not-for-Profit Organisations earn their reputation on the basis of their contributions to the welfare of the society rather than on the customers' or owners' satisfaction.

(h) The accounting information provided by such organisations is meant for the present and potential contributors and to meet the statutory requirement.

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### 3. Accounting for Not-for-Profit Organisation

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Treatment of Important Items in Not-for-Profit Organization are discussed below

#### **Donation**

Donation is a gift in cash or kind from some person. It may be of 2 types:

- a. **Specific Donation:** It is received for certain specific purpose like Building Donation, Library Books donation etc. It should be capitalized and shown on the liabilities side of the balance sheet.
- b. **General Donation:** It is not received for any specific purpose and shown on the credit side of Income and Expenditure Account.

#### **Entrance Fees**

Entrance fees is also called **admission fees**. Entrance Fees should be capitalized and added to the capital fund for all Not-for-Profit organization. If the question gives any specific treatment of Entrance fees, then it should be followed accordingly.

#### **Legacy**

It is an amount received by an organization as per the will of the person after the death of the person. It should be capitalized and shown on the liabilities side of the balance sheet by adding to the Capital Fund.

#### **Life Membership Fees**

It should be capitalized and shown on the liabilities side of the balance sheet. If the question gives any specific treatment of Life membership Fees, then it should be followed accordingly.

#### **Endowment Fund Donation**

It is a donation received and only income from that donation is to be used for certain specific purpose. In such cases, income relating to special funds should be added to these funds on the liabilities side of the Balance Sheet. Similarly, all the expenses should be deducted from that fund on the liabilities side of the Balance Sheet.

*Note:* Scholarships granted to students out of funds provided by government will be deducted from the fund provided by government itself. If there appears any fund in the Balance sheet, then the respective incomes and expenses will be added/deducted from the respective fund itself.

#### **Treatment of Sale of Old Newspaper and Periodicals**

The amount received on such sale is shown as Income on the credit side of income and expenditure account.

#### **Sale of old Fixed Assets**

The sale proceeds of old Fixed Assets are treated as capital receipts. The profit or loss on sale of fixed asset is shown in the income and expenditure account.

#### **Honorarium**

It is paid to someone for receiving any services from person who are not the employees of the Not for Profit Organisation.

#### **Aids from Government and Other Institutions**

Aids are provided by the Government and other institutions. Such aids can be of 2 types, i.e., General Aids and Specific Aids.

- a. **General Aids:** These aids are treated as Revenue Receipts and are credited to the Income and Expenditure Account.
- b. **Special Aids:** These aids are treated as Capital Receipts and thus, are added to the Capital Fund.

#### **Subscriptions**

Subscription is a membership fee paid by the member of the organisation on annual basis. This is the main source of income for such organisations. Subscription paid by the members is shown as receipt in the Receipt and Payment Account and as income in the Income and Expenditure Account. It may be noted that Receipt and Payment Account shows the total amount of subscription actually received during the year while the amount shown in Income and Expenditure Account is confined to the figure related to the current period only irrespective of the fact whether it has been received or not.

For example, a club received Rs. 20,000 as subscriptions during the year 2014-15 of which Rs. 3,000 relate to year 2013-14 and Rs. 2,000 to 2015-16, and at the end of the year 2014-15 Rs. 6,000 are still receivable. In this case, the Receipt and Payment

Account will show Rs. 20,000 as receipt from subscriptions. But the Income and Expenditure Account will show Rs. 21,000 as income from subscriptions for the year 2014-15, the calculation of which is given as below.

Particulars	Amount in Rs.
Subscriptions received in 2014-15	20,000
Less: Subscriptions for the year 2013-14	(3,000)
Less: Subscription for the year 2015-16	(2,000)
Add: Subscriptions outstanding for the year 2014-15	6,000
Income from subscriptions for the year 2014-15	21,000

The amount of Rs. 21,000 subscriptions is to be shown as income for the current year. This can also be ascertained by preparing the subscription account as illustrated next.

Subscription Account for the year 2014-15					
Date	Particulars	Amount in Rs.	Date	Particulars	Amount in Rs.
	Balance b/d (outstanding at the beginning)	3,000		Balance b/d (received in advance during previous year)	Nil
	Income and Expenditure Account (balancing figure)	21,000		Cash (subscription received)	20,000
	Balance c/d (received in advance)	2,000		Balance c/d (outstanding at the end)	6,000
		26,000			26,000

### 3. Accounting for Not-for-Profit Organisation

The Not-for-Profit Organisations are also required to prepare financial statements at the end of each accounting period. Although these organisations are non-profit making entities and they are not required to make Trading and Profit & Loss Account, but it is necessary to know whether the income during the year was sufficient to meet the expenses or not. Not only that they have to provide the necessary financial information to members, donors, and contributors and also to the Registrar of Societies. For this purpose, they have to prepare their final accounts at the end of the accounting period and the general principles of accounting are fully applicable in their preparation as stated earlier, the final accounts of a **not-for-profit organisation** consist of the Accounts explained below.

#### Receipt and Payment Account

It is prepared at the end of the accounting year on the basis of cash receipts and cash payments recorded in the cash book.

Pro-forma of Receipts and Payments Account for the year ended ....		
Receipts	Amount in Rs.	Payments
Balance b/d		Balance b/d (Bank Overdraft)
Cash in Hand		Wages and Salaries
Cash at Bank		Rent
Subscriptions		Rates and Taxes
General Donations		Insurance
Sale of Newspaper / Periodicals / Waste Paper		Printing and Stationery
Sale of old sports material		Postage and courier
Interest on Fixed Deposits Interest / Dividend on General Investments		Advertisement
Locker Rent		Sundry Expenses
Sale of scraps		Telephone Charges
Proceeds from Charity Show		Entertainment Expenses
Miscellaneous Receipts		Audit fees
Grant-in-aid		Honorarium
Legacies		Repair and Renewals
Specific Donations		Upkeep of ground
Sale of Investments		Conveyance charges
Sale of Fixed assets		Newspaper and Periodicals
Life Membership Fees		Purchase of Assets
Entrance Fees		Purchase of Investments
Receipts on account of Specific Purpose Funds		Balance c/d
Interest on Specific Funds Investment		Cash in Hand
Balance b/d (Bank Overdraft)*		Cash at Bank*

\* There will be either of the two amounts, i.e., Cash at Bank or Bank Overdraft, not both.

It is a summary of cash and bank transactions under various heads. For example, subscriptions received from the members on different dates which appear on the debit side of the cash book, shall be shown on the receipts side of the Receipt and Payment Account as one item with its total amount. Similarly, salary, rent, electricity charges paid from time to time as recorded on the credit side of the cash book, but the total salary paid, total rent paid, total electricity charges paid during the year appear on the payment side of the Receipt and Payment Account. Thus, Receipt and Payment Account gives summarised picture of various receipts and payments, irrespective of whether they pertain to the current period, previous period or succeeding period or whether they are of capital or revenue nature. It may be noted that this account does not show any non-cash item like depreciation. The opening balance in Receipt and Payment Account represents cash in hand/cash at bank which is shown on its receipts side and the closing balance of this account represents cash in hand and bank balance as at the end of the year, which appear on the credit side of the Receipt and Payment Account. However, if it is bank overdraft at the end, it shall be shown on its debit side as the last item.

#### Income and Expenditure Account

Income and Expenditure Account is a nominal account and the rule of nominal account (debit all expenses and losses and credit all incomes and gains) is followed while preparing it. While preparing the account, only items of revenue nature are recorded and all items of capital nature are ignored. It is the summary of income and expenditure for the accounting year. It is just like a profit and loss account prepared on accrual basis in case of the business organisations. It includes only revenue items and the balance at the end represents surplus or deficit. The Income and Expenditure Account serves the same purpose as the profit and loss account of a business organisation does. All the revenue items relating to the current period are shown in this account, the expenses and losses on the expenditure side and incomes and gains on the income side of the account. It shows the net operating result in the form of surplus (i.e. excess of income over expenditure) or deficit (i.e. excess of expenditure over income), which is transferred to the capital fund shown in the balance sheet. The Income and Expenditure Account is prepared on accrual basis with the help of Receipts and Payments Account along with additional information regarding outstanding and prepaid expenses and depreciation etc.

#### **Pro-forma of Income and Expenditure Account for the year ended....**

<b>Expenditure</b>	<b>Amount in Rs.</b>	<b>Income</b>	<b>Amount in Rs.</b>
To Consumable Materials			
To Salary and Wages			
To Repairs		By Subscriptions	
To Expenses paid on specific show		By Grants Received	
To Entertainment Expenses		By Entrance Fees	
To Printing and Stationery		By General Donations	
To Newspaper and Periodicals		By Interest on Deposits	
To Postage		By Dividend	
To Upkeep of Lawn		By Collection or specific show	
To Rent		By Locker's Rent Received	
To Municipal Taxes		By Profit on sale of fixed assets	
To Loss on sale of fixed asset		By Miscellaneous	
To Depreciation		By Deficit*	
To Audit Fee		(Excess of Expenditure over Income)	
To Miscellaneous Expenses			
To Surplus*			
		(Excess of Income over Expenditure)	

\* Either of the two balancing figures shall appear in the Income and Expenditure Account

#### **Balance Sheet**

Not-for-Profit Organisations prepare Balance Sheet for ascertaining the financial position of the organisation. The preparation of their Balance Sheet is on the same pattern as that of the business entities. It shows assets and liabilities as at the end of the year. Assets are shown on the right-hand side and the liabilities on the left-hand side. However, there will be a Capital Fund or General Fund in place of the Capital and the surplus or deficit as per Income and Expenditure Account which is either added to/deducted from the capital fund, as the case may be. It is also a common practice to add some of the capitalised items like legacies, entrance fees and life membership fees directly in the capital fund. Besides the Capital or General Fund, there may be other funds created for specific purposes or to meet the requirements of the contributors/donors such as building fund, sports fund, etc. Such funds are shown separately in the liabilities side of the balance sheet. Sometimes, it becomes necessary to prepare Balance Sheet as at the beginning of the year in order to find out the opening balance of the capital/general fund.

#### **Pro-forma Balance Sheet as at...**

<b>Liabilities</b>	<b>Amount in Rs.</b>	<b>Assets</b>	<b>Amount in Rs.</b>
Capital Fund:		Cash in hand	
Opening Balance		Cash at bank	
Add: Surplus			
Less: Deficit			
Add: Capitalized income of the current year on account of		Outstanding Incomes	
Legacies		Prepaid Expenses	
Entrance Fess		Stock of Consumable Items:	
Life Membership Fees		Previous Balance (if any)	
Closing Balance		Add: Purchases in the current period	
		Less: Value consumed during the period	
Special Funds/Donations:		Closing Balance	

Previous Balance (if any)	Fixed Assets
<i>Add: Receipts for the item during the year</i>	Previous Balance (if any)
<i>Add: Income earned on Funds/Donations</i>	<i>Add: Purchases in the current period</i>
investment	<i>Less: Book Value of the asset</i>
<i>Less: Expenses paid out of Funds/Donations</i>	sold/disposed off
Net Balance	Closing Balance
Creditors for Purchases	
Bank Overdraft	
Outstanding Expenses	
Income Received in Advance	

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## 1. Consignment

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To consign means to send. In accounting, the term **consignment account** relates to accounts dealing with a situation where one person (or firm) sends goods to another person (or firm) on the basis that the goods will be sold on behalf of and at the risk of the former. The relationship between consignor and consignee is that of principal and agent.

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## 1. Consignment

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Some of the important features in concept of Consignment are discussed below.

1. The party which sends the goods (consignor) is called **Principal**.
  2. The party to whom goods are sent (consignee) is called **Agent**.
  3. The ownership of the goods, i.e., the property in the goods, remains with the consignor or the principal. The agent or the consignee does not become their owner even though goods are in his possession. On sale, of course, the buyer will become the owner.
  4. The consignor does not send sale invoice to the consignee, but instead, he sends only a pro-forma invoice. A pro-forma invoice is a statement that looks like an invoice but is not one. The object of the pro-forma invoice is only to convey information to the consignee regarding particulars of the goods sent.
  5. Usually, the consignee recovers from the consignor all expenses incurred by him on the consignment. This however, can be changed by agreement between the two parties.
  6. For his work, the consignee receives a commission calculated on the basis of gross sale. For ordinary commission, the consignee is not responsible for any bad debt that may arise. If the agent is to be made responsible for bad debts, he is to be paid a commission called del-credere commission, which is calculated on total sales and not merely on credit sales until and unless agreed.
  7. Periodically, the consignee sends to the consignor a statement called Account Sales. It sets out the sales made by the consignee, the expenses incurred on behalf of the consignor, the commission earned by the consignee and the balance due to the consignor. Account sales is a summary statement and different from sales account.
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# 1. Consignment

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The difference between Consignment and Sales is provided below.

Basis	Consignment	Sale
Ownership	Ownership of the goods rests with the consignor till the time they are sold by the consignee, no matter the goods are transferred to the consignee.	The ownership of the goods transfers with the transfer of goods from the seller to the buyer.
Return	The consignee can return the unsold goods to the consignor.	Goods sold are the property of the buyer and can be returned only if the seller agrees.
Loss	Consignor bears the loss of goods held with the consignee.	It is the buyer who will bear the loss if any, after the transfer of goods.
Relationship	The relationship between the consignor and the consignee is that of a principal and agent.	The relationship between the seller and the buyer is that of a creditor and a debtor.
Expenses	Expenses done by the consignee to receive the goods and to keep it safely are borne by the consignor unless there is any other agreement.	Expenses incurred by the buyer are to be borne by the buyer itself after the transfer of goods.

# 1. Consignment

Commission is defined as remuneration of an employee or agent relating to services performed in connection with sales, purchases, collections or other types of business transactions and is usually based on a percentage of the amount involved. Commission earned is accounted for as an income in the books of accounts. Commission allowed or paid is accounted for as an expense in the books of the party availing such facility or service. Consignor avails the services of the consignee. For these services availed, the consignor has to pay some commission to the consignee.

There are 3 types of Commissions, which can be provided by the consignor to the consignee. These are discussed below.



- 1. Ordinary Commission:** The term commission simply denotes ordinary commission. It is based on fixed percentage of the gross sales proceeds made by the consignee. It is given by the consignor regardless of whether the consignee is making credit sales or not. This type of commission does not give any protection to the consignor from bad debts and is provided on total sales.
- 2. Del-credere Commission:** To increase the sale and to encourage the consignee to make credit sales, the consignor provides an additional commission generally known as del-credere commission. This additional commission, when provided to the consignee gives a protection to the consignor against bad debts. After providing the del-credere commission, bad debts are no more the loss of the consignor. The consignee will now be responsible to bear the loss from bad debts. It is calculated on total sales unless there is any agreement between the consignor and the consignee to provide it on credit sales only.
- 3. Over-riding Commission:** It is an extra commission allowed by the consignor to the consignee to promote sales at higher price than specified or to encourage the consignee to put hard work in introducing new product in the market. Depending on the agreement, it is calculated on total sales or on the difference between actual sales and sales at invoice price, or any specified price. In order to encourage the consignee to earn higher margins, this commission can also be in the form of share of additional profits made by consignee on sale of goods.

# 1. Consignment

For ascertaining the profit or loss on a series of transaction, the golden rule is to open an account for the transactions, and (i) Put down the costs of goods and other expenses incurred on the debit side and (ii) Enter the sale proceeds or cost of goods unsold on the credit side. The difference between the total of debit and credit sides will reveal the resultant net profit/net loss. The consignor would like to know the profit/loss on each consignment; therefore, a separate consignment account has to be prepared for each consignment. Each consignment account is Nominal-cum-personal account (primarily treated as a nominal account) and gives the resultant figure as net profit/net loss for the transactions entered into it. Consignment account is prepared in the books of consignor on accrual basis.

Transaction/Event	Journal Entry
1. When goods are consigned or dispatched: (This is not a sale transaction, therefore, sale account is not credited, and personal account of consignee is not debited)	Consignment Account ...Dr. To Goods Sent on Consignment Account
2. Expenses incurred by consignor: (Expenses are directly debited to Consignment Account)	Consignment Account ...Dr. To Supplier Account/Bank/Cash
3. When advance is received from the consignee.	Bank/Cash Account ...Dr. To Consignee's Personal Account
4. On receipt of account sales from the consignee: (Account sales contain details of sales made by consignee, expenses incurred by consignee.)	For sales proceeds: Consignee's Personal Account ...Dr. To Consignment Account  For expenses incurred by consignee: Consignment Account ...Dr. To Consignee's Personal Account
5. Cash/cheque/ bank draft/ bill of exchange/promissory note received from the consignee as settlement	Cash/Bank/Bills Receivable Account ...Dr. To Consignee's Personal Account
6. For bad debts: (The accounting entry for bad debts will depend on whether del-credere commission is paid to the consignee.)	When Del-Credere commission is not paid to the consignee: Consignment account ...Dr. To Consignee's Personal Account  When Del-Credere Commission is paid to the consignee: No entry is passed as bad debts are borne by consignee.
7. For the goods taken over by the consignee	Consignee's Personal Account ...Dr. To Consignment Account
8. For unsold consignment stock. (In case the goods sent on consignment are still unsold at the time of preparing final accounts, the unsold stock is recorded as consignment stock.)	Consignment Stock Account ...Dr. To Consignment Account
9. For commission payable to consignee	Consignment Account ...Dr. To Consignee's Personal Account

## 1. Consignment

The principle states that inventories or unsold stock lying with the consignee should be valued at cost or net realisable value, whichever is lower.

Cost of unsold stock with the consignee consists of:

Cost of unsold stock consists of

Cost price of unsold goods

Consignor's proportionate expenses

Consignee's proportionate non-recurring expenses

1. Cost price of unsold goods;
2. Consignor's proportionate expenses;
3. Consignee's proportionate non-recurring expenses.

In the case of consignment, cost means not only the cost of the goods as such to the consignor but also all expenses incurred till the goods reach the premises of the consignee. Such expenses include packaging, freight, cartage, insurance in transit, octroi, import duty etc. But expenses incurred after the goods have reached the consignee's godown (such as godown rent, insurance of godown, delivery charges, salesman salaries) are not treated as part of the cost of purchase for valuing inventories in hand.

Consignment stock is disclosed in the balance sheet of the consignor on the assets side at invoice price less stock reserve (explained below in loading).

If the expected selling price of inventories in hand is lower than the cost, the inventories should be valued at expected net selling price only, i.e. expected selling price less delivery expenses, etc.

## 1. Consignment

The consignor instead of sending the goods on consignment at Cost Price, may send it at a price higher than the Cost Price, i.e., Invoice Price or Selling Price. The difference between Invoice Price and Cost Price of goods is known as **Loading**. Selling Price can be equal to, less than, or more than invoice price. The pro-forma invoice is made out at a value higher than the cost, i.e., at invoice price and entries in the books of the consignor are done on invoice price basis. The inventories remaining unsold or Closing Inventory will initially be valued on the basis of the invoice price. Goods are sent on Invoice Price with the view to keep profits on consignment secret. However, the profit or loss can be ascertained only if sale proceeds (plus) inventories on hand, are valued on cost basis, is compared with the cost of the goods concerned together with expenses. In order to remove the effect of loading, a separate account called **Stock Reserve** is opened. Therefore, if the entries have been made on invoice basis, the effect of loading must be removed by passing some additional entries which are discussed below.

Transaction/event	Journal entry
1. To Eliminate Loading on Opening Stock	Stock Reserve Account ...Dr. To Consignment Account
2. To Eliminate Loading on Closing Stock	Consignment Account ...Dr. To Stock Reserve Account
3. To Eliminate Loading on Goods Sent on Consignment	Goods Sent on Consignment Account ...Dr. To Consignment Account

## 1. Consignment

Normal loss is an unavoidable loss due to some inherent features of the product. It is treated as a part of cost by inflating cost per unit. No separate Journal entry is passed for normal loss. Normal loss impacts the gross profit.

For example, 20,000 kg of oranges are consigned to a wholesaler, the cost being Rs. 30 per kg, plus Rs. 40,000 of freight. It is decided that a loss of 15% is unavoidable.

The cost per kg will be calculate as follows.

$$\begin{aligned} \text{Cost per kg} &= \frac{20,000 \text{ kg} \times \text{Rs } 30 \text{ per kg} + \text{Rs } 40,000}{20,000 - (20,000 \times 15\%)} \\ &= \frac{\text{Rs } 6,40,000}{17,000} \\ &= \boxed{\text{Rs. } 37.647 \text{ per kg}} \end{aligned}$$

If the unsold inventory is 1,000 kg, it will be valued at Rs. 37.647 per kg, i.e., Rs 37,647.

## 1. Consignment

Abnormal loss is a loss which is accidental in nature. For example, loss due to an earthquake. The total cost of abnormal cost (whether recovered or not) is credited to Consignment Account. Abnormal loss is valued just like inventories/stock in hand. Abnormal loss impacts net profit.

If in case, accidental or unnecessary loss occurs, the first thing to do is to find out the cost of the goods lost and then to credit the Consignment Account and debit the Profit and Loss Account. This will enable the consignor to know what profit would have been earned had the loss not taken place.

*Cost of abnormal loss during transit*

= Cost price of goods lost in transit + Consignor's proportionate expenses

*Cost of abnormal loss in consignee's godown = Cost Price of goods lost in  
Consignee's godown + Consignor's proportionate expenses +  
Consignee's proportionate non-recurring expenses*

For example, 100 machines costing Rs. 2,500 each are sent on consignment basis and Rs. 10,000 are spent on freight. 20 machines are damaged beyond repair. The amount of loss will be calculated as follows.

Cost of abnormal loss during transit

$$\begin{aligned} &= \text{Cost price of goods lost in transit} + \text{Consignor's proportionate expenses} \\ &= \text{Rs. } 2,500 \times 20 + (\text{Rs. } 10,000 \times 20/100) \\ &= \text{Rs. } 52,000 \end{aligned}$$

This amount should be credited to the Consignment Account and debited to the Profit and Loss Account. If any amount, say, Rs. 40,000 is received from the insurance company, then debit to the P&L A/c will be only Rs. 12,000. But the credit to the Consignment Account will still be Rs. 52,000. Rs. 40,000 will be debited to the Bank Account.

## 1. Consignment

Transaction/event	Journal entry
1. To Record Abnormal Loss	Abnormal Loss Account ...Dr. To Consignment Account
2. If Abnormal Loss is recoverable from the insurance company	Insurance Company's Account ...Dr. To Abnormal Loss Account
3. If Abnormal Loss is recoverable from the consignee	Consignee's Personal Account ...Dr. To Abnormal Loss Account

## 1. Consignment

---

The entries in the books of consignee are concerned only when he sends an advance to the consignor, incurs expense on consignment, makes a sale, and earns his commission.

Transaction/Event	Journal Entry
1. To record sales, when made	Cash/Bank/Debtors Account ...Dr. To Consignor's Personal Account
2. To record advance paid to the consignor	Consignor's Personal Account ...Dr. To Bank Account
3. To record expenses incurred	Consignor's Personal Account ...Dr. To Bank Account
4. To record commission earned	Consignor's Personal Account ...Dr. To Commission Income Account
5 (i). To record Bad Debts, if borne by Consignor	Consignor's Personal Account ...Dr. To Debtors/ Customer's Account
5 (ii). To record Bad Debts, if borne by Consignee or Del-Credere Commission	Bad Debts Account ...Dr. To Debtors/Customer's Account When Del-Credere Commission is not allowed: Consignor's Personal Account ...Dr. To Bad Debts Account When Del-Credere Commission is allowed: Commission Account ...Dr. To Bad Debts Account
6. To write off Bad Debts	

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## 2. Goods Sent on Approval or Sale on Return Basis

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In normal course of business, goods are sold to customers and this is treated as sale immediately. This value of sale is then recognised as revenue in the Trading and Profit and Loss Account. But nowadays, when a business wants to introduce a new product in the market or increase its sales, it faces hardship due to existing competition in the market. To overcome this, goods are sometimes sent to the customers on sale or return basis.

Goods sent on approval or on return basis means goods are delivered to the customers with the option to retain or return them within a specified period. Generally, these transactions take place between a manufacturer (or a wholesaler) and a retailer.

Some essential features of goods sent on approval basis or return basis are discussed below:

1. Goods sent on approval basis or return basis does not involve transfer of ownership of goods. There is a change in the possession of goods from one person to another. The ownership is passed only when the buyer gives his approval or if the goods are not returned within the specified period.
2. The customer does not incur any liability when the goods are merely sent to him.

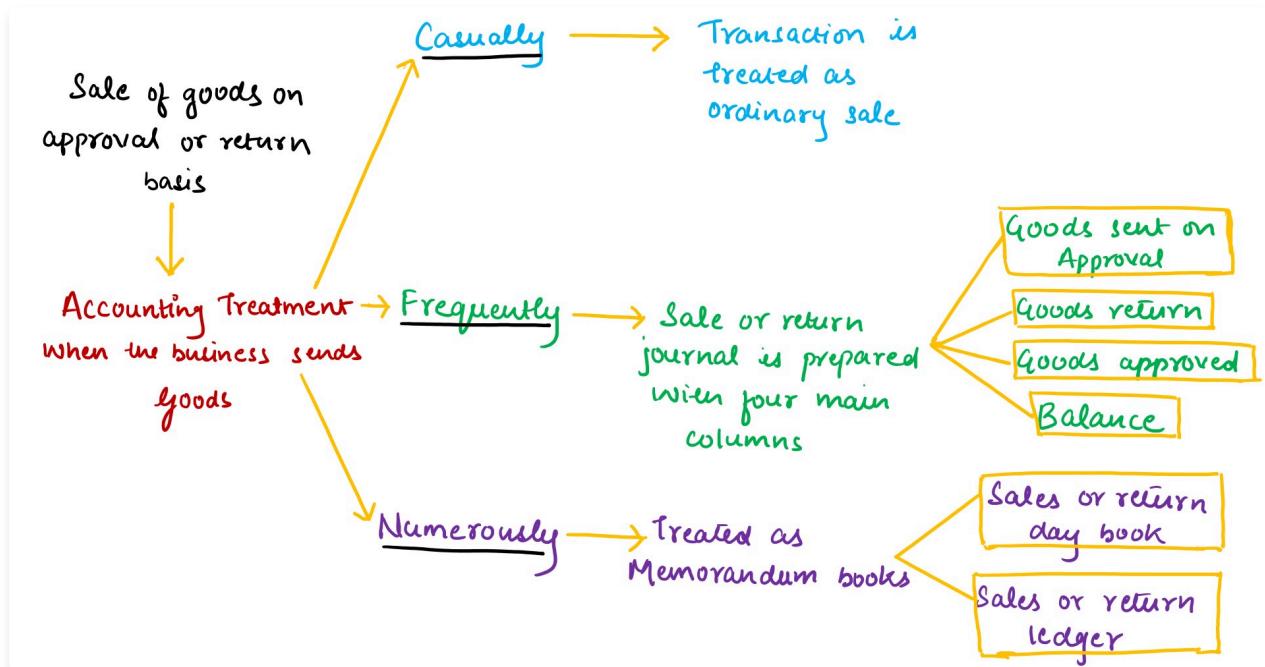
Now, when will sale take place in respect of goods sent on approval or return basis?

According to the definition given under the *Sale of Goods Act, 1930*, in respect of such goods, the sale will take place or the property in the goods passes to the buyer:

- a. When the customer gives his approval or acceptance to the seller.
- b. When the customer does some act adopting the transaction. For example, pledging of goods.
- c. If the customer does not give his approval or acceptance to the seller but retains the goods without giving notice of rejection, on the expiry of the specified time (if fixed) or on the expiry of a reasonable time (if not fixed).

### 3. Methods of Accounting for Goods Sent on Approval Basis

Accounting entries depend on whether the business sends goods on sale or return basis. Accordingly, there are 3 methods of Accounting which are given below.



- Casually, i.e. for few transactions;
- Frequently, i.e. for moderate transactions;
- Numerously, i.e. for large transactions.

Now let us discuss these methods one by one.

### 3. Methods of Accounting for Goods Sent on Approval Basis

In case of few transactions, the seller, on sending the goods, treats them as an ordinary sale. If the goods are accepted or not returned or the business receives no intimation within the specified time limit, no extra entry is required to be passed because the entry for sale (passed at the time of sending goods) becomes the usual entry after the expiry of the specified period.

If the goods are returned within a specified time limit, a reverse entry is passed to cancel the previous transaction. If, at the year-end, goods are still lying with the customers and the specified time limit is yet to expire, the entry for sales made earlier is cancelled and the value of the "goods lying with the customers" (goods lying with customers are shown in the Balance Sheet as part of closing inventory) must be reduced from the selling price to the cost price. Note that, no entry is to be passed for goods returned by the customer on a subsequent date.

Journal Entries required to be passed under this method

Transaction/Event	Journal entry
1. When goods are sent on approval or return basis.	Trade Receivable/Sundry Debtors Account ...Dr. To Sales Account (At invoice price)
2. When goods are rejected or returned within the specified time.	Sales/Sales Return/Return Inwards Account ...Dr. To Trade Receivable/Sundry Debtors Account (At invoice price)
3. When goods are accepted at invoice price or not returned or the business receives no intimation within specified time limit.	No entry is to be passed since the entry for sale (passed at the time of sending goods) becomes the usual entry after the expiry of the specified period.
4. When goods are accepted at a higher price than invoice price.	Trade Receivable/Sundry Debtors Account ...Dr. To Sales Account (Difference in price)
5. When goods are accepted at a lower price than the invoice price.	Sales Account ...Dr. To Trade Receivable/Sundry Debtors Account (Difference in price)
6. (i) At the year end, when goods are lying with the customers and the specified time limit is yet to expire.	Sales Account ...Dr. To Trade Receivable/Sundry Debtors Account (At invoice price)
6. (ii) These goods are to be treated as inventories with customers and an adjustment entry is required to be passed at year end.	Inventories with customer on Sale on approval or Return Account ...Dr. To Trading Account (At cost price or market price, whichever is less)

### 3. Methods of Accounting for Goods Sent on Approval Basis

When a business sends goods on sale or return moderately, or on a frequent basis, an immediate sale does not take place. Only when the customer signifies his intention to purchase the goods or takes some action whereby it is indicated that he has decided to purchase the goods, the property in the goods passes to the buyer. As long as the property does not pass to the buyer, the seller does not record it as a sale and, therefore, does not debit the customer with the sales price.

Under this method, record of goods sent is maintained in a specially ruled Sale or Return Journal / Day Book instead of passing entry for sale of goods. This Day Book is divided into 4 main columns - (1) Goods sent on Approval; (2) Goods Returned: (3) Goods Approved; and (4) Balance.

Goods sent on approval				Goods returned				Goods approved				Balance		
1	2	3	4	5	6	7	8	9	10	11	12	13		
Date	Particulars	Fol.	Amt.	Date	Particulars	Fol.	Amt.	Date	Particulars	Fol.	Amt.	Amt.		

When such a Journal is kept, procedure adopted for recording transactions is explained below.

- i. When goods are sent out for sale on approval, entries are made only in column 1 to 4, the sale price of goods being entered in column 4. The sale price is also posted to the debit of the customers' account in 'Goods on Approval Ledger', and periodically total of column 4 is posted to the credit of Goods on Approval Total Account in the same ledger.
- ii. If goods are returned, entries are made in columns 5 to 8, the price of goods returned being entered to column 8. The individual amounts are credited to the Customers' Accounts, in the 'Goods on Approval' Ledger and the total of this column is periodically posted to the Total Goods on Approval Account.
- iii. If the goods are retained by the customer, entries are made in columns 9 to 12. The individual amounts are then posted to the debit of customer's accounts in the Sales Ledger and their total is credited to Sales Account in the General Ledger. Further the customer's accounts in the Goods on Approval Ledger are credited with the individual amounts of goods sold and periodically, the total of the amount is posted to the debit of Goods on Approval Total Account.
- iv. Value of goods sent out but not sold or returned till the close of the year is extended to column 13. The total of this column, afterwards, will show the value of goods with customers at the sale price. The balance amount is calculated as follows:

$$\text{Balance} = \text{Value of goods sent on sales or return} - \text{Value of goods return} - \text{Value of goods approved}$$

Information relating to goods delivered and goods returned is kept on Memorandum basis. But, information relating to goods approved and balance is duly accounted for by passing journal entries relating to sales and Inventories on approval basis. The amount, after eliminating the element of profit, is included in the Trading Account representing the value of Inventories with customers at cost price. Inventories lying with customers on behalf of seller are treated as ordinary closing inventories. Such goods are valued at cost or net realisable value, whichever is less.

Journal Entries required to be passed under this method.

Transaction/event	Journal entry
1. At the time of approval of goods by the customer.	Trade Receivable/Sundry Debtors Account ...Dr. To Sales Account
2. At the time of preparing Final Accounts, an adjustment entry is required to be passed.	Inventories with customer on Sale on approval or Return Account ...Dr. To Trading Account (At Cost price or net realizable value whichever is less)

### **3. Methods of Accounting for Goods Sent on Approval Basis**

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When transactions are large or numerous, a business maintains the following books:

- a. Sale or Return Day Book; and
- b. Sale or Return Ledger.

**Ledger** contains the accounts of the customers and the 'Sale or Return' Total account. 'Day Book' is the primary book which records all transactions, and from there, these are entered in the 'Sale or Return' Total account.

It is important to remember that both are Memorandum Books, i.e., these records are not a part of regular books of accounts.

Following procedure is adopted for recording transactions under this method:

- a. When goods are sent to the customers on a sale or return basis, they are first recorded in the Sale or Return day Book. After that, in the Sale or Return Ledger, all the customers are individually debited and the Sale or Return Account is credited with the periodical total of the Sale or Return Day Book.
- b. When the goods are returned by the customers within the specified time, they are recorded initially in the Sale or Return Day Book. Thereafter, in the Sale or Return Ledger, the Sale or Return Account is debited with the periodical total of the Sale or Return Day Book and the individual customers are credited. The above mentioned records are all memorandum records and hence will not have a place in the regular books.
- c. When the business receives information about the acceptance of the goods or no intimation is received within the specified time, they are recognised as sales and are recorded in the Sales Day Book. Periodically, the total of the Sales Day Book is credited to Sales Account and debited to the Individual Customers Account. To cancel the earlier entries, individual customers are credited and the Sale or Return Account is debited.

The entries for the approved goods are provided below:

**In the Memorandum Sale or Return Ledger    In the regular General Ledger**

Sale or Return Account ...Dr.	Individual Customer's Account ...Dr.
To Individual Customer's Account	To Sales Account

At the year end, in the Sale or Return Ledger, the sum of the debit balances of the Individual Customers' Account must be equal to the credit balance of the Sale or Return Account. It represents Inventories with customers waiting for approval at invoice price. To adjust the cost of such goods with customers in the Final Accounts, the following entry is passed.

Inventories with Customers on Sale or Return Account ...Dr.  
To Trading Account ...**(Cost or net realisable value, whichever is less)**

In short, under this method, entries are passed in the regular books of account only at the time of sale or a year end, if inventory is still lying with customers (pending approval).

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## 4. Joint Venture

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Joint Venture is described as a temporary partnership between two or more persons without the use of the firm name, for a limited purpose. Simply put, under Joint Venture, two or more persons agree to undertake a particular venture. For example, Joint consignment of goods, Joint construction of a building, Joint underwriting of a particular issue of shares or debentures, to share the profits and losses thereof in an agreed ratio (if agreement is silent on this point, then in equal ratio).

The persons who have so agreed to undertake a Joint Venture are known as **Joint Venturers** or **Co-Venturers**. The relation between Co-Venturers is that of Co-Owners. This limited partnership automatically expires on the completion of the venture for which it was formed.

Some important features of joint venture business are given below.

- a. It is a short duration special purpose partnership. But, the provisions of Indian Partnership Act do not apply on Joint Ventures.
- b. Co-venturers contribute funds for running the venture or supply inventories for running the venture.
- c. Co-venturers share profit/loss of the venture at an agreed ratio likewise partnership (if agreement is silent, then in equal ratio).
- d. Generally profit/loss of the venture is computed on completion of the venture.
- e. Going concern assumption of accounting is not appropriate for joint venture accounting. There is no problem of distinction between capital and revenue expenditure. Plant, machinery and other fixed assets when used in venture are first charged to venture account at cost. On completion of venture such assets are revalued and shown as revenue of the venture. Thus, accounting approach for measurement of venture profit is totally different.

For example, Aman and Bhavesh decided to purchase Assam Teak in Guwahati and send it to Delhi. Aman of Guwahati purchased Teak of Rs. 2,00,000; spent Rs. 40,000 for transportation and Rs. 16,000 for transit insurance. Bhavesh of Delhi received the goods. Bhavesh spent Rs 4,000 for unloading, Rs. 12,000 for godown rent and Rs. 8,000 for selling expenses. He sold the entire lot for Rs. 3,50,000. They agreed to share profit of the venture in the ratio of Aman : Bhavesh = 3:2.

In the above example, Aman and Bhavesh are co-venturers. The venture was for sale of a certain quantity of Assam Teak. The venture would be over on sale of such Teak. Now, we need to understand the various methods for accounting of these transactions which will help us in determining the true profit/loss of this joint venture and settlement of claims of co-venturers.

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## 4. Joint Venture

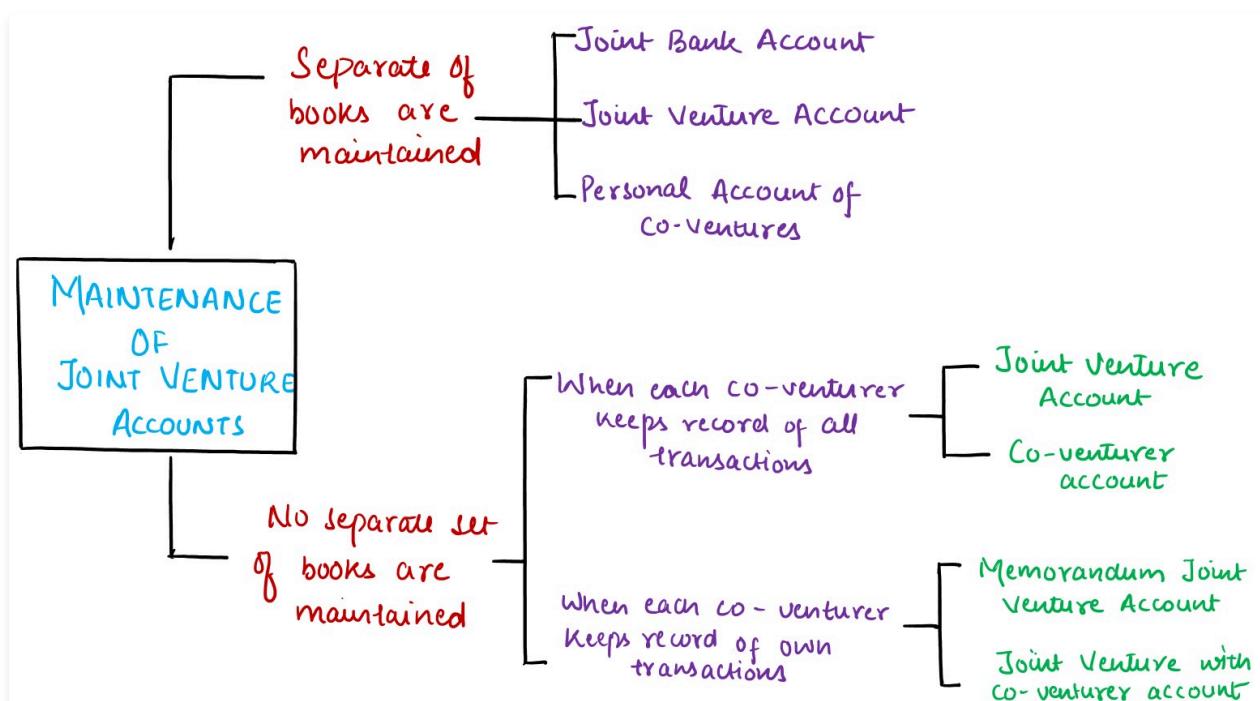
Co-venturers are allowed to maintain the accounts for joint venture in the manner that suits them in the situation. Generally there are 2 ways to keep records of joint venture, that have been discussed below.

### When separate set of books are maintained

Co-Venturers maintain a completely separate set of books to record the transactions of the Joint Venture. Under this method, all co-venturers contribute their share of investment and deposit their share in a Joint Bank Account, which is newly opened for the specific function of the joint venture. This joint bank account is used to make all the payments and to deposit all sale proceeds or receipts of any other kind.

In case, the size of the venture is fairly big, the co-venturers keep separate set of books of account for the joint venture. Joint venture transactions are separate from their regular business activities. In the books of Joint Venture the following accounts are opened.

- a. **Joint Bank Account:** The co-venturers open a separate bank account for the venture transactions by making initial contributions. Expenses are met from this Joint Bank Account and sales or collections from transactions are deposited to this account. Sometimes, the co-venturers may make direct payments and direct collections. On completion of the venture, the Joint Bank Account is closed by paying the balance to co-venturers.
- b. **Joint Venture Account:** Joint Venture account is a nominal account like Trading and Profit & Loss Account and is prepared to calculate the profit/loss on venture. Debit items in this account include Purchases, expenses, commission, interest, discount charges on bills receivables and profit on venture account. Credit items in this account comprise of sale proceeds, insurance claims, closing stock, cost of goods taken over by co-venturer, loss on venture account. Items not taken into consideration while preparing Joint Venture account are Unrecovered Abnormal loss of goods, and bad debts (if cash sales and collections from debtors are credited to Joint Venture Account).
- c. **Personal Accounts of the Co-venturers or Co-venturers' Accounts:** Personal accounts of the venturers are prepared to keep proper record of their contributions of cash, goods or meeting venture expenditure directly and direct payment received by them on venture transactions. This account is also closed simultaneously with the closure of joint bank account.



Journal entries under this method are tabulated below.

Transaction/Event	Journal Entry
1. For Initial contribution by the Co-Venturers in Joint Bank Account.	Joint Bank Account ...Dr. To Co-Venturers Account
2. For expenses paid out of Joint Bank Account.	Joint Venture Account ...Dr. To Joint Bank Account

3. For material supplied by venturers or direct payment made by venturers.	Joint Venture Account ...Dr. To Co-Venturers' Account
4. For sale or payment received.	Joint Bank Account ...Dr. To Joint Venture Account
5. For sale or payment received directly by the venturers.	Co-Venturers' Account ...Dr. To Joint Venture Account
6. (i) For profit on Venture.	Joint Venture Account ...Dr. To Co-Venturers' Account
6. (ii) For Loss on Venture.	Co-Venturers' Account ...Dr. To Joint Venture Account
7. For closing the Joint Bank Account	Co-venturers' account ...Dr. To Joint Bank Account

**When no separate set of books are maintained**

In this case, the co-venturers do not maintain a separate set of books to record the transactions of the Joint Venture. Under this method, each Co-Venturer can decide to keep record of all transactions; or, each Co-Venturer can decide to keep record of their own transactions only. Thus, there are further 2 cases in this method:

**(i) When each Co-venturer keeps record of all transaction**

Joint venture account and Co-venturer's account are maintained under this case. Journal Entries under this method are given below.

Transaction/Event	Journal Entry
1. For supply of goods to Venture out of Business Inventories.	Joint Venture Account ...Dr. To Purchase Account
2. For meeting the expenses of venture.	Joint Venture Account ...Dr. To Bank Account
3. When Co-Venturer supplies goods and incurs expenses for Venture.	Joint Venture Account ...Dr. To Co-Venturer Account
4. To record Venture sale.	Bank Account ...Dr. To Joint Venture Account
5. To record Venture sale made by the Co-Venturer.	Co-Venturer Account ...Dr. To Joint Venture Account
6. (i) For profit on Venture.	Joint Venture Account ...Dr. To Profit and Loss Account (For own share) To Co-Venturer's Account (For Co-venturer's share)
6. (ii) For Loss on Venture.	Profit and Loss Account (For own share) ...Dr. Co-Venturer's (For Co-venturer's share) ...Dr. To Joint Venture Account
7. (i) For settlement of claims – When payment is due to Co-Venturer.	Co-Venturers' Account ...Dr. To Bank Account
7. (ii) For settlement of claims – When payment is due from Co-Venturer.	Bank Account ...Dr. To Co-Venturer Account

*Note:* Two special ledger accounts are necessary for joint venture transactions in the books of a venturer: (i) Joint Venture Account and (ii) Co-Venturer's Account.

**(ii) When each co-venturer keeps record of own transactions only**

Memorandum Joint Venture Account and Joint Venture with Co-venturer account are maintained in this case. Sometimes, Co-Venturers find it convenient to keep record of their own transactions only. For this, it is necessary to open "Joint Venture with Co-venturer" since all expenses incurred, materials sent, etc. are debited to this account. Profit earned is also debited to this account while the loss sustained is credited. Any receipt from joint venture or from co-venturer is credited to this account, while

any payment to the co-venturer is debited to this account, profit/loss on joint venture cannot be determined from this account. To calculate profit/loss, a **Memorandum Joint Venture Account**" is prepared, instead of preparing Joint Venture Account.

**Memorandum Joint Venture Account:** This is a rough statement prepared by the co-venturers for determination of venture profit when they do not maintain full records of venture transactions in the books of accounts. Unless this memorandum account is prepared, the venturer cannot compute venture profit. Thus, this account is a nominal account, prepared for ascertaining the profit or loss of the joint venture. Journal Entries under this method are as follow.

Transaction/Event	Journal Entry
1. For supply of material/goods from stores.	Joint Venture with Y Account ...Dr. To Purchase Account
2. For payment of expenses.	Joint Venture with Y Account ...Dr. To Bank/Cash Account
3. For sale on venture.	Bank Account ...Dr. To Joint Venture with Y Account
4. For Profit on venture.	Joint Venture with Y Account ...Dr. To Profit and Loss Account
5. (i) For final payment/settlement of claims – to co-venturer.	Joint Venture with Y Account ...Dr. To Bank Account
5. (ii) For final payment/settlement of claims – made by co-venturer.	Bank Account ...Dr. To Joint Venture with Y Account

## 5. Bills of Exchange and Promissory Notes

In today's business environment, when goods are sold on credit, the seller would like that the purchaser should give a definite promise in writing to pay the amount of the goods on a certain date. Keeping this issue in mind, a commercial practice has developed to treat these written promises into valuable instruments of credit. When a written promise is made in proper form and is properly stamped, it is supposed that the buyer has discharged his debt and that the seller has received payment.

In simple words, a seller sells goods to a buyer on credit basis. The seller raises an invoice on buyer. Now, the seller will prepare a draft, which will be sent by him to the buyer and when buyer accepts this draft, he makes a written promise to pay the amount due to the seller on the due date. This will be a Bill Receivable for the seller and a Bill Payable for the buyer of goods.

These instruments can also be passed on from person to person. The written promise is either in the form of a bill of exchange or in the form of a promissory note.

## 5. Bills of Exchange and Promissory Notes

As per Section 5 of the Negotiable Instruments Act, 1881, A **Bill of Exchange** has been defined as an instrument in writing containing an unconditional order signed by the maker directing a certain person to pay a certain sum of money only to or to the order of a certain person or to the bearer of the instrument.

When prepared by the maker, i.e., seller of goods, it is called Draft. Once this Draft is accepted by the buyer of goods, it becomes a valid Bill of exchange.

The features of a Bill of exchange are as follows:

- a. It must be in writing.
- b. It must contain an order to pay which must be unconditional.
- c. Bill of Exchange must be dated.
- d. It must be used to pay money only and the amount of money payable should be certain.
- e. The party must sign the document.
- f. It must be properly stamped and all the 3 parties to a bill (i.e. Drawer, Drawee, and Payee) must be specified with reasonable certainty.

For example, Ram sold goods to Laxman on credit for Rs. 50,000 on 15<sup>th</sup> February 2019, payable after credit period of four months. On the same date, Ram draws a Bill of Exchange to be paid after 4 months after date and sends the draft to Laxman for acceptance. After Laxman's acceptance, this draft becomes a valid Bill of Exchange. This will be a Bill Receivable for Ram and Bill Payable for Laxman. Now assume, Ram endorses this Bill in favour of Krishna, who is a creditor of Ram.

In this case, Ram is the drawer, Laxman is the Drawee and Krishna is the Payee.

Format of a Bill of Exchange	
Rs. 2,00,000 only	Mumbai, 15th February 2019
Four months after date, pay to Sri. Krishna or his order, a sum of Rs. 2,00,000 only, for value received.	
To Sri. Laxman 45, Bank Street, Madurai	Stamp Signature of Ram Signature of Laxman

The parties involved in a Bill of Exchange are given below.

1. **Drawer:** The person who makes/drafts the bill of exchange is called drawer (or maker), i.e., Seller of goods.
2. **Drawee:** The person who accepts the bill of exchange is called drawee/acceptor, i.e., Buyer of goods.
3. **Payee:** The person to whom the amount is payable is called the payee.

The drawer and the payee can be the same person. Sometimes, the drawer may order the payment to a third party, in case of endorsement of bill which will be discussed in the next sections.

After the acceptance of a Bill of Exchange, the drawer of the bill has the following options.

- a. **Retention till Maturity:** Drawer may retain the bill up to the date of maturity with him. The bill of exchange will be presented on due date by the drawer himself.
- b. **Discounting with Bank:** Drawer may discount the bill with his bank, to get the amount of bill immediately. Bank will collect discounting charges to discount a Bill before due date. These discounting charges are income for the bank and an expense for holder of the Bill. For example, A bill of exchange for Rs. 1,00,000 payable after 3 months is discounted with Bank @ 18% discounting charges.

Now, the discount charges deducted by Bank = Rs 1,00,000 × 18% ×  $\frac{3}{12}$

$$= \boxed{\text{Rs } 4500}$$

So the drawer will get Rs. 1,00,000 - Rs 4,500 = Rs 95,500 immediately.

- c. **Endorsement:** Drawer may endorse the Bill of Exchange in favour of third party, i.e., his own creditor, by signing on the back of the instrument. The person who endorses is called as the endorser, and the person entitled to payment is called endorsee.
- d. **Sent for Collection:** For safety purposes, the Drawer may deposit the Bill of Exchange with his bank with clear instructions that the Bill of Exchange must be retained till maturity and should be realized on the due date. In this option, there is no discounting, only deposit of the bill with bank. If the Bill of Exchange is sent to bank with such instructions, it is called "Bills Sent for Collection."
- e. **Pledge:** Drawer may pledge the Bill of Exchange with any bank or other party for taking a loan.

## 5. Bills of Exchange and Promissory Notes

As per Section 4 of the Negotiable Instruments Acts, 1881, a **Promissory Note** is an instrument in writing, not being a bank note or currency note containing an unconditional undertaking signed by the maker to pay a certain sum of money only to or to the order of a certain person.

Under Section 31(2) of the Reserve Bank of India Act, 1934, a promissory note cannot be made payable to bearer, i.e., only the RBI and Central Government can make a Promissory Note payable to Bearer on demand.

Format of a Promissory Note	
Rs. 1,00,000 only	Krishnakumar 34, Old street, Mumbai
Two months after date, I promise to pay to Ramkumar or his order, a sum of Rs. 1,00,000 only, for value received.	
To Sri. Laxman 45, New Street, Pune	Stamp Signature of Krishnakumar Date: 14th April 2019

Features of a Promissory Note are as follows:

- a. Promissory Note must be in writing.
- b. Promissory Note must contain a clear promise to pay.
- c. The promise to pay must be unconditional and definite.
- d. The promiser or maker must sign the promissory note.
- e. The maker must be a certain person.
- f. The payee (the person to whom the payment is promised) must be clearly specified.
- g. The sum payable must be certain or capable of being made certain.
- h. Payment must be in legal currency of the country and there must be a promise to pay only money and not any other consideration.
- i. It should not be made payable to the bearer.
- j. It should be properly stamped.

In the given Figure., Drawer is Krishnakumar, and the Payee is Ramkumar.

### Meaning of "At Sight", "On Presentment", and "After Sight"

- a. In a Promissory Note or Bill of Exchange, both expressions *at sight* and *on presentment* mean, *on demand*.
- b. In a Promissory Note, the expression *after sight* means, after presentment of sight.
- c. In a Bill of Exchange, the expression *after sight* means, after acceptance, or noting for non-acceptance or protest for non-acceptance.

**Term of a Bill:** The term of bill of exchange may be of any duration. Usually, the term does not exceed 90 days from the date of the bill. When a bill is drawn *after sight*, the term of the bill begins from the date of *sight*, i.e., when the bill is accepted. When a bill is drawn *after date*, the term of the bill begins from the date of drawing the bill.

**Expiry/Due Date of a Bill:** The date on which the term of the bill terminates is called as Expiry/Due Date of the bill.

**Days of Grace:** Drawee is given 3 extra days following the due date of the bill for making the payment. These 3 extra days are called as Days of Grace.

**Date of Maturity of Bill:** The date which comes after adding 3 days of grace to the expiry/due date of a bill is called as the date of maturity.

In calculating the maturity of a Promissory Note or a Bill of Exchange, which is not payable *on demand*, *at sight* or *on presentment*, 3 days of grace shall be added to the date on which the instrument is expressed to be payable.

The following instruments are entitled to Days of Grace:

- a. A Note or a Bill Payable on a specified date.
- b. A Note or a Bill Payable after sight.
- c. A Note or a Bill Payable after certain period of time.
- d. A Note or a Bill Payable after the happening of a certain event.
- e. Where a Note or a Bill is payable in installments, days of grace are allowed on each installment.

**Bill At Sight:** Bill at Sight means the instruments in which no time for payment is mentioned, i.e., these are payable on demand.

A promissory note or bill of exchange is payable on demand,

- a. When no time for payment is specified, or
- b. When it is expressed to be payable *on demand*, or *at sight* or *on presentment*.

An instrument payable on demand may be presented for payment at any time. Days of grace is not to be added to calculate maturity for such types of bill.

**Bill After Date:** Bill After Date means the instrument in which time for payment is mentioned. A promissory note or Bill of Exchange is a time instrument when it is expressed to be payable-

- a. after a specified period.
  - b. on a specific day.
  - c. after sight.
  - d. on the happening of event which is certain to happen.
-

## 5. Bills of Exchange and Promissory Notes

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<b>Case</b>	<b>Due Date</b>	<b>3 Days of Grace</b>	<b>Date of Maturity</b>
When the bill is made payable on a specific date. 1.	That specific date will be the due date. Allowed  The date on which the term of the bill shall expire will be the due date.		Date of Maturity will be due date + 3 Days of Grace.
When the bill is made payable at a stated number of months: 2. After date*, or After sight**, or After a certain event.	   Note: If the month in which the period terminates has no corresponding day, period will terminate on the last day of such month.  For Example, Bill of exchange dated 30 <sup>th</sup> January is made payable 1 month after date. In this case, Due date will be 28 <sup>th</sup> February and Date of Maturity will be 3 <sup>rd</sup> March.  That date which comes after adding the stated number of days to the date of bill, will be the due date.	Allowed	Date of Maturity will be due date + 3 Days of Grace. That is, 3 days after the corresponding date of the month after the stated number of months.
When the bill is made payable at a stated number of days: 3. After date*, or After sight**, or After a certain event.	   Note: The date of Bill is excluded.  For example, Bill of exchange dated 1 <sup>st</sup> November is made payable 15 days after date. The period of 15 days will be counted from 2 <sup>nd</sup> November and the due date will be 16 <sup>th</sup> November.	Allowed	Date of Maturity will be due date + 3 days of Grace.  For example, Bill of exchange dated 1 <sup>st</sup> November is made payable 15 days after date. The period of 15 days will be counted from 2 <sup>nd</sup> November and the due date will be 16 <sup>th</sup> November. Date of Maturity will be 19 <sup>th</sup> November.
When the due date is a public holiday.  Note: Public Holiday includes 4. Sundays and any other day declared by the Central Government by notification in the Official Gazette to be a Public Holiday.	The preceding business day will be the due date.  For example, A promissory Note or Bill of exchange falls due on Sunday, it shall be deemed to be due on Saturday, i.e., preceding business day.  The next following day will be the due date.	Not Allowed	Due Date is the Date of Maturity.
When the due date is an Emergency/Unforeseen Holiday. 5.	For Example, Bill of Exchange matures for payment on 24 <sup>th</sup> December. The Government declares 24 <sup>th</sup> December as Holiday due to death of a leader. In this case, due date will be 26 <sup>th</sup> December, since 25 <sup>th</sup> December is Christmas, i.e., Public Holiday.	Not Allowed	Due Date is the Date of Maturity.

\* The term of a Bill after date of drawing a bill commences from the date of drawing of bill.

\*\* The term of a Bill after sight commences from the date of acceptance of the bill

## **5. Bills of Exchange and Promissory Notes**

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Non-payment of a Bill of Exchange on the due date is called as dishonour of a Bill of Exchange.

In case of dishonour of a Bill of Exchange on the due date, the fact of dishonour and the causes of dishonour should be ascertained and recorded on the Bill of Exchange itself. Otherwise, the acceptor may prove that the Bill of exchange was not presented properly to him on the due date and hence can escape his liability. Therefore, if there is dishonour, or fear of dishonour, the bill will be given to a public official known as **Notary Public**.

These officials present the bill for payment and if the money is received, they will hand over the money to the original party. But if the bill is dishonoured, they will note the fact of dishonour, with the reasons and give the bill back to their client. For this service, Notary Public charges a small fee which is called as noting charges. The amount of noting charges is recoverable from the party which is responsible for dishonour, but these are incurred by the party presenting the Bill of Exchange on the due date.

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## **5. Bills of Exchange and Promissory Notes**

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Sometimes, the acceptor of a Bill of Exchange is unable to pay the amount on the due date. In such case, the acceptor may request the drawer for an extension of the time period. A new Bill of Exchange will be drawn and the old Bill of Exchange will be cancelled. The value of the new bill can contain the value of the old bill plus interest, if any. Journal entries are passed for cancellation of the old bill, which is same as in the case of dishonor of a bill. When the new bill is received, entries for the receipt of the bill will be repeated. This constitutes Renewal of Bill of Exchange.

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## **5. Bills of Exchange and Promissory Notes**

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Sometimes, the acceptor of the Bill of Exchange is ready to pay the amount even before the due date. In such cases, the acceptor approaches the payee of the bill of exchange and asks him whether the payee is prepared to accept cash before the maturity date. The acceptor gets a certain rebate or interest or discount for premature payment. The interest becomes the income of the acceptor and expense of the payee. It is a consideration of premature payment.

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## 5. Bills of Exchange and Promissory Notes

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Generally, Bill of Exchange is drawn in support of a trade transaction, i.e., credit sales. However, Bill of Exchange can also be utilized for raising finance without a trade transaction. When Bill of Exchange is used for financing purposes, it is called as Accommodation Bill. An Accommodation Bill is referred to as **Kite Bill**.

For example, assume Abhinav and Balram are in need of funds, say Rs. 3,00,000 and Rs. 2,00,000 respectively, temporarily in business. Both drew a Bill of Exchange on each other for Rs.3,00,000 and Rs 2,00,000 respectively. Now, Abhinav and Balram can discount their bills with their bankers and obtain the funds.

Sometimes, a single Bill of Exchange may also be drawn by one party on the other and get the Bill discounted with the bank. The proceeds will be shared by both parties in an agreed ratio. The discounting charges must also be borne by the two parties in the same ratio in which the proceeds are divided. On the due date, the acceptor will receive from the other party his share then, the bill will then be met on due date. Journal entries are passed in the books of the 2 parties exactly in the same manner as in case of ordinary bills. The additional journal entry is required only to record the sending of remittance to the other party and debiting the other party with the shared amount of discount.

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## 5. Bills of Exchange and Promissory Notes

Insolvency of the drawee means that he will be unable to pay his liabilities. This implies that bills accepted by him will be dishonoured on the due date. Therefore, when it is known that a person has become insolvent, entry for dishonour of his acceptance must be passed.

Later on, if some amount is received from his estate, cash account will be debited and the personal account of the debtor will be credited in the books of the payee/drawer. The remaining amount that is irrecoverable, should be written off as bad debt. In the books of drawee of the bill, the amount not paid by him due to insolvency should be credited to deficiency account.

Journal entries in the Books of the Drawer are done as below.

<b>Transaction/event</b>	<b>Journal Entry</b>
1. Basic Trade transaction, if any, i.e., credit sales	Acceptor (Sundry debtors) Account ... Dr. To Sales Account
2. Bill Accepted by debtor and received by seller	Bill Receivable Account ...Dr. To Acceptor (Sundry debtors) Account
3. (a) If Bill is retained till maturity	No further Journal entry till the date of maturity
(b) If Bill is discounted with the bank	Bank Account ...Dr. Discounting Charges Account ...Dr. To Bills Receivable Account
(c) If Bill is endorsed in favour of other party, i.e., creditors	Sundry Creditors Account ...Dr. To Bill Receivable Account
(d) If Bill is sent to bank for Collection	Bill Sent For Collection Account ...Dr. To Bill Receivables Account
4. Payment received, i.e., bill honoured on due date	
(a) If Bill is retained till maturity	Cash / Bank Account ...Dr. To Bill Receivable Account
(b) If Bill is discounted with the bank	No entry, if Bill is honoured on maturity since the bank/creditor will receive the payment
(c) If Bill is endorsed in favour of other party, i.e., creditors	No entry, if Bill is honoured on maturity since the bank/creditor will receive the payment
(d) If Bill is sent to bank for Collection	Bank Account ...Dr. To Bill Sent For Collection Account
5. Payment not received, i.e. bill is dishonoured on due date	
(a) If Bill is retained till maturity	Acceptor (Sundry Debtor) Account ...Dr.(B/E Amount + Charges) To Bill Receivable Account (B/E Amount) To Cash / Bank Account (Noting Charges)
(b) If Bill is discounted with the bank	Acceptor (Sundry Debtor) Account ...Dr. (B/E Amount + Charges) To Bank Account (B/E Amount + Noting Charges)
(c) If Bill is endorsed in favour of other party, i.e., creditors	Acceptor (Sundry Debtor) Account ...Dr.(B/E Amount + Charges) To Creditor Account (B/E Amount + Noting Charges)
(d) If Bill is sent to bank for Collection	Acceptor (Sundry Debtor) Account ...Dr.(B/E Amount + Charges) To Bill Sent For Collection Account (B/E

		Amount) To Cash / Bank Account (Noting Charges)
6.	Renewal of Bill before its due date	
	(a) Cancellation of old Bill of Exchange	Acceptor (Sundry debtor) Account ...Dr. To Bill Receivable Account
	(b) To record interest income for renewal / extension.	Acceptor (Sundry Debtor) Account ...Dr. To Interest Income Account
	(c) Acceptance received for new Bill of Exchange (Sometimes, the new Bill of Exchange may be for the amount of old Bill of Exchange + Interest thereon. In other cases, interest may be separately settled in cash by the Acceptor.)	Bill Receivable Account ...Dr. To Acceptor (Sundry Debtor) Account
7.	Retirement of Bill under Rebate, before due date	Cash / Bank Account ...Dr. Rebate / Interest on Bill Account ...Dr. To Bills Receivables Account
8.	Insolvency of Drawee	This is similar to dishonour of Bill of Exchange. Amount due from Acceptor has to be written off as bad debts up to the extent it is not recovered.

Note: (i) In case of Promissory Note, the above entries are recorded in the books of the Maker of Promissory Note.

(ii) (B/E is acronym for Bill of Exchange).

Journal Entries in the Books of the Drawee / Acceptor are done as below.

Transaction/event	Journal Entry
1. Basic Trade transaction, if any, i.e., credit purchases	Purchases Account ...Dr. To Sundry Creditors (Drawer) Account
2. Acceptance given for Bill of Exchange	Drawer / Sundry Creditors Account ...Dr. To Bill Payable Account
3. (a) If Bill is retained till maturity	No Journal entry in the books of the Drawee
(b) If Bill is discounted with the bank	No Journal entry in the books of the Drawee
(c) If Bill is endorsed in favour of other party, i.e., creditors	No Journal entry in the books of the Drawee
(d) If Bill is sent to bank for Collection	No Journal entry in the books of the Drawee
4. Payment made, i.e., bill honoured on due date	Bill Payable Account ...Dr. To Cash / Bank Account
5. Payment not received, i.e. bill is dishonoured on due date	Bill Payable Account ...Dr. Noting Charges (Expenses) Account ...Dr. To Drawer Account
6. Renewal of Bill before its due date	
(a) Cancellation of old Bill of Exchange	Bill Payable Account ...Dr. To Drawer Account
(b) To record interest income for renewal / extension	Interest Expense Account ...Dr. To Drawer Account

	(c) Acceptance received for new Bill of Exchange (Sometimes, the new Bill of Exchange may be for the amount of old Bill of Exchange + Interest thereon. In other cases, interest may be separately settled in cash by the Acceptor)	Drawer Account ...Dr. To Bill Payable Account
7.	Retirement of Bill under Rebate, before due date	Bill Payable Account (Full amount) ...Dr. To Cash / Bank (Net amount paid) To Rebate / Interest Income (Rebate)
8.	Insolvency of Drawee	
	(a) For non-payment of Bill of Exchange	Bills Payable Account ...Dr. Noting Charges (Expenses) Account ...Dr. To Drawer Account
	(b) Final settlement, if any, made to drawer	Drawer Account (Full amount) ...Dr. To Cash/ Bank Account (Amount finally settled) To Deficiency Account (Amount not paid)

## 5. Bills of Exchange and Promissory Notes

Difference between Bill of Exchange and Promissory Note is given in the table below.

Basis	Bill of Exchange	Promissory Note
Drawer	It is drawn by the creditor.	It is drawn by the debtor.
Order or Promise and Parties	It contains an order to make the payment. There can be 3 parties to it, viz. the drawer, the drawee and the payee.	It contains a promise to make payment. There are only 2 parties to it, viz. the drawer and the payee.
Acceptance	It requires acceptance by the drawee or someone else on his behalf.	It does not require any acceptance.
Payee	Drawer and payee can be the same party.	Drawer cannot be the payee of it.
Notice	In case of its dishonour, due notice of dishonour is to be given by the holder to the drawer.	No notice needs to be given in case of its dishonour.

## 6. Foreign Bill

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Section 12 of the Negotiable Instruments Act provides that an instrument which is not an inland instrument is deemed to be a foreign instrument. The following are the examples of foreign bills.

- a. A bill drawn in India on a person resident outside India and made payable outside India.
- b. A bill drawn outside India on a person resident outside India.
- c. A bill drawn outside India and made payable in India.
- d. A bill drawn outside India and made payable outside India.

For example, A bill drawn in Chennai on trader in America made payable in America is a foreign bill, since this bill neither made payable in India nor is it drawn upon a person resident in India.

Whereas, a bill drawn in Pune on a businessman in Chennai and accepted payable in California will be an inland bill, since this bill is drawn in India and is drawn upon a person resident in India.

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## 1. Introduction

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When a running business is taken over by the promoters of a company, as at a date prior to the date of incorporation of company, the amount of profit or loss of such a business for the period prior to the date the company came into existence is referred to as "pre-incorporation profits or losses". The profit or loss prior to incorporation is regarded as of capital nature, because a company cannot do any business before its incorporation, i.e., before coming into existence. Profits prior to incorporation should not be used for distribution as dividend.

*Note:* There is a difference between the Takeover Date and Incorporation Date which should be understood. The Company may take over an existing business, as a going concern, from a date prior to the company's incorporation. For example, a company taking over the business of a firm with effect from 1<sup>st</sup> January, but the company is, however, incorporated only on 1<sup>st</sup> April.

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## 2. Accounting Treatment

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Let us discuss the accounting treatment of profit or loss prior to incorporation one by one.

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## **2. Accounting Treatment**

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Profit prior to incorporation can be dealt with in the following ways:

(i) It is transferred to Capital Reserve Account, i.e., it is credited to Capital Reserve Account and the balance of Capital Reserve Account is shown under the head "Reserves and Surplus" in the balance sheet. Capital reserve balance can be used for:

- a. Writing off preliminary expenses.
- b. Writing down overvalued assets, if any.
- c. Issuing bonus shares.
- d. Making partly-paid up shares, fully paid-up.

(ii) Writing off Goodwill on Acquisition, i.e., it can be credited to Goodwill Account, if goodwill has been debited as an asset at the time of acquisition of business.

(iii) The profit will not be available for distribution as a dividend among the members of the company.

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## **2. Accounting Treatment**

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Loss prior to incorporation is treated as a part of Business Acquisition Cost, i.e., "Goodwill." Such goodwill can be dealt in the following ways:

- a. Added to Goodwill on Acquisition (excess of Purchase Consideration over value of Net Assets taken over), i.e. it is debited to Goodwill Account.
- b. Set off against Capital Profits, i.e., it can also be debited to Capital Reserve Account, if capital reserve has been created at the time of acquisition of business.
- c. Written off against post incorporation profits.

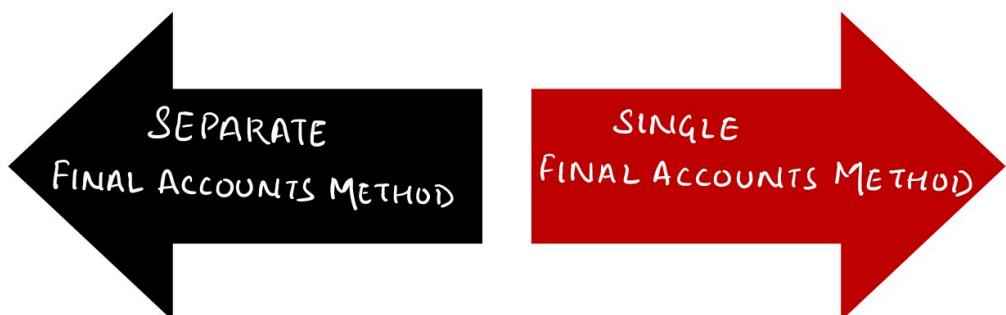
*Note:*

- i. Purchase Consideration means the aggregate of the shares and other securities issued and payment made in the form of cash or other assets by the Purchasing Company to the vendor of an existing business. In simple words, Purchase Consideration means the amount payable by the Purchasing Company to the vendor of an existing business.
  - ii. Net Assets is the difference between the agreed value of assets taken over and the agreed amount of liabilities taken over.
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## 2. Accounting Treatment

The profit or loss prior to incorporation can be ascertained using any of the following 2 methods which are explained below.

### Methods of Computing Profit or Loss Prior to Incorporation



- 1. Separate Final Accounts Method:** Under this method, the books of the business taken over are balanced off and the trial balance is prepared as on the date of incorporation of the company. Then, a Profit or Loss Statement is prepared for the period from the date of acquisition of the business to the date of incorporation of the company to calculate the Profit or Loss prior to incorporation.
- 2. Single Final Accounts Method:** Under this method, a trial balance is prepared only at the end of accounting period and a Profit or Loss Statement is prepared for the whole period, covering the pre-incorporation period and the post-incorporation period. Then, the profit or loss for the whole period is apportioned between pre-incorporation period and post-incorporation period on some appropriate basis.

The following table provides the basis of apportionment between Pre and Post Incorporation Period for various items:

Item	Basis of Apportionment between Pre and Post Incorporation Period
(a) Gross Profit or Gross Loss	(i) Sales Ratio-On the basis of turnover in the respective periods; or (ii) On the basis of cost of goods sold in the respective periods (in the absence of any information regarding turnover); or (iii) Time Ratio-On the basis of time in the respective periods (in the absence of any information regarding turnover and cost of goods sold.)
(b) Variable expenses linked with Turnover (Carriage outward, Selling and distribution expenses, Commission to selling/travelling agents, Bad debts, advertisement expenses, Brokerage, expenses related to Sales Promotion)	Based on Sales Ratio
(c) Fixed Common charges (Salaries, Office and Administration Expenses, Rent, Rates and Taxes, Printing and Stationery, Telephone, Telegram and Postage, Depreciation, Miscellaneous Expenses)	Based on Time Ratio
(d) Expenses exclusively relating to pre- Incorporation period (Interest on Vendor's Capital)	Charge to pre-incorporation period (but if the purchase consideration is not paid on taking over of business, interest for the subsequent period is charged to post incorporation period)
(e) Expenses exclusively relating to post- incorporation period (Formation expenses, interest on debentures, director's fees,	Charge to Post-incorporation period

Directors' remuneration, Preliminary Expenses, Share issue Expenses, Underwriting commission, Discount on issue of securities)	
(f) (i) Audit Fees for Company's Audit under the Companies Act.  (ii) Audit Fees for Tax Audit under section 44AB of the Income tax Act, 1961	Charge to Post-incorporation period  On the basis of respective periods Turnover in the respective periods
(g) (i) Interest on purchase consideration to vendor for the period from the date of acquisition of business to date of incorporation.  (ii) Interest on purchase consideration to vendor for the period from the date of incorporation to the date of payment	Charge to Pre-incorporation period  Charge to Post-incorporation period

#### Illustration

Chandan Ltd was incorporated on 1.08.2017 to take over the running business of Kumar Bros. with assets from 1.04.2017. The accounts of the company were closed on 31.03.2018. The average monthly sales during the first 4 months of the year 2017-18 were twice the average monthly sales during each of the remaining 8 months. Calculate Time Ratio and Sales Ratio.

#### Solution:

Time Ratio is calculated on the basis of Number of Months in the Pre-incorporation period and Post-incorporation period.

Pre-Incorporation Period = 1.04.2017 to 31.07.2017 = 4 months

Post-Incorporation Period = 1.08.2017 to 31.03.2018 = 8 months

Thus, Time Ratio = 4 : 8 = 1 : 2

Sales Ratio will be calculated as follows:

Average monthly sale during the first 4 months was twice the average monthly sale, i.e., Average monthly sale before incorporation was twice the average monthly sale per month to the post incorporation period. Let the Average monthly sale for each Post-Incorporation month be "y".

Therefore,

Pre- incorporation period sales (for 4 months) = 4 months  $\times$  2y = 8y

Post- incorporation period sales (for 8 months) = 8 months  $\times$  y = 8y

Thus, Sales Ratio = 8y : 8y = 1 : 1

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# 1. Introduction

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Imagine you're starting a new venture, let us say a manufacturing business.

To get things rolling, you'll need various assets such as land, machinery, raw materials, workers, and inventory. These assets can be broadly divided into two categories: **fixed assets**, like land and machinery, which are long-term investments, and **current assets**, such as inventory, which are more short-term resources.

Now, acquiring these assets requires money. This is where financing comes into play. Essentially, you need to raise funds to purchase these assets, and this is done through liabilities. Liabilities are essentially the financial obligations or debts of a business, and they serve as the means to finance its operations.

So, how do you finance these assets? Well, there are two main sources: **equity shares** and **bonds**. Equity shares represent ownership in the business and are provided by shareholders. On the other hand, bonds represent debt owed by the business and are provided by bondholders. Both shareholders and bondholders contribute financially to the business, enabling it to acquire the necessary assets to operate and grow.

The **ultimate goal of financial management** is to ensure that the cash generated from these assets surpasses the cash invested by both shareholders and bondholders. In simpler terms, the business aims to generate more wealth than it has invested. This means efficiently utilizing the assets financed by both equity and debt to generate returns that exceed the costs of financing.

In essence, Financial Management revolves around making sound financial decisions to acquire, finance, and manage assets in a way that maximizes returns and creates value for the business and its stakeholders.

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## 2. Financial Management

*Types of  
Financial Management  
Decisions*



Financial Management is a crucial function within a business that involves making decisions related to the acquisition, financing, and management of assets. The primary goal is to achieve the business objectives and maximize shareholder value.

These decisions are categorized into three main areas:

### 1. Investment Decision

The investment decision focuses on determining in which long-lived assets the firm should invest. This process, known as capital budgeting, involves evaluating and managing expenditures on long-term assets. Key components include:

**Capital Budgeting:** This is the process of planning and managing a firm's long-term investments. The firm must decide which projects or assets to invest in, based on potential returns and alignment with business objectives. This includes analyzing projects to determine their expected profitability and risk.

**Disinvestment:** The flip side of investment, where the firm must decide to reduce, eliminate, or replace assets that are no longer economically justified. This involves identifying underperforming assets and making decisions to divest or repurpose them to optimize the firm's asset base.

### 2. Financing Decision

The financing decision involves determining how the firm can raise cash for required capital expenditures. This is closely related to the firm's capital structure, which represents the proportions of the firm's financing from current and long-term debt and equity. Key considerations include:

**Capital Structure:** This pertains to the mix of debt and equity that a firm uses to finance its operations and growth. Financial managers must determine the optimal balance between debt (such as loans and bonds) and equity (such as stock issuance), considering the cost of capital, financial risk, and impact on shareholder value.

**Dividend Policy:** An integral part of the financing decision, dividend policy determines how much of the firm's earnings are distributed to shareholders versus retained for reinvestment. This affects the firm's ability to fund future projects internally and impacts investor satisfaction and stock price.

**Fundraising Strategy:** Financial managers must strategize on how to obtain the necessary funds once the financing mix is determined. This could involve securing loans, leasing, or issuing securities such as bonds or stocks. The choice of funding method can affect the firm's financial flexibility and cost of capital.

### 3. Asset Management Decision

The asset management decision focuses on efficiently managing the firm's assets after acquisition and securing financing. This involves optimizing the use of both current and fixed assets to ensure profitability and liquidity. Key aspects include:

**Short-term Cash Flow Management:** Managing the timing mismatch between cash inflows and outflows during operating activities. Financial managers aim to optimize liquidity by managing cash reserves and ensuring the firm can meet its short-

term obligations. This includes planning for uncertainties in cash flow timing and amounts.

**Net Working Capital Management:** From a balance sheet perspective, this involves managing current assets (such as cash, inventory, and accounts receivable) and current liabilities to ensure sufficient liquidity. Effective working capital management helps the firm maintain operational efficiency and financial stability.

**Operational Efficiency:** Financial managers oversee the operational aspects of asset management, ensuring that current assets are managed to optimize liquidity and profitability. While they have some responsibility for fixed assets, the primary oversight typically lies with operational managers who use these assets in day-to-day operations.

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### 3. Objectives of Financial Management

The main goal of financial management is to ensure that shareholders, who are the owners of the company, receive the highest possible return on their investment.



But how exactly do we determine if shareholders are getting a good deal?

#### 1. Sales Maximization

At first glance, it might seem like increasing sales is always a good thing. After all, more sales mean more revenue, right? However, simply focusing on boosting sales without considering other factors can be risky. For instance, a company might offer big discounts or extend generous credit terms to attract more customers. While this might lead to a short-term sales increase, it could ultimately hurt profitability if the costs outweigh the benefits.

#### 2. Profit Maximization

Making as much profit as possible might sound like the ideal objective for a business. However, solely prioritizing profit can have drawbacks. For instance, a manager might be tempted to increase profits by issuing more shares of the company's stock and using the proceeds to invest in low-risk assets like Treasury bills. While this might boost profits in the short term, it could dilute the ownership stake of existing shareholders and decrease their share of profits in the long run.

#### 3. EPS (Earnings Per Share) Maximization

EPS is a measure of how much profit each share of the company's stock represents. Some argue that maximizing EPS is a better objective than simply focusing on profit, as it provides a more accurate reflection of shareholder value. However, EPS maximization has its limitations. It doesn't take into account the timing or risk of returns, and it overlooks the impact of dividend payments on the stock's value.

#### 4. Market Price of Share

The market price of a company's stock is often considered the most reliable indicator of shareholder value. It reflects investors' collective judgment of the company's worth and takes into account various factors such as current and expected future earnings, dividend policy, and risk. If shareholders are unhappy with the company's performance, they may choose to sell their shares, which could lead to a decrease in the stock price.

In essence, the objective of financial management should be to **maximize the value of shareholders' equity**. This means ensuring that shareholders receive the highest possible return on their investment after all other obligations of the company, such as employee salaries, supplier payments, and taxes, have been met. When shareholders are receiving value from their investment, it typically indicates that the entire ecosystem of the company is functioning well and benefiting.

## 4. Functions of Financial Manager

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The finance manager plays a vital role in managing the financial resources of the company effectively, optimizing financial performance, and creating long-term value for stakeholders.

### 1. Financial Planning

The finance manager is responsible for developing long-term financial plans and strategies to ensure the company's financial stability and growth. This includes forecasting future financial needs, setting financial goals, and creating budgets to achieve those goals.

### 2. Capital Budgeting

The finance manager evaluates investment opportunities and decides which projects or assets the company should invest in. This involves analyzing the potential returns and risks associated with each investment to determine their viability and alignment with the company's objectives.

### 3. Capital Structure Management

Managing the company's capital structure involves determining the optimal mix of debt and equity financing to fund its operations and investments. The finance manager assesses various financing options, negotiates terms with lenders or investors, and monitors the company's debt levels to ensure financial sustainability.

### 4. Risk Management

Identifying, assessing, and mitigating financial risks is a crucial function of the finance manager. This includes managing risks related to interest rates, exchange rates, credit, liquidity, and market fluctuations to safeguard the company's financial health and protect shareholder value.

### 5. Financial Analysis and Reporting

The finance manager analyzes financial data and prepares financial reports, including income statements, balance sheets, and cash flow statements, to provide insights into the company's performance and financial position. They also communicate financial information to stakeholders, such as investors, creditors, and management, to facilitate informed decision-making.

### 6. Working Capital Management

Managing the company's working capital, including cash, inventory, accounts receivable, and accounts payable, is essential for maintaining liquidity and optimizing operational efficiency. The finance manager oversees cash flow, inventory levels, and credit policies to ensure smooth business operations and minimize financing costs.

### 7. Dividend Policy

Finance managers play a key role in determining the company's dividend policy, including how much of the company's earnings should be distributed to shareholders as dividends versus retained for reinvestment in the business.

### 8. Financial Compliance

Ensuring compliance with financial regulations, accounting standards, and tax laws is a critical responsibility of the finance manager. They establish internal controls, policies, and procedures to maintain accurate financial records and prevent fraud or mismanagement.

### 9. Investor Relations

Managing relationships with investors, analysts, and other external stakeholders is important for maintaining transparency and building trust in the company's financial performance and prospects. The finance manager communicates with investors, attends shareholder meetings, and responds to inquiries to promote investor confidence and support the company's valuation.

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## 5. Financial Management Function

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The financial management function within an organization is crucial for its smooth operation and success.

In a typical firm, the financial management function is led by the vice president of finance, also known as the chief financial officer (CFO). The CFO usually reports directly to the president or chief executive officer (CEO).

In larger firms, the financial operations overseen by the CFO are divided into two main branches:

### 1. Controller's Branch

The controller is responsible for accounting-related tasks. This includes managing cost accounting, preparing budgets and forecasts for internal use, and handling external financial reporting to entities like the SEBI, RBI and shareholders.

### 2. Treasurer's Branch

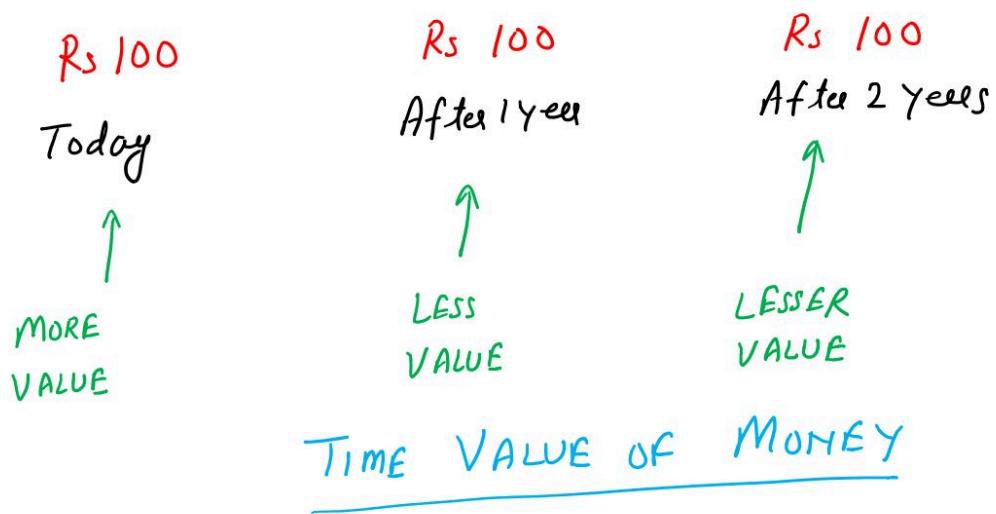
The treasurer is in charge of key financial management decisions. This involves areas such as investment decisions (like capital budgeting and managing pensions), financing decisions (such as managing banking relationships, investor communications, and dividend payments), and asset management (including cash and credit management).

Although the organization chart may suggest a clear separation between the roles of the treasurer and controller, in reality, there's often a lot of collaboration and information sharing between the two branches.

In smaller organizations, the roles of the treasurer and controller may be combined into one position due to resource constraints. In such cases, the individual overseeing financial management handles a broader range of responsibilities, including both accounting and financial decision-making tasks.

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## 1. Introduction



The concept of time value of money states that a certain amount of money today is worth more than the same amount of money in the future. This is because money has the potential to grow in value over time through investments.

Let's illustrate this concept with an example:

Suppose you sell a phone for Rs 100 and the buyer proposes to pay you Rs 100 after one year, you are faced with a choice between receiving the money immediately or waiting one year for it.

If you opt to receive Rs 100 now, you have the opportunity to invest that amount to generate returns over the year. For instance, depositing it in a bank account with a 6% annual interest rate would result in it growing to Rs 106 after one year.

On the other hand, if you postpone receiving the Rs 100 until after one year, you lose out on the chance to invest it and earn returns during that time. So, while the nominal amount remains the same (Rs 100), its actual value to you diminishes due to the missed opportunity for investment growth.

Therefore, receiving Rs 100 now holds more value than receiving the same amount after one year because of the potential for investment and earning returns. This is called concept of **Time Value of Money**.

## 2. Future Value and Present Value

Suppose you have a phone and two options:

Option 1: Sell the phone now for Rs 10,000.

Option 2: Wait one year and sell the phone for Rs 11,000.

At first glance, Option 2 may seem better because it offers a higher selling price. However, to make an informed decision, we need to consider the relevance of Time Value of Money. Let us do it with concept of future value and present value.

### Future Value

Future value (FV) is the value of an investment at a specific point in the future, taking into account interest or growth. It helps us compare different investment options over time.

CALCULATING FUTURE VALUE FROM PRESENT VALUE

$$FV = PV (1+i)^n$$

*i = interest rate*  
*n = number of compounding periods*

Now, let's calculate the future value for both options:

Option 1:

Initial investment: Rs 10,000

Interest rate: 12% (considering that, you can invest Rs 10,000 at rate of 12% per annum)

Future value after one year = Rs 10,000 + (Rs 10,000 × 0.12) = Rs 11,200

Option 2:

Future value after one year = Rs 11,000

Comparing the future values, we find that the future value of Option 1 (Rs 11,200) is higher than that of Option 2 (Rs 11,000). Therefore, Option 1 is the better choice in terms of future value.

The process of going forward from present values (PV) to future values (FV) is known as **Compounding**. The compounded amount, or future value, is equal to the beginning amount plus interest earned.

Future Value is also called Terminal Value or Compound Value.

### Present Value

Similarly, we can compare both options in terms of Present Value (PV). Present Value (PV) is the current value of a future amount of money.

Present Value of Option 1: Rs 10,000

Present Value (PV) of Option 2 is calculated using the formula:

CALCULATING PRESENT VALUE FROM FUTURE VALUE

$$PV = \frac{FV}{(1+i)^n}$$

*i = interest rate*  
*n = number of compounding periods*

For Option 2, the Future Value is Rs 11,000 and the Interest Rate is 12%. So, the Present Value of Option 2 is:

$$\text{Present Value} = \text{Rs } 11,000 / (1 + 0.12) = \text{Rs } 9,821$$

Comparing the Present Values, we find that the Present Value of Option 1 (Rs 10,000) is higher than that of Option 2 (Rs 9,821).

Therefore, in terms of Present Value, Option 1 is the better choice.

Present value is the current value of a future sum of money, taking into account a specified **discount rate** (also called capitalization rate). It helps us compare the value of money received or paid at different points in time. In this case, Option 1 has a higher present value because receiving the money now is more valuable than receiving it in the future.

The process of going backwards from future values to present values is known as **discounting**.

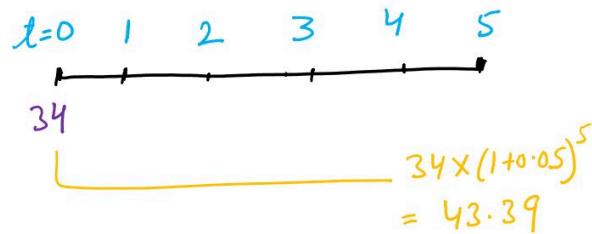
Discounting is the reciprocal of compounding.

## 2. Future Value and Present Value

What is the future value of Rs. 34 in 5 years if the interest rate is 5%?

**Solution:**

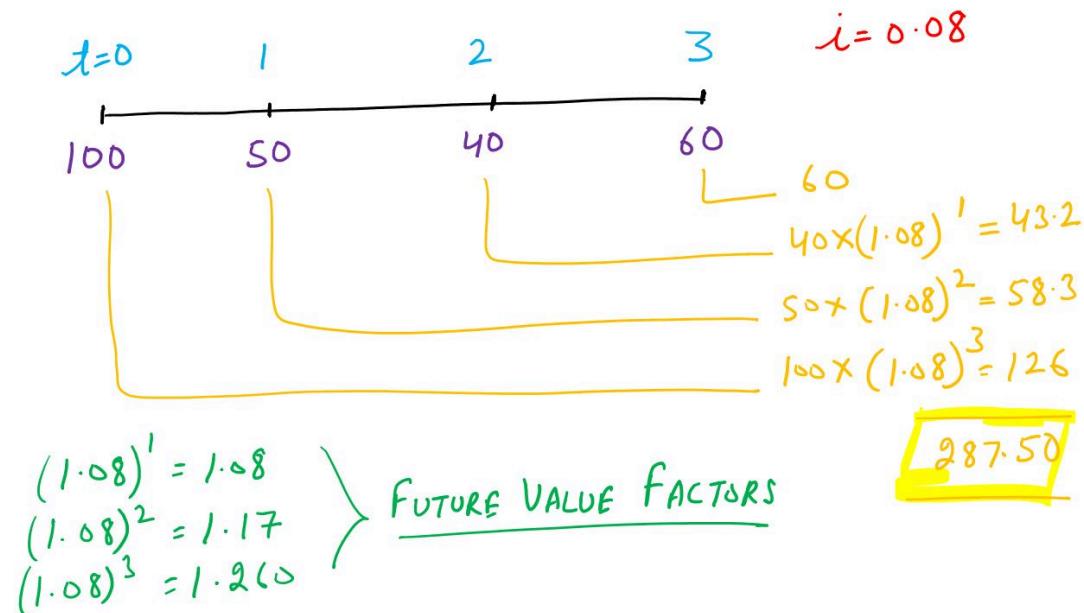
$$\begin{aligned} FV &= PV (1+i)^n \\ &= 34 (1+0.05)^5 \\ &= 34 \times 1.2763 \\ &= \text{Rs } 43.39 \end{aligned}$$



## 2. Future Value and Present Value

What is the future value of a series of cash flows at the end of 3 years: Rs 100 now, Rs 50 after 1 year, Rs 40 after 2 years, and Rs 60 after 3 years, assuming an interest rate of 8% compounded annually?

Solution:

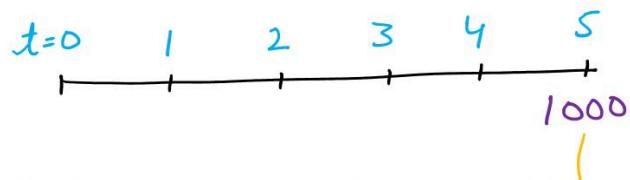


## 2. Future Value and Present Value

I will give you Rs 1000 after 5 years. How much money should you give me now to make it fair to me. You think a good interest rate would be 6%.

Solution:

$$PV = \frac{FV}{(1+i)^n}$$
$$= \frac{1000}{(1+0.06)^5} \quad \frac{1000}{(1+0.06)^5} \leftarrow \\ = 747.38$$

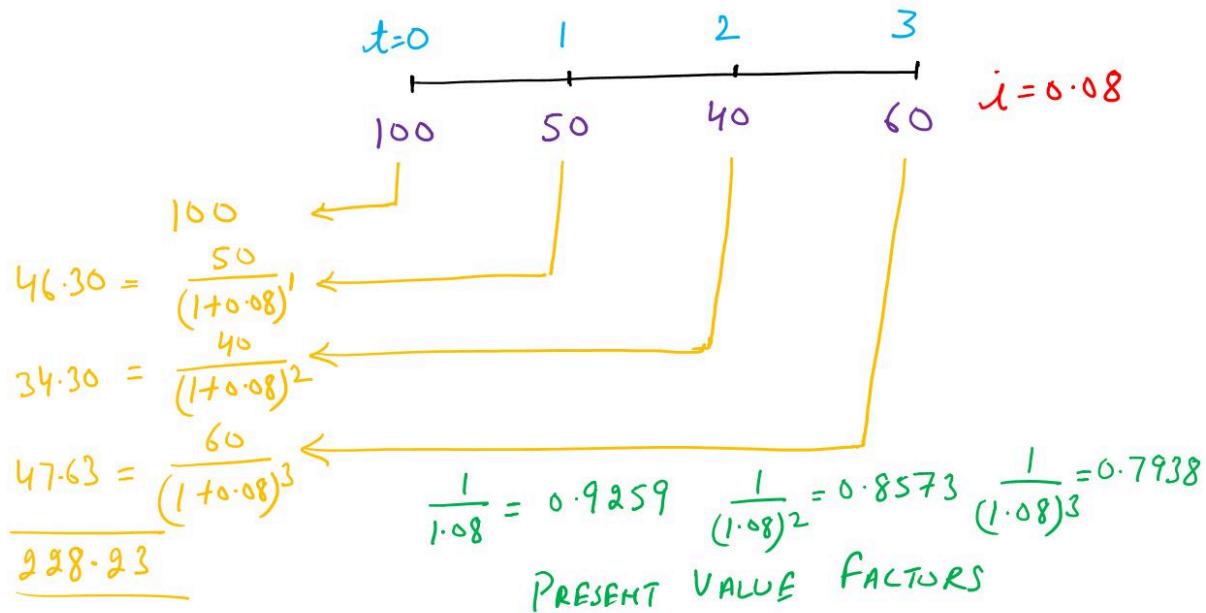


So, the value of Rs 747.38 today, will become Rs 1000 after 5 years. This is calculated on 6% interest.

## 2. Future Value and Present Value

What is the present value of a series of cash flows: Rs 100 now, Rs 50 after 1 year, Rs 40 after 2 years, and Rs 60 after 3 years, assuming an interest rate of 8% compounded annually?

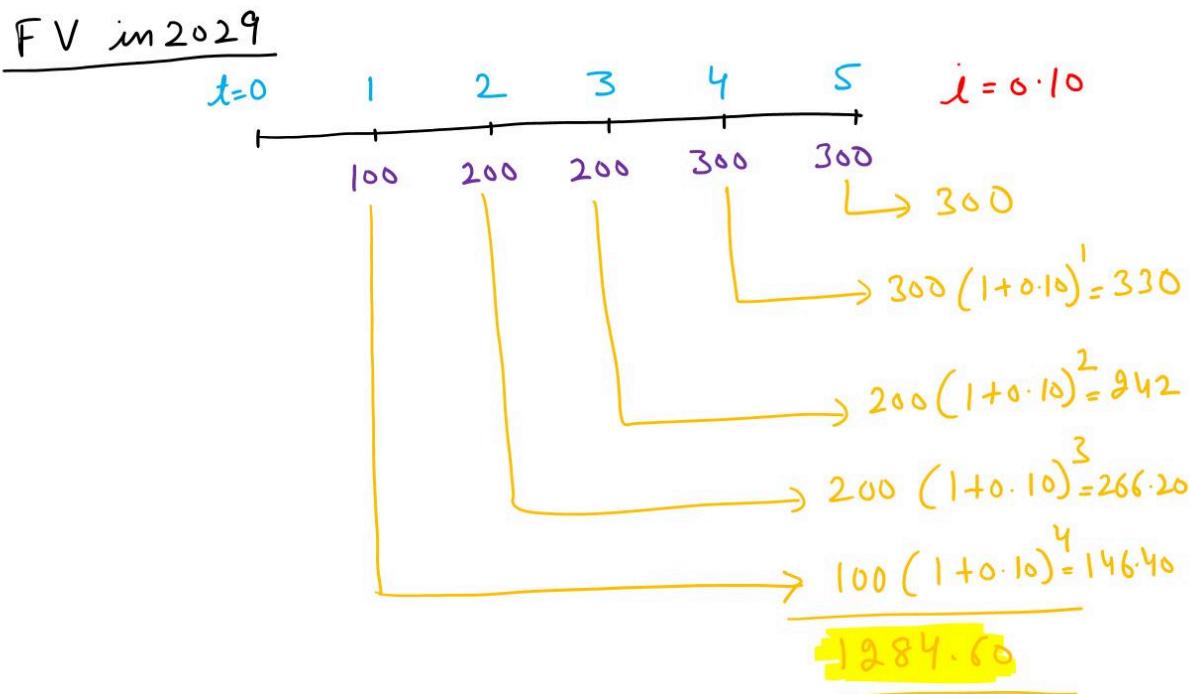
Solution:



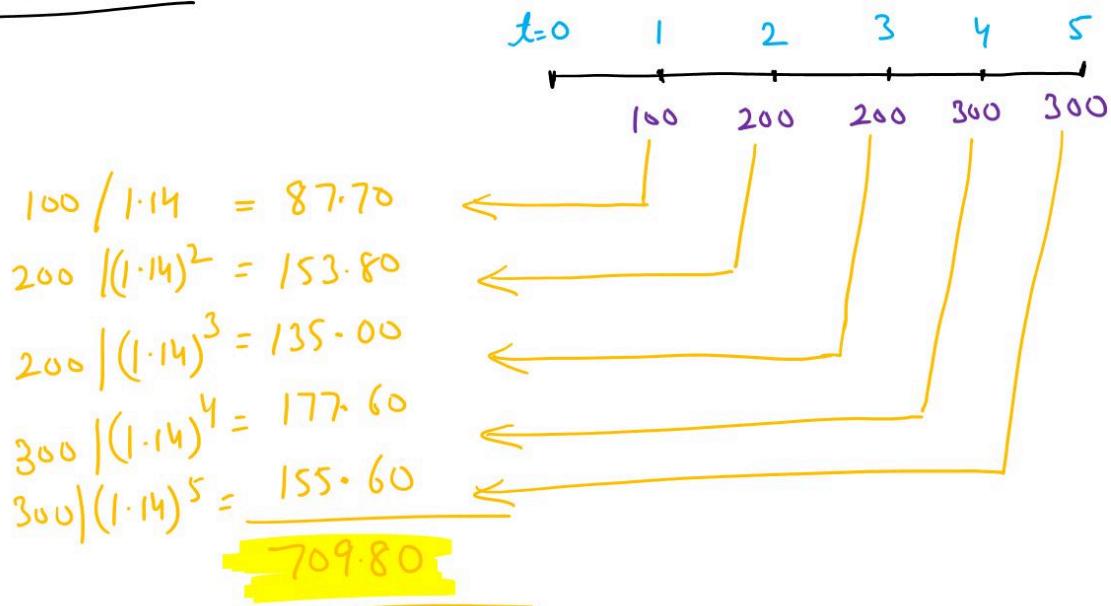
## 2. Future Value and Present Value

You are in year 2024. You are starting a new business for which expected annual cash flows over next 5 years are Rs 100, Rs 200, Rs 200, Rs 300 and Rs 300. Calculate the future (terminal) value of each stream at the end of year 5 (in 2029) with a compound annual interest rate of 10%. Compute the present value of each stream if the discount rate is 14%.

Solution:



PV in 2024



### 3. PVF and FVF

Present Value factors and Future Value factors are used to calculate the current or future value of cash flows, respectively, based on a given interest rate and time period.

#### Present Value Factors (PVF)

These factors represent the present value of a cash flow or a series of cash flows. They adjust the value of future cash flows to reflect their worth in today's terms. PVFs decrease as the time horizon extends into the future because money typically loses value over time due to inflation and opportunity cost.

The present value factor is calculated using the formula:

PRESENT VALUE FACTORS, PVF

$$= \frac{1}{(1+r)^n}$$

*r = interest rate per period*  
*n = number of periods*

As n increases, the present value factor decreases because the present value of future cash flows decreases as they are further into the future. It is also called *Discount Factor*.

#### Future Value Factors (FVF)

These factors represent the future value of a cash flow or a series of cash flows. They account for the growth of an investment or a sum of money over time, considering the compounding effect of interest. FVFs increase as the time horizon extends into the future because the value of money grows over time with compounded interest.

The future value factor is calculated using the formula:

FUTURE VALUE FACTORS, FVF

$$= (1+r)^n$$

*r = interest rate per period*  
*n = number of periods*

As n increases, the future value factor increases because the future value of an investment or cash flow grows with compounded interest over time. It is also called *Compounding Factor*.

## 4. Compounding Periods

Till now, we have learnt compounding using annual interest rates. However, compounding frequency can significantly impact the growth of investments or the present value of cash flows. If compounding occurs more frequently than annually, such as semi-annually, quarterly, or even monthly, the interest is applied more frequently, leading to faster growth or discounting.

Let us go through each compounding scenario using the example of investing Rs 100 at a present value with a 10% annual interest rate over a time period of 2 years.

### Annual Compounding

With annual compounding, the formula for Future Value is given below:

$$FV = PV(1+r)^n$$

*r = annual interest rate*  
*n = number of years*

Investing Rs 100 at a present value with a 10% annual interest rate over a time period of 2 years, compounded annually, will become:

$$FV = 100(1+0.10)^2 = 121 \quad \text{Compounded Annually}$$

### Semi-annual Compounding

With semi-annual compounding, the interest is compounded twice a year. This means that the interest rate is divided by 2, and the number of periods is doubled compared to annual compounding. For example, if the annual interest rate is 10%, the semi-annual interest rate would be 5%, and the number of periods would be multiplied by 2.

$$FV = PV \left(1 + \frac{r}{2}\right)^{2 \times n}$$

Investing Rs 100 at a present value with a 10% annual interest rate over a time period of 2 years, compounded semi-annually, will become:

$$FV = 100 \left(1 + \frac{0.10}{2}\right)^{2 \times 2} = 121.55 \quad \text{Compounded Semi-Annually}$$

### Quarterly Compounding

Quarterly compounding involves compounding interest four times a year. Here, the annual interest rate is divided by 4, and the number of periods is multiplied by 4. For instance, if the annual interest rate is 10%, the quarterly interest rate would be 2.5%, and the number of periods would be multiplied by 4.

$$FV = PV \left(1 + \frac{r}{4}\right)^{4 \times n}$$

Investing Rs 100 at a present value with a 10% annual interest rate over a time period of 2 years, compounded quarterly, will become:

$$FV = 100 \left(1 + \frac{0.10}{4}\right)^{4 \times 2} = 122.84 \quad \text{Compounded Quarterly}$$

### Monthly Compounding

Monthly compounding occurs when interest is compounded every month. The annual interest rate is divided by 12, and the number of periods is multiplied by 12. For example, with an annual interest rate of 10%, the monthly interest rate would be approximately 0.833%, and the number of periods would be multiplied by 12.

$$FV = PV \left(1 + \frac{r}{12}\right)^{12 \times n}$$

Investing Rs 100 at a present value with a 10% annual interest rate over a time period of 2 years, compounded monthly, will become:

$$FV = 100 \left(1 + \frac{0.10}{12}\right)^{12 \times 2} = 122.04 \text{ Compounded Monthly}$$

### Continuous Compounding

Continuous compounding assumes interest is applied infinitely often, resulting in the highest possible growth. This is achieved as the compounding period approaches zero. The formula for continuous compounding is:

$$FV = PV \times e^{r \cdot n} \quad e = 2.718$$

e is the mathematical constant approximately equal to 2.71828.

Investing Rs 100 at a present value with a 10% annual interest rate over a time period of 2 years, compounded continuously, will become:

$$FV = 100 \times e^{0.10 \times 2} = 122.14 \text{ Compounded Continuously}$$

## 4. Compounding Periods

What amount now, will become Rs 1,00,000 in 4 years if compounded continuously at rate of 8% per annum?

Solution:

$$FV = PV \times e^{r \cdot t}$$
$$1,00,000 = PV \times e^{0.08 \times 4}$$
$$e = 2.718$$
$$PV = \text{Rs } 72616$$

## 5. Effective Annual Interest Rate

Different investments may provide returns based on various compounding periods. If we want to compare alternative investments that have different compounding periods, we need to state their interest on some common, or standardized, basis. This leads us to make a distinction between nominal, or stated, interest and the effective annual interest rate.

The **effective annual interest rate** is the interest rate compounded annually that provides the same annual interest as the nominal rate does when compounded.

The below figure contains a number of future values at the end of one year for Rs 1,000 earning a nominal rate of 8 percent for several different compounding periods.

INITIAL AMOUNT (x)	COMPOUNDING FREQUENCY	FUTURE VALUE (y)	EFFECTIVE INTEREST RATE
1000	1 year	1080.00	8.00%
1000	6 months	1081.60	8.160%
1000	3 months	1082.43	8.243%
1000	1 month	1083.00	8.300%
1000	1 day	1083.28	8.328%

$\frac{y-x}{x} \times 100$

We can see in the table that the more numerous the compounding periods, the greater the future value of (and interest earned on) the deposit, and the greater the effective annual interest rate.

## 5. Effective Annual Interest Rate

A bank offers you a plan at a 7.06% annual rate that would provide a 7.25% effective annual yield. For the given plan, is interest being compounded daily, weekly, monthly, or quarterly? Having invested Rs 10,000 in this plan, how much money would you receive after in 7 months?

Solution:

Rs 1 invested at 7.06% for 1 year, if compounded :			
DAILY	$1 \times \left(1 + \frac{7.06}{365 \times 100}\right)^{1 \times 365}$	= 1.07314	EFFECTIVE RATE 7.31%
WEEKLY	$1 \times \left(1 + \frac{7.06}{52 \times 100}\right)^{1 \times 52}$	= 1.07310	7.30%
MONTHLY	$1 \times \left(1 + \frac{7.06}{12 \times 100}\right)^{1 \times 12}$	= 1.07293	7.29%
QUARTERLY	$1 \times \left(1 + \frac{7.06}{4 \times 100}\right)^{1 \times 4}$	= 1.07245	7.245%

Hence Compounding was Quarterly

7 months =  $\frac{7}{3}$  quarters, Quarterly Compounding

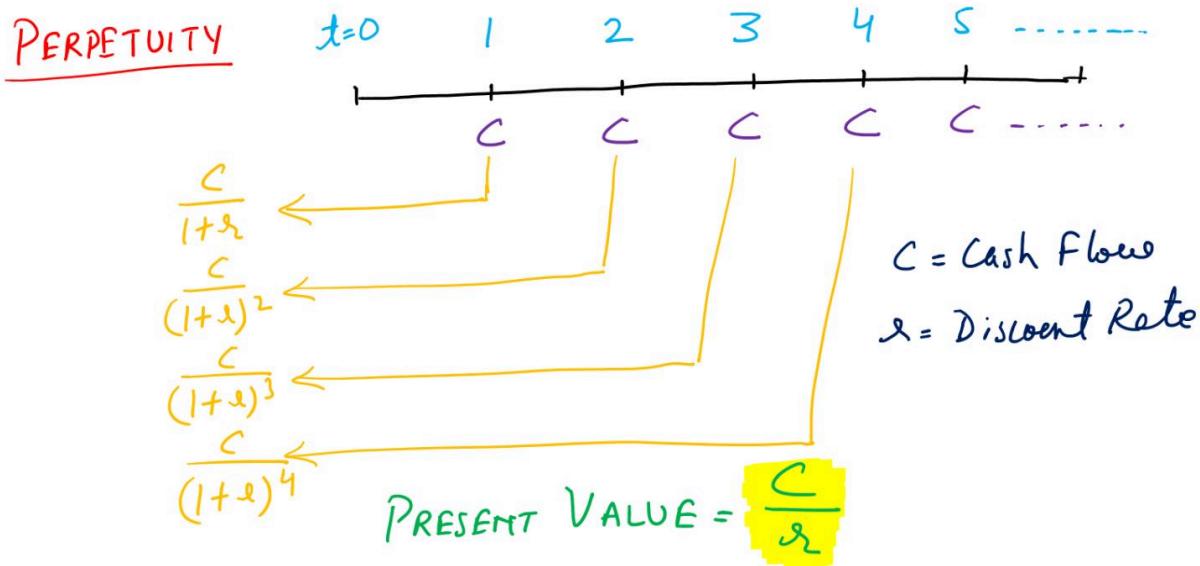
$$10,000 \left(1 + \frac{7.06}{100 \times 4}\right)^{\frac{7}{3}} = 10416.70$$

## 6. Perpetuity

A Perpetuity is a constant stream of cash flows that continues indefinitely into the future, with no end date. In other words, it's a series of regular payments that continue forever.

Perpetuities are often used in finance for valuation purposes, particularly in the context of bonds, stocks, and certain types of investments.

The Present Value of Perpetuity is calculated with following formula:



## 6. Perpetuity

What is the present value of a perpetuity with an annual cash flow of Rs 100 and a discount rate of 8%?

Solution:

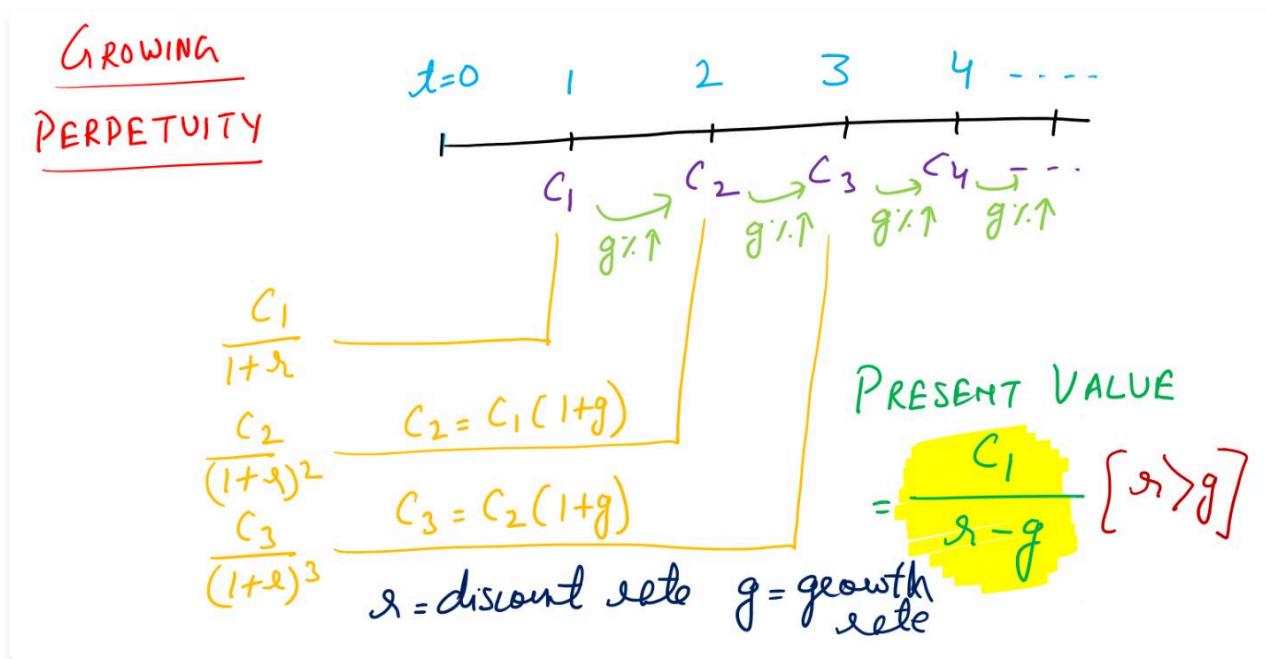
The diagram shows a perpetuity timeline starting at  $t=0$ . At each time point, a vertical tick marks a cash flow of 100. Below the timeline, the cash flows are labeled 100, 100, 100, 100, followed by three dots. To the right of the timeline, the present value formula is applied:  $\text{PRESENT VALUE (PV)} = \frac{C}{\lambda} = \frac{100}{0.08} = 1250$ .

$$\text{PRESENT VALUE (PV)} = \frac{C}{\lambda} = \frac{100}{0.08} = 1250$$

## 7. Growing Perpetuity

A Growing Perpetuity, also known as a perpetuity with a constant growth rate, is similar to a regular perpetuity but with an added feature: the cash flows or payments increase at a constant rate each period. This means that not only does the perpetuity provide a continuous stream of cash flows indefinitely into the future, but these cash flows also grow at a fixed rate over time.

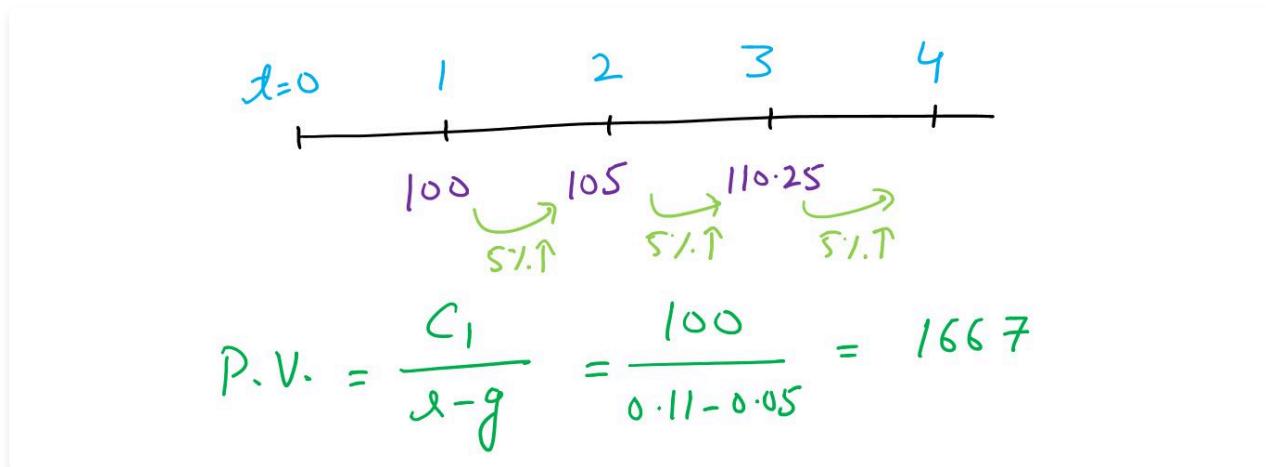
The formula for the present value of a growing perpetuity is derived from the formula for the present value of a perpetuity:



## 7. Growing Perpetuity

What is the present value of a growing perpetuity with an initial annual cash flow of Rs 100, a discount rate of 11%, and a growth rate of 5%?

Solution:



## 8. Annuity

---

An Annuity is a constant stream of cash flows that continues into the future, but for a fixed period of time.

For instance, you might receive a monthly allowance from your parents, but it stops after you finish college. Or think about paying back a loan in monthly installments - those regular payments continue for a fixed number of years until the loan is fully repaid. Other examples include receiving pension payments for a set period or leasing a car with monthly payments for a specific duration. So, annuities are all about getting a steady income or making regular payments for a defined period.

If payments occur at the end of each period, then it is known as **ordinary (or deferred) annuity**. For example payments on mortgages, car loans, and student loans are generally made at the ends of the periods and thus are ordinary annuities.

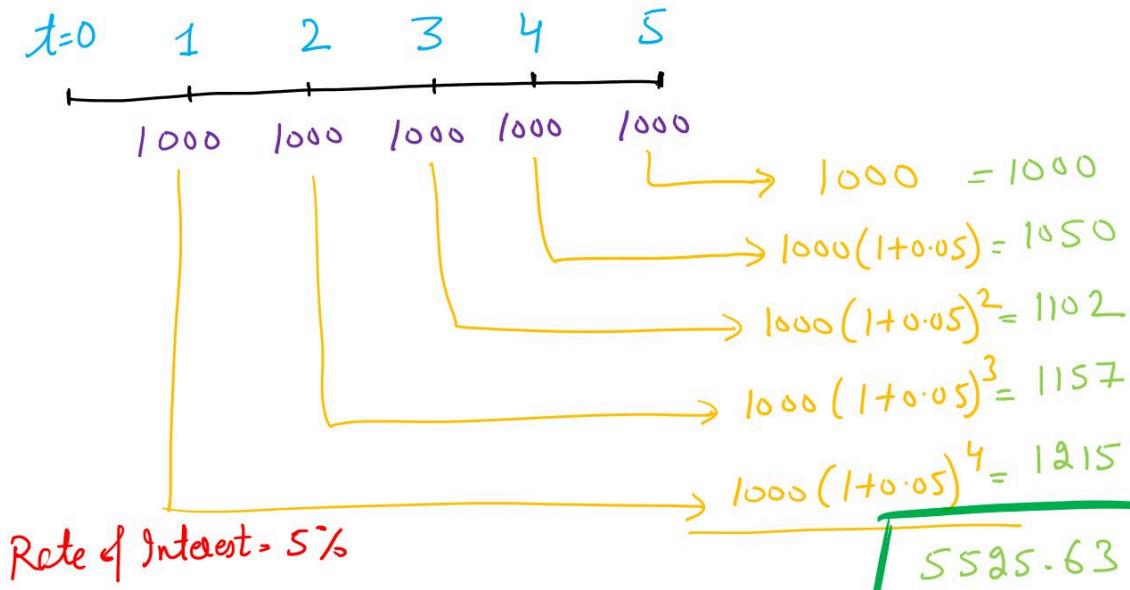
If the payments are made at the beginning of each period, then it is known as **annuity due**. For example, rental lease payments, life insurance premiums, and lottery payoffs.

---

## 8. Annuity

In order to calculate the Future Value (FV) of ordinary annuity, we have to calculate the future value of each cash flow.

Let us assume that you are investing Rs 1,000 every year for the next 5 years, and you invested each payment at 5%. The following figure shows how much you would have at the end of the five-year period:



For the FV of ordinary annuity, we can use the below formula:

A hand-drawn timeline for an ordinary annuity from  $t=0$  to  $n$ . Below the axis, there are  $n$  bars, each labeled with a letter  $C$ . To the left of the timeline, the word "FUTURE VALUE" is written in green, followed by an equals sign and the formula:  $C \left[ \frac{(1+\lambda)^n - 1}{\lambda} \right]$ . Below the formula, the symbol  $\lambda$  is defined as "interest rate". To the right of the formula, the text "FUTURE VALUE FACTOR FOR ANNUITY" is written in yellow, with an upward arrow pointing to the term  $(1+\lambda)^n - 1$ .

$t=0, 1, 2, 3, \dots, n-1, n$

$C, C, C, \dots, C, C$

FUTURE VALUE =  $C \left[ \frac{(1+\lambda)^n - 1}{\lambda} \right]$

$\lambda$  = interest rate

FUTURE VALUE FACTOR  
FOR ANNUITY

## 8. Annuity

What is the future value of an ordinary annuity after 30 years, with annual payments of Rs 3000 each, at an interest rate of 6% over 30 years?

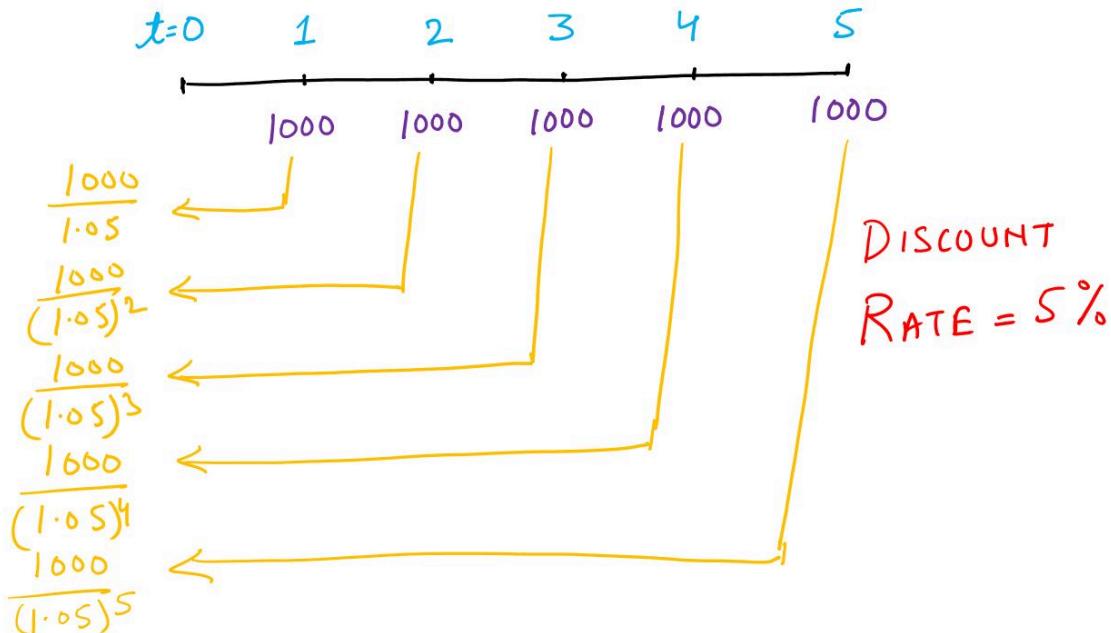
Solution:

$$\begin{aligned} FV &= C \left[ \frac{(1+r)^n - 1}{r} \right] = 3000 \left[ \frac{(1.06)^{30} - 1}{0.06} \right] \\ &= 3000 \times \frac{79.058}{\text{FV FACTOR}} \\ &= 2,37,174 \end{aligned}$$

## 8. Annuity

To find the Present Value (PV) of an ordinary annuity, we need to calculate the present value of each cash flow.

Let's say you want to figure out the worth of a series of future payments of Rs 1,000 every year for the next 5 years, with a discount rate of 5%. The calculation is as follows:



For the PV of an ordinary annuity, we can use the following formula:

A timeline diagram for an ordinary annuity from  $t=0$  to  $t=n$ . Horizontal tick marks are at  $t=0, 1, 2, 3, \dots, n-1, n$ . Below the timeline, five vertical bars represent annual payments of  $C$ . To the left of the timeline, the word "PRESENT VALUE" is written above the formula. The formula is  $C \left[ \frac{1 - \frac{1}{(1+r)^n}}{r} \right]$ . A yellow bracket highlights the denominator  $\frac{1 - \frac{1}{(1+r)^n}}{r}$ . To the right of the formula, a yellow note says "PRESENT VALUE FACTOR FOR ANNUITY". A handwritten note "r = discount rate" is written below the formula.

## 8. Annuity

What is the present value of an ordinary annuity over 20 years, with yearly payments of Rs 50,000 each, at a discount rate of 8% per annum?

Solution:

$$\begin{aligned} PV &= C \left[ \frac{1 - \frac{1}{(1+r)^n}}{r} \right] = 50,000 \left[ \frac{1 - \frac{1}{(1.08)^{20}}}{0.08} \right] \\ &= 50,000 \times \underbrace{9.8181}_{\text{PV FACTOR FOR ANNUITY}} \\ &= 4,90,905 \end{aligned}$$

## 8. Annuity

As each payment occurs one period earlier with an annuity due, the payments will earn interest for one additional period. Therefore, the FV of an annuity due will be greater than that of a similar ordinary annuity.

So, FV of annuity due = FV of ordinary annuity  $(1+r)$

## 8. Annuity

As each payment for an annuity due occurs one period earlier, the payments will all be discounted for one less period. Therefore, the PV of an annuity due must be greater than that of a similar ordinary annuity.

So, PV of annuity due = PV of ordinary annuity  $(1+r)$

## 8. Annuity

Mohan is 50 years old. Mohan wishes to purchase an annuity contract that will pay him Rs 7,000 a year for the rest of his life. His life expectancy is 20 years. The company imputes a compound annual interest rate of 6% in its annuity contracts.

- (i) How much will Mohan have to pay for the annuity?
- (ii) How much would he have to pay if the interest rate were 8%?

Solution:

$$\text{PV of Annuity} = 7000 \times \text{PVIFA}(6\%, 20)$$
$$= 7000 \times 11.470 = 80290$$

If Rate is 8%.

$$\text{PV of Annuity} = 7000 \times \text{PVIFA}(8\%, 20)$$
$$= 7000 \times 9.818 = 68726$$

## 8. Annuity

India Post is offering two different savings plans. The first plan would make you deposit Rs 500 every six months, and you would receive interest at a 7%, compounded semiannually. Under the second plan you would deposit Rs 1,000 every year with a rate of interest of 7.5%, but compounded annually. The initial deposit with Plan 1 would be made six months from now and, with Plan 2, one year hence.

(i) Which plan should be preferable, if you are planning to invest for 10 years from now?

(ii) What if the rate of interest on the second plan reduces to 7%?

Solution:

$$\begin{aligned}
 FV \text{ of Plan 1} &= 500 \left( \frac{(1+0.035)^{20} - 1}{0.035} \right) \quad \begin{array}{l} \text{Rate is halved} \\ \text{Time is doubled} \end{array} \\
 &= 500 \times FVIFA(3.5\%, 20) \\
 &= 500 \times \frac{26.870 + 29.778}{2} \\
 &= 500 \times 28.324 \quad \begin{array}{l} FVIFA(3\%, 20) \\ = 26.870 \end{array} \\
 &= 14162 \quad \begin{array}{l} FVIFA(4\%, 20) \\ = 29.778 \end{array}
 \end{aligned}$$

$$\begin{aligned}
 FV \text{ of Plan 2} &= 1000 \left( \frac{(1+0.075)^{10} - 1}{0.075} \right) \\
 &= 1000 \times FVIFA(7.5\%, 10) \\
 &= 1000 \times \frac{13.816 + 14.487}{2} \quad \begin{array}{l} FVIFA(7\%, 10) \\ = 13.816 \end{array} \\
 &= 1000 \times 1.415 \quad \begin{array}{l} FVIFA(8\%, 10) \\ = 14.487 \end{array} \\
 &= 14150
 \end{aligned}$$

SINCE  $14162 > 14150 \Rightarrow$  PLAN 1 IS PREFERABLE

$$\begin{aligned} \text{FV of plan 2} &= 1000 \left( \frac{(1+0.07)^{10} - 1}{0.07} \right) \\ &= 1000 \times \text{FVIFA}(7\%, 10) \\ &= 1000 \times 13.816 \\ &= \boxed{13816} \end{aligned}$$

STILL PLAN 1 IS PREFERABLE

## 9. Rule of 72

The Rule of 72 is a quick and simple method to estimate the time it takes for an investment to double in value, assuming it earns a fixed annual rate of interest with discrete compounding. It states that the number of years required for an investment to double is approximately 72 divided by the annual interest rate (in percent).

$$\frac{\text{NUMBER OF YEARS TO DOUBLE}}{\text{ANNUAL INTEREST RATE}} = \frac{72}{\text{RULE OF 72}}$$
  
$$\frac{69.3}{\text{ANNUAL INTEREST RATE}} = \frac{69.3}{\text{RULE OF 69}}$$

For instance, if you have an investment earning an annual fixed interest rate of 10%, according to the Rule of 72, it would take approximately 7.2 years for the investment to double in value. This is calculated by dividing 72 by the interest rate of 10, resulting in 7.2 years.

The Rule of 72 provides a useful tool for investors to quickly estimate the potential growth of their investments and make informed decisions about their financial planning. However, it is important to note that the Rule of 72 provides only an approximation and may not be perfectly accurate, especially for interest rates that deviate significantly from the assumed rate.

### Rule of 69

The Rule of 69 is applied when we have continuous compounding, unlike the Rule of 72 which is for discrete compounding scenarios. With continuous compounding, the time required for an investment to double in value is 69.3 divided by the annual interest rate (in percent).

For instance, if you invest in a scheme with continuous compounding, earning an annual interest rate of 5%, according to the Rule of 69, it would take approximately 69.3 divided by 5, which equals approximately 13.86 years for your investment to double in value. This rule provides a straightforward way to estimate the doubling time for investments with continuous compounding,

## 9. Rule of 72

On a contract you have a choice of receiving Rs 25,000 six years from now or Rs 50,000 twelve years from now. At what implied compound annual interest rate should you be indifferent between the two contracts?

Solution:

Indifference implies that you could reinvest the Rs 25,000 receipt for 6 years at some rate to provide an equivalent Rs 50,000 cash flow in year 12. In short, Rs 25,000 would double in 6 years.

$$\text{RULE of 72} = \frac{72}{6} = 12\%$$

## 10. Loan Amortization

A loan consists of two parts: principal and interest. Over time, the borrower pays off parts of the loan. They repay a portion of the principal and interest each year.

For example, let us say someone borrows Rs 5000 to be repaid over 5 years with an interest rate of 9%.

According to the loan schedule, they pay Rs 1000 of principal every year for 5 years, plus the interest on the remaining amount.

YEAR	BEGINNING AMOUNT	PRINCIPAL + INTEREST	CLOSING BALANCE
1	5000	$1000 + 450 = 1450$	4000
2	4000	$1000 + 360 = 1360$	3000
3	3000	$1000 + 270 = 1270$	2000
4	2000	$1000 + 180 = 1180$	1000
5	1000	$1000 + 90 = 1090$	0

LOAN OF Rs 5000 over 5 years at 9% rate

After Year 1:

Starting Amount = Rs 5000

Principal Repaid = Rs 1000

Interest = 9% of Rs 5000 = Rs 450

Total Amount Paid after 1 year = Rs 1000 + Rs 450 = Rs 1450

Remaining Amount = Rs 5000 - Rs 1000 = Rs 4000

After Year 2:

Starting Amount = Rs 4000

Principal Repaid = Rs 1000

Interest = 9% of Rs 4000 = Rs 360

Total Amount Paid after 2 years = Rs 1000 + Rs 360 = Rs 1360

Remaining Amount = Rs 4000 - Rs 1000 = Rs 3000

After Year 3:

Starting Amount = Rs 3000

Principal Repaid = Rs 1000

Interest = 9% of Rs 3000 = Rs 270

Total Amount Paid after 3 years = Rs 1000 + Rs 270 = Rs 1270

Remaining Amount = Rs 3000 - Rs 1000 = Rs 2000

After Year 4:

Starting Amount = Rs 2000

Principal Repaid = Rs 1000

Interest = 9% of Rs 2000 = Rs 180

Total Amount Paid after 4 years = Rs 1000 + Rs 180 = Rs 1180

Remaining Amount = Rs 2000 - Rs 1000 = Rs 1000

After Year 5:

Starting Amount = Rs 1000

Principal Repaid = Rs 1000

Interest = 9% of Rs 1000 = Rs 90

Total Amount Paid after 5 years = Rs 1000 + Rs 90 = Rs 1090

Remaining Amount = Rs 1000 - Rs 1000 = Rs 0

So, after 5 years, both the principal of Rs 5000 and the interest are fully paid back.

But what if they want to pay back an equal amount at the end of each year?

This is where we use the concept of an Ordinary Annuity. We need to find the value of C (cash flow) that, when paid each year, results in a Present Value of Ordinary Annuity equal to Rs 5000, with a discount rate of 9%, over a fixed period of 5 years.

The calculation is given below:

A horizontal timeline starting at  $t=0$ . There are five tick marks labeled 1, 2, 3, 4, and 5. Below the timeline, there are five purple 'C' symbols, one under each tick mark, representing cash flows at the end of each year.

$$5000 = C \left[ \frac{1 - \frac{1}{1.09^5}}{0.09} \right]$$

*P.V. of  
Ordinary Annuity*

$$C = \boxed{\text{Rs 1285}}$$

## 10. Loan Amortization

You borrow Rs 10,000 at 14% compound annual interest for 4 years. The loan is repayable in four equal annual installments payable at the end of each year. What is the annual payment that will completely amortize the loan over four years? Of each equal payment, what is the amount of interest? The amount of loan principal?

Solution:

$$\text{let annual payment} = x$$

$$x \times \text{PVIFA}(14\%, 4) = 10,000$$

$$x \times 2.914 = 10,000$$

$$x = 3432$$

YEAR	BEGINNING AMOUNT	PRINCIPAL + INTEREST	CLOSING BALANCE
1	10,000	$\textcircled{1} 2032 + 1400 = 3432$	7,968
2	7,968	$\textcircled{2} 2316 + 1116 = 3432$	5,652
3	5,652	$\textcircled{3} 2641 + 791 = 3432$	3,011
4	3,011	$\textcircled{4} 3011 + 421 = 3432$	0
<hr/>		$\textcircled{1} 10,000 \times 0.14$ $\textcircled{2} 7968 \times 0.14$ $\textcircled{3} 5652 \times 0.14$ $\textcircled{4} 3011 \times 0.14$	

## 11. Tables

Following tables are given next.

- (i) Future Value Interest Factor of Rs 1
- (ii) Present Value Interest Factor of Rs 1
- (iii) Future value Interest Factor of an (ordinary) annuity of Rs 1
- (iv) Present value Interest Factor of an (ordinary) annuity of Rs 1

## 11. Tables

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Future Value Interest Factor (FVIF) represents the factor by which a sum of money today will grow to in the future, given a certain interest rate and time period.

For example, if the FVIF at 10% for 5 years is 1.611, it means that Rs 1 invested today will grow to Rs 1.611 in 5 years at an annual interest rate of 10%. Rs 100 will become Rs 161.1 for the same rate and same time period.

$FVIF_{i,n} = (1 + i)^n$													
PERIOD (n)	INTEREST RATE (i)												
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	PERIOD (n)
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1
2	1.020	1.040	1.061	1.082	1.102	1.124	1.145	1.166	1.188	1.210	1.232	1.254	2
3	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	3
4	1.041	1.082	1.126	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574	4
5	1.051	1.104	1.159	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762	5
6	1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	6
7	1.072	1.149	1.230	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211	7
8	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476	8
9	1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	9
10	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	10
11	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	11
12	1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	12
13	1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	13
14	1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	14
15	1.161	1.346	1.558	1.801	2.079	2.397	2.759	3.172	3.642	4.177	4.785	5.474	15
16	1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130	16
17	1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866	17
18	1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.544	7.690	18
19	1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116	7.263	8.613	19
20	1.220	1.486	1.806	2.191	2.653	3.207	3.870	4.661	5.604	6.727	8.062	9.646	20
25	1.282	1.641	2.094	2.666	3.386	4.292	5.427	6.848	8.623	10.835	13.585	17.000	25
30	1.348	1.811	2.427	3.243	4.322	5.743	7.612	10.063	13.268	17.449	22.892	29.960	30
35	1.417	2.000	2.814	3.946	5.516	7.686	10.677	14.785	20.414	28.102	38.575	52.800	35
40	1.489	2.208	3.262	4.801	7.040	10.286	14.974	21.725	31.409	45.259	65.001	93.051	40
50	1.645	2.692	4.384	7.107	11.467	18.420	29.457	46.902	74.358	117.391	184.565	289.002	50

INTEREST RATE (i)													PERIOD (n)
PERIOD (n)	13%	14%	15%	16%	17%	18%	19%	20%	25%	30%	40%	50%	PERIOD (n)
1	1.130	1.140	1.150	1.160	1.170	1.180	1.190	1.200	1.250	1.300	1.400	1.500	1
2	1.277	1.300	1.322	1.346	1.369	1.392	1.416	1.440	1.563	1.690	1.960	2.250	2
3	1.443	1.482	1.521	1.561	1.602	1.643	1.685	1.728	1.953	2.197	2.744	3.375	3
4	1.630	1.689	1.749	1.811	1.874	1.939	2.005	2.074	2.441	2.856	3.842	5.063	4
5	1.842	1.925	2.011	2.100	2.192	2.288	2.386	2.488	3.052	3.713	5.378	7.594	5
6	2.082	2.195	2.313	2.436	2.565	2.700	2.840	2.986	3.815	4.827	7.530	11.391	6
7	2.353	2.502	2.660	2.826	3.001	3.185	3.379	3.583	4.768	6.275	10.541	17.086	7
8	2.658	2.853	3.059	3.278	3.511	3.759	4.021	4.300	5.960	8.157	14.758	25.629	8
9	3.004	3.252	3.518	3.803	4.108	4.435	4.785	5.160	7.451	10.604	20.661	38.443	9
10	3.395	3.707	4.046	4.411	4.807	5.234	5.696	6.192	9.313	13.786	28.925	57.665	10
11	3.836	4.226	4.652	5.117	5.624	6.176	6.777	7.430	11.642	17.922	40.496	86.498	11
12	4.335	4.818	5.350	5.936	6.580	7.288	8.064	8.916	14.552	23.298	56.694	129.746	12
13	4.898	5.492	6.153	6.886	7.699	8.599	9.596	10.699	18.190	30.288	79.372	194.620	13
14	5.535	6.261	7.076	7.988	9.007	10.147	11.420	12.839	22.737	39.374	111.120	291.929	14
15	6.254	7.138	8.137	9.266	10.539	11.974	13.590	15.407	28.422	51.186	155.568	437.894	15
16	7.067	8.137	9.358	10.748	12.330	14.129	16.172	18.488	35.527	66.542	217.795	656.841	16
17	7.986	9.276	10.761	12.468	14.426	16.672	19.244	22.186	44.409	86.504	304.914	985.261	17
18	9.024	10.575	12.375	14.463	16.879	19.673	22.901	26.623	55.511	112.455	426.879	1477.892	18
19	10.197	12.056	14.232	16.777	19.748	23.214	27.252	31.948	69.389	146.192	597.630	2216.838	19
20	11.523	13.743	16.367	19.461	23.106	27.393	32.429	38.338	86.736	190.050	836.683	3325.257	20
25	21.231	26.462	32.919	40.874	50.658	62.669	77.388	95.396	264.698	705.641	4499.880	25251.168	25
30	39.116	50.950	66.212	85.850	111.065	143.371	184.675	237.376	807.794	2620.000	24201.432	191751	30
35	72.069	98.100	133.176	180.314	243.503	327.997	440.701	590.668	2465.190	9727.860	130161	1456110	35
40	139.782	188.884	267.864	378.721	533.869	750.378	1051.668	1469.772	7523.164	36118.865	700038	11057332	40
50	450.736	700.233	1083.657	1670.704	2566.215	3927.357	5988.914	9100.438	70064.923	497929.223	20248916	637621500	50

## 11. Tables

Present Value Interest Factor (PVIF) of Rs 1 shows the factor by which a future sum of money is discounted to its present value. It helps in determining how much a future cash flow is worth today at a given interest rate and time period.

For instance, if the PVIF at 8% for 3 years is 0.794, it means that Rs 1 received in 3 years will have a present value of Rs 0.794 today, at an annual interest rate of 8%. Rs 100 will have a present value of Rs 79.4.

INTEREST RATE ( <i>i</i> )													
PERIOD ( <i>n</i> )	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	PERIOD ( <i>n</i> )
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	1
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	2
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	3
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	4
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	5
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	6
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	7
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	8
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	9
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	10
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	11
12	0.887	0.789	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	12
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	13
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	14
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	15
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	16
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	17
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	18
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	19
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	20
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	25
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	30
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	35
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022	0.015	0.011	40
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	50

## 11. Tables

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Future Value Interest Factor (FVIFA) of an (ordinary) annuity indicates the factor by which a series of equal payments made at the end of each period will grow to in the future. It considers both the interest rate and the number of periods.

For example, if the FVIFA at 6% for 4 years is 4.375, it means that a series of Rs 1 payments made at the end of each year will accumulate to Rs 4.375 in 4 years at an annual interest rate of 6%.

INTEREST RATE ( <i>i</i> )													
PERIOD (n)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	PERIOD (n)
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1
2	2.010	2.020	2.030	2.040	2.050	2.060	2.070	2.080	2.090	2.100	2.110	2.120	2
3	3.030	3.060	3.091	3.122	3.153	3.184	3.215	3.246	3.278	3.310	3.342	3.374	3
4	4.060	4.122	4.184	4.246	4.310	4.375	4.440	4.506	4.573	4.641	4.710	4.779	4
5	5.101	5.204	5.309	5.416	5.526	5.637	5.751	5.867	5.985	6.105	6.228	6.353	5
6	6.152	6.308	6.468	6.633	6.802	6.975	7.153	7.336	7.523	7.716	7.913	8.115	6
7	7.214	7.434	7.662	7.898	8.142	8.394	8.654	8.923	9.200	9.487	9.783	10.089	7
8	8.286	8.583	8.892	9.214	9.549	9.897	10.260	10.637	11.028	11.436	11.859	12.300	8
9	9.369	9.755	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	9
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	10
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	11
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	22.713	24.133	12
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.212	28.029	13
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019	27.975	30.095	32.393	14
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	34.405	37.280	15
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950	39.190	42.753	16
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	44.501	48.884	17
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599	50.396	55.750	18
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	56.939	63.440	19
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	64.203	72.052	20
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347	114.413	133.334	25
30	34.785	40.568	47.575	56.085	66.439	79.058	94.461	113.283	136.308	164.494	199.021	241.333	30
35	41.660	49.994	60.462	73.652	90.320	111.435	138.237	172.317	215.711	271.024	341.590	431.663	35
40	48.886	60.402	75.401	95.026	120.800	154.762	199.635	259.057	337.882	442.593	581.826	767.091	40
50	64.463	84.579	112.797	152.667	209.348	290.336	406.529	573.770	815.084	1163.909	1668.771	2400.018	50

INTEREST RATE ( <i>i</i> )													
PERIOD (n)	13%	14%	15%	16%	17%	18%	19%	20%	25%	30%	40%	50%	PERIOD (n)
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1
2	2.130	2.140	2.150	2.160	2.170	2.180	2.190	2.200	2.250	2.300	2.400	2.500	2
3	3.407	3.440	3.473	3.506	3.539	3.572	3.606	3.640	3.813	3.990	4.360	4.750	3
4	4.850	4.921	4.993	5.066	5.141	5.215	5.291	5.368	5.766	6.187	7.104	8.125	4
5	6.480	6.610	6.742	6.877	7.014	7.154	7.297	7.442	8.207	9.043	10.946	13.188	5
6	8.323	8.536	8.754	8.977	9.207	9.442	9.683	9.930	11.259	12.756	16.324	20.781	6
7	10.405	10.730	11.067	11.414	11.772	12.142	12.523	12.916	15.073	17.583	23.853	32.172	7
8	12.757	13.233	13.727	14.240	14.773	15.327	15.902	16.499	19.842	23.858	34.395	49.258	8
9	15.416	16.085	16.786	17.519	18.285	19.086	19.923	20.799	25.802	32.015	49.153	74.887	9
10	18.420	19.337	20.304	21.321	22.393	23.521	24.709	25.959	33.253	42.619	69.814	113.330	10
11	21.814	23.045	24.349	25.733	27.200	28.755	30.404	32.150	42.566	56.405	98.739	170.995	11
12	25.650	27.271	29.002	30.850	32.824	34.931	37.180	39.581	54.208	74.327	139.235	257.493	12
13	29.985	32.089	34.352	36.786	39.404	42.219	45.244	48.497	68.760	97.625	195.929	387.239	13
14	34.883	37.581	40.505	43.672	47.103	50.818	54.841	59.196	86.949	127.913	275.300	581.859	14
15	40.417	43.842	47.580	51.660	56.110	60.965	66.261	72.035	109.687	167.286	386.420	873.788	15
16	46.672	50.980	55.717	60.925	66.649	72.939	79.850	87.442	138.109	218.472	541.988	1311.682	16
17	53.739	59.118	65.075	71.673	78.979	87.068	96.022	105.931	173.636	285.014	759.784	1968.523	17
18	61.725	68.394	75.836	84.141	93.406	103.740	115.266	128.117	218.045	371.518	1064.697	2953.784	18
19	70.749	78.969	88.212	98.603	110.285	123.414	138.166	154.740	273.556	483.973	1491.576	4431.676	19
20	80.947	91.025	102.444	115.380	130.033	146.638	165.418	186.688	342.945	630.165	2089.206	6648.513	20
25	155.620	181.871	212.793	249.214	292.105	342.603	402.042	471.981	1054.791	2348.803	11247.199	50500	25
30	293.199	356.787	434.745	530.312	647.439	790.948	966.712	1181.882	3227.174	8729.985	60501	383500	30
35	546.681	693.573	881.170	1120.713	1426.491	1120.713	2314.214	2948.341	9856.761	32423	325400	2912217	35
40	1013.704	1342.025	1779.090	2360.757	3134.522	4163.21	5529.829	7343.858	30089	120393	1750092	22114663	40
50	3459.507	4994.521	7217.716	10435.649	15089.502	21813.1	31515	45497	280256	1659761	50622288	1275242998	50

## 11. Tables

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Present Value Interest Factor (PVIFA) of an (ordinary) annuity demonstrates the factor by which a series of equal payments made at the end of each period is discounted to its present value. It considers both the interest rate and the number of periods.

For instance, if the PVIFA at 5% for 6 years is 5.076, it means that a series of Rs 1 payments made at the end of each year has a present value of Rs 5.076 today, at an annual interest rate of 5%.

PERIOD (n)	INTEREST RATE (i)												PERIOD (n)
	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	1
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736	1.713	1.690	2
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487	2.444	2.402	3
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170	3.102	3.037	4
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791	3.696	3.605	5
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355	4.231	4.111	6
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868	4.712	4.564	7
8	7.652	7.326	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335	5.146	4.968	8
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759	5.537	5.328	9
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145	5.889	5.650	10
11	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495	6.207	5.938	11
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814	6.492	6.194	12
13	12.134	11.348	10.635	9.986	9.394	8.853	8.358	7.904	7.487	7.103	6.750	6.424	13
14	13.004	12.106	11.296	10.563	9.899	9.295	8.745	8.244	7.786	7.367	6.982	6.628	14
15	13.865	12.849	11.938	11.118	10.380	9.712	9.108	8.560	8.061	7.606	7.191	6.811	15
16	14.718	13.578	12.561	11.652	10.838	10.106	9.447	8.851	8.313	7.824	7.379	6.974	16
17	15.562	14.292	13.166	12.166	11.274	10.477	9.763	9.122	8.544	8.022	7.549	7.120	17
18	16.398	14.992	13.754	12.659	11.690	10.828	10.059	9.372	8.756	8.201	7.702	7.250	18
19	17.226	15.679	14.324	13.134	12.085	11.158	10.336	9.604	8.950	8.365	7.839	7.366	19
20	18.046	16.352	14.877	13.590	12.462	11.470	10.594	9.818	9.129	8.514	7.963	7.469	20
25	22.023	19.524	17.413	15.622	14.094	12.784	11.654	10.675	9.823	9.077	8.422	7.843	25
30	25.808	22.396	19.601	17.292	15.373	13.765	12.409	11.258	10.274	9.427	8.694	8.055	30
35	29.409	24.999	21.487	18.665	16.374	14.498	12.948	11.655	10.567	9.644	8.855	8.176	35
40	32.835	27.356	23.115	19.793	17.159	15.046	13.332	11.925	10.757	9.779	8.951	8.244	40
50	39.196	31.424	25.730	21.482	18.256	15.762	13.801	12.233	10.962	9.915	9.042	8.304	50

PERIOD (n)	INTEREST RATE (i)												PERIOD (n)
	13%	14%	15%	16%	17%	18%	19%	20%	25%	30%	40%	50%	
1	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833	0.800	0.769	0.714	0.667	1
2	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528	1.440	1.361	1.224	1.111	2
3	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106	1.952	1.816	1.589	1.407	3
4	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589	2.362	2.166	1.849	1.605	4
5	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991	2.689	2.436	2.035	1.737	5
6	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326	2.951	2.643	2.168	1.824	6
7	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605	3.161	2.802	2.263	1.883	7
8	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837	3.329	2.925	2.331	1.922	8
9	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031	3.463	3.019	2.379	1.948	9
10	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192	3.571	3.092	2.414	1.965	10
11	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327	3.656	3.147	2.438	1.977	11
12	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439	3.725	3.190	2.456	1.985	12
13	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533	3.780	3.223	2.469	1.990	13
14	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611	3.824	3.249	2.478	1.993	14
15	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675	3.859	3.268	2.484	1.995	15
16	6.604	6.265	5.954	5.668	5.405	5.162	4.938	4.730	3.887	3.283	2.489	1.997	16
17	6.729	6.373	6.047	5.749	5.475	5.222	4.990	4.775	3.910	3.295	2.492	1.998	17
18	6.840	6.467	6.128	5.818	5.534	5.273	5.033	4.812	3.928	3.304	2.494	1.999	18
19	6.938	6.550	6.198	5.877	5.584	5.316	5.070	4.843	3.942	3.311	2.496	1.999	19
20	7.025	6.623	6.259	5.929	5.628	5.353	5.101	4.870	3.954	3.316	2.497	1.999	20
25	7.330	6.873	6.464	6.097	5.766	5.467	5.195	4.948	3.985	3.329	2.499	2.000	25
30	7.496	7.003	6.566	6.177	5.829	5.517	5.235	4.979	3.995	3.332	2.500	2.000	30
35	7.586	7.070	6.617	6.215	5.858	5.539	5.251	4.992	3.998	3.333	2.500	2.000	35
40	7.634	7.105	6.642	6.233	5.871	5.548	5.258	4.997	3.999	3.333	2.500	2.000	40
50	7.675	7.133	6.661	6.246	5.880	5.554	5.262	4.999	4.000	3.333	2.500	2.000	50

# 1. Introduction

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Every business, whether small or large, needs money to start, operate, expand, and survive. This money is called *business finance*, and the different places from which companies obtain this money are known as *sources of finance*. Finance is essential because no business activity—production, marketing, operations, hiring, purchasing, or investing—can happen without adequate funds.

Companies need finance at every stage of their life cycle. When a business is launched, finance is required to purchase machinery, technology, equipment, raw materials, and initial inventory. As the business grows, additional finance is needed for expanding operations, entering new markets, increasing production capacity, or introducing new products. Even well-established companies continuously require funds for working capital, day-to-day operations, paying salaries, buying stock, and meeting short-term expenses.

Finance is also needed to manage uncertainties and risks. Businesses face delays in customer payments, unexpected expenses, seasonal fluctuations, and changes in market conditions. Adequate finance ensures that companies remain stable during such disruptions and can meet their obligations on time.

Another important reason companies need finance is strategic decisions. Organisations often invest in long-term projects such as setting up new plants, modernising technology, acquiring other companies, or expanding internationally. These decisions require huge amounts of money, and choosing the right source of finance becomes critical to minimise cost, risk, and loss of control.

Thus, understanding various sources of finance helps managers choose the most appropriate option depending on the business need—whether short-term for working capital, medium-term for equipment, or long-term for expansion. A clear understanding of these sources supports better financial planning, strengthens the company's financial health, and enables sustainable growth.

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## 2. Classification of Sources of Finance

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Businesses require different types of finance depending on their immediate needs, growth plans, and the nature of operations. To make financial planning easier, sources of finance are classified into three major groups based on duration: **short-term**, **medium-term**, and **long-term**. Each category serves a different purpose and is suitable for different business situations.

### 1. Short-Term Sources of Finance (< 1 year)

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Short-term finance is used to meet *day-to-day operational needs* and to maintain smooth working capital flow. These funds help companies purchase raw materials, pay salaries, manage inventory, and cover immediate expenses. They are usually less costly but must be repaid quickly.

Common short-term sources include:

- Trade credit
- Bank overdraft
- Cash credit
- Working capital loan
- Commercial paper
- Factoring
- Bill discounting
- Inter-corporate loans
- Letter of Credit

These instruments provide liquidity and help businesses meet short-term obligations without financial strain.

### 2. Medium-Term Sources of Finance (1–5 years)

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Medium-term finance is generally used for **purchasing machinery, vehicles, equipment, or for renovation and modernisation of existing assets**. These sources are well-suited for investments that have a useful life of a few years.

Common medium-term sources include:

- Term loans
- Hire purchase
- Leasing

These options allow companies to spread repayment over a few years, reducing financial pressure.

### 3. Long-Term Sources of Finance (> 5 years)

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Long-term finance supports **major capital investments, expansion projects, large-scale infrastructure, and strategic growth decisions**. These funds are typically used to set up new plants, expand business operations, or enter new markets. They provide financial stability and are often large in value.

Common long-term sources include:

- Equity shares
- Preference shares

- Debentures or bonds
- Retained earnings
- Venture capital
- Private equity
- Long-term loans from banks and financial institutions
- External Commercial Borrowing (ECB)
- Foreign Direct Investment (FDI)

These sources shape the long-term capital structure of a company and involve decisions related to ownership, cost of capital, and risk.

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### 3. Short-Term Sources

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Short-term sources of finance refer to funds borrowed for a period of less than one year. These sources are primarily used to meet **working capital requirements**—the money needed for daily operations such as purchasing raw materials, paying wages, maintaining inventory, and meeting immediate business expenses. Companies depend on these sources to maintain liquidity and ensure that operations run smoothly without interruption.

Short-term finance is essential because most businesses experience differences between the timing of cash inflows and cash outflows. For example, firms often sell goods on credit, but they need to pay suppliers and employees immediately. Short-term financing bridges this gap and helps maintain continuous business activity. Another benefit is flexibility; companies can access short-term funds quickly and repay them once their cash position improves.

The key short-term sources of finance include:

- Trade credit
  - Bank overdraft
  - Cash credit
  - Working capital loan
  - Commercial paper
  - Factoring
  - Bill discounting
  - Inter-corporate loans
  - Letter of Credit
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### **3. Short-Term Sources**

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Trade credit is a short-term financing arrangement where a supplier allows a business to purchase goods or raw materials now and pay for them later, usually within 30–90 days. It is one of the easiest and most widely used sources of finance because it does not require collateral, formal agreements, or immediate cash outflow.

Trade credit helps businesses maintain smooth operations by reducing the pressure on working capital. Companies can continue production and sales even when cash inflow is delayed. The amount of credit offered depends on the buyer's reputation and payment history.

This source of finance is especially useful for firms with regular purchase cycles or temporary cash shortages. However, delayed payments may affect supplier relations or reduce future credit limits. Overall, trade credit provides quick, flexible, and interest-free support for short-term financial needs.

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### **3. Short-Term Sources**

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A bank overdraft is a short-term credit facility that allows a business to withdraw more money from its current account than the actual balance available. The bank permits this excess withdrawal up to a pre-approved limit, and interest is charged only on the amount actually overdrawn.

An overdraft provides immediate liquidity for meeting urgent expenses such as paying suppliers, salaries, or handling temporary cash shortages. It is flexible, easy to use, and suitable for businesses with fluctuating cash flows. The limit granted depends on the firm's financial health, credit history, and relationship with the bank.

While convenient, overdrafts generally carry higher interest rates than regular loans and must be repaid on demand. Businesses should use them carefully to avoid long-term dependency. Overall, a bank overdraft is a useful tool for managing day-to-day financial gaps.

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### **3. Short-Term Sources**

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Cash credit is a short-term financing facility provided by banks that allows a business to borrow money up to a sanctioned limit against the security of inventory, receivables, or other current assets. The company can withdraw funds as needed and repay them whenever convenient, making it highly flexible for managing working capital.

Interest is charged only on the amount actually utilized, not on the entire credit limit. This makes cash credit more cost-effective compared to fixed-term loans. The bank reviews the borrower's financial statements, stock position, and creditworthiness before deciding the limit.

Cash credit is widely used by manufacturing and trading firms that require continuous working capital support. However, businesses must maintain proper documentation and stock statements, as banks monitor the security regularly. Overall, cash credit provides reliable and convenient liquidity for day-to-day operations.

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### 3. Short-Term Sources

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A working capital loan is a short-term loan provided by banks to help businesses meet their everyday operational expenses. These expenses may include purchasing raw materials, paying wages, maintaining inventory, or covering utility bills. Unlike facilities such as overdraft or cash credit, a working capital loan is sanctioned for a fixed amount and must be repaid within a specific period.

This type of loan provides stability because the business receives a lump-sum amount to manage short-term financial needs. The loan terms—interest rate, repayment schedule, and security—depend on the company's financial strength and cash flow position. Banks may require collateral or guarantees based on the risk involved.

Working capital loans are especially useful for firms facing seasonal demand, cash flow gaps, or sudden increases in expenses. They help ensure that business operations continue smoothly without financial disruption.

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