ALL THE VERY BEST FOR YOUR EXAMS

SHORT NOTES FOR JAIIB ACCOUNTING & FINANCIAL MANAGEMENT FOR BANKERS

Though we had taken enough care to go through the notes provided here, we shall not be responsible for any loss or damage, resulting from any action taken on the basis of the contents. Creation of these short notes is the efforts of so many persons. First of all we thank all of them for their valuable contribution. We request everyone to go through the Macmillan book and update yourself with the latest information through RBI website and other authenticated sources. In case you find any incorrect/doubtful information, kindly update us also (along with the source link/reference for the correct information).

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Accounting & Financial Management for Bankers

Index

S No	Topic	Page No
1	JAIIB & DBF – General Information	3
2	Syllabus	5
3	Module A – Accounting Principles and Processes	11
4	Module B – Financial Statements and Core Banking Systems	23
5	Module C – Financial Management	53
6	Module D – Taxation and Fundamentals of Costing	86

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JAIIB / DBF – GENERAL INFORMATION

- **Consists of 4 papers :**
  1. Indian Economy & Indian Financial System
  2. Principles & Practices of Banking
  3. Accounting & Financial Management for Bankers
  4. Retail Banking & Wealth Management
- Only existing employees of banks can appear for JAIIB Exam.
- People other than Bank Employees can appear for Diploma in Banking and Finance Exam. If Passed, JAIIB Examination certificate will be issued after joining the bank.
- Syllabus & exam pattern for both JAIIB and DBF exams are mostly same.
- Both JAIIB and DBF exams are conducted in on-line mode only.
- The examination will be conducted normally twice a year in May / June and November / December on Saturdays/Sundays.
- The duration of the examination will be of 2 hours.

- **Examination Pattern** : Each Paper will contain 100 objective type MCQs, carrying 100 marks including questions based on case studies. The Institute may, however, vary the number of questions to be asked for a subject. There is no negative marking for wrong answers.

- **Passing Criteria** - Minimum 200 in total and minimum 45 in each subject in any single attempt (not required to be the 1st attempt) is considered as pass. Else 50 in each subject. Passed subject gets carried forward to 5 attempts or 3 years (whichever is earlier) from the 1st attempt. If not passed in 5 attempts or 3 years, you need to appear in all the 4 papers.
  - **First Class :** 60% or more marks in aggregate and pass in all the subjects in the FIRST PHYSICAL ATTEMPT.
  - **First Class with Distinction :** 70% or more marks in aggregate and 60% or more marks in each subject in the FIRST PHYSICAL ATTEMPT.
  - Candidates who have been granted exemption in the subject/s will be given **"Pass Class"** only.

- **Cut-off Date of Guidelines /Important Developments for Examinations** - The Institute has a practice of asking some questions in each exam about the recent developments/ guidelines issued by the regulator(s) in order to test if the candidates keep themselves abreast of the current developments. But, there could be changes in the developments / guidelines from the date the question papers are prepared and the dates of the actual examinations. In order to address these issues effectively, it has been decided that:

- In respect of the exams to be conducted by the Institute for the Period from February to July of a calendar year, instructions/guidelines issued by the regulator(s) and important developments in banking and finance up to 31st December will only be considered for the purpose of inclusion in the question papers.
- In respect of the exams to be conducted by the Institute for the period from August to January of a calendar year, instructions/guidelines issued by the regulator(s) and important developments in banking and finance up to 30th June will only be considered for the purpose of inclusion in the question papers.

- **Exam Fees**

JAIIB

- First attempt fee Rs. 4,000/-*
- 2nd attempt fee Rs. 1,300/-*
- 3rd attempt fee Rs. 1,300/-*
- 4th attempt fee Rs. 1,300/-*
- 5th attempt fee Rs. 1,300/-*

CAIIB

- First attempt fee Rs. 5,000/-*
- 2nd attempt fee Rs. 1,300/-*
- 3rd attempt fee Rs. 1,300/-*
- 4th attempt fee Rs. 1,300/-*
- 5th attempt fee Rs. 1,300/-*

DBF

- First attempt fee Rs. 3,500/-*
- 2nd attempt fee Rs. 1,300/-*
- 3rd attempt fee Rs. 1,300/-*
- 4th attempt fee Rs. 1,300/-*
- 5th attempt fee Rs. 1,300/-*

* Plus convenience charges and Taxes as applicable

Please Note: Candidates are required to register for every attempt separately

SYLLABUS

The details of the prescribed syllabus which is indicative are furnished below. However, keeping in view the professional nature of examinations, all matters falling within the realm of the subject concerned will have to be studied by the candidate as questions can be asked on all relevant matters under the subject. Candidates should particularly prepare themselves for answering questions that may be asked on the latest developments taking place under the various subject/s although those topics may not have been specifically included in the syllabus. Any alterations made will be notified from time to time. Further, questions based on current developments in banking and finance may be asked.

Candidates are advised to refer to financial news papers / periodicals more particularly "IIBF VISION" and "BANK QUEST" published by IIBF.

MODULE A: ACCOUNTING PRINCIPLES AND PROCESSES

Definition. Scope and Accounting Standards including Ind AS
Nature and Purpose of Accounting, Historical Perspectives, New Accounting system Value system accounting Origins of Accounting Principles, Accounting Standards in India and its Definition and Scope, Generally Accepted Accounting Principles of USA (US GAAP), Overview of IFRSs, Difference between GAAP and IFRS, Transfer Pricing

Basic Accountancy Procedures
Concepts of Accountancy, Going Concern Entity, Double Entry System, Principle of Conservatism, Revenue Recognition and Realisation, Accrual and Cash Basis

Maintenance of Cash/Subsidiaries Books and Ledger
Record Keeping Basics, Account Categories, Debit and Credit Concepts, Accounting and Columnar Accounting Mechanics, Journalising

Bank Reconciliation Statement
Recording Transactions in Cash Book, Transactions Contained in the Pass Book/Bank Statement, Is Passbook a Mirror Image of Cash Book? Causes for Passbook and Cashbook being different, Understanding Reconciliation, Preparing Reconciliation Statement, Need for Bank Reconciliation, Now to prepare a Bank Reconciliation Statement when extracts of Cash Book and Pass Book are given? Adjusting the Cash Book balance, Advantages of Bank Reconciliation Statement

Trial Balance, Rectification of Errors and Adjusting & Closing Entries
Meaning of a Trial Balance, Features and Purpose of a Trial Balance, Types of Trial Balance and Preparation of a Trial Balance, Disagreement of a Trial Balance, Classification of Errors, Location of Errors, Rectification of Errors, Suspense Account and Rectification, Rectification of Errors when Books are Closed, Adjusting and Closing Entries

Depreciation & its Accounting
Meaning of Depreciation, Causes of Depreciation, Need for Depreciation, Factors of Depreciation, Accounting Entries, Methods of Depreciation, Straight Line Method, Diminishing Balance or Written Down Value (WDV) Method, Advantages and Disadvantages of Straight Line Method, Advantages and Disadvantages of Written Down Value Method, Units of Production Method, Sum of the Years' Digits Method, Replacement of a Fixed Asset and Creation of Sinking Fund, Amortisation of intangible assets

Capital and Revenue Expenditure
Expenditure, Distinction between Capital and Revenue Expenditure, Receipts

Bills of Exchange
Types of Instruments of Credit, Term and Due Date of a Bill, Certain Important Terms, Accounting Entries to be Passed, Accommodation Bill, Bill Books

Operational Aspects of Accounting Entries
Peculiar Features of Accounting System in Banks, Accounting Systems of Different Banks, Illustration

Back Office Functions/Handling Unreconciled Entries in Banks
Functions Performed by the Back Office, Reconciliation Function in Banks, Reconciliation of Inter Branch/ Office Entries

Bank Audit & Inspection
Bank Audit, Emergence of Risk based Internal Audit, Types of Bank Audits Viz, Concurrent Audit, Internal Audit, Statutory Audit, Role of Audit and inspection

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MODULE B: FINANCIAL STATEMENTS AND CORE BANKING SYSTEMS

Balance Sheet Equation
Balance Sheet Equation, Computation of Balance Sheet Equation

Preparation of Final Accounts
Preparation of Trial Balance, Adjustment Entries, Preparation of Financial Statements from Trial Balance

Company Accounts — I
Definition and Types of Companies, Distinction between Partnership and Limited Liability Company, Classes of Share Capital, Issue of Shares, General Illustrations, Non-voting Shares

Company Accounts — II
Form of Balance Sheet, Impact of Ind AS on Financial Statements

Cash Flow & Funds Flaw
Cash Flow, Funds Flow Statement, Cash Flow Statement, Fund Flow and Cash Flow Analysis

Final Accounts of Banking Companies
Definition and Functions of a Bank, Requirements of Banking Companies as to Accounts and Audit, Significant Features of Accounting Systems of Banks, Principal Books of Account, Preparation and Presentation of Financial Statements of Banks, Accounting Treatment of Specific Items, Preparation of Profit and Loss Account, Comments on Profit and Loss Account Items, Important Items of Balance Sheet. Disclosure Requirements of Banks to be Added as Notes to Accounts, Disclosures Prescribed by RBI Under Basel-III, Banks Listed on a Stock Exchange, Implementation of Indian Accounting Standards (Ind AS)

Core Banking Systems & Accounting in Computerised Environment
Meaning of Computerised Accounting, Features of Computerised Accounting, Terms Used in Computerised Accounting, Difference between Computerised and Manual Accounting, Advantages and Disadvantages of Computerised Accounting, Functions Performed by Computerised Accounting Software Available in the Market, Computerisation — Scope and Experiences in Banking, The Core Banking Components, Information Security, Internet and World Wide Web — Influences on Banking

MODULE C: FINANCIAL MANAGEMENT

An Overview of Financial Management

Forms of Business Organisation, Financial Decision making in a Firm, Objectives of Financial Management, The Fundamental Principles of Finance, Building Blocks of Modern Finance, Risk-Return Trade off, Agency Problem in Financial Management, Business Ethics & Social Responsibility, Organisation of the Finance Function, Relationship of Finance to Economics and Accounting, Emerging Role of the Financial Manager in India

Ratio Analysis

Meaning of Accounting Ratios, Classification of Ratios, Uses of Accounting Ratios, Limitations of Accounting Ratios, Calculation and Interpretation of Various Ratios, Different Users and Their Use of Ratios

Financial Mathematics - Calculation of Interest & Annuities

What is Simple Interest? What is Compound Interest? Fixed and Floating Interest Rates, Front-end and Back-end Interest Rates, Calculation of Interest Using Products/Balances, What are Annuities? Calculating the Future Value of an Ordinary Annuity, Calculating the Present Value of an Ordinary Annuity, Calculating the Future Value of an Annuity Due, Calculating the Present Value of an Annuity Due, Repayment of a Debt

Financial Mathematics - Calculation of YTM

Meaning of Debt, Introduction to Bonds, Terms Associated with Bonds, Types of Bonds, Optionality in Bonds, Valuation of Bonds, Bond Value with Semi-annual Interest, Current Yield on Bond, Yield-to-Maturity of Bond, Theorems for Bond Value, Illustrations, Duration of Bond, Properties of Duration, Bond Price Volatility, Problems and Solutions

Financial Mathematics - Forex Arithmetic

Fundamentals of Foreign Exchange, Indian Forex Market, Direct and indirect Quote, Some Basic Exchange Rate Arithmetic, Forward Exchange Rates

Capital Structure and Cost of Capital

Meaning of Capital Structuring, Leverage/Gearing, Factors Influencing Decision on Capital Structuring, Theories/Approaches on Capita] Structuring, Net Income Approach, Net Operating Income Approach, Traditional Position, Assumptions in the Approaches on Capital Structuring, Taxation & Capital Structure, Cost or Debt, Preference, Equity, Determining the Proportions, Weighted Average Cost of Capital (WACC), Factors Affecting the WACC, Weighted Marginal Cost of Capital, Determining the Optimal Capital Budget, Divisional and Project Cost of Capital, Floatation Cost and the Cost or Capital, Misconceptions surrounding the Cost of Capital

Capital Investment Decisions/Term Loans

Discounted and Non-Discounted Cash Flow Methods for Investment Appraisal, Basic concepts of term loans, Differed payment Guarantees, Project financing, Difference between term loan appraisal and project appraisal

Equipment Leasing/Lease Financing

Meaning era Lease, Features of a Lease, Types of Leases, Rationale for Leasing, Contents o fa Lease Agreement, Legal Aspects of Leasing, Finance Leases, Operating Leases, Accounting of Lease Transaction in the books of Lessor and Lessee, Leasing as a Financing Decision

Working Capital Management

Working Capital Cycle, Cash and Marketable Securities, Accruals, Trade Credit, Working Capital Advance by Commercial Banks, Cash Budget Method of Lending, Regulation of Bank Finance, Public Deposits, Inter-Corporate Deposits, Short-term loans from, Financial Institutions, Rights Debentures for Working Capital, Commercial Paper, Factoring & Forfaiting

Derivatives

Characteristics & Functions of Derivatives, Users of derivatives, Salient points, Futures, Forward Rate Agreement (FRA), Swaps, Options

MODULE D: TAXATION AND FUNDAMENTALS OF COSTING

Taxation: Income Tax/TDS/Deferred Tax

Overview of Income Tax Act, Basic Overview of Deductions in Respect of Certain Incomes & Deduction 80QQB, 8ORRB, 8OTTA & 80U, TDS/TCS, Returns, Refund & Recovery

Goods & Services Tax

Meaning of Direct & Indirect Tax, Introduction to GST

An Oven view of Cost & Management Accounting

Cost Accounting: Evolution, Meaning, Objectives and Scope, Concepts of Costs, Classifications and Elements of Cost, Cost Centre and Cost Unit, Methods and Techniques of Costing, Cost Accounting Standards, Management Accounting: Evolution, Meaning, Objectives and Scope. Tools and Techniques of Management Accounting, Relationship of Cost Accounting, Financial Accounting, Management Accounting and Financial Management

Costing Methods

Unit and Output Costing, Job Costing: Job Cost Cards, Collecting Direct Costs, Allocation of Overheads and its Applications, Batch Costing: Features and Applications, Contract Costing:

Features, Distinction between Job and Contract Costing, Progress Payments, Retention Money, Escalation Clause, Contract Accounts, Accounting for Material, Accounting for Plant Used in a Contract, Contract Profit and Accounting Entries, Process Costing: Features, Applications and Types of Process Costing, Process Loss, Abnormal Gains and Losses, Equivalent Units, Inter-Process Profit, Joint Products, By-Products and Accounting, Service Costing: Features and Applications, Unit Costing and Multiple Costing, Application, Identification of Cost Unit and Cost Determination and Control

Standard Costing

Definition, Significance and Applications, Various Types of Standards, Installation of Standard Costing System—for Material, Labour, and Overhead, Variance Analysis for Materials, Labour and Overheads and Accounting Treatment of Variances, Benchmarking for Setting of Standards, Variance Reporting to Management

Marginal Costing

Meaning, Advantages, Limitations and Applications, Breakeven Analysis, Cost-Volume Profit Analysis, PN Ratio and its Significance, Margin of Safety, Absorption Costing: System of Profit Reporting and Stock Valuation, Difference between Marginal Costing and Absorption Costing, Income Measurement under Marginal Costing and Absorption Costing

Budgets and Budgetary Control

Budget Concept, Manual, Fixed and Flexible Budgets, Preparation and Monitoring of Various Types of Budgets, Budgetary Control System: Advantages, Limitations and Installation, Zero Base Budgeting, Programme and Performance Budgeting

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ACCOUNTING & FINANCIAL MANAGEMENT FOR BANKERS

MODULE A – ACCOUNTING PRINCIPLES AND PROCESSES

Unit - 1. Definition, Scope & Accounting Standards including Ind AS

Accounting is often called the language of business. Book-keeping and Accounting not one and the same – Book-keeping means recording the business Transactions. Accountancy means compilation of accounts in such a way that one is in a position to know the state of affairs of the business.

- Accounting is language of business.
- Communicate the result of business operations and its other aspects.
- Accounting is an art of recording classifying and summarizing in a significant manner and in terms of money transactions and events which are in part at least of financial character and interpreting the results thereof.

Definition & scope of book-keeping

- Book keeping is merely recording the business transactions in books and ledgers
- Accountancy is wider concept: compilation of accounts in such a way that one is in a position to understand state of affairs of business.
- Users of financial statements are income tax department, S.T. department, shareholders, investors, banks and FIs and so on.
- It is in the interest of all that financial statements reflect true and fair view of state of affairs of a business entity.

Accountancy involves:

- Systematic classification of business transactions in terms of money and financial character.
- Summarizing : trial balance and b/s
- Interpreting the financial transactions.

Financial Statements:

- Manufacturing Accounting.
- Trading Account
- Profit & Loss Account
- Balance Sheet
- Funds Flow (Changes in Financial Position)
- Cash Flow Statement

Purpose of accountancy

- To keep a systematic record
- To ascertain the results of operations
- To ascertain financial position of business.
- To facilitate rational decision making
- To satisfy requirement of law and useful in many respects.

Basic objective of Accountancy- to provide information to various users.

Income Tax Authorities
Sales Tax Authorities
Share holders
Investors
Business Associates
Directors
Banks for lending purpose

Purpose:

- To know the Profit & Loss
- To know the Financial position & Liabilities position
- To interpret the Financial Position

Objectives:

- To keep a systematic record
- To ascertain the results of the operations
- To ascertain the financial position of business
- To facilitate rational decision-making
- To satisfy the requirements of law

Advantages:

- For Economic Decisions
- To provide information to Investors
- To compare the financial position

Types of Accounting:

- Financial Accounting
- Cost Accounting
- Management Accounting
- Social Responsibility Accounting
- Human Resource Accounting
- Inflation Accounting

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Concepts of Accountancy

Cost Concept:

- Business transactions are recorded in books at cost price.
- Fixed assets are kept at cost of purchase and not at their market price.
- Every transaction is recorded with present value and not any future value.
- Unrealized gains are ignored.
- Cost of an asset that has long but limited life is systematically reduced by a process called depreciation. But such depreciation has no relation to market value of asset.

Money Measurement Concept:

- Every transaction is measured in terms of money. Viz production/sales/wages etc all converted to money.
- Inflation or deflation not included in value of any asset.

Business Entity Concept

- This concept separates the entity of proprietor from the business transaction.
- Capital contributed by the owner is liability for business because business is different from owner.
- Any money withdrawn by prop. Is drawings.
- Profit is liability and loss is an asset.
- All entries are kept from the point of view of business and not from owner.
- An enterprise is economic unit separate from owner.

Realisation Concept

- This concept tells us when revenue is treated as realised or earned. It is treated as realized on the date when property in goods passes to buyer and he becomes legally liable to pay.
- No future income is considered.
- Goods sold on approval will be included in sales but on cost only.

Going Concern Concept

- Business is a going concern and transactions are recorded accordingly.
- If an expense is incurred and utility is consumed during the year, then it is treated as an expense otherwise it is recorded as an asset.
- Reserves and provisions are created for any future liability.
- Deferred revenue expenditure is written off over number of years.
- Why loss is shown under assets side ?

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Dual Aspect Concept

- Every transaction has double effect.
- Accounting equation: assets= cap+ liability.

Accounting Period Concept

- Business will run through long period. Hence accounts of each period is recorded.
- Results of operations can be known precisely only after business ceases to operate and entire assets are sold and entire liabilities paid.
- But one is interested in knowing periodically operating results of business say yearly or half yearly or quarterly.
- Hence all the expenses or income during this accounting period has to be taken into consideration irrespective of whether they are realised in cash or paid in cash.

Accounting for full disclosure

- Disclosure of material facts.(material and immaterial fact is matter of judgment)
- Contingent liability
- Market value of investments.

Convention or Principles of Conservatism

- All possible losses to be taken into consideration and anticipated profits to be ignored.
- Creation of provision for doubtful debts.
- Value of stock
- Convention of consistency: method of depreciation.

Double Entry System

- Scientific system:
- Every transaction has two aspects.
- Crux of accountancy is to find out which two accounts are effected and which is to be debited and which is to be credited.

Journal

- Journal records each and every record.
- But to find out a transaction effecting a person, expenses account or asset one has to turn over all pages of journal.
- Hence transactions are posted from journal to particular pages of ledger.
- Hence journal contain a column L.F

Cash Book

- Cash book keeps records of all cash transactions i.e cash receipts and cash payments. All receipts are recorded on right side and all payments on left side.

- Cash book is book of original entry.

Record keeping basis

- Recording: journalising as and when transaction takes place. Journal is book of original or first entry.
- Classifying: all entries in journal or subsidiary books are posted to ledger account (posting) to find out at a glance the total effect of all such transactions. Ledger is book of secondary entry.
- Summarising: last stage is to prepare the trial balance and final accounts with a view to ascertain the profit or loss during particular period.
- It is customary to use to and by while posting ledger.
- Balancing an account means equalizing two sides.
- If debit side of account exceed credit side, difference is put on credit side and it is said to have debit balance and vice versa..

Adjusting and closing entries

- While preparing trading and profit and loss account all expenses and income for the full period are to be taken into consideration. If expenses have been incurred but not paid during that period, liabilities for unpaid amount should be created before the accounts can be said to show the actual profit and loss. All expenses and income should properly be adjusted through accounting entries.
- Trial balance is prepared from the books of accounts of organization. Final accounts are the final process of accounting. Once the trial balance is prepared the books are half way closed.
- Now all adjusting entries passed at the time of preparing the final accounts have dual effect i.e both debit and credit.
- Hence all adjusting entries passed after Trial balance drawn will have two effects.
- One in either trading and profit and loss account and other in Balance sheet or one in trading account and other in Profit and loss account.

Some examples:

- Closing stock adjustment: Will be shown in asset side of balance sheet and will be shown in credit side of trading account.
- Goods lost by fire: Will be shown in credit side of trading account. Will be shown on debit side of profit and loss account.
- Outstanding expenses: Will be shown in debit side of profit and loss account. Will be shown in liabilities side of balance sheet.
- Prepaid expenses: Prepaid expenses shown in Asset side (Dr Pre paid expenses) and Credit P&L Expenditure as they do not pertain to current year.

- Depreciation: It is fall in value of asset due to use or passage of time. Depreciation Dr. To asset account

Accounting standards:

- Institute of chartered accountants of India recognising the need to harmonise the diverse accounting policies and practices constituted an accounting standards board in the year 1977.
- ASB formulate accounting standards so that council of ICAI may mandate such standards.

Day book and GLB posting in a bank

- The general ledger balance is virtually trial balance of the bank on a particular day. It reflect the balances of all accounts. While preparing balance sheet and profit and loss account of branch of bank the GLB balances are taken.
- Balance sheet of all branches together when consolidated becomes the balance sheet of bank.

Generally accepted accounting principles

- The common set of accounting principles, standards and procedures that companies use to compile their financial statements. GAAP are a combination of authoritative standards (set by policy boards) and simply the commonly accepted ways of recording and reporting accounting information.
- GAAP are imposed on companies so that investors have a minimum level of consistency in the financial statements they use when analyzing companies for investment purposes. GAAP cover such things as revenue recognition, balance sheet item classification. Companies are expected to follow GAAP rules when reporting their financial data via financial statements.

That said, keep in mind that GAAP is only a set of standards. What is important that its underlying objectives are followed in true perspective.

Some of the important Accounting Standards are :

- AS-1 - Disclosure of Accounting Policies
- AS-2 - Valuation of Inventories
- AS-3 - Cash Flow Statements
- AS-4 - Contingencies and events occurring after balance sheet
- AS- 5 - Changes in Accounting Policies
- AS-6 - Depreciation Accounting etc.

Unit - 2. Basic Accountancy Procedures

At the recording stage:

- Business entity concept
- Money measurement concept
- Objective evidence concept
- Historical record concept
- Cost concept
- Dual aspect concept

At the reporting:

- Going Concern concept
- Accounting period concept
- Matching concept
- Conservatism concept
- Full disclosure concept
- Materiality concept

Main conventions of Accounting

- Accounting of full disclosure
- Convention of Materiality
- Convention of Conservatism
- Convention of Consistency

Two systems of keeping records

- Single entry system
- Double entry system

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Unit - 3. Maintenance of Cash/Subsidiary Books and Ledger

Journal / Subsidiary Books and Ledger

Recording keeping Basics

- Recording
- Classifying
- Summarizing

Classification of Accounts

- Personal Accounts
- Impersonal Accounts
    - Real Accounts
        - Tangible
        - Intangible
    - Nominal Accounts
        - Interest, Rent, Carriage, Commission, Insurance
        - Salaries, Discount and wages etc

Unit - 4. Bank Reconciliation Statement

Bank Reconciliation statement

- Bank reconciliation(B. R.) is based on the principle of double entry.
- Credit the giver and debit the receiver
- B. R. Shows causes of differences between cash book and pass book balance
- Debit balance as per cash book is credit balance as per pass book = positive balance
- Credit balance in cash book is debit balance in pass book = negative balance/overdraft

Causes of differences

- Cheque issued but not presented for payment
- Cheque deposited but not yet realized
- Bank charges
- Interest on saving bank
- Int. on overdraft
- Amount directly collected by bank
- Amount directly paid by bank on Std. Instructions
- Dishonor of a Cheque
- Direct payment into bank by customer
- errors

Unit - 5. Trial Balance, Rectification of Errors and Adjusting & Closing Entries

Trial balance

A Trial Balance is a list of accounts and their current balances at a given date. It is usually prepared on the last day of the accounting period and the list of account balances are arranged according to debit and credit balances.

Before preparing financial statements at the end of a period, the books must be balanced, i.e. to determine total debits equal total credits. This is determined by preparing a trial balance.

Debit balances are listed in one column and credit balances are listed in another. The two column totals should be equal. When this occurs, the ledger is said to be in balance.

Preparing a trial balance for a company serves to detect any mathematical errors that have occurred in the double-entry accounting system. Provided the total debts equal the total credits, the trial balance is considered to be balanced, and there should be no mathematical errors in the ledgers.

A trial balance is prepared for two reasons -

- To check the arithmetic accuracy, i.e. The debit totals and the credit totals should be equal if the double- entry system of book-keeping is followed.

- To write up the financial statements, i.e. Trading and Profit & Loss Accounts, and Balance Sheet.

Types of Errors

Keeping in view the nature of errors, all the errors can be classified into the following four categories:

- **Errors of Commission:** These are the errors which are committed due to wrong posting of transactions, wrong totalling or wrong balancing of the accounts, wrong casting of the subsidiary books, or wrong recording of amount in the books of original entry, etc. For example: Raj Hans Traders paid Rs. 25,000 to Preetpal Traders (a supplier of goods). This transaction was correctly recorded in the cashbook. But while posting to the ledger, Preetpal's account was debited with Rs. 2,500 only.
- **Errors of Omission:** The errors of omission may be committed at the time of recording the transaction in the books of original entry or while posting to the ledger. These can be of two types: (i) error of complete omission (ii) error of partial omission When a

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transaction is completely omitted from recording in the books of original record, it is an error of complete omission. For example, credit sales to Mohan Rs. 10,000, not entered in the sales book. When the recording of transaction is partly omitted from the books, it is an error of partial omission. If in the above example, credit sales had been duly recorded in the sales book but the posting from sales book to Mohan's account has not been made, it would be an error of partial omission.

- **Errors of Principle:** Accounting entries are recorded as per the generally accepted accounting principles. If any of these principles are violated or ignored, errors resulting from such violation are known as errors of principle. For example, amount spent on additions to the buildings should be treated as capital expenditure and must be debited to the asset account. Instead, if this amount is debited to maintenance and repairs account, it has been treated as a revenue expense.
- **Compensating Errors:** When two or more errors are committed in such a way that the net effect of these errors on the debits and credits of accounts is nil, such errors are called compensating errors. For example, if purchases book has been overcast by Rs. 10,000 resulting in excess debit of Rs. 10,000 in purchases account and sales returns book is under cast by Rs. 10,000 resulting in short debit to sales returns account is a case of two errors compensating each other's effect.

Rectification of Errors

Errors can be classified into two categories for the purpose of rectification of errors-

Rectification of Errors which do not affect the Trial Balance

The following errors do not affect the equality of the Trial Balance totals:

Errors of Omission: A transaction is omitted completely from the books so that there is no debit and credit entry of the transaction, e.g. Drawings of Rs. 5000 cash by the proprietor was not recorded.

Errors of Commission: An entry is posted to the correct side of the ledger but to the wrong account, i.e. items have been posted to the wrong account of the same class, e.g. Payment of Rs. 1000 cash by a customer A. John was wrongly posted to the account of another customer, B. Johan.

Errors of Principle: An entry is made in the wrong class of account, i.e. when an expense is treated as an asset and vice versa, e.g. Repairs to building Rs. 4000 was debited to the Building Account.

Complete Reversal of Entries: An account that should be debited is credited and vice versa, e.g. A cheque Rs. 2000 received from Sunita was debited to the account of Sunita and credited to the Bank Account.

Compensating Errors: Errors (or error) on one side of the ledger are compensated by an error (or errors), e.g. The Purchases Account and Sales Account were both overcast by Rs. 1500.

Errors of Original Entry: The original figure may be incorrectly entered although the correct double-entry principle has been observed using this incorrect figure, e.g. Credit sales of Rs. 9650 to Ranjit was recorded in the Sales Account and Ranjit's account as Rs. 6950.

Rectification of Errors which Affect the Trial Balance

Errors which are revealed by the Trial Balance are those errors which cause the Trial Balance totals to be in disagreement.

Errors in Calculation: If there is any miscalculation of the Trial Balance totals or the net account balances, the Trial Balance will not balance, e.g. There was an error in the calculation of the cash balance, causing the Trial Balance totals not to balance too.

Errors in Omission of One Entry: Omission of either the debit or credit entry of a transaction will cause the totals of the Trial Balance not to agree, e.g. A cheque Rs. 5000 received for commission was debited to the Bank Account only.

Posting to the Wrong Side of An Account: Entry into the wrong side of an account will cause one side of the ledger to be more than the other, e.g. A cheque of Rs. 8000 paid to creditor, K. Raj was credited instead of debited to his account.

Errors in Amount: If the debit entry of a transaction differs in amount with the credit entry, the Trial Balance will not balance, e.g. Cash Rs. 9650 received from Anand was debited to the Cash Account as Rs. 9650 and credited to the account of Anand as Rs. 6950.

Summary

- An account has a debit balance when its debit total exceeds its credit total.
- An account has a credit balance when its credit total exceeds its debit total.
- Asset, expenses and drawings accounts have debit balances.

- Liability, capital and revenue accounts have credit balances.
- A Trial Balance is a list of debit and credit balances extracted from the accounts in the ledger at a particular date.
- The Trial Balance is prepared for the purpose of checking the arithmetical accuracy of the entries made in the ledger.
- The total debit balances will equal the total credit balances in the Trial Balance if the double-entry principles of recording have been strictly adhered to.
- Errors that effect the agreement of the Trial Balance totals are wrong calculation of balances, omission of either a debit or credit entry of a transaction, entry on the wrong side of an account, and errors in amount.
- Errors that do not affect the agreement of the Trial Balance totals are complete omission of entries of a transaction, errors of commission, errors in principle, compensating errors, and errors in original entry.
- Asset and liability accounts are balanced and their balances brought down to the next accounting period.
- Personal accounts record transactions with persons who have dealings with the business, e.g. debtors and creditors accounts.

Adjusting Entries

Some common adjustments are:

- Closing Stock
- Expenses due but not paid (Outstanding expenses)
- Expenses paid in advance (Prepaid expenses)
- Incomes due but not received (Accrued incomes)
- Incomes not due but received (Unearned incomes)
- Depreciation on assets
- Interest on Capital
- Interest on Drawings
- Interest on Loan
- Bad debts to be written off
- Provision for bad debts
- Provision for discount on Debtors
- Provision for discount on creditors
- Losses on account of accidents
- Commission payable on profit
- Goods used by the proprietor
- Goods distributed as Free Samples

Closing Entries

Closing consolidated journal entries are normally passed for

- Transfer of all manufacturing and purchase expense to the debit side of trading a/c
- Transfer of Purchases and Sales return to the debit side of Trading a/c
- Transfer of Sales and Purchases return to the credit side of Trading a/c
- Transfer of closing stock to the credit of trading account by an adjustment entry
- Transfer of Gross profit to the credit side of Profit & Loss a/c
- Transfer of Gross loss to the debit side of Profit & Loss a/c
- Transfer of all administrative, selling and financial expenses to the debit of P & L A/c
- Transfer of all operational and non-operational incomes to the credit of P & L A/c
- Transfer of Net profit to the credit of Capital a/c
- Transfer of net loss to the debit of Capital a/c

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Unit - 6. Depreciation and its Accounting

Depreciation is a method of allocating the cost of a tangible asset over its useful life. Businesses depreciate long-term assets for both tax and accounting purposes. It is a decrease in an asset's value caused by unfavorable market conditions. a decrease in an asset's value, may be caused by a number of other factors as well such as unfavorable market conditions, etc. Machinery, equipment, currency are some examples of assets that are likely to depreciate over a specific period of time.

Depreciation – Different Methods

- Straight line method;(cost-residual value)/ estimated useful life
- Written Down Value method or declining balance method : %age is fixed
- Accelerated Depreciation
- Sum of years' digits method; Example, if an asset is to be depreciated over five years, add digits 5,4,3,2,1 .The total is 15.For the 1st year depreciation is 5/15,for 2nd year,4/15 , and so on

Need for depreciation

- To know correct profit
- Show correct financial position
- Make provision for replacement of assets

Factors of depreciation

- Cost of asset
- Residual value
- Life of an asset

AS-6 deals with Depreciation Accounting

Unit - 7. Capital and Revenue Expenditure

A **capital expenditure** is an amount spent to acquire or improve a long-term asset such as equipment or buildings. Usually the cost is recorded in an account classified as Property, Plant and Equipment. The cost (except for the cost of land) will then be charged to depreciation expense over the useful life of the asset.

A **revenue expenditure** is an amount that is expensed immediately—thereby being matched with revenues of the current accounting period. Routine repairs are revenue expenditures because they are charged directly to an account such as Repairs and Maintenance Expense. Even significant repairs that do not extend the life of the asset or do not improve the asset are revenue expenditures.

Difference between Capital and Revenue Expenditure

CAPITAL	REVENUE
Large amount	Relatively small
Improve or enhance earning capacity	Maintain asset
Long duration benefit	Short duration
Non- recurring	Recurring
Balance sheet item	Trading /P & L A/c item

Capital and Revenue Expenditure: Examples

1. Cost of replacement of defective parts of the machinery is ……
   a. Capital expenditure
   b. Revenue expenditure
   c. Deferred revenue expenditure
2. Preliminary expenses , discount allowed on issue of shares are the examples of
   a. Capital expenditure
   b. Deferred revenue expenditure
   c. Revenue expenditure
3. Expenditure incurred in acquiring the patents rights for the business is an example of ----
   a. Capital expenditure
   b. Deferred revenue expenditure
   c. Revenue expenditure

Unit - 8. Bills of Exchange

A written, unconditional order by one party (the drawer) to another (the drawee) to pay a certain sum, either immediately (a sight bill) or on a fixed date (a term bill), for payment of goods and/or services received. The drawee accepts the bill by signing it, thus converting it into a post-dated check and a binding contract. It is also called as "Draft".

Promissory Note

A financial instrument that contains a written promise by one party to pay another party a definite sum of money either on demand or at a specified future date. A promissory note typically contains all the terms pertaining to the indebtedness by the issuer or maker to the note's payee, such as the amount, interest rate, maturity date, date and place of issuance, and issuer's signature. Promissory notes that are unconditional and saleable become negotiable instruments that are extensively used in business transactions in numerous countries.

A promissory note is usually held by the payee. Once the debt has been discharged, it must be canceled by the payee and returned to the issuer.

Difference between Bill of Exchange and Promissory Note

Bill of Exchange	Promissory Note
Unconditional order	Unconditional promise
Made by creditor	Made by debtor
Acceptance by debtor must	No acceptance as such
Three parties to a bill	Two parties to a bill
On dishonor, noting is necessary by notary public	Noting is not necessary

Unit - 9. Operational Aspects of Accounting Entries

There are two types of transactions in a Bank, Cash and non-cash.

Vouchers

There are two types of vouchers.

1. Which evidences only debit or credit to an account
2. Which contains both debit and credit to different accounts (composite vouchers)

Normal debit vouchers are:

a. Cheques
b. Withdrawal forms
c. Drafts
d. Dividend/interest warrants
e. Travellers' cheques
f. Letter of authority signed by the customers, containing standing instructions.
g. Debit vouchers prepared by the branch
h. Term Deposit receipt presented for payment

Normal Credit vouchers are:

a. Pay-in-slips
b. Applications for issue of DDs, TDs, BCs, RTGS/NEFT, pay orders
c. Challans for deposits into Central/State Govt Accounts
d. Credit vouchers prepared by the branch

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Unit - 10. Back Office Functions/Handling Unreconciled Entries in Banks

Functions performed by the Back Office

Back office functions can be grouped as under:

a. Book keeping and accounting – Transaction processing, maintenance of General Ledger and other book of accounts
b. Deposits – Calculation and posting of interest, service charges
c. Loans – processing end-to-end loan originations, calculation of EMI, calculation and posting of interest, penal interest, processing fee, commission, charges, risk management
d. Regulatory compliance – Identifying KYC gaps, customer grievance redressal system
e. e-Banking – handling transactions through internet, mobile banking or ATMs
f. Other functions – Clearing, collection, remittances

Reconciliation functions in Banks

a. Reconciliation of accounts for payments involving intermediaries
b. Reconciliation of accounts for with correspondent banks
c. Reconciliation of bank accounts with RBI and other banks and institutions
d. Reconciliation of Inter branch entries
e. Reconciliation of Inter Office transactions

RBI guidelines regarding inter office entries
Reconciliation set up and process at the banks

Unit - 11. Bank Audit & Inspection

- Audit is an instrument of financial control. It acts as a safeguard on behalf of the proprietor (whether an individual or group of persons) against extravagance, carelessness or fraud on the part of the proprietor's agents or servants in the realization and utilisation of the money or other assets and it ensures on the proprietor's behalf that the accounts maintained truly represent facts and that the expenditure has been incurred with due regularity and propriety.
- The agency employed for this purpose is called an auditor.

Types of Bank Audits

- Concurrent Audit
- Internal Audit/Information System Audit
- Statutory Audit

RBI's Guidelines on Concurrent Audit System in Commercial Banks

- Coverage
- Appointment of Auditors
- Accountability
- Tenure
- Remuneration
- Review of effectiveness of Concurrent Audit
- Reporting System

- Internal Audit which is generally undertaken by bank's own staff and to some extent by the firms of Chartered Accountants
- **Important aspects to be considered about Internal Audit are:**
  - Internal Audit's important role in overall governance mechanism of the Banks,
  - Role of Risk-Based Internal Audit in evaluating & improving the effectiveness of Risk Management and governance processes
  - Risk-Based Internal Audit Procedures
  - Role of Internal Audit in Risk Management
  - Evaluation of Financial Information through analysis of non-financial data
  - Auditing and Assurance Standards.

- Information Systems Audit (IS Audit) is a process of collecting and evaluating evidence/information to determine whether a computer system could:
  - safeguard its assets (hardware, software and data) through adoption of adequate security control measures
  - maintain data integrity

- achieve goals of the organisation effectively
- result in the efficient use of the available information System resources

Reserve Bank of India Guidelines on Information Systems Audit

- Information Technology (IT) Governance
- Information Security
- Information Systems Audit
- Information Technology (IT) Operations
- Information Technology (IT) Services
- Outsourcing
- Cyber Fraud
- Business Continuity Planning
- Customer Awareness Programmes & Legal aspects

Scope of IS Audit

- Determining effectiveness of planning and oversight of IT activities
- Evaluating adequacy of operating processes and Internal controls
- Determining adequacy of enterprise-wide compliance efforts, related to IT policies and Internal Control procedures
- Identifying deficient controls, recommend corrective action to address deficiencies and follow-up and to ensure that the management effectively implements the required actions

Computer-Assisted Audit Techniques (CAATs) may be used in critical areas like:

- Detection of revenue leakages
- Treasury Functions
- Assessing impact of control weaknesses
- Monitoring customer transactions under AML requirements
- Areas where large volume of transactions are reported

CAATs may be used to perform the following audit procedures among others:

- Test of transactions and balances, such as recalculating interest
- Analytical Review procedures, such as identifying inconsistencies or significant fluctuations
- Compliance tests of general controls: testing set up or configuration of the operating system or access procedures to the programme libraries
- Sampling programmes to extract data for audit testing
- Compliance tests of application controls such as testing functioning of a programmed control
- Re-calculating entries performed by the entity’s accounting Systems

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- Penetration testing

Salient Features of Statutory Audit

- It is conducted by a 'Statutory Auditor' - the word 'Statute' means - mandated or compulsorily required by any law or Act.
- In case of Banks, sub-section (1) of Section 30 of the Banking Regulation Act, 1949 requires that the Balance Sheet and Profit and Loss account of a banking company should be audited.
- Independent audit of financial statements of Banks is important for a healthy, safe and sound banking system.
- Statutory audit rely on the concurrent audit & internal Audit Reports and test checking to form their opinion.
- Statutory audit mainly looks at the loans and advances, Compliance with Priority Sector Lending (PSL) requirements, CRR, SLR, CRAR etc. and other Statutory norms compliance as per latest RBI guidelines/Master Directions/Master Circulars.

Stages in Statutory Audit

- Initial consideration by the statutory auditor
- Identifying and assessing the Risks of Material Misstatements
- Understanding the Risk Management Process
- Engagement - Team Discussions
- Establishing the overall Audit strategy
- Developing the Audit Plan
- Preparation of Audit Planning Memorandum
- Determining Audit Materiality
- Assessment of ability to continue as Going Concern
- Assessing the Risks of Fraud including Money Laundering
- Assessing Specific Risks
- Assessing Risks Associated with Outsourcing of Activities
- Response to the Associated Risks
- Conformity to Basel III framework
- Reliance on/review of other reports
- Classification of NPAs (It should be based on the record of recovery)
- Asset classification (It should be Borrower-wise and not facility-wise)

Types of Audit Reports to be issued by Statutory Auditors

1. Statutory Audit Report (As per SA 700/705/706 Issued by ICAI)
2. Long Form Audit Report (As per the requirements of RBI guidelines)
3. Tax Audit Report (As per Income-tax Act, 1961)

Various other Types of Audits Undertaken by Banks

- Revenue Audit (known as Income & Expenditure audit)
- Stock and Receivables Audit
- Forensic Audit
- Management Audit
- Tax Audit including Goods and Services Tax (GST) Audit

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MODULE B – FINANCIAL STATEMENTS AND CORE BANKING SYSTEMS

Unit - 12. Balance Sheet Equation

Always the total claims (those of outsiders such as creditors and of the proprietors, i.e. net worth) will equal the total assets of the business.

We can express the same as:
Assets = Equities (total claims)
or Assets = Liabilities + Capital
or Liabilities = Assets - Capital
or Capital = Assets – Liabilities

Computation of Balance Sheet Equation
If there is any change in the amount of the assets or the liabilities, the owners' claim or the capital is bound to change correspondingly. If assets increase and liabilities do not, the capital will increase; a reduction in the amount of assets or an increase in the amount of liabilities will mean a reduction in the amount of capital.

- **Capital:** It means the amount which the owner of business has invested in the firm and can claim from the firm.
- **Liability:** It means the amount which the firm owes to outsiders. Long term liabilities are those liabilities which are payable after a long term. Current liabilities are those liabilities which are payable in near future (generally within one year).
- **Assets:** Assets are things of value owned. Fixed assets are those assets which are purchased for the purpose of operating the business but not for resale, e.g. Land, Building, Plant and Machinery, etc. Current assets are those assets which are kept for short term for converting into cash or for resale, e.g. unsold goods, debtors, cash, bank balance, etc.
- **Revenue:** It means the amount which, as a result of operations, is received by the business.
- **Expense:** It is the amount spent in order to produce and sell the goods and services which produce the revenue.
- **Income:** The difference between revenue and expense is called income (if revenue is more than expense).
- **Debtor:** A person who owes money to the firm, mostly on account of credit sales of goods, is called a debtor.
- **Creditor:** A person to whom money is owed by the firm is called a creditor.

Unit - 13. Preparation of Final Accounts

Trial Balance

The Trial Balance is a statement of ledger account balances as on a particular instance.

The trial balance is prepared to check/ensure the arithmetical accuracy of accounting. Preparation of Trial Balance is not an act that forms a part of the activities involved in the regular accounting cycle. Final Accounting can be completed without the preparation of the Trial Balance also.

The trial balance is generally prepared at a time when all the ledger accounts are balanced like at the end of the accounting period. Theoretically, the trial balance can be prepared as and when needed. In this mechanised (computerised) accounting systems, trial balance is a statement that can be automatically derived as and when needed.

Adjustment Entries

There might be a number of accounting transactions which might not have been taken into consideration by the time the Trial Balance has been prepared. Some of the reasons for the presence of such transactions are

- **Transactions which do not occur in the normal course of business**

There are a number of transactions relating to the business which do not occur in the normal course of business. These transactions unless deliberately recorded do not get into the books of accounts.

Examples for such transactions

Stock taken away by the proprietor for personal use
Abnormal loss of stock

- **Transactions which have to be recorded only towards the end**

There are a number of transactions relating to the business which have to be recorded only at the end of the accounting period. If the trial balance has been prepared before all such transactions into consideration have been taken into consideration, then they stay unrecorded in the books of accounts.

- ❖ Depreciation on Assets
- ❖ Expenses - Outstanding/Prepaid
- ❖ Incomes - Outstanding/Pre-received

• Transactions relating to Error Rectifications

The agreement of a Trial Balance is not a conclusive proof of absence of errors in accounting. Even in case where the trial balance agrees, there may still be errors existing in the books of accounts. These errors if identified subsequent to the preparation of the Trial Balance, need to be rectified which needs journal entries to be passed for rectification.

The transactions which have not yet been journalised, appended to the trial balance are what we call adjustments. Thus we can say that Adjustments are transactions relating to the business which have not been journalised by the end of the accounting period.

Since adjustments are also transactions relating to the business, we need to bring them into the accounting books by journalising them.

Accounting for the Transactions

Recording the transactions represented by adjustments normally would result in the existing balance in the affected ledger accounts to either increase or decrease.

» Transaction
Wages to the extent of Rs. 43,000 are incorrectly recorded as Salaries.
This represents an error of principle whereby an expenditure that was to be debited in a particular account has been debited to another account.

To bring the effect of this transaction into books, the journal entry to rectify this error has to be recorded.

Effect of the Transaction

The effect of the journal entry to be recorded in the above case can be analysed as

(−) From Salaries on the debit side of P/L a/c

The Salaries a/c which already has a debit balance is credited which will result in a decrease in the existing debit balance.

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To bring the effect of this transaction, the amount involved in the transaction (Rs. 43,000) is deducted from the Salaries a/c balance (Rs. 1,53,000) shown on the debit side of the "Profit & Loss a/c".

(+) To Wages on the debit side of Trading a/c

The Wages a/c which already has a debit balance is debited resulting in an increase in the existing debit balance.

To bring the effect of this transaction, the amount involved in the transaction (Rs. 43,000) is added to the Wages a/c balance (Rs. 18,000) shown on the debit side of the "Trading a/c".

These are the adjustments to be made to bring the affect of the above transaction into the books of accounts.

Trading Account

Trading account is a part of final accounts prepared by a business firm which shows gross profitability of business activities during a particular period. In other words, trading account shows total sales, total purchases and all direct expenses relating to purchase and sales.

Trading account is prepared by manufacturing companies and trading companies only because the sales and purchases of goods are done in these types of business firms only.

Trading Account is like a statement which is divided in two parts i.e. Income part and Expenditure Part.

In income part, we show the following details:-

- Sales of goods Less Sales Returns
- Closing Stock of goods

In Expenditure part, we show the following accounts:-

- Opening stock of goods
- Purchases of goods Less Purchase Returns
- All direct expenses relating to purchase, sale and manufacturing of goods like Cartage & Freight Expenses, Rent for godown or factory, Electricity and Power expenses, wages of workers and supervisors, Packing expenses etc.

Profit & Loss Account

- Profit & Loss Account is part of final accounts, prepared by a business firm to know the net profit of the business activities during a particular period.

- Profit and Loss Account is different from Trading Account because Trading account shows only the gross profit while profit and loss account shows net earnings of the business firm. In profit and loss account all indirect expenses and indirect incomes are shown.

- Profit and Loss Account is prepared with the help of Trial Balance. Profit and Loss Account is just like Trading Account which is divided in two parts i.e. Income part and Expenditure Part.

In income part, we show the following accounts:-

- Gross Profit brought forward.
- Indirect Income i.e. interest received, commission received, rent received etc. In other words indirect income means which is not directly related to purchase or sales.

In Expenditure part, we show the following details:-

- Gross Loss brought forward
- All indirect Expenses i.e. any expenses which are not related to purchase and sales.

Balance Sheet

Balance Sheet is part of Loss Account final accounts, prepared by a business firm to know its financial position on a particular date for a particular period. Balance sheet shows the total liabilities and total assets of a business firm on a particular date.

Balance Sheet can be prepared on monthly basis or quarterly basis or half yearly basis or yearly basis according to its requirement. For example all the companies registered with stock exchanges furnish monthly details relating to sale, profits, liabilities and assets of listed companies. Therefore these companies have to prepare the Trading account, Profit and Loss Account and balance sheet on monthly basis. But if we talk in general then it is prepared at the end of the financial year.

Balance Sheet is prepared with the help of Trial Balance. Balance sheet is divided in two parts i.e. Liabilities and Assets.

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In Liabilities, we show the following details:-

- Capital
- Secured Loans
- Unsecured Loans
- Current Liabilities and Provisions
- Profit and Loss Account (Balance of Profit)

In Assets, we show the following accounts:-

- Fixed Assets
- Investments
- Current Assets, Loans and Advances
- Miscellaneous Expenditure
- Profit and Loss Account (Balance of losses)

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Unit – 14 & 15. Company Accounts — I & II

Features of a Joint stock Company

- Incorporated association
- Artificial person
- Perpetual succession
- Common seal
- Limited liability
- Separation of management from ownership
- Transferability of shares
- Separate legal status
- Large membership

Types of companies

On the basis of incorporation	On the basis of ownership	On the basis of liability
Chartered company	Private company	Co limited by shares
Statutory company	Public company	Co Ltd by guarantee
Registered company	Government company	Co with unlimited liability
Foreign company	Holding company	

SHARE CAPITAL

- Equity
- Preference
  - Cumulative
  - Redeemable
  - Participating
- Authorised capital
- Issued capital
- Subscribed capital
- Called capital
- Paid up capital

Issue of share at par

- Bank - Share application	Debited -	- Credited
Share application Share capital	Debited -	- Credited
Over subscription -share application -share capital -bank (refund) -share allotment	Debited - - -	- Credited Credited Credited

Share Allotment/Share Call

Share allotment a/c Share capital a/c	Debited -	- Credited
Bank a/c Share allotment a/c	Debited -	- Credited
Share call a/c Share capital a/c	Debited -	- Credited
Bank a/c Share call a/c	Debited -	- Credited
Calls in arrears a/c Share allotment a/c Share call a/c	Debited - -	- Credited Credited

Issue of shares at premium

Share application/ allotment a/c Share capital A/c Share premium A/c	Debited - -	- Credited Credited

Issue of shares at discount

Share allotment A/c Discount on issue of shares A/c Share capital A/c	Debited Debited -	- - Credited

Forfeiture of shares

Share capital A/c Call in arrears A/c Forfeited shares A/c	Debited - -	- Credited Credited

Re-issue of shares

Bank A/c Forfeited shares A/c Share capital A/c Capital reserve A/c	Debited Debited - -	- - Credited Credited

Issue of Bonus shares

Cap. Red. Reserve A/c Share premium A/c Capital reserve A/c Gen Reserve A/c Profit & Loss A/c Bonus to shareholders A/c	Debited Debited Debited Debited Debited -	- - - - - credited
Bonus to shareholders A/c Equity share capital A/c	Debited	- credited

Balance sheet equation

LIABILITIES		ASSETS	
Capital	300.00	Fixed assets	700.00
Reserves	200.00	Current assets	300.00
Term Loans	300.00		
Current Liabilities	300.00		
Total	1000.00	Total	1000.00

Balance sheet equation

Assets	=	Liabilities	
Assets	=	Liabilities (+)	Capital
Liabilities	=	Assets (-)	Capital
Capital	=	Assets (-)	Liabilities

Assets = Liabilities

Assets = Capital + Liabilities

Assets =Net worth + Liabilities

Net worth = Capital + Reserves& Surplus

Net worth = Assets Less Liabilities

Unit - 16. Cash Flow and Funds Flow

For arriving at the net cash flow, the activities of a business entity are grouped under 3 categories

1. Operating activities: These are the principal revenue-producing activities of the entity and other activities that are not investing or financing activities. Operating activities consist of inflows and outflows of cash resulting from transactions that affect a firm's net profit or loss.
2. Investing activities: These include acquisition and disposal of long-term assets and other investments not included in cash equivalents.
3. Financing activities: These include activities that result in changes in the size and composition of the contributed equity and borrowings of the entity.

Cash Flow Statement

Examples of cash flows from operating activities are:

(a) cash receipts from the sale of goods and the rendering of services;
(b) cash receipts from royalties, fees, commissions and other revenue;
(c) cash payments to suppliers for goods and services;
(d) cash payments to and on behalf of employees

Examples of cash flows arising from investing activities are:

(a) cash payments to acquire property, plant and equipment, intangibles and other long-term assets.
(b) cash receipts from sales of property, plant and equipment, intangibles and other long-term assets;
(c) cash payments to acquire equity or debt instruments of other entities and interests in joint ventures
(d) cash receipts from sales of equity or debt instruments of other entities and interests in joint ventures

Examples of cash flows arising from financing activities are:

(a) cash proceeds from issuing shares or other equity instruments;
(b) cash payments to owners to acquire or redeem the entity's shares;
(c) cash proceeds from issuing debentures, loans, notes, bonds, mortgages and other short-term or long-term borrowings;
(d) cash repayments of amounts borrowed

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An indicative format of the Statement of cash flows is as under:

1. Cash flows from Operating Activities

(a) Operating income (EBIT)
(b) Add: Depreciation
(c) Subtract/add: profit/loss on sale of long term assets
(d) Add decrease in accounts receivables
(e) Subtract Decrease in accounts payable
(f) Add/subtract decrease/increase in other items of current assets
(g) Add/subtract increase/decrease in other items of current liabilities
Net cash flow from operating activities (A)

2. Cash flows from Investing Activities

(h) Sale of Long term assets
(i) Subtract Purchase of Long term assets
Net cash flow from operating activities (B)

3. Cash flows from Financing Activities

(j) Payment of dividend (-)
(k) Increase in equity (+)
(l) Decrease in borrowings (-)

Net cash flow from operating activities (C)
Total of A, B and C
Less: Payment of interest and taxes
Net cash flows of the entity

Funds Flow Statement

- Additional funds are available if there is decrease in any item on the assets side.
- Similarly, any increase in any item on the assets side or decrease in any item on the liabilities side means additional use of funds.
- A statement of these additional sources of funds and additional uses of funds, is called Funds flow statement for the intervening period

An indicative format of funds flow statement, for the bankers, may be as under:

Sources of Funds	Uses of Funds
1. Long Term Sources a. Increase in equity b. Increase in Reserves c. Increase in long term borrowings d. Decrease in Non-current assets **Sub-total** **2. Short Term Sources** a. Increase in Short term borrowings b. Decrease in current assets **Sub-total**	**1. Long Term Uses** a. Decrease in equity b. Decrease in Reserves c. Decrease in long term borrowings d. Increase in Non-current assets **Sub-total** **2. Short Term Uses** a. Decrease in Short term borrowings b. Increase in current assets **Sub-total**
TOTAL	**TOTAL**

Difference between Cash Flow Statement and Funds Flow Statement

Cash Flow Statement	Funds Flow Statement
1. Integral part of financial statements and is mandatory	1. Not a mandatory requirement and not an art of financial statements
2. Cash flows from operating, financing and investing activities to be shown separately	2. No such segregation is required
3. Determines the cash position at the end of the accounting period	3. Determines the changes in working capital through a specified period
4. Uses the cash system of accounting	4. Uses the accrual system of accounting
5. Helps in understanding the liquidity position of a business	5. Helps in assessing the long term financial strategy of a business

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Unit - 17. Final Accounts of Banking Companies

Requirements –Accounts & audit

- Third Schedule annexed to BRA
- Form A- Balance sheet
- Form B- Profit & Loss Account
- Audit
- Submission of accounts- RBI- within 3 months
- Publication of accounts- within 6 months
- Auditor-prior approval of RBI for appt/removal

Balance sheet-Form A

Capital & Liabilities	**Assets**
1. Capital	1. Cash & Bank Bal. RBI
2. Reserves & surplus	2. Balances with Banks & Money at call and
3. Deposits	3. Investments
4. Borrowings	4. Advances
5. Other Liabilities & Provisions	5. Fixed Assets
	6. Other Assets

Demand deposits

- Credit balances in OD and CC
- Deposits payable at call
- Overdue deposits
- In-operative current accounts
- Matured time deposits
- Matured cash certificates
- Matured certificate of deposits

Contingent liabilities

Schedule-12

- Claims against bank not acknowledged as debts
- Liability for partly paid shares
- Liability on account of outstanding forward exchange contracts
- Acceptances ,endorsement & other obligations
- Other items for which bank is contingently liable.

PROFIT & LOSS ACCOUNT-FORM B

Income Interest Earned Other Income	Schedule.13 Schedule.14
Expenditure Interest Expended Operating Expenses Provision for contingencies	Schedule.15 Schedule.16
Profit /Loss	
Appropriations Transfer to Reserves Proposed dividend Balance carried to Balance sheet	
Significant Accounting Policies	Schedule.17
Notes forming part of Accounts	Schedule.18

Other Income

- Profit on exchange transactions
- Profit on sale of investments
- Profit on revaluation of investments
- Profit on sale of fixed assets
- Letting of locker (income from locker charges)
- Misc. income -Godown rent

Just go through these points

- Govt. securities shown at book value and diff. between MV and BV is given in the notes
- Other fixed assets includes vehicles, furniture and fixtures. Lockers and safe deposit vaults are included in furniture
- 20% to reserve fund before declaring dividend
- Gold is treated as investment
- Silver is treated as other assets
- Income from performing assets is recognized on accrual basis while in r/o non-performing assets it is on cash basis
- In r/o NPA, if income is already recognized, then make provision

ASSET CLASSIFICATION ETC

- Asset Classification
  - Performing and
  - Non performing (remain out of order)
- Income Recognition
  - Performing-accrual basis
  - Non performing-cash basis
- Asset Classification
  - Std-0.40% (revised from 0.25%)
  - Sub-Std.-Unsecured – 25%, Secured - 15%
  - Doubtful – Unsecured - 100%, Secured - upto 1year-25%, 1 to 3yrs-40%, more than 3 years - 100%
  - Loss assets-100%

SLR & NON SLR DEPOSITS

Held to maturity	Available for sale	Held for trading
Investment should not exceed 25% of total investment	Freedom available	Freedom available
-no marked to market. Profit on sale treated as Cap Reserve	-Marked to market -profit on sale of investment taken to P&L a/c	Marked to market To be sold within 90 days

Unit - 18. Core Banking Systems and Accounting in Computerised Environment

Nowadays, many organisations perform their accounting work on computers ignoring the manual method of bookkeeping. Modern accounts are more like computer-keeping rather than bookkeeping.

It is an accounting system is one that performs the following functions:
1. It captures business transactions in the form of accounting entries.
2. The accounting entries are then used to prepare financial statements.
3. The financial statements are prepared based on accounting standards.
4. Various financial reports are prepared from the data available in the financial statements.

A computer accounting system runs based on a set of instructions called the software programmes developed by a person who is a computer software professional and he is called the programmer. The instructions of the programmer are in a computer language in the form of computer programme(s) and are called the computer software. Accounting software may be written in any of the computer languages such as COBOL, Foxpro, etc., or on an operating platform such as Windows, UNIX, etc.

Digital computers are the kind of computers used in computerised accounting.

The main features of computerised accounting are:
1. Speed
2. Accuracy
3. Various Informative Reports can be Generated
4. Economy
5. A Computerised System may be a Single Stand Alone Unit or a Multiple User, i.e. LAN, WAN, etc.

Differences between manual and computerised systems
1. Data Stored in Computer are not visible and thus, the Trail of Events is Difficult to Establish
2. Accounting Data can be manipulated to Generate Various other Reports/Statements

The advantages of computerised accounting system are:
1. Accurate, High Speed and Low Cost of Operation
2. Availability of Various Reports from the Same Accounting Data
3. Error-free Accounting
4. Automatic Completion of all Records by Feeding Only One Entry into the Computer
5. Multiple Set of Printouts Available

The disadvantages of computerised accounting are:
1. Requirement of Special Programme and Professional
2. Qualified Staff Required for Operations
3. Costly Computer Peripherals and Stationery
4. Regular back-up is Required as Data may be Lost for Various Reasons
5. Computer Viruses

Influence of Computerisation in the functions performed by a bank :
1. Computerised Bank Operations
2. Computerised Accounting
3. Accepting Deposits
4. Lending
5. Remittances
6. Clearing of Cheques
7. Standing Instructions
8. Centralised Banking
9. Automated Banking

Core Bank Components include :
- Core Bank Financial Institution Infrastructure
- Core Bank Product Build
- Core Bank Customer Management and Customer Overview
- Core Bank Account Administration
- Core Bank Payments
- Core Bank Management Information

Information Systems Security

Information Systems Security provides essential information for managing the security of an organisation where information technology is an important factor. It is mainly for all the staff, who are the first-line support, responsible for the daily, efficient operation of security policies, procedures, standards, and practices. It covers:

- Access control systems and methodologies
- Computer operations security
- e-mail and internet access
- Application and systems development
- Business continuity and disaster recovery planning
- Telecommunications and network security
- Physical security
- Cryptography

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- Security management practices
- Law, investigations, and ethics

Internet:
Internet is the inter-connection between several computers of different types belonging to various networks all over the globe.

World Wide Web (WWW):
WWW is a series of servers that are interconnected through hypertext. Hypertext is a method of presenting information in which certain text is highlighted that, when selected, displays more information on the particular topic. These highlighted items are called hyperlinks and allow the users to navigate from one document to another that may be located on different servers.

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MODULE C – FINANCIAL MANAGEMENT

Unit - 19. Financial Management - An Overview

Forms of Business Organisation

1. Sole Proprietary
2. Partnership Firm
3. Limited Liability Partnership (LLP)
4. Hindu Undivided Family
5. Association of Persons or Body of Individuals
6. Company
7. Co-operative society

Financial Decisions in a Firm

1. Estimating the capital requirements
2. Deciding the capital structure/composition
3. Deciding on sources of funds
4. Use of long term funds
5. Corporate strategy/mergers and acquisitions
6. Use of short term funds/Working capital management
7. Financial Control
8. Compliance
9. Decision of dividend/retained profit

Objectives of Financial Management

1. To ensure adequate and timely supply of long and short term funds to the organisation, at reasonable cost.
2. To ensure optimum utilization of funds
3. To take sound capital investment decisions
4. To decide on optimum capital structure
5. To ensure statutory and regulatory compliance
6. To ensure balance between shareholder benefits and organisational objectives
7. To ensure appropriate financial risk-management system

Fundamental Principles of Finance

1. Time Value of Money
2. Opportunity Cost of Money
3. Risk and Return
4. Liquidity and Return

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5. Diversification
6. Reducing asset-liability mismatch/Hedging
7. Cash flow

Building Blocks of Modern Finance
1. Planning
2. Decision making
3. Organising and Directing
4. Controlling

Modern financial management involves the following building blocks
1. Consistency
2. Accountability
3. Transparency
4. Viability
5. Integrity
6. Management and
7. Accounting Standards

The agency problems in a company are, normally, of the following types:
1. Shareholders v/s management
2. Shareholders v/s bondholders/other creditors
3. Controlling shareholders' v/s minority shareholders
4. Shareholders v/s other stakeholders like employees, investors, customers, local community, etc.

Some of the ways to mitigate the agency problem in an organisation include:
1. Full transparency in all the operations
2. Placing restrictions on the capabilities of the agent/managers
3. Linking compensation structure of the agent to the gains of the principal or providing performance based compensation structure.
4. Linking CEO compensation directly to stock price performance, etc.
5. Principal-agent relationships can be regulated by contracts

Principles of code of conduct/Ethics
1. Personal responsibility
2. Corporate responsibility
3. Corporate Transparency
4. Honesty
5. Integrity

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6. Promise-Keeping
7. Trustworthiness
8. Loyalty
9. Fairness
10. Concern for Others
11. Respect for Others
12. Customer Prioritisation
13. Law Abiding
14. Community and Environmental Responsibility
15. Data Protection
16. Whistle-blower Protection
17. Workplace Diversity and employee compensation

Examples of social responsibility

- Arranging blood donation camps, cataract surgery camps, medical check-up camps etc.
- Advocating and implementing child labour laws
- Collection and Recycling of plastic waste
- Creating food bank
- Provide night shelter to homeless persons
- Setting up sport complexes, providing safe drinking water

Emerging Role of the Finance Manager in India

1. Selection of project
2. Raising Equity:
3. Raising debt
4. Interest rate on debts
5. Foreign exchange management
6. Treasury operations
7. Coping with technological changes/data availability
8. Dealing with Rating Agencies
9. Investor communication

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Unit - 20. Ratio Analysis

- Accounting ratios are relationship expressed in mathematical terms between accounting figures which for meaningful purpose.
- Classification: P & L Ratios
- Balance Sheet Ratios
- Composite or Inter-Statement Ratios.

Functional Classification

- Profitability
- Turnover/Activity Ratios
  Financial/Solvency Ratios
- Financial Ratios may be further classified as Short Term Ratios/Liquidity Ratios or Long Term/ Solvency Ratios

Return on Capital Employed

- $\frac{\text{EBIT}}{\text{Capital Employed}} * 100$
  Earnings before Interest & Tax
- Op. Profit means profit from the Operations of the Company plus Int(Long term) & Tax
- Capital Employed = Share Capital+ Reserves & Surplus+ Long Term loans –(Non-business assets + Fictitious assets)
- Proper calculation gives us Return on Capital Employed

Earnings Per Share (EPS)

$$EPS = \frac{\text{Net Profit after tax \& Pref. Dividend}}{\text{No. of Equity Shares}}$$

This shows whether equity Capital of Co. is properly used or not Company's capacity to pay Dividend.

EPS helps us at estimating Market Price of the Company

Price Earning (P/E Ratio)

Market Price of per Equity Share
EPS

Helps to decide whether to buy Share of a Company.

Gross Profit Ratio

Gross Profit* 100
Net Sales

It helps in Price decision & Profit from Op. before Charging all other expenses.

Net Profit Ratio

Net Operating Profit * 100
Net sales

Solvency Ratios

Long Term Solvency Ratios

- Fixed Assets Ratios : Fixed Assets / Long Term Funds
- The ratio should not be more than one.
- If it is less than one then it indicates part of the Working Capital Financed through Long term Funds i.e. we may call Core Working Capital

Debt- Equity Ratio

- i) DE Ratio : Total Long Term Debt / Total Long Term Funds
- Ii) DE Ratio : Total Long Term Debt / Shareholders Funds
- Debt Service Coverage Ratio= Cash Profit available for debt service / Interest+ Instalment

Short Term Solvency Ratio

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

Ideal ratio: 2

Acceptable to Bank 1.33

ii) Liquidity Ratio/Acid Test or Quick Ratio:

$\frac{\text{Liquid Assets}}{\text{Current Liability}}$

Turnover Ratios

Stock Turnover Ratio =

$\frac{\text{Cost of goods Sold during the year}}{\text{Average Inventory}}$

Debtors Turn over Ratios (Debtors Velocity) =

$\frac{\text{Credit Sales}}{\text{Average Accounts Receivable}}$

Debtors Collection Period =

$\frac{\text{Months or days in a year}}{\text{Debtors turnover}}$ or

$\frac{\text{Accounts receivable}}{\text{Average Monthly or daily Credit sales}}$

Fixed Assets Turnover Ratio =

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

Calculate the following ratios for YE March2014 & 2015

a) Return on Capital Employed
b) Current Ratio
c) Debt Equity Ratio
d) Fixed Assets Turnover Ratio

e) Inventory Turnover Ratio

f) Earning Per Share

Balance Sheets as at 31st March Rs. Lakhs

Liabilities	2013	2014	2015
Sh. Capital:Shares of Rs.10 each	800	1000	1000
Reserves & surplus	700	800	1000
Secured Term Loans	800	2000	2400
Cash Credits from bank	800	1000	1500
Sundry Creditors	1200	900	1100
	4300	5700	7000

Balance Sheets as at 31st March Rs. Lakhs

Liabilities	2013	2014	2015
Fixed Assets: Gross Block	2800	3000	4000
Less : Dep	920	1400	2000
Net Block	1880	1600	2000
Current Assets: Stock	1520	2400	2800
Debtors	480	500	900
Other Current Assets	420	1200	1300
	2420	4100	5000
Total Assets	4300	5700	7000

$$\frac{EBIT}{Capital\ Employed} * 100$$

EBIT=Earnings before Interest & Tax

Ret. On Cap. Emp= Total Cap. Employed for March,2013 is Rs. 2300+Rs. 3800 for Mar,2014.So Av. Cap. Employed is Rs.6100 /2= 3050 lakhs. EBIT is Rs.1020. So ROCE $\frac{1020}{3050}$*100= 33.34%

ROCE for March,2015

Total Cap. Employed for March,2014 is Rs. 3800+Rs. 4400 for Mar,2015.So Av. Cap. Employed is Rs.8200 /2= 4100 lakhs. EBIT is Rs.1800. So ROCE is $\frac{1800}{4100}$*100= 43.90%

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

2014 2015

4100 =2.16 5000 =1.92

1900 2600

Debt Equity Ratio = Total Long Term Debt / Total Long Term Funds

2014 2015

2000 / 1800 = 1.11   2400 / 2000 = 1.2

Fixed Assets Turnover Ratio =

Cost of goods Sold during the year / Average Net Fixed Assets

We may take sales when Cost of goods figures are not available

4800 / 1740 =2.76   7200 / 1800 =4

Average Fixed Assets for March,2009 = 1880+1600=3480/2=1740

Average Fixed Assets for March,2010 = 1600+2000=3600/2=1800

Stock Turnover Ratio =

Cost of goods Sold during the year / Average Inventory

We may take sales when Cost of goods figures are not available

Sales / Av Inv.   4800 / 490 =9.8   7200 / 700 = 10.29

EPS = Net Profit after tax & Pref. Dividend / No. of Equity Shares

Net Profit after Tax for 2009 = Rs.300 Lakhs = Rs.3 =EPS

While no. of Eq. shares are 100 Lakhs

Net Profit after Tax for 2010 = Rs.600 Lakhs = Rs. 6 =EPS

While no. of Eq. shares are 100 Lakhs

Unit - 21. Financial Mathematics — Calculation of Interest and Annuities

Simple Interest

'Simple' interest or **'flat rate'** interest is the amount of interest paid each year in a fixed percentage of the amount borrowed or lent at the start.

Formula for calculating simple interest :
Interest = Principal x Rate x Time (PRT), where:

'Interest' is the total amount of interest paid
'Principal' is the amount lent or borrowed
'Rate' is the percentage of the principal charged as interest each year.
'Time' is the time in years of the loan.

Example :

Principal: 'P' = Rs. 50,000, Interest rate: 'R' = 10% = 0.10, Repayment time: T = 3 years. Find the amount of interest paid.

Interest = PRT
= 50,000x0.10x3
= Rs. 15,000/-

Compound Interest

Compound interest is paid on the original principal and accumulated part of interest.

Formula for calculating compound interest :

P = A(1 +r/n)^nt, where

P = the principal
A = the amount deposited
r = the rate (expressed as fraction, e.g. 6 per cent = 0.06)
n = number of times per year that interest is compounded
t = number of years invested

Frequently compounding of Interest. If the interest is compounded :
Annually = P (1 + r)
Quarterly = P (1 + r/4)^4
Monthly = P (1 + r/12)^12

Example :

The compound interest on Rs. 30,000 at 7% per annum is Rs. 4347. The period (in years) is:
Amount = Rs. (30000 + 4347) = Rs. 34347.
Let the time be *n* years. Then

30000(1+7/100)^n = 34347
(107/100)^n = 34347/30000
(107/100)^n = 11449/10000
(107/100)^n = (107/100)^2
***n* = 2 years.**

The Rule of 72: Allows you to determine the number of years before your money doubles whether in debt or investment. Divide the number 72 by the percentage rate.

Equated Monthly Instalments (EMIs)

Equated Monthly Installment (EMI) refers to the monthly payment a borrower makes on his loan. Though it is a combination of interest payment and principal repayment, the total monthly amount is calculated in such a way that it remains constant all through the repayment tenure. In Equated Monthly Installments (EMIs), the principal and the interest thereon is repaid through equal monthly installment over the fixed tenure of the loan. The benefit of an EMI for borrowers is that they know precisely how much money they will need to pay toward their loan each month, making the personal budgeting process easier.

Formula :

E = P×r×(1 + r)n/((1 + r)n - 1)
E is EMI
where P is Principle Loan Amount
r is rate of interest calculated in monthly basis it should be = Rate of Annual interest/12/100
if its 10% annual ,then its 10/12/100=0.00833
n is tenure in number of months

Example :

For 100000 at 10% annual interest for a period of 12 months, it comes to :
100000*0.00833*(1 + 0.00833)12/((1 + 0.00833)12 - 1) = 8792

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Present Value

Present value describes how much a future sum of money is worth today. Three most influential components of present value are : time, expected rate of return, and the size of the future cash flow. The concept of *present value* is one of the most fundamental and pervasive in the world of finance. It is the basis for stock pricing, bond pricing, financial modeling, banking, insurance, pension fund valuation. It accounts for the fact that money we receive today can be invested today to earn a return. In other words, present value accounts for the time value of money.

The formula for present value is: **PV = CF/(1+r)n**
Where:
CF = cash flow in future period
r = the periodic rate of return or interest (also called the discount rate or the required rate of return)
n = number of periods

Example :

Assume that you would like to put money in an account today to make sure your child has enough money in 10 years to buy a car. If you would like to give your child 10,00,000 in 10 years, and you know you can get 5% interest per year from a savings account during that time, how much should you put in the account now?

PV = 10,00,000/ (1 + .05)10 = 6,13,913/-

Thus, 6,13,913 will be worth 10,00,000 in 10 years if you can earn 5% each year. In other words, the present value of 10,00,000 in this scenario is 6,13,913.

Future Value

The value of an asset or cash at a specified date in the future that is equivalent in value to a specified sum today. It refers to a method of calculating how much the present value (PV) of an asset or cash will be worth at a specific time in the future. There are two ways to calculate FV:

1) For an asset with simple annual interest: = Original Investment x (1+(interest rate*number of years))
2) For an asset with interest compounded annually: = Original Investment x ((1+interest rate)^number of years)

- Depending on the rate of interest, the amount you receive in future(A), will be more than the amount(P) available now.
- $A=P(1+r)^T$,when the compounding is yearly.
- Therefore,FV=Present Amount*$(1+r)^T$. We call $(1+r)^T$ compounding factor.
- E.g.,if rate of intt is 10%p.a., r=0.10. Therefore, compounding factor is 1.10 for 1 year, $(1.10)^2$ =1.21 for 2 years and so on.
- In above example,FV of Rs 100 , after 2 years will be, 100*$(1.10)^2$ =100*1.21=Rs 121. Similarly,FV of Rs 100, after 5 years, will be100*$(1.10)^5$

Example:

1) 10,000 invested for 5 years with simple annual interest of 10% would have a future value of

FV = 10000(1+(0.10*5))
= 10000(1+0.50)
= 10000*1.5
= 15000

2) 10,000 invested for 5 years at 10%, compounded annually has a future value of :

FV = 10000(1+0.10)^5)
= 10000(1.10)^5
= 10000*1.61051
= 16105.10

………………………………………………………………………………………………

Annuities

Annuities are essentially a series of fixed payments required from you or paid to you at a specified frequency over the course of a fixed time period. The most common payment frequencies are yearly, semi-annually (twice a year), quarterly and monthly. There are two basic types of annuities: ordinary annuities and annuities due.

Ordinary Annuity: Payments are required at the end of each period. For example, straight bonds usually pay coupon payments at the end of every six months until the bond's maturity date.

Annuity Due: Payments are required at the beginning of each period. Rent is an example of annuity due. You are usually required to pay rent when you first move in at the beginning of the month, and then on the first of each month thereafter.

- E.g. Payment of Rs 1000 every year by LIC for next 20 years . Also, a Recurring deposit with bank for Rs 100 for 5 years.
- 2 types of Annuities. Ordinary Annuity; payment is at the end of the period. Annuity Due; payment is at the beginning of each period.

Present Value and Future Value of an Annuity

- For calculating PV of Annuity, PV of each payment is calculated and added. E.g. if Rs 100 is paid at the end of each year for 10 years, we calculate PV of each of these 10 payments of Rs 100 separately and add these 10 values.
- Similarly, for calculating FV of Annuity, FV of each payment is calculated and added. E.g. if Rs 100 is paid at the end of each year for 10 years, we calculate fv of each of these 10 payments of Rs 100 separately and add these 10 values.

The present value an annuity is the sum of the periodic payments each discounted at the given rate of interest to reflect the time value of money.

PV of an Ordinary Annuity = R (1 − (1 + i)^-n)/i

PV of an Annuity Due = R (1 − (1 + i)^-n)/i × (1 + i)

Where,
i is the interest rate per compounding period;
n are the number of compounding periods; and
R is the fixed periodic payment.

In the formulae, given, we have to correctly arrive at r, i.e.the interest rate. E.g.the given intt rate is 12%p.a.If the payment is received yearly, r will be equal to 12/100=0.12.But if payment is received monthly, it will be 12/100*12=0.01.For quarterly payment, it will be 0.03 and for half yearly payment, it will be 0.06

Example :

1. Calculate the present value on Jan 1, 2015 of an annuity of 5,000 paid at the end of each month of the calendar year 2015. The annual interest rate is 12%.

Solution

We have,
Periodic Payment R = 5,000
Number of Periods n = 12
Interest Rate i = 12%/12 = 1%
Present Value
PV = 5000 × (1-(1+1%)^(-12))/1%
= 5000 × (1-1.01^-12)/1%
= 5000 × (1-0.88745)/1%
= 5000 × 0.11255/1%
= 5000 × 11.255
= 56,275.40

2. A certain amount was invested on Jan 1, 2015 such that it generated a periodic payment of 10,000 at the beginning of each month of the calendar year 2015. The interest rate on the investment was 13.2%. Calculate the original investment and the interest earned.

Solution

Periodic Payment R = 10,000
Number of Periods n = 12
Interest Rate i = 13.2%/12 = 1.1%
Original Investment = PV of annuity due on Jan 1, 2015
= 10,000 × (1-(1+1.1%)^(-12))/1.1% × (1+1.1%)
= 10,000 × (1-1.011^-12)/0.011 × 1.011
= 10,000 × (1-0.876973)/0.011 × 1.011
= 10,000 × 0.123027/0.011 × 1.011
= 10,000 × 11.184289 × 1.011
= 1,13,073.20
Interest Earned = 10,000 × 12 − 1,13,073.20
= 1,20,000 – 1,13,073.20
= 6926.80

Sinking fund

- Concept same as that of Annuity
- Suppose, you need a fixed amount(A) after, say, 5 years. You deposit an amount(C)every year with a bank. This becomes A after 5 years and can be used for repaying a debt or any other purpose. As the rate of intt and the FV is known, we can calculate C.

Understanding Formula for EMI, Annuities

- Let us take case of a home loan of Rs 1lac at 12%p.a. ,repayable in 180 installments (here p=1,00,000and r=12/100*12=.01)
- In the 1st month, bank will charge interest equal to p*r=Rs 1000 and so, the outstanding amount will become Rs 1,01,000.
- What happens if the EMI is fixed at p*r, which is Rs 1000?This EMI will meet only the interest applied and so the principal will remain unchanged at Rs 1,00,000.This process will continue and the loan will remain outstanding for ever. Therefore, EMI has to be slightly more than p*r so that some amount can go towards reducing the principal amount
- If EMI has to be more than p*r, we should multiply p*r by a fig which is more than 1.
- This fig is $(1+r)^n$ / $(1+r)^n$ -1.You will observe that denominator in less than numerator by 1 only. E.g., if numerator is 4.3210, the denominator will be 3.3210 .So, this fig is always more than 1.
- As you know, $(1+r)^n$ is an important fig in business maths, and if the above concept is clear, you will never have difficulty in remembering EMI formula
- Once you are comfortable with EMI formula, you can derive yourself the formula for PV and FV of Annuities.
- Home loan is like an ordinary annuity in which payment takes place at the end of each month for an amount equal to EMI, and p is like the present value of annuity. Therefore, in a question, if periodic payment ,n and r are given, you can calculate PV. FV is calculated by multiplying PV by $(1+r)^n$.
- In case of annuity due, the payments are at the beginning of the period and not at the end as is the case with ordinary annuity. Therefore, both PV and FV will be more than what is arrived in case of ordinary annuity. The multiplying factor is (1+r)

Unit - 22. Financial Mathematics — Calculation of YTM

Bond Value

Debt

Debt means a sum of money due by certain and expresses agreement. In a less technical sense, it means a claim for money. Loans from banks or financial institutions are one of the popular forms of debt.

Bonds

Debt capital consists of mainly bonds and debentures. The holder of debt capital does not receive a share of ownership of the company when they provide funds to the firm. Rather, when a company first issues debt capital, the providers of debt capital purchase a debenture, which involves lending money to the firm. In return for loaning this money, bond holders have a right to certain guaranteed payments during the life of the bond.

- A Bond is a form of debt raised by the issuer of the bond.
- Issuer of the bonds pays interest to the purchaser for using his money.
- Terms associated with bonds: Face value, Coupon rate, Maturity, Redemption value, Market value.
- Face value and redemption value may be different but these are fixed and known.
- Market value of the bond may be different form the face value and keeps changing.

Terms Associated with Bonds

Face Value: Also known as the par value and stated on the face of the bond. It represents the amount borrowed by the firm, which it promises to repay after a specified period.

Coupon rate: A bond carries a specific rate of interest, which is also called as the coupon rate.

Maturity: A bond is issued for a specified period. It is to be repaid on maturity.

Redemption Value: The value, which the bondholder gets on maturity, is called the redemption value. A bond is generally issued at a discount (less than par value) and redeemed at par.

Market Value: A bond may be traded on a stock exchange. Market value is the price at which the bond is usually bought or sold in the market.

Bond Value

- The purchaser of the bonds gets regular interest payments as also the redemption amount on maturity.
- The interest on bond (also called coupon rate) is fixed at the time of its issue. But interest rate in the market keeps changing, and, therefore, market price of bond also changes.
- The market price or intrinsic value of a bond is different from the face value if the coupon rate is different from the market interest rate at that particular time.
- Market value is equal to PV of all the coupon receipts and redemption value discounted at the prevailing market rate.

A bond, whose par value is Rs. 1,000, bears a coupon rate of 12 per cent and has a maturity period of 3 years. The required rate of return on the bond is 10 per cent. What is the value of this bond?

Solution

Annual interest payable = 1,000 * 12% = 120
Principal repayment at the end of 3 years = Rs. 1,000
The value of the bond
= 120 (PVIFA 10%, 3 yrs) + Rs. 1,000 (PVIF 10%, 3 yrs)
= 120 (2.487)+1,000 (0.751)
= 298.44 + 751
= Rs. 1,049.44

The face value of the bond is Rs. 1,000, coupon rate is 11 per cent, years to maturity is seven years. The required rate of return is 13 per cent, and then the present value of the bond is

110 x PVIFA (13 per cent, 7) + 1,000 (PVIF 13 per cent, 7)
110(4.423)+1,000 (0.425) = 911.53

One year from now, when the maturity period will be six years, the present value of the bond will be

110 x PVIFA (13 per cent, 6) + 1,000 (PVIF 13 per cent, 6)
110 (3.998) + 1,000 (0.480) = 919.78

Similarly, when maturity period is 5, 4, 3, 2, 1 the Bond value will become 929.87, 940.14, 952.71, 966.48, 982.35, respectively.

YTM

CURRENT YIELD ON BOND

It measures the rate of return earned on a bond, if it is purchased at its current market price and if the coupon interest is received.

Current yield = Coupon interest/current market price

If a bond of face value Rs. 1,000, carrying a coupon interest rate of 8 per cent, is quoted in the market at Rs. 800, then the
Current yield of the bond is = 8 per cent * 1,000/800 = 10 per cent

YIELD-TO-MATURITY OF BOND

It is the rate of return earned by an investor, who purchases a bond and holds it until the maturity.

- Current yield =coupon interest/current market price.
- E.g. if face value of a bond is Rs 50, coupon rate is 8% pa, and market price is Rs 40, then the current yield=4/40=0.1 or 10%
- Yield to Maturity(YTM) is that discount rate at which all future cash flows equal the present market value.

Numerical problems on YTM

Consider a Rs. 1,000 par value bond, whose current market price is Rs. 850/-. The bond carries a coupon rate of 8 per cent and has the maturity period of nine years. What would be the rate of return that an investor earns if he purchases the bond and holds until maturity?

Solution

If kd is the yield to maturity then,
850 = 80 (PVIFA kd per cent, 9 yrs) + 1,000 (PVIF kd, 9 yrs)

To calculate the value of kd, we have to try several values:

= 80 (PVIFA 12 per cent, 9) + 1,000 (PVIF 12 per cent, 9)
= 80x 5.328+ 1,000 x (0.361)
= 426.24 + 361 =787.24

Since, the above value is less than 850, we have to try with value less than 12 per cent. Let us try with

kd =10 per cent
= 80 (PVIFA 10 per cent, 9) + 1,000 (PVIF 10 per cent, 9) = 80
x 5.759 + 1.000 * 0.424 = 884.72

From the above it is clear that kd lies between 10% and 12%. Now we have to use linear interpolation in the range of 10% and 12%. Using it, we find that kd is equal to the following:

(884.72-850) / (884.72-787.24)
34.72 / 97.48 = 10%.+
.71=10.71%
Therefore, the yield to maturity is 10.71%

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For two bonds X and Y having face value of Rs. 1.000, coupon rate of 10 per cent each, years to maturity is three and six years respectively.

Market value of bond X at YTM of 10 per cent is
100 PVIFA (10 per cent, 3) + 1.000 PVIF (10 per cent, 3) = 1,000

Market Value of Bond Y at YTM of 10 per cent is
100 PVIFA (10 per cent, 6) + 1,000 PVIF (10 per cent, 6) = 1,000

Now market value of bond X at YTM of 11 per cent is
100 PVIFA (11 per cent, 3) + 1,000 PVIF (11 per cent, 3) = 975

And Market Value of Bond Y at YTM of 11 per cent is
100 PVIFA (11 per cent, 6) + 1,000 PVIF (11 per cent, 6) = 958

Change in price for X on increasing YTM by 1 per cent is (1,000 - 975)/l,000 = 2.5 per cent
Change in price for Y on increasing YTM by 1 per cent is (1,000 - 958)/1,000 = 4.2 per cent

Thus, longer-term bond is more sensitive to interest rate change than short-term bond.

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Consider a bond having a face value of Rs. 1,000 with a coupon rate of 10 per cent and maturity period of five years. Let the YTM be 10 per cent. Market price of the bond will be equal to Rs. 1,000.

A 1 per cent increase in YTM to 11 per cent changes price to Rs. 963.04 (100 PVIFA 11 per cent, 5 + 1000 PBV1F 11 per cent, 5), a decrease of 3.7 per cent.

A decrease of 1 per cent YTM to 9 per cent changes the price to Rs. 1,039 (100 PVIFA 9 per cent, 5 + 1,000 PVIF 9 per cent, 5) an increase of 3.9 per cent.

Thus, an increase in bond's yield caused a price decrease that is smaller than the price increase caused by an equal size decrease in yield.

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A bond of face value of Rs. 1,000 par value X bond with a coupon rate of 12 per cent maturity period of six years and YTM of 10 per cent. The market value of the bond will be Rs. 1,087.

Consider another identical bond Y but with differing YTM of 20 per cent. The market value of this bond will be Rs. 734.

If the YTM increase by 20 per cent, i.e. YTM of bond X rises to 12 per cent (10 x 1.2) and bond Y rises to 24 per cent (i.e., 20 x 1.2) then the market value of both bonds will change to:

Bond ABC: 120 PVIFA (12 per cent, 6) + 1,000 PVIF (12 per cent. 6) = Rs. 1,000
Bond XYZ: 120 PVIFA (24 per cent, 6) + 1,000 PVIF (24 per cent, 6) = 638

Market value of ABC bond with a lower YTM decreased by 8 per cent whereas in case of XYZ bond with an higher YTM the decrease is 13 per cent.

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Theorems for Bond Valuation

- When the required Rate of Return is equal to the coupon rate, the value of the Bond is equal to its par value.
- When the required rate of return (Kd) is greater than the coupon rate, the value of the bond is less than its par value.
- When the required rate of return is less than the coupon rate, the value of the bond is greater than its par value etc.,
- Effect of change in market interest rate
- Effect of maturity period
- Bond price is inversely related to YTM
- Interest rate elasticity= %age change in price/%age change in YTM .This is always negative as both move in opposite direction.

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Unit - 23. Financial Mathematics — Forex Arithmetic

Three fundamental aspects of foreign exchange

- Almost every country has its own currency (legal tender, distinctive unit of account) and the useful possession of the currency, can normally be had only in that country, in which it passes.
- The exchange from one currency for another is, mostly, put through by the banks by means of bookkeeping entries carried out in the two centres concerned.
- Almost all exchanges of one currency for another are effected with the help of credit instruments.

- Prior to the modified 'Liberalised Exchange Rate Management System' (LERMS), the Reserve Bank fixed the buying and selling rates and the market would remain within the ceiling and the floor, thus fixed by the Reserve Bank.
- However, at present, the forces of demand and supply in the local interbank market drive the exchange rate

- A direct quote is the home currency price of one unit of the foreign currency. The quote $ 1 = Rs. 75.00 is a direct quote for an Indian nationa
- An indirect quote is the foreign currency price of one unit of the home currency. The quote Rs. 1 = $ 0.0133 is an indirect quote
- Till 1st August 1993, banks in India were required to quote all rates on an indirect basis. From 2nd August 1993, banks began quoting on a direct basis only.

Cross Rate

- If a person wants to remit Euros from India, and as a banker, and for argument sake, rupees/Euros are not normally quoted and therefore, what we have to do is first buy dollars against the rupees and the same dollars will be disposed of overseas to acquire the Euros.

- If the rates in Mumbai market are US$ 1 = 74.8450/545 and rates in London market are US$ 1 = Euros 0.9027 we will get US$ 1 for 74.8545 and for one US$ we will get Euro 0.90277.
- Thus, we can form a sort of chain rule as under:
  How many Rs = 1 Euro
  If 0.9027 Euro = US$ 1
  Therefore, 1 Euro = Rs. 74.8545/0.9027
  or 1 Euro = Rs 82.92

Chain Rule

Calculation of the cross rate is based on a common sense approach. However, it can be reduced to a rule known as the chain rule with similar steps

Value Date

The value date is a date on which the exchange of currencies actually takes place.

- **Cash/ready**: It is the rate when an exchange of currencies takes place on the date of the deal.
- **TOM**: When the exchange of currencies takes place on the next working day, i.e. tomorrow it is called the TOM rate.
- **SPOT**: When the exchange of currencies takes place on the second working day after the date of the deal, it is called the spot rate.
- **Forward rate**: If the exchange of currencies takes place after a period of spot date, it is called the forward rate. Forward rates generally are expressed by indicating a premium/discount for the forward period.
- **Premium**: When a currency is costlier in forward or say, for a future value date, it is said to be at a premium. In the case of the direct method of quotations, the premium is added to both the selling and buying rate.
- **Discount**: If currency is cheaper in the forward or for a future value date, it is said to be at a discount. In the case of a direct quotation, the discount is (deducted) subtracted from both the rates, i.e. buying and selling rates.

Forward Exchange Rates

The exchange rate for settlement on a date beyond the spot is naturally different and the same is called the forward rate. Forward rate has two components:

- Spot rate
- Forward points reflecting the interest rate differentials adjustment for different settlement dates.

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Unit - 24. Capital Structure and Cost of Capital

- A firm has to arrange for money for long term for creating fixed assets and for partly financing the current assets required to be held by the firm.
- This long term money is called the capital of the firm.
- There are two main components of this capital, viz. debt capital and equity capital.
- The proportion of debt capital and equity capital is referred to as the capital structure of the firm.

Illustration:
A firm starts its business by raising total long term funds of ` 500 lakh, to meet its requirements, as under:
1. Equity capital 200 lakh
2. Debt capital 300 lakh
This gives a capital structure of 60% debt capital (300/500) and 40% equity capital (200/500)

There are various factors which affect the decision regarding capital structure of a firm. Main amongst these are:

- Norms prevailing in the industry,
- Degree of control by promoters
- Cost of debt
- Firm's desire to trade on equity
- Taxation

- In the capital structure of a firm, if the ratio of debt capital is very high, it is called Highly Leveraged or highly geared firm.
- If the ratio of debt capital is low; it is called a Low Leveraged or low geared firm.
- Examples of debt capital are: term loans. Debentures, corporate deposits, fixed deposits from public, etc.
- Examples of equity capital include: partners' capital in a firm, Equity and preference shares issued by a company, retained (undistributed) profits

Factors Influencing Decision on Capital Structure of a Firm
1. Norms prevailing in the financial system
2. Degree of control
3. Trading on Equity
4. Cost of Debt
5. Size of the firm and its business plans

Theories/Approaches on Capital Structuring

1. Net Income Approach

This approach assumes that the cost of debt and the cost of equity remain same irrespective of the proportion of debt and equity

Illustration:

ABC Ltd has its capital structure comprising of 50% debt and 50% equity. The cost of debt is 10% and cost of equity is 16%. Its WACC can be calculated as under:
WACC = (Cost of debt × proportion of debt) + (Cost of equity × proportion of equity)
WACC = 10 × 0.5 + 16 × 0.5 = 13%
Now, if the capital structure is changed to 60% debt and 40% equity, the WACC will change as under:
WACC = 10 × 0.6 +16 × 0.4 = 6 + 6.4 = 12.4%

2. Net Operating Income Approach

This approach assumes that the WACC or the value of a firm remains unaffected by the change of debt proportion in the capital structure

Illustration:

ABC Ltd has its capital structure comprising of 50% debt and 50% equity. The cost of debt is 10% and the Weighted Average Cost of Capital (WACC) is 13%. The NOI approach assumes that WACC remains constant irrespective of debt equity proportion. For the given proportion of 50:50, cost of equity can be calculated as under:

WACC = (Cost of debt × proportion of debt) + (Cost of equity × proportion of equity)
Therefore, cost of equity = {WACC – (Cost of debt × proportion of debt)}/proportion of equity
Or, Cost of equity = {13 – (10 × 0.5)}/0.5 = (13 – 5)/0.5 = 8/0.5 = 16%

Now, if the capital structure is changed to 60% debt and 40% equity, and the WACC remains constant at 13%, cost of equity will change as under:
Cost of equity = {13 – (10 × 0.6)}/0.4 = (13 – 6)/0.4 = 7/0.4 = 17.5%.

3. Traditional Position

According to this approach, when the proportion of debt capital increases in the capital structure of a firm, the cost of debt will start increasing beyond a point.

Taxation & Capital Structure

- When determining a firm's capital structure, taxation must be taken into consideration.
- Earnings Before Interest and Tax (EBIT) of a firm will not be affected by the capital structure of the firm.
- If a firm has EBIT of 100 lakh with 100% debt and 0% equity, it will have the same EBIT of 1 lakh with capital structure of 0% debt and 100% equity.
- What will change is the net profit of the firm i.e. the profit after paying interest and tax.

Cost of Capital

- The cost of each component of capital may be different.
- Once we have estimated the cost of each component of capital of a firm, the Weighted Average Cost of Capital (WACC) is arrived at by multiplying the proportion of each component with its cost and adding them.
- The comfort level of the investors declines as the firm raises more and more capital, be it equity, preference or debt.
- Generally, the rate of return required by investors tends to increase as more capital is raised by the firm. This is concept is called the marginal cost of capital.
- In raising capital, the firm has to incur cost. This is called floatation cost.
- It results in increasing the WACC of the firm.
- There are many misconceptions associated with the concept of cost of capital.
- Prominent amongst these is that there is no cost involved in equity capital and retained earnings of the firm.
- Other misconceptions relate to depreciation, current liabilities, cost of debt etc.

  - The return on a bond/debenture, purchased by an investor in the secondary market, is equal to Yield to Maturity (YTM) of that bond/debenture, the formula for which is:
  - YTM = {Annual interest payment + (M – P)/n}/ (0.6 × P + 0.4 × M)
    where M is the Maturity value, P is the present market value and n is the number of years left to maturity.

Illustration:

A firm's debentures with face value of ` 100 and coupon of 10% p.a. are having a current market price of 90. The number of years left to maturity are 4 years. What is the cost of debt capital for the firm?
Applying the above formula, YTM = {10+ (100-90)/4}/(0.6 × 90 + 0.4 × 100)
= (10+2.5)/(54 + 40) = 12.5/94 = 13.30%

Some of the widely used methods to estimate the cost of equity capital

1. Capital Asset Pricing Model (CAPM) approach
2. Bond Yield plus Risk Premium approach

3. Dividend Growth Model approach
4. Earning Price Ratio approach

Weighted Average Cost of Capital (WACC)
Once we have estimated the cost of each component of capital of a firm, the WACC is arrived at by multiplying the proportion of each component with its cost and adding them.

Illustration
The capital structure of a firm is as under:
Equity capital 40%
Preference capital 10%
Debt capital 50%
The cost of each is estimated as under:
Equity capital 20%
Preference capital 15%
Debt capital 10%
WACC = (20 × 0.4 + 15 × 0.1 + 10 × 0.5) = 8 + 1.5 + 5 = 14.5%

Factors Affecting the WACC
Internal factors
1. Capital structure policy
2. Capital investment policy
3. Dividend policy

External factors
1. Prevailing interest rates in the market
2. Risk perception and market risk premium
3. Rates of corporate and personal taxes

The common misconceptions about the Cost of Capital of a firm
1. Cost of equity capital
2. Cost of retained earnings
3. Depreciation
4. Current liabilities
5. Cost of debt
6. Calculating cost of equity capital
7. Project cost and existing WACC of the firm

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Unit - 25. Capital Investment Decisions/Term Loans

- The concept of time value of money is useful in evaluation of investment decisions.
- It involves discounting the future cash flows from an investment and comparing them with the initial investment.
- The various appraisal methods, involving this concept of time value of money include, NPV method, and IRR method.

Net Present Value (NPV) Method

- NPV method involves comparing the present value of the future cash flows of an investment opportunity with the cash outlay that is required to finance the opportunity.
- The stages involved in using the NPV method are as follows:
  1. Estimate all future net cash flows (revenue minus cost) associated with an investment opportunity
  2. Convert these net cash flow figures to their present value equivalents by discounting at the appropriate discount rate
  3. Add all the present value figures of future cash flows
  4. Subtract from this value, the initial cost of investment

Net Present Value = Sum of discounted value of all cash inflows during the life of the project – Initial investment.

This can be express as under;

NPV = C1/(1+r) + C2 /(1+r)^2 + C3/(1+r)^3 +-----------Cn/(1+r)^n-I

where C is the net cash flow per year, n is the number of years for which the project will generate cash flows, I is the initial investment required, r is the appropriate discount rate, expressed as a fraction, e.g. 6% = 6/100 = .06

Internal Rate of Return Method of Investment Appraisal

- This method has similarities to the NPV method as the variation on the NPV equation given, provides the basis for calculating the IRR.
- The IRR is the discount rate that reduces the NPV to zero.
- The method is mathematically represented as follows:

0 = C1/(1+r) + C2 /(1+r)2 + C3/(1+r)3 + ————— Cn/(1+r)n – I

- Other methods, which do not involve time value of money concept are Payback period method and Accounting Rate of Return (ARR) method.
- Term loans are normally provided by the banks for the acquisition of fixed assets or other long-term requirements (like for education or investments) of a customer.
- The terms of sanction invariably stipulate schedule of repayment of principal and interest.

- In appraisal of a term-loan proposal, DSCR is as important a ratio as current ratio is in appraisal of working capital limits. Sometimes, banks issue Deferred Payment Guarantees (DPGs) in favour of suppliers of capital equipment, if he is prepared to accept the sales price on deferred basis.
- However, the appraisal or a DPG is similar to that of a term-loan as the risks involvedare similar.
- A project appraisal is similar to a term-loan appraisal with some additional points to consider.
- Project appraisal broadly involves appraisal of managerial aspects and examination of techno-economic feasibility.

Project appraisal can be broadly taken in the following steps:

- Appraisal of Managerial Aspects
- Technical Appraisal
- Economic Appraisal

Infrastructure Projects

Infrastructure sector deals with roads, bridges, power, transport, telecommunication, etc.
Infrastructure projects involve some distinct features like exceptionally long implementation, gestation and pay back periods, high debt equity ratio, etc.
Presently, the following infrastructure sectors qualify under ‘infrastructure lending'

- Transport
- Energy
- Water & Sanitation
- Communication
- Social and Commercial Infrastructure

Unit - 26. Equipment Leasing/Lease Financing

- A lease is a contract under which one party agrees to allow use of its property to another party, for a specific period of time, on agreed payment terms.
- The party which owns the property is called Lessor and the party which gets right to use the asset, is called Lessee.
- The agreed payment for the right to use the property is called the lease rental.
- The property to be leased may be land, building, animal, industrial equipment or any other fixed or movable asset.

Main features of a lease contract

- It is a legal, binding contract containing the terms on which one party agrees to allow use of its property by another party.
- It guarantees the lessee use of the property and guarantees the lessor regular payments for a specified period, in exchange for allowing use of its property.
- A lease can be residential lease, which is normally same for all tenants, or commercial lease, which is often of various types.
- Breaking a lease contract involves legal consequences.

- A lease can be of various types. From accounting perspective, leases can be only of two types: Operating lease and Finance lease.
- However, based on other criteria, Commercial leases can be categorised as Leveraged lease, Domestic lease, International lease, Cancellable lease, Non-cancellable lease, Wet lease or Dry lease, Sale and leaseback transaction etc.
- Ind AS 116, defines a finance lease as: "A lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership of an underlying asset.
- A firm may choose the option of lease due to various reasons like tax advantage, avoiding risk of obsolescence, convenience, full finance, avoiding restrictive covenants of lenders etc.
- The accounting treatment of a lease is different for finance and operating leases in the books of a lesser.
- However, the distinction between a finance and an operating lease, as far as accounting treatment in the books of lessee is concerned, has been removed by Ind AS 116.
- There are three methods adopted for comparing the options of leasing or buying.
- These are NVA method, IRR method, and Equivalent loan amount method. A lease transaction attracts GST.
- Income tax rules provide benefit of depreciation to the lessor and not to the lessee.
- The lease rentals provide tax-shield to the lessee but are taxable in the hands of lessor.

Main reasons for choosing lease as an option to get assets

1. The borrowing capacity is not reduced
2. Availability of full finance
3. Convenience
4. Avoiding risk of obsolescence
5. Tax Advantage
6. Financial Flexibility and cash flows
7. Less restrictive covenants

A lease agreement contains the details relating to the following aspects:

1. Particulars of the Parties
2. Description of the Asset
3. Equipment Delivery and Installation
4. Primary Period, Effective Date and Renewal
6. Transferability of ownership
7. Repair and Alteration
9. Sub-Lease/Restricted Activities
10. Surrender/Termination of Lease Agreement
11. Default and arbitration

Income Tax implications of a lease

1. The lessor is eligible for depreciation on the asset, as he owns the assets
2. The entire lease rentals are taxed as income of the lessor
3. The lessee is entitled to treat the rentals as expenses

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Unit - 27. Working Capital Management

- The capital required for a business firm can be classified under two main categories viz. (i) Fixed Capital (ii) Working Capital.
- After acquiring fixed assets, the firm also needs funds for short-term purposes such as purchase of raw material, payment of wages and other day-to-day expenses etc.
- These funds are known as working capital.
- In simple words, working capital refers to that part of the firm's funds that is required for financing short-term or current assets such as cash, debtors & inventories.
- Working capital can therefore be called operating capital or short term capital as well.

The main factors that influence the need of working capital in a business are as under:

- Nature of Business
- ii. Size of the business
- iii. Production Policy
- iv. Seasonal variations
- v. Operating/Working capital cycle

In general, the current assets required to be held by a frim, can be classifies as under:

- Cash & cash equivalents
- Inventory
- Receivables
- Other current assets

Sources of finance for acquiring current assets

- Firm's own working capital funds
- Accruals
- Trade Credit
- Working Capital Advance by Commercial Banks/ Financial Institutions
- Public Deposits
- Inter-Corporate Deposits
- Rights Debentures for Working Capital
- Commercial Paper
- Factoring
- Forfaiting

- The Gross Working Capital is the capital invested in total current assets of the firm. Net working capital is the difference between current assets and current liabilities.
- It is the excess of long term funds over long term uses.

- The net working capital ensures sufficient liquidity. Inadequate NWC entails liquidity constraints.
- A firm is required to bring in the NWC as advised by the bank to maintain the stipulated current ratio.
- Apart from NWC, the main sources to finance the working capital of a firm are: Accruals, Trade Credit, Working Capital Advance by Commercial Banks/ Financial Institutions, Public Deposits, Inter-Corporate Deposits, Commercial Paper, Factoring and Forfaiting.
- Banks provide working capital finance based on their own assessment.

Working Capital Assessment by Banks

The main methods of working capital assessment are: Holding norms method, Cash budget method and Turnover method.

Holding Norms Based Method

(a) Assessment of Gross/Total Working Capital
(b) Sources for Meeting Working Capital Requirement

Calculation of Bank Finance

(a) First Method of Lending
(b) Second Method of Lending
(c) Third Method of Lending

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Unit - 28. Derivatives

- A derivative is a financial instrument whose value is derived from an underlying asset.
- Derivatives are often used as instruments to hedge risks.
- Derivatives have the characteristics of high leverage and of being complex in their pricing and trading mechanism.
- Derivatives perform an important economic function viz. price discovery.
- The derivatives market can be either Over-the-counter (OTC) derivatives market where they are traded directly between two eligible parties or the Derivatives Exchange where standardised derivative contracts are traded.
- The main users of derivatives include hedgers, speculators and traders.
- RBI is empowered to regulate the interest rate derivatives, foreign currency derivatives and credit derivatives.
- SEBI regulates Stock market and commodities futures market
- The derivatives broadly consist of forwards, futures, swaps and options.
- Forwards are definitive purchases and/or sales of a currency or commodity for a future date.
- Futures contract is also an agreement to buy or sell an asset for a certain price at a certain time in future. It is similar to forward contract.
- While a forward contract is traded over the counter, a futures contract is a standardised product, traded on an exchange.
- **Pricing Futures:** The price of any futures contract has three essential components. These are:
  - the spot price of the underlying asset
  - the cost of financing, storing, insuring and transporting the asset
  - the income if any, earned from the asset

  Taking all these three factors into account futures price(FP) will be equal to the spot price(SP) + financing and other costs – income if any.

  F.P = S.P + Costs – Income
- A swap is a custom tailored bilateral agreement in which cash flows are determined by applying a prearranged formula on a notional principal.
- Swaps are generally of the following types:
  - Interest Rate Swap
  - Currency Swap
  - Basis Swaps
- An option is a contract, which gives the buyer (holder) the right, but not the obligation, to buy or sell specified quantity of the underlying assets, at a specific (strike) price on or before a specified time (expiration date).
- Some of the important derivatives in Indian market are: Forward Rate Agreements, Interest Rate Swaps and Interest Rate Options.
- Credit Default Swaps (CDS) is a bilateral contract in which the risk seller (lending bank) pays a premium to the buyer for protection against credit default or any other specified credit event resulting in loss in the value of an underlying debt instrument.

MODULE D – TAXATION AND FUNDAMENTALS OF COSTING

Unit - 29. Taxation: Income Tax/TDS/Deferred Tax

- The levy of income tax in India is governed by the Income Tax Act, 1961 and Income Tax Rules, 1962.
- This Act contains detailed provisions on important topics like computation of income, exemptions and deductions available, tax slabs, calculation of tax liability, formats of return forms applicable to different assessee, etc. As per this Act, any company or person making a payment, is required to deduct tax at source, at the prescribed rates, if the payment exceeds certain threshold limits.
- Tax collected at source (TCS) represents the tax collected by a seller from the buyer at the time of sale.

TCS under GST

1. Any dealer or traders selling goods online would get the payment from the online platform after deducting an amount tax @ 1 % under IGST Act. (0.5% in CGST & 0.5% in SGST)
2. The tax would have to be deposited to the government by 10th of the next month.
3. All the dealers/traders are required to get registered under GST compulsorily

Classification of Income Heads

1. Income from Salary
2. Income from House Property
3. Profits and gains of Business or Profession
4. Income from Capital Gains
5. Income from Other Sources

Deductions to be made in computing Total Income
Deductions are specified in sections 80C to 80U.

- **Section 80 C:** Deduction in respect of life insurance premia, deferred annuity, contributions to provident fund, subscription to certain equity shares or debentures, etc. The aggregate amount of deductions under section 80C, section 80CCC and sub-section (1) of section 80CCD is limited to Rupees one hundred and fifty thousand.
- **Section 80D**: Deduction in respect of health insurance premia.
- **80E**: Deduction in respect of interest on loan taken for higher education.
- **80G**: Deduction in respect of donations to certain funds, charitable institutions, etc.
- **80QQB:** Deduction in respect of royalty income, etc., of authors of certain books other than text-books
- **80RRB**: Deduction in respect of royalty on patents.
- **80TTA**: Deduction in respect of interest on deposits in savings account.
- **80TTB**: Deduction in respect of interest on deposits in case of senior citizens.
- **80U**: Deduction in case of a person with disability.

- The Act also gives classification of tax payers like, individuals, companies, local bodies etc.
- Various return formats, applicable to these categories have also been prescribed.
- Assessment is the process of verifying, by the IT department, the details submitted by an assessee in the IT Return.
- The final result of assessment may result in some amount payable to or recoverable from the assessee.
- The Deferred Tax is brought into accounts to make the clear picture of current tax and future tax.
- If we take some advantage of Income Tax sections and pay less tax in current year, we may have to pay tax in future on that advantage being reversed.
- In the same way if we have to pay more tax by not allowing any expense in current year, it will be allowed in future and in that year tax will be reduced.

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Unit - 30. Goods & Services Tax

Due to Federal structure, both the Central and State governments are involved in determining the various aspects of taxation, in India.

Differences between Direct and Indirect Tax

- Direct tax is imposed on income and profits, indirect tax is levied on goods and services.
- Direct tax is directly paid to the government, while there is generally an intermediary for collecting indirect tax from the end-consumer.
- The burden of tax cannot be shifted in case of direct tax while burden can be shifted for indirect tax.
- The probability of tax evasion is lower in case of indirect taxes.
- Direct tax can help in reducing inflation, whereas indirect tax may enhance inflation as indirect tax is added to the price of goods and services.
- Direct taxes are considered to be progressive while indirect taxes are considered to be regressive.
- Direct taxes help in reducing inequalities while indirect taxes enhance inequalities.
- Indirect taxes involve lesser administrative costs, while direct taxes involve higher administrative costs.
- Indirect taxes are oriented more towards growth as they discourage consumption and help enhance savings, while the direct taxes reduce savings and discourage investments.
- Indirect taxes cover all members of the society, while direct taxes are collected only from people in respective tax brackets.
- Additional indirect taxes levied on harmful commodities such as cigarettes, alcohol etc. can be used as a tool to dissuade their consumption.

- Goods and Services Tax (GST) regime was introduced in the country with effect from 01 July 2017.
- Introduction of GST regime is an effort to harmonise and streamline the process of taxation.
- GST is levied on all transactions such as sale, transfer, purchase, barter, lease, or import of goods and/or services.
- It is a comprehensive tax subsuming almost all the indirect taxes except a few State taxes.
- However, the crude oil, petroleum products, electricity and Alcoholic liquor for human consumption are not in the GST regime, presently.

There are 4 types of GST in India

1. SGST (State Goods and Services Tax)
2. CGST (Central Goods and Services Tax)
3. IGST (Integrated Goods and Services Tax)
4. UGST (Union Territory Goods and Services Tax)

- Transactions made within a single state are levied with Central GST (CGST) by the Central Government and State GST (SGST) by the State governments.
- For inter-State transactions and imported goods or services, an Integrated GST (IGST) is levied by the Central Government and they give the share of State or Union Territory.
- Under the system of GST, the threshold limit is 20 lakh (10 lakh for north eastern states, Uttarakhand, Sikkim and Himachal Pradesh).
- Suppliers below the threshold limit are not required to register or pay tax.
- GST Council is the Governing body and Union Finance Minister is its chairman. It also includes the Minister of State (Revenue) and the State Finance Ministers

GST Returns

- **GSTR-1 and GSTR-3B -** Return for registered persons with aggregate turnover of more than 1.50 crores - Monthly
- **GSTR-1 -** Return for registered persons with aggregate turnover up to 1.50 crores - Quarterly
- **GSTR-3B -** Return for registered persons with aggregate turnover up to 1.50 crores - Monthly

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Unit - 31. An Overview of Cost & Management Accounting

- Cost Accounting involves identifying, measuring, recording, allocating and communicating economic information, related to a product or service, in terms of money
- The purpose of cost accounting is mainly to meet the requirements of management while the financial accounting aims at providing suitable information to various stakeholders of the business organisation, such as owners, investors, creditors, tax authorities etc.
- Cost and Management Accounting is the branch of accounting developed due to limitations of financial accounting.

Objectives of cost accounting

- To record, analyse and classify all expenditures related to the cost of products services.
- To determine the cost of each unit, operation, process, or department.
- To compare the actual costs with the prevailing cost standards or estimates for avoiding unnecessary wastages or losses of materials and other resources.
- To provide the necessary information to enable management to make specific or long term economic decisions.

Advantages and scope of cost accounting

- Deciding the price of products and services
- Decide on eliminating/ reducing production of certain products and increasing production of some others
- Reducing wastages of materials and other resources
- Inventory management
- Comparing actual costs with cost standards or estimates
- Develop strategies during recession or intense competition

- One of its important uses is to provide the information for optimum utilisation of existing resources.
- Cost and management accounting techniques are helpful to the management in solving the specific problems as also aiding them in decision making.
- The Cost Accounting Standards (CAS) have been issued by the Institute of Cost Accountants of India (ICoAI).
- Cost means the expenditure incurred for producing the product or providing the service.
- Costing means ascertaining these costs incurred in producing this specific product or providing this specific service.
- Cost may involve various elements like materials, labour, energy, transport, depreciation etc.
- There are many methods, tools and techniques used in costing.

Methods of Costing

- Job Costing
- Batch Costing
- Operation Costing
- Process Costing

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- Unit or Single-output Costing
- Service Costing
- Multiple or Composite Costing
- Departmental Costing

Techniques of Costing

- Historical (or Conventional) Costing
- Standard Costing
- Marginal Costing
- Uniform Costing
- Direct Costing
- Absorption Costing
- Activity Based Costing (ABC)

Difference between Financial Accounting and Cost Accounting

- Financial accounting takes care of the statutory requirements like the Companies Act and Income-tax Act. But the cost accounting is generally voluntary except that for some manufacturing industries, it is now obligatory to keep cost records as per the Companies Act.
- The purpose of cost accounting is mainly to meet the requirements of management while the financial accounting aims at providing suitable information to various stakeholders of the business organisation, such as owners, investors, creditors, tax authorities etc.
- Financial accounting is concerned with revealing the profits and losses of the organisation as a whole, while cost accounting is concerned with the unit costs and profitability of different products. In cost accounting, the emphasis is more on planning and control.
- Under financial accounting, the statements are normally prepared quarterly, half yearly or annually. Cost accounting has no such standard and the reports may be prepared even on daily basis.
- Most of the transactions covered under financial accounting are external transactions. Cost accounting, on the other hand, is mostly concerned with internal transactions.
- Financial accounting deals with actual figures and not the estimates, but the cost accounting deals with estimates also as a part of budgetary control.

- The scope of management accounting is much wider compared to that of the cost accountancy.
- While the cost accounting relates more to the ascertainment, allocation, and accounting aspects of costs, management accounting relates more to the impact and effect aspects of costs.

Objective of Management Accounting

- formulating strategy;
- planning and controlling activities;
- decision taking;
- optimising the use of resources;
- disclosure to shareholders and others external to the entity;
- disclosure to employees;

- safeguarding assets

Tools and Techniques of Management Accounting

- Financial Planning
- Selecting appropriate tool for decision making
- Financial Statement Analysis
- Statistical and Graphical Techniques
- Selecting appropriate method of reporting

Difference between Cost Accounting and Management Accounting

- The scope of management accounting is much wider compared to that of the cost accountancy. While the cost accounting relates more to the ascertainment, allocation, and accounting aspects of costs, management accounting relates more to the impact and effect aspects of costs.
- Cost accounting is mainly about short-term planning, while the management accounting is concerned with both short-range and long-range planning.
- Cost accounting data provides a base for applying the methods of management accounting to make the data more purposeful for management decisions.
- Management accounting makes use of additional tools and techniques available to it, compared to those available for cost accounting. For example, the tools like standard costing, break-even analysis, marginal costing etc. are used in cost accounting, additional tools like ratio analysis, cash and funds flow analysis, trend analysis etc. are available for management accounting.
- Both financial accounting as well as cost accounting are included in management accounting, which also takes care of tax accounting and capital budgeting.
- Cost accounting depends mostly on historical costs while the management accounting tends to be futuristic accounting.

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Unit - 32. Costing Methods

- The costing system adopted by an organisation depends on its unique requirements and nature of its products or services.
- Therefore, the costing systems adopted by different organisations may not be the same.
- However, the basic principles of costing do not change with the system of costing adopted.
- Costing methods are broadly classified into two categories: Job costing and Process costing.
- Under these broad categories, Unit or output Costing, Job Costing, Batch costing, Contract costing, Process costing and Service costing are amongst the widely used methods of costing. Correct costing is crucial for any business organisation as it has a direct bearing on all its sales and marketing strategies.
- Under job costing, each job or cost object is unique and its costing is done individually.

Features of Job Costing

- It is costing of a specific order for production or rendering of services as per the requirements of the customer.
- It involves recording all the costs incurred for completing a job so that it may be appropriately priced.
- Estimation of costs is difficult as very little data may be available due to uniqueness of the job.
- At the end of the job, the materials left may be difficult to value due to uncertainties about their use in other jobs.

The job costing collects the following direct costs pertaining to a job

- Direct material costs
- Direct labour costs
- Direct overhead costs or production overheads

Contract Costing

Contract costing is a form of job costing applied to relatively large jobs which take a considerable time to complete (normally, more than one year).

Features of Contract Costing

- Under Contract Costing, a separate contract account is maintained for each contract.
- All the direct costs related to execution of contract, are allocated to the contract.
- The overheads for a contract are allocated in the same way as under the job costing.
- A contract usually involves a lower amount of overheads but these require appropriate allocation.
- Work-in-progress is an important aspect in contract costing

Distinction between Job and Contract Costing

- The work is usually carried out at a site different from contractor's workplace, in a contract. In execution of a job, the job is usually carried out at the contractor's workplace.

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- A contract and a job are differentiated on the basis of size and time taken also. Contracts are usually larger and take longer time compared to jobs.
- In a contract, most of the costs are of direct nature, unlike in a job.
- In costing a contract, each contract is treated as a cost unit while in job costing, there can be more than one cost units.

Process Costing

In process costing, the production is continuous and the costs are accumulated over a period and then distributed to individual units.

Features of Process Costing

- The production process is standard and continuous and the products are homogeneous
- Output of one process become raw material of the next process
- As the product travels from one process to another it accumulates cost
- The cost accumulated in each process consists of both direct and indirect(overhead) costs
- The stock of work-in-process is expressed in terms of equivalent units
- The cost of normal wastage is included in the cost of the process and allocated to the total units produced
- An important feature of process costing is that direct material costs are added at the beginning of the process, while all other costs are gradually added during the production process

Types of Process Costing

- Weighted average costs
- Standard costs
- First-in first-out costs (FIFO)

Service Costing

- Service costing involves costing of services provided.
- It helps service sector organisations like hospitals, hotels, transport companies, utility companies etc. Unit Costing is used to where the production consists of units which are identical.

Features of Service Costing

- It relates to costing of services and not goods.
- It can be used for service performed both internally and externally.
- Costs are accumulated over a period. In the case of utilization of equipment, these can be computed order wise.
- Costs accumulated over a period are divided by units of service provided during that period, to arrive at the cost of per unit of service.
- A cost unit is adopted to measure the service provided, like cost per liter, per kilometer etc.

Multiple Costing refers to the costing method used in cases where a large variety of articles are produced.

Unit - 33. Standard Costing

- Standard cost of a product or service refers to the costs expected to be incurred to produce a goods or provide a service, under anticipated conditions, keeping in view the prevailing market conditions.
- The costs which go into a product or service are the materials cost, labour costs and the overhead costs.
- Based on studies and analysis of past data, standard costs of all these 3 items are set.
- These are called the standard costs or the budgeted costs.
- The standards adopted for costing may be basic, ideal or currently attainable standards.

Applications of Standard Costing

- The management uses it for planning. The production, sales and profit budgets are prepared based on the standard costs.
- It is used for measurement of variances between standards and actuals.
- It is used to identify the areas of inefficiencies so that corrective action can be initiated.
- It is effective in controlling the actual costs as the management gets timely information about variances at each cost centre.
- It is also used to measure the performance of each cost centre/department.
- It can be used to motivate the workforce to contain the expenses within the set standards. It is also useful in devising an incentive system for the employees to increase productivity.
- It is useful in inventory valuation.

Components of a Standard Costing System

- Decision on the standard costs of materials, labour and overheads, for the production line
- Decision on the pricing of the products and preparing the budget of sales and profit
- Segregating, ascertaining and recording the actual costs and profits
- Finding out the variances of various cost components
- Analysing the variances and ascertaining the causes of variances
- Initiating corrective actions in areas showing variance
- Readjusting the cost standards, pricing, estimated volume and recasting the budget to make it more realistic

- Choosing a benchmark for setting a standard is also important.
- The actual costs will be known only after the product has been manufactured or the service has been rendered.
- The difference between the actual and the budgeted cost is called variance.

The cost variances can be divided into the following three broad categories

1. Material cost variance

- Material price variance
- Material usage variance

2. Labour cost variance

- Labour rate variance
- Labour time or labour efficiency variance:

3. Overheads cost variance

- Variable Overhead expenditure variance
- Variable Overhead volume or efficiency variance
- Fixed Overhead Expenditure Variance

- This provides an important tool in the hands of the management to control the costs.
- The format and the type of the variance reports, submitted to the management, depend on the peculiar needs of an organisation.

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Unit - 34. Marginal Costing

- Marginal cost is the cost of producing one additional unit of product or service.
- Marginal costing is one of the costing technique used by accountants to aid management decisions.
- When compared to other techniques, the marginal costing has its own advantages and limitations.
- Marginal costing is known by various other names also like, Direct Costing, Variable Costing, Differential Costing and Out-of-pocket costing.
- It has its own special place in decision making.
- In this technique of costing, only variable costs are charged to operations, processes or products, leaving all indirect costs to be written off against profits, in the period in which they arise.
- "Contribution" occupies a very important role in marginal costing.
- The contribution is calculated as the sales price minus the variable cost of a unit.

Features of Marginal Costing

- Marginal costing involves both cost recording and cost reporting.
- Under marginal costing, total costs are segregated into the fixed cost and the variable costs. Some costs which have features of both fixed and variable costs, are segregated as semi-variable costs.
- Only the average variable cost of a unit is considered as its value.
- Fixed costs are not taken into account for calculating the product cost and are charged to revenue of the period in which they are incurred.
- Marginal contribution of a product or department is taken into account for calculating its profitability.

Cost-Volume-Profit (CVP) analysis involves classification of every cost as either a fixed cost or a variable cost.

The basic formula of CVP analysis, is: ***Profit = Sales Volume – Costs.***

The concept of marginal costing has refined this formula as under:
Profit = Sales Volume – (Fixed Costs + Variable Costs) or,
P = (S × N) – [F + (V× N)]
where,
P = Profit,
S = Sales value per unit
N = Number of units sold
F = Fixed Costs
V = Variable Cost per unit

Illustration:
A firm, manufacturing thermometers, has fixed costs of 1,00,000 and variable cost of ₹120 per unit. Sales price is 160 per unit. During the year, it sold 3000 thermometers. What is the profit of the firm during the year?
Applying the CVP analysis, we calculate the profit as under:

P = (160 × 3000) – [1,00,000 + (120× 3000)] = 4,80,000 – (1,00,000 + 3,60,000)
= 4,80,000 – 4,60,000
= 20,000

Break-even Analysis

- The break-even analysis is a part of Cost–volume–profit (CVP) analysis.
- Break-even level is that activity level at which all relevant fixed costs are recovered and there is no profit or no loss.
- The break-even point can be expressed in terms of number of units, sales value or percentage capacity utilisation.

P/V ratio

- Profit-volume ratio, known as P/V ratio is an important concept in marginal costing.
- It represents the ratio of each unit's contribution to its sales price. It is expressed in percentage terms.

P/V ratio = (C/S) × 100
where C is the contribution and S is the sales price per unit

Illustration:
If the unit sales price is ₹ 160 and its variable cost is ₹ 120, the P/V ratio will be:
[(160- 120) / 160] ×100 (because the contribution of each unit is ₹ 160 - ₹ 120)
= (40/160) × 100 = 25%

Margin of Safety

- Margin of Safety is the gap between the estimated/budgeted level of operations and the break-even level.
- It indicates the cushion available to the business for sustaining its operations in times of adversity.
- It is expressed in percentage terms.

Margin of Safety = [(Estimated sales – Break-even sales) / Estimated sales] × 100

Illustration:
If the estimated sales of a company during the year are ₹ 110 lakh and its break-even sales level is 70 Lakh, the margin of safety is: [(110 – 70) /110] ×100 = (40/110) ×100 = 36.36%

Absorption costing

- Absorption costing is different from marginal costing.
- In absorption costing, the fixed overhead costs are also allocated to the product, in addition to the variable costs.
- This affects the valuation of the closing inventory of finished goods.

Illustration:

A company manufacturing LED bulbs has the following financial information:

a. Fixed overhead costs: 1,50,000

b. Cost of all direct inputs like material, labour, utilities etc. per bulb: ₹ 40

c. Variable overhead costs : 60,000

d. Total bulbs produced in the year: 15,000

- Under marginal costing, the costs allocated to each bulb are only the variable costs i.e. 40 + (60,000/15,000) = 44. The fixed overhead costs are not included in the product cost.
- Under absorption costing, in addition to the variable costs of 44 per bulb, the fixed overhead cost of 1,50,000 is also allocated on pro-rata basis i.e. 1,50,000/15,000 = 10 per bulb.
- So, the total cost of each bulb under the absorption costing is 54 per bulb.

Difference between Absorption Costing and Marginal Costing

- In marginal costing, the fixed overhead costs are not allocated to the product whereas, it is allocated in case of absorption costing.
- Cost-volume-profit relationship is used in marginal costing while in absorption costing, it is not used.
- Costs are classified into fixed costs and variable costs under marginal costing. In absorption costing, there is no such classification.
- The valuation of finished goods inventory is different in both the methods. Due to allocation of fixed overhead costs to the product, under absorption costing, the valuation is higher under this, compared to that under marginal costing.

Unit - 35. Budgets and Budgetary Control

- Every business organisation aims to achieve its objectives.
- The projections of targets, to be achieved during a future period, are laid down in the form of budget.
- A number of definitions are available to describe a budget
  - It is a financial plan serving as an estimate of and a control over future operations
  - It contains estimate of future costs
  - It is a systematic plan for the utilisation of manpower, material or other resources
  - It is a plan expressed in money terms/physical units
  - It is prepared and approved prior to the budget period (usually a year). and may show income, expenditure and the capital to be employed

Types of Budgets

Budgets may be classified into various categories depending upon the base adopted to prepare it.

- The scope of their coverage or the functions covered by them. Examples: Sales budget, Production budget, Overheads budget, cash budget, Production Cost budget, Capital expenditure budget, etc. These are called Functional Budgets.
- The capacity or efficiency to which they are related. Based on this, a budget may be Fixed or Flexible budget.
- The conditions on which they are based. Based on this, a budget may be Basic or Current budget.
- The periods which they cover. Based on this, a budget may be a Long period or a Short period budget

- A lot of planning goes into formulation of the budget to make it as close to what can be practically achieve in the prevailing realities of the business environment.
- Co-ordination amongst various functionaries of the organisation is also necessary to formulate a realistic budget.
- The budget sets the direction in which the organisation is expected to move during the period for which the budget has been prepared.
- Having set the direction, the next step is monitoring to ensure that the organisation is moving on the set path.
- This is achieved through Budgetary Control.
- It involves frequent recording of actual achievement of a department, cost centre or any other functionary for which the budget has set the targets.
- The variance between the actual and the budgeted achievements is calculated and reported to the management.
- It is the discretion of the management to decide whether any corrective action is required and if so, what.
- The frequency of this monitoring (also called the control period) again depends upon the peculiar needs of the organisation.
- The budgets can be can be classified under various categories depending upon various parameters.

- Based on this classification, we have several types of budgets like, functional budgets, fixed and flexible budgets, short period and long period budgets etc.
- Various different concepts can also be used in preparing the budgets.
- One such concept is Zero base budget which starts the planning exercise from scratch and does not depend on previous achievement or base.

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SHORT NOTES FOR
JAIIB
ACCOUNTING & FINANCIAL MANAGEMENT FOR BANKERS

Though we had taken enough care to go through the notes provided here, we shall not be responsible for any loss or damage, resulting from any action taken on the basis of the contents. Creation of these short notes is the efforts of so many persons. First of all we thank all of them for their valuable contribution. We request everyone to go through the Macmillan book and update yourself with the latest information through RBI website and other authenticated sources. In case you find any incorrect/doubtful information, kindly update us also (along with the source link/reference for the correct information).

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