BBA 1302
Financial Accounting-I
Study Module

স্কুল অব বিজনেস

SCHOOL OF BUSINESS

Bangladesh Open University

বাংলাদেশ উন্মুক্ত বিশ্ববিদ্যালয়

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BBA 1302
Financial Accounting-I

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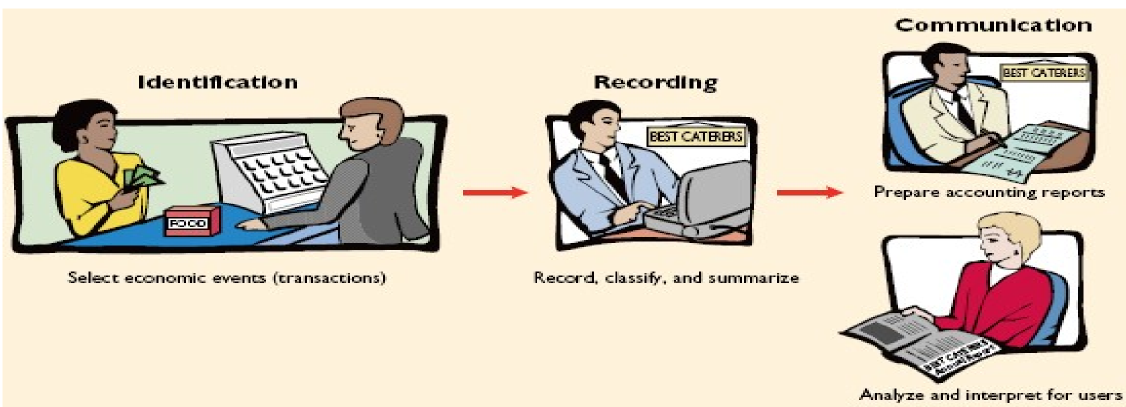


Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program

Terminology

Accounting	Recording and reporting of transactions of an organization.
Business Entity	A specific identifiable business enterprise like Agora, Mina Bazar, Swapna, Shyamoli Paribahan, etc.
Book-keeping	Recording of financial transactions and part of the process of accounting in business.
Creditors/ Suppliers	Organizations or persons who supply goods or services on credit or who lend money to the business. For example, banks, insurance companies, NGOs, etc.
Equation	The mathematical expression of the relationship between two or more variables.
Expenses	Part of costs, the benefit of which has already been enjoyed. Expired costs are normally expenses.
Financial Statements	Formal financial reports reveal an organization's periodical financial performance and the latest financial position. For example, the Income Statement and Balance Sheet
Liquidity	Ability to pay short-term obligations.
Profitability	Ability to make a profit sufficient to attract and hold investment capital.
Recording	Keeping a systematic diary of economic events or transactions.
Reporting	Communication of accounting information to internal and external users through preparation and presentation of financial statements.
Solvency	Ability to pay long-term obligations.
Transactions	Economic events that cause changes in assets, liabilities, or owner's equity.

Lesson1: Introduction to Accounting

Lesson Objectives

After studying this lesson, you should be able to:

- explain what accounting is;
- identify the users and uses of accounting;
- understand why accounting is important;
- distinguish between book-keeping and accounting;
- identify the field of the accounting profession; and
- narrate the forms of business.

Meaning of Accounting

Accounting is an information system of identification, measurement, recording, and reporting of economic events or transactions of an organization to internal and external users.

Accounting is a process of the following 4 (four) activities:

1. **Identification:** Identification is the selection of those events or economic activities that are measured in taka and that change the financial position of a particular organization. For example, sale of goods, rendering of services, payment of wages, etc.
2. **Measurement**: Assignment of numbers or symbols to events. For example, depreciation, loss due to fire, theft, etc.
3. **Recording:** The events identified as economic events or transactions are recorded to provide a history of the financial activities of the organization. Recording consists of keeping a systematic chronological diary (in order of date) of events, measured in taka. In this process, economic events are also classified and summarized.
4. **Reporting:**To make the identified and recorded activities more meaningful the information should be reported or communicated to the users of that information. To the end, formal financial reports, also called financial statements (e.g income statement, owner's equity statement, balance sheet, and cash flow statement) are prepared.

To make the communication more effective and to disclose fully,an accountant should have the ability to analyze and interpret the reported information.To highlight the significant financial trends and relationshipsan *analysis* involves the use of ratios, percentages, graphs, charts, etc. An *interpretation* involves explaining the uses, meaning, and limitations of reported data.

Technical definitions of accounting have been published by different accounting bodies.
American Institute of Certified Public Accountants (AICPA) defines accounting as:

"the 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."

This is a technical definition but if you study the statementsbelow, you will have a better understanding of accounting.

Concepts of Accounting

The definition of accounting claims the following points and you will have a clear understanding of accounting.

1. **Accounting is Considered an Art and a Science**

   Accounting is considered an art because it requires the use of skills and creative judgment. One has to be trained in this discipline to be able to perform accounting functions well.

   Accounting is also considered a *science* because it is a body of knowledge. However, accounting is *not an exact science* since the rules and principles are constantly changing (improved).

2. **Accounting Involves Interconnected "Phases"**

   Recording pertains to writing down or keeping records of business transactions. *Classifying* involves grouping similar items that have been recorded. Once they are classified, information is *summarized* into reports which we call financial statements.

3. **Concerned with Transactions and Events Having Financial Character**

   For example, hiring an additional employee is qualitative information with no financial character. Hence, it is not recorded in accounts. However, the payment of salaries, acquisition of an office building, sale of goods, etc. are recorded because they involve *financial* value.

4. **Business Transactions are Expressed-in Terms of Money**

   Events that take place during the accounting period must be measured in terms of money to be recorded. There are assigned amounts when processed in an accounting system. Using one of the examples above, it is not enough to record that the company paid salaries for April. It must include monetary figures – say, for example, Tk. 20,000 salaries expense.

5. **Determination of Results**

   The results of operations of an organization during an accounting period are determined through the preparation of an income statement, and the position of the same business is also disclosed at the last of the accounting period by preparing a balance sheet.

6. **Interpreting the Results**

   Interpreting results is part of the *phases of accounting*. Information is useless if it cannot be interpreted and understood. The amounts, figures, and other data in the financial reports have meanings that are useful to the users.

By studying the definition alone, we have learned some important concepts of accounting and also an idea of what accountants do.

You may not notice but the simple things you do and encounter everyday can be related to *some level* of accounting. You make budgets, count changes, and check the receipts from the supermarket. You may also have listed things you spent your money on.

We are surrounded by businesses – from managing our own money to seeing profit statements of big corporations. And where there is business, sure there is accounting.

Accounting is, therefore, a system/process/method/ science/technique/ art that measures, records, classifies, summarizes, and processes events mainly of financial nature relating to an identifiable economic entity and communicates in one understandable form to its interested users.

Accounting-An Integral Part of Business

, helps businesses follow four areas:

- ***As an Integral System***, accounting provides relevant financial information as inputs to external users group (creditors, shareholders, customers, and so on) for making the right decision at the right time.
- ***As a Language of Business***, accounting communicates Accounting as an integral part of business operating performance (either net profit or loss) and financial position (assets, and obligations) meaningfully to the interested users. The essence of information depends greatly on how it is communicated to the users.
- ***As a Tool of Internal Control and External Reporting***, accounting ensures internal control over operations inside the business. Accounting helps management look back (control). External reporting facilitates the efficient use of scarce resources and their proper allocation among the involving parties.
- Finally, ***as a Means of Accountability***, management (stewards of resources) of public limited companies can discharge its accountability to the shareholders (owners of resources) providing an annual report (including financial affairs) and by answering questions put at the annual general meeting of shareholders.

Let's take a moment to illustrate that.

> Meet Mr. Zaved
>
> Mr. Zaved started a printing business. He invested Tk. 100,00,000 personal money to start the entity's operations. After a month, he wants to know how much the business is made. He also wants to know if the money he invested is still there.
>
> Without a way of recording the activities of the business, we will not be able to answer his questions. Surely, we can tell him, "Mr. Zaved, we made a lot this month!", but we need proof! And he needs the figures!
>
> We can easily answer Mr. Zaved's questions if we kept track of the company's transactions. If we used Tk.30,00,000 of the Tk.100,00,000 we had at the beginning to buy printers and pay the bills, then we'd have Tk.70,00,000 cash left. If we collected Tk.50,00,000 from our customers, then we would have Tk.120,00,000. *Easy, right?*
>
> Okay, that's just a *tiny bit* of what accounting can do. What if we have thousands of transactions? Also, there's a lot more to accounting than just recording. How much income did we make? How much do we owe our creditors? Is this a good investment? Ask away. The accountant would confidently say, "I'll have the reports prepared." *How cool is that?*

Users and Uses of Accounting

Accounting is often called the language of businesses as it communicates the financial information of a business enterprise to divergent groups of users. We know language is a way of expressing our feelings to others and this includes various words, terms & grammar. Like this, Accounting has its terms [Debit, Credit], grammar [Double entry system]. So Accounting is, of course, a language. The information that a user of financial information needs depends upon the kinds of decisions he or she makes and on his or her ability.Based on the differences in the decisions, the users of financial information are divided into two broad categories as below:

Users of Accounting Information

- Internal Users
  - Management
    - marketing manager
    - decision makers
    - production supervisors
    - finance directors; and
    - company officers/secretary
- External Users
  - Direct Interest
    - Present & potential
    - investors
    - creditors
  - Indirect Interest
    - tax authority
    - regulatory agencies
    - customers
    - employees
    - economic planners
    - academicians &researcher,setc.

Internal Users: Individuals directly involved in managing and operating an organization.

Management: Management is a group of people responsible for achieving the entity's goal, Management at all levels uses accounting information in planning, controlling, and evaluating business operations. To perform these functions effectively and efficiently, managers need detailed, timely, and relevant information. So it is said that accounting information provides the 'eyes and ears of management.

Management may need the information about

- cash position to pay bills/debts;
- manufacturing cost of each unit of product;
- profitable product line; and
- profitable customers,etc.

External Users: Individuals or organizations,not directly involved in running the organization.

Present and Potential Investors/Shareholders: Present owners or investors or shareholders are very much concerned with the position of their investments in the business. They want to know the level of performance (profit, cash position, dividend, etc.) of the business in the past year. A present investor can decide on disposing of (sale) or hold particular security based on accounting information.

Future potential investors are also interested to know the past performance of the business and their financial position to invest (to buy stock or bond) in the future.

Present and Potential Creditors or Suppliers: The creditors, such as trade creditors, banks, insurance, leasing companies, etc. use accounting information to make sure whether the business will be ableto pay their claims, interest, and principal in time and their earning capabilities. They will expect to analyze the *profitability* (ability to make a profit sufficient to attract and hold investment capital), liquidity (ability to meet short-term obligation), and *solvency* (ability to meet long-term obligation) position of the business before making a loan.

Tax Authorities: Tax authorities, such as the National Board of Revenue (NBR) need financial reports (statements) to ascertain the propriety and accuracy of taxes and other duties declared and paid by a company and to know whether the company complies with the tax laws.

Regulatory Agencies: Regulatory agencies may include the Bangladesh Securities and Exchange Commission (BS&EC), Bangladesh Bank, Registrar of joint-stock companies, stock exchanges (DSE or CSE), tax authority, and so on. Public limited companies are required to report to these regulators. Public utilities like Bangladesh Railway, Gas, PDB, WASA, etc.are to defend their service charges with regular accounting reports to the government.

Customers: Customers are interested in information indicating the fairness of pricing policies, such as the relative proportion of unit price, which consists of costs, profits, and taxes, and in the differential costs between a product and another produced by the same firm at a different price. Periodical accounting reports give them such information.

Employees: Employees depend upon the profitability of the firm and in turn depend upon financial position(i) in making collective bargaining agreements (CBA) with the management, and (ii) in the case of labor unions or for individuals in discussing their compensation packages, fringe benefits (e.g., bonus), job security, promotion and other issues related to their career.

Economic Planners: In measuring the national income of the country which deals with total production, inventories, income, dividends, taxes, etc.,economic planners greatly depend on accounting information from different companies, institutions, business and production units, etc., for planning and forecasting.

Thus accounting information is used by different groups for many and varied purposes. It is difficult to think of our present system of production, investments, credits, and taxation without Accounting. Practically the whole nation uses accounting information directly or indirectly.

Differences between Book-keeping and Accounting

Many people consider book-keeping and accounting as synonymous terms, but they are different from each other. Broadly speaking, accounting includes book-keeping but in a myopic sense, we sometimes make differences between these two in the following manner:

Basis of Difference	*Book-keeping*	*Accounting*
Meaning	It is concerned with identifying financial transactions; measuring them in monetary terms; recording and classifying them.	It is concerned with summarizing the recorded transactions, interpreting them, and communicating the results.
Objective	To keep a permanent record of transactions.	Tocommunicate accounting information to internal and external users.
Nature of Work	Clerical	It is the presentation of accounting information through processing the recorded data.
Scope	It is to record business transactions. So its scope is limited. Activities are journalizing, posting, and summarization.	It is the recording, classifying, summarizing, interpreting business transactions, and communicating the results. Thus its scope is quite wide. Preparation of income statement, balance sheet, etc.
Basis	Vouchers and other supporting documents are necessary as evidence to record business transactions.	Book-keeping works as the basis for accounting information.
Accounting Knowledge	It is enough to have an elementary knowledge of accounting to do bookkeeping.	For accounting, advanced and in-depth knowledge and understanding are required.
Relation	Book-keeping is the first step to accounting.	Accounting begins where bookkeeping ends.

Fields in the Accounting Profession

Accountants may be employed in five broad fields:

1. Public Accounting/Independent Professional Accounting
2. Private Accounting /Financial and Cost Accounting
3. Not-for-profit Accounting
4. Opportunities in Government
5. Forensic Accounting

1. Public Accounting: An area of accounting in which the accountant offers expert services to the public in much the same way that a doctor serves patients and a lawyer serves clients.

Auditing and Assurance: The principal service provided by a chartered accountant (CA) is auditing. Banks normally require an audit of the financial statements of companies that apply for a sizable loan. The CA examines the financial statements of companies and expresses an expert opinion as to the fairness of presentation. When the presentation is fair, users consider the statements to be reliable. The CAs are not employees of the audited concern but are independent professional persons working for a fee.

Taxation (Tax service): Taxation is another area of public accounting. The work performed by tax specialists includes:

- tax advice and planning as to how transactions may be completed to incur the smallest tax;
- preparation and filing of tax returns;
- representing clients before governmental agencies, such as the National Board of Revenue.

Management Consulting: In addition to the previous ones, public accountants commonly offer management advisory services which include:

- design, installation, and improvement of a client's general accounting system and any related information systems it may have for managing the company. This may involve:
  - selecting appropriate computers (hardware);
  - developing software; and
  - installing the procedures necessary to bring an information system into effective operating use.

Management consulting may also include:

- financial planning;
- budgeting;
- forecasting;
- inventory control;
- project management;
- cost-benefit analysis;
- total quality management (TQM); and
- performance management.

2. Private Accounting: An area of accounting within a company that involves such activities as:

General Accounting: Recording daily transactions, processing the recorded data, and preparing financial statements for the use of management, owners, creditors, and governmental agencies.

Cost Accounting: Recording the cost of producing specific products and preparation of cost statements.

Budgeting: Assisting management through the preparation of all operating and financial budgets.

Accounting Information Systems: Designing both manual and computerized data processing systems for recording transactions and preparation of financial statements.

Tax Accounting: Preparing tax returns and doing tax planning for the company.

Internal Auditing: As a part of the internal control system,an internal audit reviews the company's operations to see if they comply with management policies and evaluates the efficiency of operations.

3. Not-For-Profit Accounting: An area of accounting in which the organizations are operating their activities to provide services without any profit motive. Such organizations include:

- Hospitals
- Colleges/Universities
- WASA
- Bangladesh Railway
- Local &state governmental units (e.g., municipality, union council, city corporation), etc.

Not-for-profit accountants record and account for 'Receipts and Payment Statement' and 'Income and Expenditure Statement'.

4. Opportunities in Government: Another option is to pursue one of the many accounting opportunities in governmental agencies. For example, the National Board of Revenue (NBR),the office of the Comptroller and Auditor General of the Government of Bangladesh (CAG), the Bangladesh Securities and Exchange Commission (BS&EC) employ accountants. There is also a very high demand for accounting educators at public colleges and universities and in central and local governments.

5. Forensic Accounting: Forensic accountinguses accounting, auditing, and investigative skills to conduct investigations into theft and fraud. It is listed among the top 20 career paths of the future. The job of forensic accountants is to catch the perpetrators of the estimated Tk.600 billion per year of theft and fraud occurring at U.S. companies. This includes tracing moneylaundering and identity-theft activities as well as tax evasion. Insurance companies hire forensic accountants to detect insurance frauds, such as arson, and law offices employ forensic accountants to identify marital assets in divorces.

Forms or Types of Business Organization

In Bangladesh, a business organization may be any one of the following five types:

- Proprietorship (Sole-trader ship)
- Partnership
- Company
- Corporations
- Cooperative Societies

Proprietorship: A form of business that

- is owned by a person; and
- requires a relatively small amount of money (capital) to start.

In other words, it is a form of business enterprise where

- the owner (proprietor) enjoys or receives the profit and suffers any losses and is personally liable for all debts of the business;
- there is no legal separation between the business as an economic unit and the owner.

For example, grocery stores, beauty salons, clothing stores, book stores, etc.

Partnership: The relation between persons who have agreed to share the profits of a business carried on by all or any of them acting for all. (Section 4 of the Partnership Act 1932).

The *essentials* or *ingredients* of the partnership are the following:

- An association of two or more persons (maximum 10 for banking business and 20 for other types of business).
- A partnership deed is an essence.
- To carry on a business (for example mere ownership of a business by some persons will be treated as co-ownership, not a partnership).
- Sharing profits (including losses, if any) of the business.
- Partners are jointly and severally liable for the losses.
- Business to be managed by all or any one of them acting for all.

Each member individually is called a partner, they are collectively called a firm, and the name under which their business is carried out is called a firm name.

Firms of accountants and lawyers and doctors' practices are examples of partnership.

Company: A business organized as a separate legal entity under the Companies Act, 1994, and having ownership divided into transferable shares of stock. In the USA, companies are known as a corporation. The holders of the shares (stockholders) enjoy limited liability; that is, they are not personally liable for the debts of the corporate entity. Stockholders may transfer all or part of their shares to other investors at any time (i.e., sell their shares). Companies may be private, public, or one person company. F*or example*, Square Pharmaceuticals Limited, Beximco Textiles Limited, Akkas Uddin Mollah OPC, etc.

Corporation: In Bangladesh, several corporations were created by the presidential order no. 1972 to look after the management of all nationalized and abandoned industrial units. For example, BJMC, BTMC, BCIC, BF&SIC, BSEC, etc.

Cooperative Societies: Forms of organizations that are owned and run jointly and voluntarily by their members who share the profits or benefits as per the Co-operative Society Act, 2001. For example, Pathfinder Multipurpose Cooperative Society Ltd., Bangladesh Police Co-operative Society Ltd., National Fishery Society,Milk Vita, etc.

Review Questions

1. Explain in your language what accounting is.
2. How does accounting help a business? Explain.
3. "All transactions are events but all events are not transactions." Explain.
4. How is accounting information communicated?
5. Who are internal users and why do they use accounting information?
6. "The objective of both book-keeping and accounting is the same." Do you agree? Explain.
7. What are the objectives of financial reporting?
8. Distinguish between book-keeping and accounting.
9. Who are creditors and why do they use accounting information?
10. Describe major fields of the accounting profession.
11. Explain different forms of business organization.

Lesson 2: Conceptual Framework of Accounting

Lesson Objectives

After studying this lesson, you should be able to:

- explain the levelsofthe conceptual framework of accounting;
- state the qualitative characteristics of accounting information;
- explain the components of the accounting equation; and
- describe the assumptions, principles, and constraints of accounting.

Conceptual Framework of Accounting

Conceptual Framework= Conceptual+Framework

- Conceptual=idea/plan
- Framework=basic structure/constitution/boundary

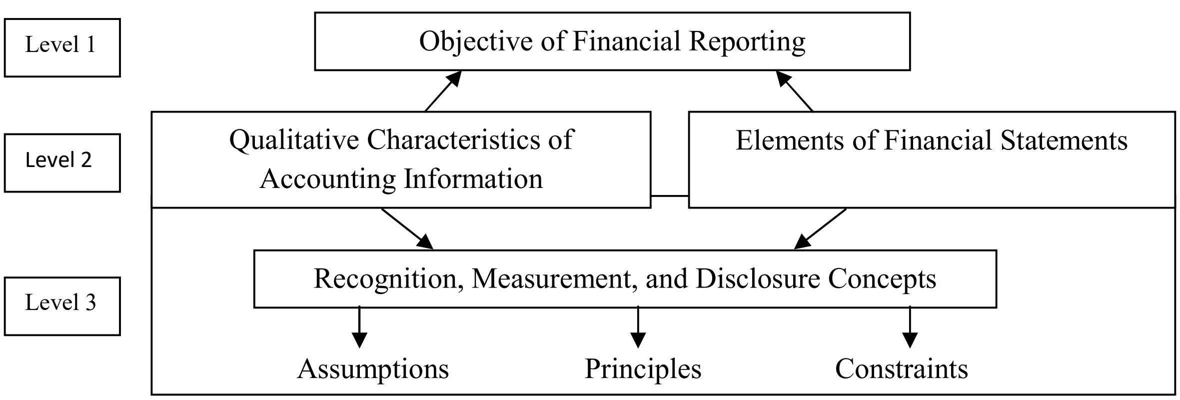
CF= The plan or ideas of the basic structure of generating and presenting accounting information to internal and external users.

A **conceptual framework** is "a coherent (intelligent or consistent) system of interrelated objectives and fundamentals that

- can lead to a consistent standard; and
- prescribes the nature, function, and limits of financial accounting and financial statements."

To ease the definition of a conceptual framework, we can state that the conceptual framework is like a boundary. The preparers and users of accounting information are permitted to work within this boundary and they are not allowed to encroach on these rules and regulations.

An overview of the conceptual framework



- ❖ **The first level** explains the 'why'-goals and purpose of accounting
- ❖ **The second level** links up the first level with the third level
- ❖ **The third level** describes the 'how'-implementation of accounting rationality

IFRS: It is a practical tool that assists the board to develop IFRS standards that are based on consistent concepts, assists preparers to develop accounting policies when no IFRS Standard applies to a particular transaction or event or when a standard allows a choice of accounting policy.

Objective of Financial Reporting

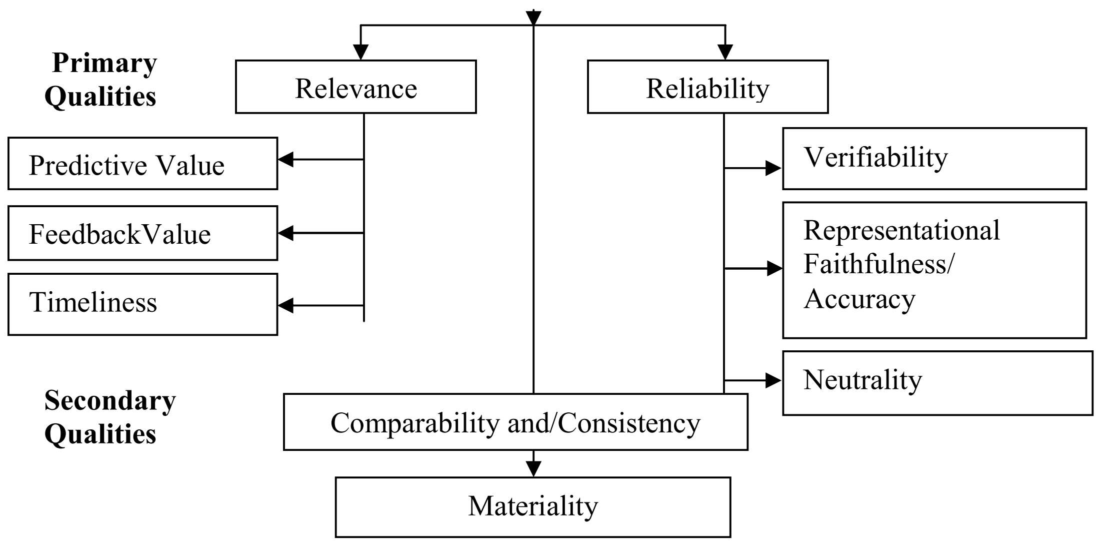
To provide information that is useful to:

- present and potential investors,
- creditors, and
- other users in making rational investment, credit, and similar decisions.

Qualitative Characteristics of Accounting Information

Qualitative characteristics of accounting information are those that help distinguish better (more useful) information from inferior (less useful) information.

Qualitative Characteristics of Accounting Information



Primary/Fundamental Characteristics of Accounting Information

Relevance: Information becomes relevant when it is capable of making a difference in a decision. To be relevant, the information should contain: '*Predictive value', 'Feedback value', and 'Timeliness*'.

- ***Predictive value***means information should help make predictions about the ultimate outcomes of past, present, and future events.
- ***Feedback value*** means information helps users confirm or correct prior expectations.
- ***Timeliness*** means that information is available in time to influence a decision. That is the financial statements of an organization are to be prepared and presented just after the end of the accounting period, not after several months or years.

Reliability: Information can relyon if it is free from error and personal bias. To be reliable, the information should have '*Verifiability*', '*Representational faithfulness',* and '*Neutrality*'.

- '***Verifiability***' is the *ability to arrive at the same conclusion*, given the same information & method, by independent evaluators or users. For example, if there is a note of using a straight-line method for calculating the depreciation of an organization's tangible fixed asset, the amount of depreciation will be the same if anyone uses this method. So this is verifiability.
- '***Representational faithfulness'*** is an important element of reliability in that it means the information represents what existed or happened. For example, if the gross sales of an organization are Tk. 1,59,00,000 but if the organization discloses Tk. 1,60,00,000 in its income statement then it will not be a faithful representation. So, the information should be *free from at least any intentional error.*

- '***Neutrality***' is the characteristic that the information presented is *free from bias*. The information presented does not favor one party's interests over another.

Example: The balance sheet should represent the assets, liabilities, and owner's equity of a business enterprise at a certain period as faithfully as possible (accuracy) without any bias (neutrality) which can be verified by an auditor (verifiability).

Secondary/Enhancing Characteristics of Accounting Information

Information of an enterprise is more useful if it can be compared with similar information of another enterprise (comparability) and with similar information of the same enterprise over time (consistency).

Comparability states that information becomes more useful if it lends itself to intra- and intercomparison. Intra-comparison means comparing an organization's one information of an accounting period with the same information of another accounting period,for example, the comparison of sales of the organization of 2022 with that of 2023. Intercomparison; on the other hand, means comparing one information of an organization with the same information of another organization.

Example: Dutch-Bangla Bank gave a bonus six times in the year 2023 whereas the IFIC Bank gave a bonus four times in the same year. This information can be compared in a meaningful way.

Consistency states that the accounting terms, methods, or principles mentioned in the financial statements are to be used in a similar manner from one period to the next. Accounting methods may be changed when it can be demonstrated that the result would be preferable. And this change must be disclosed along with the justification for, nature, and effect of the change.

*Example***:** In a business organization, the accountant changes its depreciation policy (from straight-line to declining balance method) for its fixed assets as per the instruction of the management. Management provides a note to the financial statements explaining that the new method is more justifiable than the old method of depreciation because the use of fixed assets is usually higher in the earlier years of their expected life.

Basic Elements of Financial Statements

Assets: Assets are economic resources owned by businesses that are expected to benefit future operations. Example: Land, Building, Equipment, Accounts receivable, Goodwill, Patent, Copyright, etc.

Liabilities: Liabilities are outsiders' contributions to the business. These represent the amounts that the firm owes to outsiders,ie., other than the owners. Liabilities are outsiders' claims against total assets- that is, existing debts and obligations. Example: Money borrowed from a bank, purchase on account, etc.

Owner's Equity: The owner's Equity is the owner's claim on the total assets of the business. In other words, it is the residual interest in the assets of an organization after deducting its liabilities.

Revenues: Revenues are inflows (receipts) or gross increase in equity or enhancements of assets or reduction of liabilities of an entity resulting from such business activities asdelivering goods, rendering services, rental of property, or lending of money.

For example, cash received or receivable from a customer for selling goods or services to him/her by an organization.

Expenses: Expensesare outflows (payments) or a decrease in equity. In other words, expenses are the costs of assets consumed or services used in the process of earning revenues.

For example, salaries paid to employees, sales commissions paid to salesmen, etc.

And the excess of revenues over expenses of normal courses of action over some time is the income or profit.

Gains: Increases in net equity from peripheral or incidental transactions of an entity that are irregular and non-current. For example, if a fast-food shop sells an air conditioner for Tk. 75,000 whose book value (costs minus depreciation) is Tk. 72,000 then the gain will be=Tk.3,000(75,000-72,000).

Losses: Decrease in equity from peripheral or incidental transactions of an entity and from all other transactions and other events which are irregular and non-current. For example, if an air conditioner of Tk. 35,000 is sold by a fast food shop for Tk. 70,000, the loss will be= Tk.2,000(72,000-70,000).

Learners, you may ask: is there any difference between income and gain?

Yes, there is a difference. Income is the excess of revenues earned over expenses incurred for normal courses of operations. Income generates from the sales of goods or services and expenses incurred for sales. But gain comes from the sales of fixed or non-current assets.

And to make you understand more clearly, I cite an example. Suppose a grocer has earned revenues of Tk. 120,000 from sales of his grocery items like rice, salt, oil, etc. for which he incurred expenses of Tk. 100,000. The additional Tk.20,000 is the income or profit of his business. But if he sells the furniture or other non-current assets of his business at a price more than that of book value then the business will enjoy again, otherwise loss.

Recognition, Measurement, and Disclosure Concepts

Assumptions

Monetary Unit Assumption

You know, in our country, the monetary unit is taka. According to this assumption, only transaction data that can be expressed in terms of money (in our country taka) be included in the accounting records. This assumption enables accounting to quantify (measure) economic events. This assumption is vital to apply the cost principle. There are some important events in the business but those are not recorded in the books of accounts as their effects cannot be objectively translated into money. These events inter alia are:

- Resignation of manager from the business.
- Quality of products/services.
- The health of the owner.
- Strike, hartal, etc.
- Go slow policy of the workers.
- The morale of employees, etc.

Example: Suppose, the official executive of your business entity has switched to another business and you have a substantial loss. But it can't be measured in terms of money. So it's not recorded in accounting books.

Economic Entity Assumption

An economic entity can be any organization or unit in society. It may be:

- a business enterprise; or
- a municipality; or
- a governmental unit; or
- a mosque, temple, pagoda, etc.

According to this assumption, the business is treated as a separate unit or entity from its owner(s). In other words, transactions of an entity are to be kept separate and distinct from those of its owner and of all other economic entities. The owner is treated as a creditor to the extent of his /her capital.

Example: If Mr. Rahim invests Tk. 500,000 into his business-M/S Rahim Enterprise then Tk. 500,000 will be the asset of his business as well as liability to the owner (Mr. Rahim). This is an internal liability.

Mr. Rahim, the owner of Rahim Enterprise should keep his living expenses separate from the expenses of his business-Rahim Enterprise.

Another Example: If Mr. Rahim has two business entities: a petrol pump- making a profit of Tk. 50,000 and a fast food shop- sustaining a loss of Tk. 10,000, both should be shown in the accounting records separately.

Going Concern Assumption

This assumption is also known as the 'Continuity assumption'. The main theme of this assumption is that a business will continue in operation for an indefinite period, at least long enough to carry out its existing plans and contracts. Simply to say, a business has a long life; it is not expected to be liquidated. The going concern is not applicable in case of liquidation only, as a project. Because you know the starting and ending time of a project is known whereas in business the starting time is known but the ending time is unknown.

	Starting time	Ending time
Project	Known	Known
Business	Known	Unknown

In absence of this assumption, plant assets should be stated at their liquidation value, not at cost price. Liquidation value means the excess of selling price over the cost of sale/disposal. In that case, depreciation or amortization of these assets is not needed. Each period, these assets would simply be reported at their liquidation value. Also, without this assumption, the current and non-current classification of assets and liabilities would not matter I,e.,classified balance sheet, and income statement preparation become difficult as all expenses including depreciation have to recognize at once, not to defer until later periods.

Accounting Period Assumption

Learners, a few minutes back, you came to know that the life of a business organization is unlimited. According to this assumption, this unlimited life of the business organization is divided into a small chunk of time. It may be one month, one three months, six months, or one year, usually one year to report to outsiders. If this cannot be done, it wouldn't be possible to know about the profit or loss and position of assets and liabilities of an organization until and unless the business goes for liquidation. The stakeholders, like the owners, creditors, suppliers, and other parties, particularly the NBR, want to know about the financial health of an organization at a frequent duration and for this purpose financial statements are prepared and provided by the company to the stakeholders.

Generally Accepted Accounting Principles (GAAP)[1]

Before going to the discussion of GAAP, we have to know the meaning of the principle.

Principles

A principle is a broad general law or rule adopted as a guide to action.

Consequently, **GAAP** may be defined as broad rules adopted by the accounting profession as guides in identifying (measuring), recording, and communicating (reporting) the economic events of an organization.

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1. The phrase 'generally accepted accounting principle' is a technical accounting term that encompasses the conventions, rules, and procedures necessary to define accepted accounting practice at a particular time. It includes not only broad guidelines of general application but also detailed practice and procedures. Those conventions, rules, and procedures provide a standard by which to measure financial presentation.

In other words, **GAAP** is a common set of standards that indicate how to report economic events. For example,

- Cost principle
- Revenue recognition/ Realization principle
- Objectivity principle
- Matching principle
- Materiality principle
- Full disclosure principle
- Consistency principle
- Conservatism principle, etc.

❖ Establishment of GAAP [USA]

Two organizations are primarily responsible for establishing GAAP in the USA:

1. Financial Accounting Standard Board (FASB); and
2. Securities and Exchange Commission (SEC)

1. FASB (US): This private organization establishes broad reporting standards of

- general applicability
- specific accounting rules

2. SEC: The US SEC is a government agency that requires companies to file financial reports following GAAP. In institutions where there is no principle, the SEC often mandates that certain guidelines be used.To ensure the development of timely and useful accounting principles the FASB and SEC generally work hand in hand.In Bangladesh, BS&EC, ICAB, DSEL are responsible for developing GAAP.

Cost Principle

This principle states that tangible fixed (non-current) assets should be recorded at their costs ignoring the market value. *Cost*is the exchange value or financial sacrifice for acquiring something. *Market value* is the value determined by the market for homes at the time of sales.

Example: On January 1, you have purchased land for your business for Tk. 10,00,000 and during January the value of the land increased to Tk. 11,00,000. According to this principle, on January 31, the land should be reported at Tk. 10,00,000 even if the value decreased to Tk. 9,00,000 At the time of the acquisition, cost and fair market value are the same.In subsequent periods, the fair market value may vary, but the cost amount continues to be used in the accounting records. Recently, the FASB appears to support greater use of fair value measurements in financial statements.

❖ The argument in Favor of Valuation at Cost

Learners, you can ask why tangible fixed (non-current) assets are recorded at cost.This is so because the cost has an important advantage over other valuations. The cost is reliable. The values exchanged at the time of acquisition can be objectively measured and can be verified. Objectively means with supporting documents like invoice, voucher, deed, etc.

❖ Limitations of the Principle

Critics argue that cost is often not relevant and that market values provide more useful information. This principle ignores the qualitative aspect of things, and the impact of inflationary changes is not adjusted in financial statements. And due to these limitations, in developed countries like Japan and the USA, the inflation accounting system has been introduced.

Revenue Recognition Principle

Recognition means recording and reporting. So revenue recognition principle means the rules or laws related to the recording of revenue in the accounting records and reporting it in the income statement. You know, revenues are a gross increase in equity resulting from providing goods or other services to customers. This principle is also called the realization principle. This principle emphasizes the 'timing' of recording revenue. As per this principle, *revenue* should be recorded when it is earned and revenue is *earned*(realized or realizable) when goods are sold or services are provided, it may be in cash or on credit. Suppose, you have sold 100 CDs to a customer at a price of Tk.75 each and have received cash Tk. 5,000 only out of 7,500. So Tk.2,500 remains as receivable. According to this principle, both the received and receivable amounts are to be recorded as revenues.Similarly, expenses are recognized when goods or services are purchased either in cash or on the account.

Illustration: If the firm gets an order in March to supply goods in May, the revenue will be earned only in May when the actual sales take place.

Matching Principle

This principle reveals that revenues and expenses of a particular period should be properly matched. In the period when the revenues are recognized, the expenses incurred to earn that revenue must be charged to achieve the accurate income for the period concerned. Expenses are thus expired costs or sacrifices made to earn revenue. The unexpired costs should not be shown as expenses rather they are treated as assets.

*Example**:*** Suppose, for your business, you have paid Tk. 60,000 as store rent for 3 months (say January to March) and your accounting period is only January. So at the end of January, you have to match or adjust or charge Tk. 20,000 (rent of January only) as an expense against the revenues of January to arrive at the actual profit of January. If this Tk. 20,000 is not matched with the revenues, the expense will be understated and profit will be overstated. Prepaid rent for February and March must be shown as assets.

Full Disclosure Principle

Full disclosure means the presentation of all relevant information (relevant to users' decisions).We know an organization finances itself from the owners and the creditors' sources. Thus, the stakeholders have the right to know about necessary data and information with supporting footnotes and explanations. The organization should provide the data and information in such a way that it becomes self-explanatory. In compliance with this principle additional data, explanations, schedules, etc. are attached as supplementary information for the users' decision making.

Example: Suppose your organization has a fixed asset of Tk. 5 million. But an amount of Tk. 3 million is borrowed from a bank by the mortgage of the fixed asset. This information should be disclosed in the financial statements or as a note to the statements.

Similarly, the accounting methods employed for example, for charging depreciation, change in accounting method, an explanation regarding why it has been done, all these should be disclosed properly.

Constraints in Accounting

Constraints mean that there are certain limitations or boundaries under which accounting functions or policies are restricted.

Cost-Benefit Constraint

Cost-Benefit Relationship**:** It states that-

- The cost of information should not outweigh the benefit derived.
- Costs and benefits are not always derivable, obvious, or quantifiable.
- Sound judgment must be used.

Example: If an organization purchases some waste-paper baskets for the use, it may be used for a couple of years to come, however, the price of these baskets is so negligible that organizations, though it will provide benefits or services for more than a year, charge it as an expense. Office supplies like Pen, Pencil, Eraser, Pin, etc. are to be recorded as expenses, not assets. The cost of recording these as assets (e.g. charging depreciation on eraser) is costlier than its benefit.

Materiality Constraint

The term "materiality" refers to the relative importance and amount of an item or event in users' decisions. An item is material if its inclusion or omission would influence or change the judgment of a reasonable person (investor). Thus, the determination of what is material and what is immaterial depends on the judgment of a reasonable person, precise criteria cannot be applied.

*Example***:**

Items	*Company A*	*Company B*
Sales revenue	Tk. 1,00,000	Tk. 10,000
Net income	10,000	1,500

Look at the figures above. It seems that Company A's net income is more significant than Company B's net income. But Company B makes a 15% profit concerning its sales whereas Company A makes a 10% profit concerning its sales. So the net income figure of Company B is more material than Company A.

Conservatism Constraint

This constraint is contrary to the principle of full disclosure. Because under this convention the profit is understated than what actual profit is. It is often stated as follows:

"Anticipate no profit but provide for all possible losses."

Example: Ending inventory/stock is valued at cost or market price whichever is lower. If the market price is higher than the cost, ending inventory will be valued at a cost that is lower than the market price. But if the market price is lower than the cost, the higher amount of cost will be ignored and inventory will be valued at market price, which is lower than the cost.

The main theme of this constraint is "This is the policy of playing safe."

The main limitation of conservatism is that a secret reserve is created due to the excessive application of this convention. The company law does not recognize it.

[Illustration: Cost of ending inventory Tk. 10,000 but the market price is Tk.12,000. It should not be valued at Tk. 12,000. No doubt, there is a prospect of earning Tk.2,000 here, but that should not be recognized in the accounts. In contrast, if its market price is Tk.8,000, that is if there is a chance for loss of Tk.2,000, ending inventory should be valued at Tk.8,000. It indicates, therefore, that the accountants should recognize all possible losses however small that might be. But they should not anticipate profit.]

Examples:

- Maintaining allowance for doubtful debts.
- Accelerated depreciation method for equipment and machinery.
- Inventory is valued at cost or market price, which one is lower.
- Probable gain from the sale of shares is not recognized.
- Unrealized gain: The cost of investment is Tk. 10,000 (current market price Tk. 12,000). The gain of Tk. 2,000 is not recorded until it is realized.

Industry Practices

This constraint states that-

* The peculiar nature of some industries and business concerns sometimes requires a departure from basic accounting theory.
* The financial statements shall not mislead a reader. If following "pure" accounting theory results in statements that are not comparable or consistent, not relevant or reliable then the theory should be adjusted.

Example: The costs of production or inventory valuation of agricultural products are difficult to determine. So, these should be valued based on the market price.

International Terminology

Your Fundamentals of Financial Accounting assessment will use international accounting terms and this text is written in international accounting terms. It is a good idea to start now getting used to these terms. Following the recent changes in terminology due to the revision of IAS 1, we give a list of UK terms with their international equivalents.

UK Term	International Term
Profit and loss account	Income statement (statement of comprehensive income)
Profit and loss reserve(in the balance sheet)	Accumulated profits
Balance sheet	Statement of financial position
Turnover	Revenue
Debtor account	Accounts receivable
Debtors (e.g. debtors have increased)	Receivables
Debtor	Customer
Creditor account	Accounts payable
Creditors (eg creditors have increased)	Payables
Creditor	Supplier
Debtors control account	Receivables control account
Creditors control account	Payables control account
Stock	Inventory
Fixed asset	Non-current assets (generally). Tangible fixed assets are also referred to as 'property, plant, and equipment.
Long term liability	Non-current liability
Provision (eg for depreciation)	Allowance (you will sometimes see 'provision' used too).
Nominal ledger	General ledger
VAT	Consumption tax
Debentures	Loan notes
Preference shares/dividends	Preferred stock/dividends
Cash flow statement	Statement of cash flows

https://www.youtube.com/watch?v=CJ0x-3RzIKc
https://www.youtube.com/watch?v=tkvHG68dzKM

Review Questions

1. What do you mean by the conceptual framework of accounting?
2. State the qualitative characteristics of accounting information.
3. When does accounting information become relevant and reliable?
4. Graphically present the conceptual framework of accounting with the linkages of different levels.
5. Explain the economic entity assumption.
6. What is the main theme of going concern assumption?
7. Explain the arguments for and against the recording of a tangible fixed asset at cost.
8. Explain the matching principle.
9. What are the limitations of conservatism constraint? Explain.
10. Presented below are the assumptions, principles, and constraints discussed in lesson 2 of Unit 1.
    a. Economic entity assumption
    b. Going concern assumption
    c. Monetary unit assumption
    d. Full disclosure principle
    e. Cost-benefit relationship
    f. Materiality constraint
    g. Periodicity assumption
    h. Historical cost principle
    i. Matching principle
    j. Industry practices
    k. Conservatism constraint
    l. Revenue recognition principle

Required:

Identify by letter the accounting assumptions, principle, or constraint that describes each situation below. Do not use a letter more than once.

(i) Allocates expenses in the proper period.
(ii) This indicates that market value changes after purchase are not recorded in the accounts. (Do not use the revenue recognition principle)
(iii) Ensures that all relevant financial information is reported.
(iv) The rationale for why plant assets are not reported at liquidation value. (Do not use historical cost principle)
(v) Anticipates all losses, but reports no gains.
(vi) Indicates that personal and business record keeping should be separately maintained.
(vii) Separates financial information into periods for reporting purposes.
(viii) Permits the use of market value valuation in certain specific situations.
(ix) Requires that information significant enough to affect the decision of reasonably informed users should be disclosed. (Do not use full disclosure principle)
(x) Assumes that the Taka is the ‘measuring stick’ used to report on financial performance.

Answer: (i)i; (ii) h; (iii) d; (iv) b; (v) k; (vi) a; (vii)g;(viii) j; (ix)f; (x)c

Lesson 3: Basic Accounting Equation

Lesson Objectives

After studying this lesson, you should be able to:

- define the basic accounting equation;
- explain the components of the basic accounting equation; and
- analyze the effects of business transactions with the help of the accounting equation.

Basic Accounting Equation-Meaning and Components

The basic accounting equation is a mathematical expression of the relationship of assets, liabilities, and owner's equity. This is stated as:

Assets = Liabilities + Owner's Equity

Learners, you may ask a question, why do liabilities precede owner's equity in the basic accounting equation? You know if a business is liquidated/wounded up /closed, liabilities are to be paid first. So, liabilities precede the owner's equity.

Business transactions always affect at least two elements in the accounting equation. After a transaction is recorded, the accounting equation must be in balance.

The accounting equation applies to all economic entitiesregardless of size, nature of the business, or form of business organization. It applies to a small proprietorship such as a corner grocery store as well as to a giant corporation such as PepsiCo. The equation provides the underlying frameworkfor recording and summarizing economic events.

Let's look in more detail at the elements of the basic accounting equation.

Assets

Assets are resources which:

- are owned by a business;
- are used in carrying out production, consumption, and exchange;
- provide future services or benefits (in the form of cash) to the enterprise;
- must be acquired at a cost;
- help to the redemption of liability.

These are the features of assets.

Example: Suppose, Al-Amin Bread and Biscuits Ltd. owns a Delivery van that provides economic benefits from its use in delivering *Cosmos* biscuits. So,the Delivery van is an asset to the company. Other assets of Al-Amin Bread and Biscuits Ltd. are tables, chairs, oven, etc. Now, we will discuss the forms /nature of assets.

Assets include:

a) *Physical resources* like land, building, machinery, furniture, inventory, etc.
b) *Non-physical resources* like accounts receivable.
c) *Intangible assets* like goodwill, patent, copyright, trademark, etc.
d) *Future benefits* like insurance premiums paid in advance for protection against future misfortunes or any other expenses paid in advance.

Liabilities

Liabilities are outsiders' claims on the total assets of the organization. In other words, liabilities are the amount that the firm owes to outsiders i.e.,other than the owners.

Businesses of all sizes usually borrow money and purchase merchandise on credit. These economic activities result in various kinds of payables:

For example:

- Al-Amin Bread and Biscuits Ltd. purchases cheese, sausage, flour, sugar, etc. on credit from suppliers. These obligations are called **accounts payable**.
- The company also has a **note payable** to BRAC Bank Ltd. for the money borrowed to purchase the Delivery van.
- The company may also have **wages payable** to employees and **sales and taxes payable** to the City Corporation.

All of these persons or entities to whom Al-Amin Bread and Biscuits Ltd. owes money are its **creditors**. Creditors may legally force the liquidation of a business that does not pay its debts. In that case, the law requires that creditor claims be paid beforeownership claims.

Owner's Equity

Owner's Equity is the owner's claim or interest in the business. In other words, it is the residual interest in the assets of an organization after deducting its liabilities.

So, **Owner's Equity = Total Assets- Total Liabilities**

Why? Because the assets of a business are claimed by either creditors orowners. To find out what belongs to owners, we subtract the creditors' claims (the liabilities) from assets. The remainder is the owner's claim on the assets, the owner's equity. Since the claims of creditors must be paid beforeownership claims, the owner's equity is often referred to as residual equity.

Increase and Decrease in Owner's Equity

❖ **Increase in Owner's Equity**

In a proprietorship, the owner's equity is increased by:

- Owner's investments; and
- Revenues.

Investments by Owner: Investments are the assets the owner puts into the business. These investments increase the owner's equity. They are recorded in a category called the **owner's capital**.

Revenues: Revenues are the gross increase in owner's equity resulting from such business activities as

- ➢ sale of merchandise;
- ➢ performance of services;
- ➢ rental of property;
- ➢ the lending of money, etc.

Common Sources of Revenue are as follows:

- Sales
- Fees
- Commissions
- Interests
- Dividends
- Royalties
- Rent, etc.

Revenues usually increase an asset.

❖ The decrease in Owner's Equity

In a proprietorship, the owner's equity is decreased by:

- Owner's drawings; and
- Expenses.

Owner's Drawings: An owner may withdraw cash or other assets for personal use. We use a separate classification called drawingsto determine the total withdrawals for each accounting period.

Drawings decrease owner's equity.

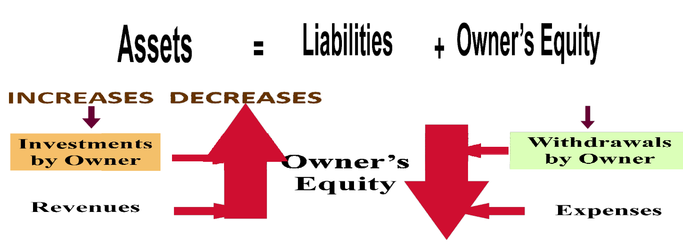
Expenses: Expenses are the costs of assets consumed or services used in the process of earning revenue. Expenses represent actual or expected cash outflows (payments).

<u>Forms/ Examples of Expenses are:</u>

- ➢ Materials (cost of ingredients) expense;
- ➢ Wages expense;
- ➢ Utility expense (electricity, gas, and water expense);
- ➢ Telephone expense;
- ➢ Delivery expense (gasoline, repairs, licenses, etc.);
- ➢ Supplies expense;
- ➢ Rent expense;
- ➢ Interest expense;
- ➢ Property tax expense, etc.

Net Income= Revenues- Expenses

Summary:



Analysis of Business Transactions

Transactions are economic events that affect changesin the financial position of a business entity. A transaction is an occurrence of an event or of a condition that brings changes in an entity's assets, liabilities, or equity. This is the basic input of recording in accounting. Transactions may be external or internal. External transactions involve economic events between the entity and some outside parties or organizations, whereas internal transactions are events that occur entirely within the entity. External events are only called transactions.

As per definition, a transaction must bring change in the financial position of an entity which refers to the resources it owns and the claims on those resources in the form of liabilities and owner's equity. The accounting equation is nothing but the expression of financial position in equation form. So, a transaction must change or affect the elements of the accounting equation. Analyses of transactions refer to the identification of the changes brought about by a transaction on the elements of the equation.

What changes may be made in the components of the basic accounting equation if the transactions are analyzed?

The analysis will show that:

- a transaction may increase in assets and an increase in liability or equity.
- it may increase in one asset with a corresponding decrease in another asset without having any change in another side of the equation.
- it may decrease in one asset with a corresponding decrease in liability or equity. Or
- it may decrease in a liability or equity with a corresponding increase in another liability or equity.

Now, we will discuss the effects of business transactions on the basic accounting equation with the dialogue between a teacher and a student.

Student	Sir, could you please explain the effect of transactions on the components of the accounting equation with examples?
Teacher	Ok. I will discuss the effects of different transactions on assets, liabilities, and owner's equity.
Student	Sir, what will be the changes in the assets, liabilities, and owner's equity if the owner invests his or her capital in the business?
Teacher	Thank you. If an investor invests money in his or her business, both the asset and owner's equity of the business will increase equally. For example, Mr. Masum decides to open a firm. On September 1, he invests Tk.150,000 cash in the business. This transaction results in an equal increase in asset-Cash and Owner's Equity-Masum'sCapital.
Student	Sir, if the owner of a business purchases an asset for Cash, what will happen in the equation?
Teacher	Important transaction. Suppose, the firm purchases an asset, for example, computer equipment for Tk. 70,000 cash. This transaction increases Tk. 70,000 in one asset-Equipment with a corresponding decrease in another asset-Cash without having any change on the other side of the equation.
Student	Sir, then what will be the effect on the accounting equation if the firm purchases assets or inventory on account or credit?
Teacher	If the firm purchases asset, for example, supplies for the firm for Tk. 16,000 on credit from Acme Suppliers. This transaction increasesthe supplies of Tk. 16,000 in total assets, and an equal increase in liability- accounts payable.
Student	Sir, the analysis shows that a transaction always preserves the equality of the accounting equation. Therefore, each transaction must have a dual effect on the equation. Now,I ask you to discuss the effect of rendering services for cash.
Teacher	Thank you. If the firm receives Tk. 12,000 cash from customers for programming services it has provided, both asset-Cash and owner's equity-Masum Capital are increased by Tk. 12,000.
Student	Sir, I request you to discuss the effect of credit purchase or service receiving on the accounting equation.

Teacher	OK. Suppose the firm receives a bill for Tk.2,500 from the Daily News for advertising the opening of its business but postpones payment of the bill until a later date. This transaction results in an increase in liabilities-Accounts Payable and a decrease in Owner's Equity.
Student	Sir, if the firm renders services for Cash and Credit, what will be the impact?
Teacher	Suppose, a firm provides programming services of Tk. 35,000 for customers. Cash amounting to Tk. 15,000 is received from customers and the balance of Tk. 20,000 is billed to customers on account. This transaction increases Cash Tk. 15,000 and Accounts Receivable Tk. 20,000 in assets and Owner's Equity of Tk.35,000.
Student	Sir, kindly tell us what changes in components of the accounting equations are made if the firm pays different expenses during the accounting period.
Teacher	OK. Suppose, expenses paid in cash for July are store rent, Tk.6,000, salaries of employees, Tk.9,000, and utilities, Tk.2,000. These payments result in a decrease in one asset-Cash of total Tk. 17,000 with a corresponding decrease in Owner's Equity.
Student	Fine. Sir, what will be the effect if liabilities are paid or redeemed?
Teacher	Very common transaction in business. Suppose, the firm pays its Daily News advertising bill of Tk.2,500 in cash. In analyzing the effect of this transaction, we must recall that the bill was previously recorded in the previous transactions as an increase in Accounts Payable and a decrease in Owner's Equity. So. with this transaction of payment of liabilities-Accounts Payable and the Asset-Cash are decreased with Tk. 2,500.
Student	Sir, discuss the effect of receipt of cash from customers for proving services on account.
Teacher	OK. If the firm receives a sum of Tk.6,000 in cash from customers who have previously been billed for services provided earlier, there will be no change in total assets, but it changes the composition of the firm's assets. That is, one asset-Cash of Tk. 6,000 will be increased with a corresponding decrease in another asset-Account Receivable.
Student	Sir, we know, sometimes the owner withdraws Cash from his or her business for personal use. Could you please tell me how this transaction affects the basic accounting equation?
Teacher	Thank you. If the owner Mr. Masum withdraws Tk. 13,000 in cash from the business for his personal use, there will be an equal decrease in asset-Cash and Owner's Equity of Tk. 13,000.

1. Mr. Masum decided to open a firm. On September 1, he invested Tk.150,000 cash in the business.

Assets	=	Liabilities	+	Owner's Equity
Cash	=			Masum, Capital
T-1:+ 150,000	=			+150,000

2. The firm purchased computer equipment for Tk. 70,000 cash.

Assets			=	Liabilities	+	Owner's Equity
	Cash	+ Equipment	=			Masum, Capital
Old Bal:	+150,000		=			+150,000
T-2:	-70,000	+ 70,000	=			
New Bal:	80,000	+ 70,000	=			150,000

3. The firm purchased supplies for the firm for Tk. 16,000 on credit from Acme Suppliers.

	Assets			=	Liabilities	+	Owner's Equity
	Cash	+ Supplies	+ Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal:	80,000		+ 70,000	=			+ 150,000
T-3:		+ 16,000		=	+16,000		
New Bal:	80,000	+ 16,000	+ 70,000	=	16,000	+	150,000

4. The firm received Tk. 12,000 cash from customers for providing programming services.

	Assets			=	Liabilities	+	Owner's Equity
	Cash	+ Supplies	+ Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal:	80,000	+ 16,000	+ 70,000	=	+16,000		150,000
T-4:	+ 12,000			=			+12,000
New Bal:	92,000	+ 16,000	+ 70,000	=	16,000	+	162,000

5. The firm received a bill for Tk.2,500 from the Daily News for advertising the opening of its business but postponed payment of the bill until a later date.

	Assets			=	Liabilities	+	Owner's Equity
	Cash	+ Supplies	+ Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal:	92,000	+ 1,6,000	+ 70,000	=	+16,000	+	162,000
T-5:				=	+2,500		-2,500
New Bal:	92,000	+ 16,000	+ 70,000	=	18,500	+	159,500

6. The firm provided programming services for Tk. 35,000 for customers. Cash amounting to Tk. 15,000 was received from customers and the balance of Tk. 20,000 was billed to customers on account.

	Assets				=	Liabilities	+	Owner's Equity
	Cash	+ A/Cs Receivable	+ Supplies	+ Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal:	92,000		+ 16,000	+ 70,000	=	+18,500	+	159,500
T-6:	+15,000	+ 20,000	+	+	=		+	+35,000
New Bal:	107,000	+ 20,000	+ 16,000	+ 70,000	=	18,500	+	194,500

7. Expenses paid in cash for September were store rent, Tk.6,000, salaries of employees, Tk.9,000, and utilities, Tk.2,000.

	Assets				=	Liabilities	+	Owner's Equity
	Cash	+A/Cs Receivable	+Supplies	+Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal.:	107,000 +	20,000	+ 16,000 +	70,000	=	+18,500	+	194,500
T-7:	- 17,000							- 6,000
								-9,000
								-2,000
New Bal.:	90,000 +	20,000	+ 16,000	+ 70,000	=	18,500	+	177,500

8. The firm paid its Daily News advertising bill of Tk.2,500 in cash.

	Assets				=	Liabilities	+	Owner's Equity
	Cash	+A/Cs Receivable	+Supplies	+Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal.:	90,000 +	20,000	+ 16,000	+ 70,000	=	+18,500	+	177,500
T-8:	- 2,500					- 2,500		
New Bal.:	87,500 +	20,000	+ 16,000	+ 70,000	=	16,000	+	177,500

9. The sum of Tk.6,000 in cash was received from customers who had previously been billed for services in Transaction (6).

	Assets				=	Liabilities	+	Owner's Equity
	Cash	+A/Cs Receivable	+Supplies	+Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal.:	87,500	+ 20,000	+ 16,000	+ 70,000	=	+16,000	+	177,500
T-9:	+ 6,000	– 6,000						
New Bal.:	93,5000	+ 14,000	+ 16,000	+ 70,000	=	+16,000	+	177,500

10. Mr. Masum withdrew Tk. 13,000 in cash from the business for his personal use.

	Assets				=	Liabilities	+	Owner's Equity
	Cash	+ A/Cs Receivable	+Supplies	+Equipment	=	Accounts Payable	+	Masum, Capital
Old Bal.:	93,500	+ 14,000	+ 16,000	+ 70,000	=	+16,000	+	177,500
T-10:	−13,000							- 13,000
New Bal.:	80,500	+ 14,000	+ 16,000	+ 70,000	=	16,000	+	16,4500

Financial Statements

Accounting information relates to the financial performance, financial position, and changes in cash and owner's equity. This information is communicated through the preparation of financial statements. The major financial statements prepared are (i) Balance Sheet; (ii) Income Statement; (iii) Statement of Owner's Equity; (iv) Statement of Cash Flows; and (v) The Value-Added Statement.

(i) Balance Sheet/Statement of Financial Position: A balance sheet reports the *assets, liabilities*, and *owner's equity* at a specific date. The company prepares the balance sheet from the column headings of the tabular summary and the month-end data shown in its last line. The balance sheet lists assets at the top, followed by liabilities and owner's equity. Total assets must equal the total of liabilities and owner's equity.

(ii) Income Statement (Profit or Loss Account): The income statement reports the revenues and expenses for a specific period.The income statement lists revenues first, followed by expenses. Finally, the statement shows net income (or net loss). *Net income*results when revenues exceed expenses. A *net loss*occurs when expenses exceed revenues.

(iii) Statement of Owner's Equity: The owner's equity statement reports the changes in the owner's equity for a specific period. The period is the same as that covered by the income statement. Data for the preparation of the owner's equity statement come from the owner's equity columns of the tabular summary and from the income statement.

(iv) Statement of Cash Flows: Financial statements, such as 'Income statement' and 'Balance sheet' are prepared on an accrual basis**.** One major deficiency of income statements and comparative balance sheets is that they show the change in financial position, caused by operations of an organization, but do not explain the effects of cash inflows and cash outflows, which is the lifeblood of a business entity. The present-day investors are mainly interested in short-term benefits like cash dividends or refund of loan money and interest payment. This is being served by a cash flow statement which summarizes information concerning the cash inflows (receipts) and outflows (payments) for a specific period of time. As the statement shows changes in the financing pattern and investment activities, it seems to be very useful to all user groups.

(v) Value-added Statement: This is a macro-level analysis of the effects of economic activities performed by business organizations during a particular period of time. In other words, how the business activities influence the total economy as a whole is being supplied by this statement. All business organizations create values by transforming the gift of nature into goods and services, capable of satisfying human needs. The values are being created by the coordinated efforts of various factors of production like land, labor, capital, organization, and the government. These factors, in turn, receive a particular part of the total value added in the process of production as their remuneration. And how this value is created, what is the amount, and how this total amount is being distributed among these various factors are being shown by this statement. These distributions received by different factors of production form the basis for the calculation of the national income of a country.

Review Questions

1. What is the accounting equation and what are its components?
2. Briefly explain the components of the accounting equation.
3. If an asset increases, what are the possible three effects on the accounting equation?
4. What are financial statements and why are different financial statements prepared?
5. On April 1, 2023,Sajal Hossain established Nowel Travel Agency. The following transactions were completed during the month:
   i. Invested Tk. 80,000 cash and Tk. 20,000 equipment to start the agency.
   ii. Paid Tk. 4,000 cash for April office rent.
   iii. Purchased office equipment for Tk.5,000 cash.
   iv. Incurred Tk. 3,000 of advertising costs in the *Daily Jugantar*, on the account.
   v. Paid Tk. 6,000 cash for office supplies.
   vi. Earned Tk. 75,000 for services rendered: Tk. 10,000 cash is received from customers and the balance of Tk. 65,000 is billed to customers on account.
   vii. Withdrew Tk. 2,000 cash for personal use.
   viii. Paid Daily Jugantar amount due in the transaction (iv).
   ix. Paid employees' salaries Tk.22,000.
   x. Received Tk. 50,000 in cash from customers who have previously been billed in the transaction (vi).
   xi. Provided service on account Tk. 6,000.

Required:

Prepare a tabular analysis of the transactions, using the following column headings: Cash, Accounts Receivable, Supplies, Office Equipment, Accounts Payable, and Sajal Hossain's Capital.

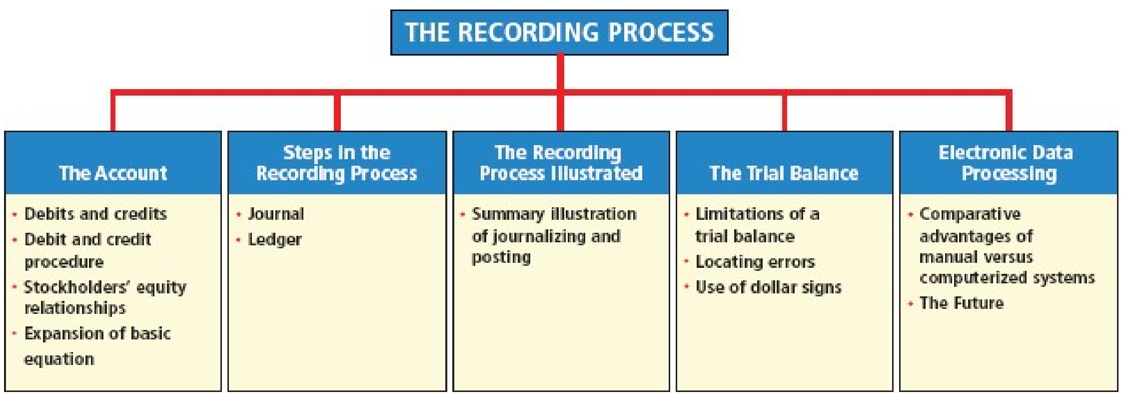
Answer:

Balances: Cash (Tk.98,000), Accounts Receivable(Tk.21,000), Supplies (Tk.6,000), Office Equipment(Tk.25,000), Accounts Payable(Tk.000), and Sajal Hossain's Capital(Tk.1,50,000).

Unit 2: The Recording Process

Unit Highlights

- Account and its contribution to the recording process.
- Debits and credits and their use in recording business transactions.
- Journal and the recording process.
- Ledger and its use in the recording process.
- Trial balance and its purposes.



Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program

Terminology

Account	A record of increases and decreases in a specific asset, liability, or owner's equity items kept in the general ledger.
Chart of Accounts	A list of accounts and the account numbers that identify their location in the ledger.
Compound Entry	A journal entry that involves three or more accounts.
Credit	The right side of a T-account.
Debit	The left side of a T-account.
Double-Entry System	A system that records in appropriate accounts the dual effect of each transaction.
General journal	The most basic form of a journal.
General ledger	A ledger that contains all accounts relating to assets, liabilities, and owner's equity.
Journal	An accounting record in which transactions are initially recorded.
Ledger	A book that contains the entire group of accounts maintained by an organization.
Normal balance	An account balance on the side where an increase in the account is recorded. All assets and expenses will have debit balances, whereas all liabilities, revenues, and equity will have credit balances.
Posting	The procedure of transferring journal entries to the ledger accounts.
Simple Entry	A journal entry that involves only two accounts.
T-account	The basic form of an account having two sides-debit and credit.
Three-Column Form of Account	A form with columns for debit, credit, and balance amounts in an account kept under a continuous balancing system.
Trial Balance	A list of ledger accounts and their balances at a given date.

Lesson 1: The Recording Process

Lesson Objectives

After studying this lesson, you should be able to:

- Identifythe steps of the recording process; and
- explain the rules for debiting and crediting accounts.

Steps in the Recording Process

The recording/accounting process constitutes the steps followed in recording, processing, and communicating financial information. This process can be illustrated in the following way:

Step-1	Step-2	Step-3	Step-4	Step-5
Identification of transactions & measurement of effects	Journalizing	Posting to Ledger (Accounts)	Summarizing Transactions and Preparation of Trial Balance	Preparation of Financial Statements

Step–1: Identification and Measurement of Transaction

It is being done on the basis of basic assumptions of "Economic Entity" and "Money Measurement." The documentary pieces of evidence of transactions might take the form of Memos, bills, vouchers, receipts, etc. which give testimony to the fact that a transaction has taken place.

Step–2: Analysis of Transactions into Debit and Credit

Formally a transaction is analyzed to find out its dual effect on the financial position as shown in the previous lesson. Then transactions are recorded in the books of account under a *double-entry system* of recording, i.e., one account is debited and another is credited. This system wasdiscussed by Luca Pacioli, an Italian monk in 1494 in a book on mathematics. So the amounts of debits and credits should always equal each other.

The Account

An **account** (in book-keeping) refers to assets, liabilities, income, expenses, and equity, as represented by individual ledger pages, to which changes in value are chronologically recorded with debit and credit. These entries, referred to as postings, become part of a book of final entry or ledger. An account usually has three parts: (1) the title of the account, (2) the left-hand side showing debits, and 3) the right-hand side showing credits. It is illustrated below and it is known or T Account because of its similarity to the letter 'T'.

Title of Account

Left or debit side	Tk.	Right or credit side	Tk.

Accounts may be of five types:Asset Account, Liability Account, Owner's Equity Account, Revenue Account, and Expense Account

Rules for Debiting and Crediting

Debit and Credits

The term **debit** indicates the left side of an account, and **credit** indicates the right side. They are commonly abbreviated as **Dr.** for debit and **Cr.** for credit respectively. They do not mean increase or decrease, as is commonly thought. We use the terms *debit* and *credit* repeatedly in the recording process to describe whereentries are made in accounts. For example, the act of entering an amount on the left side of an account is called **debiting** the account. Making an entry on the right side is **crediting** the account. When comparing the totals of the two sides, an account shows a **debit balance** if the total of the debit amounts exceeds the credits. An account shows a **credit balance** if the credit amounts exceed the debits.The normal balance of an account will be a debit balance if it is debited for the increase and vice versa.

Rules for Debiting and Crediting of Transactions

In Unit 1, you learned the effect of a transaction on the basic accounting equation. Remember that each transaction must affect two or more accounts to keep the basic accounting equation in balance. In other words, for each transaction, debits must equal credits. The equality of debits and credits provides the basis for the **double-entry system** of recording transactions. Under the double-entry system, the dual (two-sided) effect of each transaction is recorded in appropriate accounts. This system provides a logical method for recording transactions.

Learners, now we discuss the rules for debiting and crediting with the help of the accounting equation.

We know the accounting equation is: Assets=Liabilities + Owner's Equity

If we expand the equation, we have:

Assets = Liabilities + Owner's Equity - Owner's Drawings + Revenues – Expenses

Or, Assets(A) + Owner's Drawings (D) + Expenses (E)=Liabilities(L) + Owner's Equity(OE) + Revenues(R)

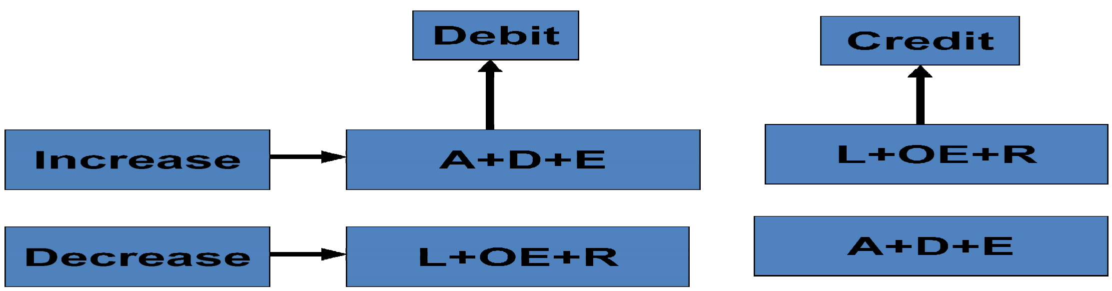


Figure: Rules for debiting and crediting of accounts

Summary of Debiting and Crediting of Accounts and Their Normal Balances:

Name of Accounts	*Debit*	*Credit*	*Effect*		*Normal Balance*
Assets	Debit	Credit	Increase	Decrease	Debit Balance
Liabilities	Debit	Credit	Decrease	Increase	Credit Balance
Owner's Equity	Debit	Credit	Decrease	Increase	Credit Balance
Drawings	Debit	Credit	Increase	Decrease	Debit Balance
Revenues	Debit	Credit	Decrease	Increase	Credit Balance
Expenses	Debit	Credit	Increase	Decrease	Debit Balance

Steps in the Recording Process

Although it is possible to enter transaction information directly into the accounts without using a journal, few businesses do so. Practically every business uses three basic steps in the recording process:

(i) Analyze each transaction for its effects on the accounts.
(ii)Enter the transaction information in a *journal*.
(iii) Transfer the journal information to the appropriate accounts in the *ledger*.

Review Questions

1. Briefly explain the steps involved in the recording process.
2. Explain the rules for debiting and crediting of accounts.
3. State the rules of debit and credit as applied to (a) asset accounts, (b) liability accounts, and (c) owner's equity account.
4. What is the normal balance for each of the following accounts? (a) Accounts receivable, (b) Cash, (c) Owner's drawing, (d) Accounts payable, (e) Fees earned, (f) Salaries expense, (g) Owner's capital.
5. What are the basic steps in the recording process?

Lesson 2: Journalizing

Lesson Objectives

After studying this lesson, you should be ableto:

- understand what journal is;
- understand the importance of a journal as a book of original entry; and
- explain the rules for debiting and crediting major transactions.

Journal-Meaning and Importance

Journal is a book of accounts in which all day-to-day business transactions are recorded in chronological order i,e.,in the order of date of their occurrence. Transactions when recorded in a Journal are known as entries. It is the book in which transactions are recorded for the first time. Journal is also known as 'Book of Original Entry' or 'Book of Primary Entry'. Companies may use various kinds of journals, but every company has the most basic form of a journal, a **general journal**. Typically, a general journal has spaces for dates, account titles and explanations, references, and two amount columns.

The journal makes several significant contributions to the recording process:

1. It discloses in one place the **complete effects of a transaction**.
2. It provides a **chronological record** of transactions.
3. It helps **prevent or locate errors** because the debit and credit amounts for each entry can be easily compared.

Journalizing

Entering transaction data in the journal is known as **journalizing**. Companies make separate journal entries for each transaction. A complete entry consists of (1) the date of the transaction, (2) the accounts and amounts to be debited and credited, and (3) a brief explanation of the transaction.

Format of Journal

Every page of the Journal has the following format. It is a columnar book. Each column is given a name written on its top. The format of the journal is given below:

General Journal

Date	*Account Titles & Explanation*	*L.F*	*Debit*	*Credit*
2023				
April 15	Equipment		Tk. 14,000	
	Cash			Tk. 8,000
	Accounts Payable			6,000
	(Purchased truck for cash with the balance on the account)			

Column-wise details of the journal are as follows:

Assume that on April 15, 2023, Rasel Company purchased a delivery truck costing Tk.14,000. It paid Tk.8,000 cash and agreed to pay the remaining Tk.6,000 on account (to be paid later)

1. **Date:** In this column, we record the date of the transactions with its month and accounting year. We write year only once at the top and need not repeat it with every date.
   *Example***:**2023
   April 15
2. **Account Titles & Explanation**: The accounts affected by a transaction i.e., the accounts which have to be debited or credited are recorded in this column. It is recorded in the following way:

In the first line, the account which has to be debited is written. In the second line after leaving some space from the left of the entry in the first line, the account which has to be credited is written. Then in the third line, an explanation for that entry which explains the transaction, the affected accounts of which are entered, is written within a bracket. Space is left between journal entries. The blank space separates individual journal entries and makes the entire journal easier to read.

*Example***:**

Equipment
    Cash
    Accounts Payable
(Purchased truck for cash with the balance on the account)

3. **L.F**: L.F stands for ledger-folio. The transaction entered in a Journal is posted to the various related accounts in the 'ledger' (which is explained in another lesson). In the ledger-folio column, we enter the pagenumberof the ledger where the account pertaining to the entry is opened, and posting from the journal is made.
4. **Debit Column:** In this column, the amount to be debited is written against the same line in which the debited account is written.
5. **Credit Column:** In this column, the amount to be credited. is written against the same line in which the credited account is written.

Simple and Compound Journal Entries

Some entries involve only two accounts, one debit, and one credit. An entry like this is considered a **simple entry**. Some transactions, however, require more than two accounts in journalizing. An entry that requires three or more accounts is a **compound entry** (See, for example, the format given above).

Rules for General Journal Entries of Major Transactions

DEBITING AND CREDITING OF MAJOR BUSINESS TRANSACTIONS

Transactions	*Account Titles*	*L.F*	*Debit*	*Credit*
Starting of Business with/Investment of Cash and Fixed Asset(s) in the Business	Cash Fixed Asset (If any) Owner's Capital		** **	 ***

Purchase of Goods/Assets (If for resale/stock)	Purchase
	    Cash (If for cash)
	    Accounts Payable (If on credit)
	    Notes Payable (If on notes payable)
			***	
				**
				**
				**

Purchase of Assets (If for use in the business)	Asset
	    Cash (If for cash)
	    Accounts Payable (If on credit)
	    Notes Payable (If on notes payable)
			***	
				**
				**
				**

Transactions	*Account Titles*	*L.F*	*Debit*	*Credit*
Return of Goods Purchased	Cash (If cash received) Accounts Payable (If purchased on credit) Purchase Return		** ** 	 ***
Payment of Accounts Payable/to Creditor/for credit Purchase or Service Receipts	Accounts Payable Cash (If in cash) Bank (If by cheque)		*** 	 ** **
The incurrence of Expenses (e.g. rent, salaries, advertising, etc.) [If for current accounting period only]	Expense Cash (If in cash) Accounts Payable (If on credit/account)		*** 	 ** **
Cash Payment for Expenses (e.g. rent, insurance, etc.) [If for more than accounting period]	Prepaid Expense Cash		** 	 **
Sale of Goods/Providing of Services	Cash (If for cash) Accounts Receivable (If on credit) Notes Receivable (If on notes) Sales/Service Revenue		** ** ** 	 ***
Return of Goods Sold on Credit	Sales Return Accounts Receivable		** 	 **
Sale of Coupon (lottery) Books for Cash/ Cash Receipts in Advance for Future Services	Cash Unearned Revenue		** 	 **
Opening of Current Account/Deposit Cash into Bank	Bank Cash		** 	 **
Cash Withdrawal from Bank for Business Use	Cash Bank		** 	 **
Interest Credited by Bank	Bank Interest Revenue		** 	 **
Payment of Expense (e.g. rent, interest, etc.) by Cheque	Expense (e.g. rent, interest, etc.) Bank		** 	 **
Bad Debts Written off/ Uncollectible Debt	Bad Debts/Uncollectible Expense Accounts Receivable/Allowance for Uncollectible		** 	 **
Discount Allowed	Discount Expense Accounts Receivable		** 	 **
Discount Received	Accounts Payable Discount Revenue		** 	 **
Depreciation on Plant Asset	Depreciation Expense Accumulated Depreciation		** 	 **
Withdrawal of Cash/ Purchase of Asset for Personal or Private Use	Drawing Cash		** 	 **

Transactions	*Account Titles*	*L.F*	*Debit*	*Credit*
Withdrawal of Goods by Owners from Business	Drawing Purchase/Inventory		**	**
Borrowing from Bank on Notes Payable	Cash Notes Payable		**	**
Lost or Stolen Money of Business	Miscellaneous Expense Cash		**	**
Destroyed or Stolen of Goods of Business	Accidental Loss Purchase/Inventory		**	**
Issued Shares of Capital Stock to Shareholders/ Owners of Company	Cash Capital Stock		**	**
Operating VAT Current Account	VAT Cash		**	**

Example: 2.2.1

Abdul Hamid opened the Muslima Dry Cleaners on September 1, 2023. During the first month of operations, the following transactions occurred.

Sept. 1	Hamid invested Tk.20,00,000 cash in the business.
2	The company paid Tk.1,00,000 cash for store rent for September.
3	Purchased washers and dryers for Tk.25,00,000, paying Tk.10,00,000 in cash and signing a Tk.15,00,000, 6-month, 12% note payable.
4	Paid Tk.1,20,000 for a one-year accident insurance policy.
10	Received a bill from the *Daily News* for advertising the opening of the Cleaners Tk.20,000.
20	Withdrew Tk.70,000 cash for personal use.
30	Determined that cash receipts for laundry services for the month were Tk.6,20,000.

Required:

Journalize the September transactions.

Solution:

GENERAL JOURNAL

Date	*Account Titles & Explanation*	*L.F*	*Debit*	*Credit*
2023				
Sept. 1	Cash		Tk. 20,00,000	
	Hamid, Capital			Tk.20,00,000
	(Owner's investment of cash in business)			
2	Rent Expense		100,000	
	Cash			100,000
	(Paid September rent)			
3	Equipment		25,00,000	
	Cash			10,00,000
	Notes Payable			15,00,000
	(Purchased laundry equipment for cash and 6-month, 12% note payable)			
4	Prepaid Insurance		120,000	
	Cash			120,000
	(Paid one-year insurance policy)			
10	Advertising Expense		20,000	
	Accounts Payable			20,000
	(Received bill from Daily News for advertising)			
20	Hamid, Drawings		70,000	
	Cash			
	(Withdrew cash for personal use)			70,000
30	Cash		620,000	
	Service Revenue			620,000
	(Received cash for services provided)			

https://www.youtube.com/watch?v=6a3LfGEp-sA
https://www.youtube.com/watch?v=tkvHG68dzKM

Review Questions

1. What is a journal and why is it important in the recording process?
2. Enter the following transactions in the books of Ripa, the owner of the business.

2023

January 8	Purchased goods worth Tk.5,000 from Shelly on credit.
January 12	Sold goods worth Tk.4,000 to Raisa on credit.
January 18	Received a Cheque from Raisa in full settlement of her account Tk.3,850. Discount allowed to her Tk.150.
January 20	Paid to Shelly Tk.4,900. Discount allowed by him Tk.100.
January 22	Purchased goods for cash Tk.10,000.
January 24	Sold goods to Shifu for Tk.15,000. Trade discount @ 20% is allowed to her.
January 29	Received payment from Shifu by Cheque.

3. Rakib started the business of Phone-fax on May 1, 2024. The following transactions were completed during the month:

May1	Invested Tk. 95,000 cash to start the business.
3	Paid Tk.5, 000 cash for May office rent.
4	Purchased Tk.2, 000 of supplies on account.
6	Provided Tk.2,500 of services to his friends on account.
19	Received a cash payment of Tk.1,000 for services provided on account.
24	Drew Tk.1,000 from the business for personal use.

Required:

Journalize the above transactions:

4. Shakil Ahmed is a Chartered Accountant. During March 2024, the following transactions occurred:

March 1	Ahmed invested Tk.300,000 cash in his business.
3	Purchased Tk.15,000 of supplies on account from NazmulTraders.
7	Paid office rent of Tk.9,000 cash for the month.
12	Received Tk.33,000 advance on a management consulting engagement.
25	Paid salary of secretary- receptionist Tk.10,000 for the month.
31	Paid 40% of the balance due to NazmulTraders.

Required:

Journalize the March transactions.

Further Readings *(For working out more problems, consult this book*)

Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Lesson 3: Posting

Lesson Objectives

After studying this lesson, you should be able to:

- explain what ledger is;
- know the importance and format of the ledger; and
- prepare ledger accounts.

Ledger-Meaning,Importance, and Format

Meaning of Ledger

All the accounts identified on the basis of transactions recorded in different journals/books, such as Cash Book, Purchase Book, Sales Book, etc. will be opened and maintained in a separate book called Ledger. So a ledger is a book of accounts; in which all types of accounts relating to assets, liabilities, capital, expenses, and revenues are maintained. It is a complete set of accounts of a business enterprise**.**

Importance of Ledger

Ledger is an important book of Accounts. It contains all the accounts in which all the business transactions of a business enterprise are classified. At the end of the accounting period, each account will contain the entire information of all the transactions relating to it. Following are the advantages of the ledger:

1. **Knowledge of Business Results:** Ledger provides detailed information about revenues and expenses in one place. While finding out business results the revenue and expenses are matched with each other.
2. **Knowledge of Book Value of Assets:** Ledger records every asset separately. Hence, you can get information about the Book value of any asset whenever you need it.
3. **Useful for Management:** The information given in different ledger accounts will help the management in preparing budgets. It also helps the management in keeping the check on the performance of the business it is managing.
4. **Knowledge of Financial Position:** Ledger provides information about the assets and liabilities of the business. From this, we can judge the financial position and health of the business.
5. **Instant Information:** The business always needs to know what it owes to others and what the others owe to it. The ledger accounts provide this information at a glance through the account receivables and payables.

Standard Form of Account

The simple T-account form used in accounting textbooks is often very useful for illustration purposes. However, in practice, the account forms used in ledgers are much more structured. This format is called the **three-column form of account**. It has three money columns—debit, credit, and balance. The balance in the account is determined after each transaction. Companies use the explanation space and reference columns to provide special information about the transaction.

ACCOUNT IN GENERAL LEDGER

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*

Posting

Transferring journal entries to the ledger accounts is called **posting**. This phase of the recording process accumulates the effects of journalized transactions into individual accounts. Posting involves the following steps.

1. In the **ledger**, in the appropriate columns of the account(s) debited, enter the date, journal page, and debit amount shown in the journal.
2. In the reference column of the **journal**, write the account number or code to which the debit amount was posted.
3. In the **ledger**, in the appropriate columns of the account(s), credited, enter the date, journal page (Journal Folio), and credit amount shown in the journal.
4. In the reference column of the **journal**, write the account number to which the credit amount was posted.

Posting should be performed in chronological order. That is, the company should post all the debits and credits of one journal entry before proceeding to the next journal entry. Postings should be made on a timely basis to ensure that the ledger is up to date. The reference column of a ledger account indicates the journal page from which the transaction was posted. The explanation space of the ledger account is used infrequently because an explanation already appears in the journal. Most companies have a **chart of accounts**. This chart lists the accounts and the account numbers that identify their location in the ledger.

Considering the journal entries (example) made in the example of lesson two of this section, the following general entries are posted to determine the ending balance of each account.

GENERAL LEDGER

Cash

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023					
Sept. 1			Tk. 20,00,000		Tk. 20,00,000
2				Tk. 100,000	19,00,000
3				10,00,000	9,00,000
4				120,000	7,80,000
20				70,000	7,10,000
30			6,20,000		Tk. 13,30,000

Prepaid Insurance

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023					
Sept. 4			Tk. 120,000		Tk. 120,000

Equipment

	Explanation	*J.F*	*Debit*	*Credit*	*Balance*
2023					
Sept. 3			Tk. 25,00,000		Tk. 25,00,000

Notes Payable

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023					
Sept. 3				Tk. 15,00,000	Tk. 15,00,000

Accounts Payable

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023 Sept. 10				Tk. 20,000	Tk. 20,000

Hamid, Capital

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023 Sept. 1				Tk.20,00,000	Tk. 20,00,000

Hamid, Drawing

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023 Sept. 20			Tk. 70,000		Tk. 70,000

Service Revenue

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023 Sept. 30				Tk. 6,20,000	Tk. 6,20,000

Advertising Expense

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023 Sept. 10			Tk. 20,000		Tk. 20,000

Rent Expense

Date	*Explanation*	*J.F*	*Debit*	*Credit*	*Balance*
2023 Sept. 2			Tk. 1,00,000		Tk. 1,00,000

https://www.youtube.com/watch?v=WgynnOJKJGg

Review Questions

1. What is a ledger? Why is it called the book of permanent entry?
2. The following transactions are obtained from the books of Mrs. Nurzahan for the month of March 2024:

March 1	Invested cash and building of Tk.10,00,000 and Tk.20,00,000, respectively.
7	Purchased machinery worth Tk.50, 000 on credit.
10	Rendered services for Tk.65, 000 but not collected.
15	Paid salaries for the current month Tk.20, 000.
20	Withdrew Tk.10, 000 for his personal use.
30	Received cash for the services rendered on the 10th of this month.
31	Deposited Tk. 30,000 into BRAC Bank Ltd.

Required:

Open necessary Ledger Accounts.

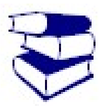
3. Why is ledger important? Explain.
4. How does ‘journal entry’differ from‘ledger posting’?
5. Some transactions of M/S Rageeb Enterprise during the first month of its business are presented below:

April	1	Invested Tk.15,00,000 cash in the business.
	3	Purchased office equipment Tk.120,000 paying Tk. 70,000 in cash and the balance on account.
	7	Billed customers for services performed Tk. 100,000.
	8	Paid Tk. 40,000 cash on the balance owed for equipment.
	15	Received cash Tk. 80,000 from customers for the services rendered on the 7^{th} of this month.
	20	Paid utilities expense Tk. 5,000.
	22	Withdrew Tk.10,000 cash for his private use.

Required:

Post the above transactions using the standard accounts form.

Further Readings *(For working out more problems, consult this book*)



Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Lesson 4: Trial Balance

Lesson Objectives

After studying this lesson, you should be able to:

- explain what a trial balance is; and
- prepare a trial balance.

Trial Balance-Meaning and Preparation

A trial balanceis a list or schedule or statement of all accounts and their balances (debit or credit) which is customarily prepared at the last date of the accounting period. The accounts are listed in the order in which they appear in the ledger. Debit balances appear in the left column and credit balances in the right column. The schedule is prepared to test the arithmetic accuracy of the recording process and also to facilitate the preparation of financial statements.

After the posting of transactions in particular accounts of a ledger, the debit and credit side of each ledger account would be added up in order to find out the balance, if any, of that account. A balance is a difference between the debit total and the credit total of a ledger account. Of the totals,the higher one will determine the nature of the balance of the account. The balance of the accounts would then be entered in a Trial balance. The trial balance of totals could be taken by listing in parallel columns the total of the debits and the total of the credits of each account. In general, a trial balance is prepared in a loose sheet, with rules almost similar to the journal. It will have five columns viz., no. or the serial code no. of accounts, particulars or account titles column, ledger folio column, and debit and credit columns. All debit balances will be entered in the debit column and credit balances in the credit column. If the books are arithmetically correct, then the total of the debit column must agree with the total of the credit column.

The steps for preparing a trial balance are as follows:

1. List the account titles and their balances in the appropriate debit or credit column.
2. Total the debit and credit columns.
3. Prove the equality of the two columns.

Objectives or Advantages and Limitations of Trial Balance

Trial balance has several advantages/objectives. Some of them are as follows:

- To check the debits equal the credits.
- To find the uncovered errors in journalizing.
- To find the uncovered errors in posting.
- To locate the errors in ledger accounts.
- To make financial statements.
- To list the accounts in one place.
- To know the ending balance of each account at a glance.
- To make the adjustments for unrecorded transactions.
- To find the missing amount of an account in the special case.
- To test the mathematical accuracy of the recording process.

A trial balance does not guarantee freedom from recording errors; numerous errors may exist even though the trial balance columns agree. For example, the trial balance may balance even the following errors exist:

(1) Omission of an Entry in the Journal: Where a transaction has not been recordedin the books of account either wholly or partially. For example, purchases or sales have entirely been omitted and there is neither a debit entry nor credit entry. If a transaction has been totally omitted it will not affect the trial balance and hence it is more difficult to detect. On the other hand, if a transaction is partially recorded, the trial balance will not agree and hence it can be easily detected.

(2) A Wrong Entry in the Original Book: Entering the wrong original figure or amount in an account. If a credit sale of Tk.12,120 is wrongly entered as Tk.11,210. Such an error will not be revealed by the trial balance.

(3) Errors of Commission: Where we have entered the correct amounts but in the wrong person's account. If Ratul's account has been debited instead of Rafin's account, the trial balance will not detect such an error.

(4) Compensating Errors:When *two*/more mistakes are committed which counterbalances each other. Such an error is known as'Compensating Error'. For example, if the account is wrongly debited by Tk.100 less and wrongly credited by Tk.100 less then such a mistake is known as compensating error.

(5) Errors of Principle: These are the errors committed by not properly following the accounting principles. These arise mainly due to the lack of knowledge of accounting. For example, revenue expenditure may be treated as Capital Expenditure.

(6) Errors of Duplication: Such errors arise when an entry in a book of original entry has been made twice and has also been posted twice in the ledger.

Detection of Errors

Errors in a trial balance generally result from mathematical mistakes, incorrect postings, or simply transcribing data incorrectly. What do you do if you are faced with a trial balance that does not balance? First, determine the amount of the difference between the two columns of the trial balance. After this amount is known, the following steps are often helpful:

1. If the error is Tk.1, Tk.10, Tk.100, or Tk.1,000, re-add the trial balance columns and re-compute the account balances.
2. If the error is divisible by 2, scan the trial balance to see whether a balance equal to half the error has been entered in the wrong column.
3. If the error is divisible by 9, retrace the account balances on the trial balance to see whether they are incorrectly copied from the ledger. For example, if a balance was Tk.12 and it was listed as Tk.21, a Tk.9 error has been made. Reversing the order of numbers is called a transposition error.
4. If the error is not divisible by 2 or 9, scan the ledger to see whether an account balance in the amount of the error has been omitted from the trial balance, and scan the journal to see whether a posting of that amount has been omitted.

Taking the ending balances of the ledger accounts of lesson 3, a trial balance is prepared below to test the mathematical accuracy made.

Muslima Dry Cleaners
Trial Balance
September 30, 2023

Sl No.	*Account Titles*	*L.F*	*Debit*	*Credit*
	Cash		Tk.13,30,000	
	Prepaid Insurance		1,20,000	
	Equipment		25,00,000	
	Notes Payable			Tk.15,00,000
	Accounts Payable			20,000
	Owner's Capital			20,00,000
	Owner's Drawings		70,000	
	Service Revenue			6,20,000
	Advertising Expense		20,000	
	Rent Expense		1,00,000	
			Tk. 41,40,000	Tk. 41,40,000

Impact of Computerized Accounting Systems

In the area of accounting and finance, the use of the hand in financial reporting has been replaced by the use of computer software to enable quick reporting and easy processing and storage of financial information, hence due to facilitation of accounting soft wares, preparation and access of financial statements and use of accounting procedures has been made easy.The computerized accounting system has proved to be effective in providing information regarding the financial position of an entity in a timely and efficient manner. The accounting information system serves the purpose of furnishing information about an entity's economic resources, claims against those resources,owner's equity, and changes in the resources and claims. Accounting software enables the timely and faster generation of financial reports.This helps managers to easily identify and solve problems instantly and take evidence-based decisions within various departments/divisions/branches. A computerized accounting system also enables data to be available instantly and be made available to different users in different locationsat the same time meaning that reporting can be done at anytime.

Review Questions

1. What is a trial balance and how is it prepared?
2. What are the advantages of preparing a trial balance?
3. What are the limitations of a trial balance?
4. "A trial balance does not guarantee freedom from recording errors; numerous errors may exist even though the trial balance columns agree." Explain these errors with examples.
5. How can we detect the errors in trial balance?
6. Why is a trial balance prepared by a business organization?
7. The following are the ledger balances of Nasima Enterprise as ofApril 30, 2024. Prepare a trial balance as of that date.
   Bank Tk. 20,000; Cash Tk.5,000; Accounts receivable Tk.4,600; Accounts payable Tk.5,000; Advertising supplies Tk.5,000; Prepaid insurance Tk.3,000; Furniture Tk.20,000; Office equipment Tk.2,500, Unearned fees Tk.2,200, Notes payable Tk.5,000, Common stock Tk.36,000, Retained earnings and reserve Tk.10,400, Rent Tk.12,400; Salaries Tk.12,100; Dividend Tk.2,000, Fees earned Tk.28,000.

   Answer: Trial Balance Totals: Tk. 86,600

8. Prepare a Trial Balance as of December 31, 2023, with the given balances of M/S Mitu Enterprise:

Supplies	Tk. 88,000	Mitu, Capital	Tk. 95,000
Mitu, Drawing	8,000	Notes payable	19,000
Accounts payable	22,000	Salaries payable	2,000
Supplies expense	2,000	Insurance expense	3,000
Accounts receivable	44,000	Prepaid insurance	6,000
Service revenue	95,000	Cash	7,000
Inventory (Jan.1, 2023)	75,000	Inventory (Dec.31,2023)	35,000

9. Shajahan opened Shajahan's Cleaning Service on January 1, 2024. During January the following transactions were completed.

Jan. 1	Shajahan invested Tk.10,00,000 cash in the business.
1	Purchased used truck for Tk.200,000, paying Tk.150,000 cash and the balance on account.
3	Purchased cleaning supplies for Tk.10,000 on account.
5	Paid Tk.144,000 cash on a one-year insurance policy effective January 1.
12	Billed customers Tk.160,000 for cleaning services.
18	Paid Tk.20,000 cash on amount owed on the truck and Tk.6,500 on the amount owed on cleaning supplies.
20	Paid Tk.50,000 cash for employee salaries.
21	Collected Tk. 120,000 cash from customers billed on January 12.
25	Billed customers Tk.50,000 for cleaning services.
31	Paid gas and oil for the month on truck Tk.5,500.
31	Withdrew Tk.16,000 cash for personal use.

Required:

(a) Journalize the July transactions.
(b) Post to ledger accounts.
(c) Prepare a trial balance at January 31, 2024.

Answer: Trial Balance totals: Tk. 11,78,500

Unit 3: Adjusting the Accounts

Unit Highlights

- Accounting assumptions and principles affecting income.
- Distinction between cash basis and accrual basis of accounting.
- Need for adjusting entries.
- Different types of adjusting entries.
- Adjusting entries for deferrals and accruals.

Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program

Terminology

Accrual-basis Accounting	The method of accounting whereby revenues and expenses are identified with specific periods of time and are recorded as incurred without regard to the date of receipts or payment of cash.
Accruals	The recognition of events and conditions as they occur, rather than in the period of their incurrence, receipt, or payment.
Accrued Expenses	Expenses incurred but not yet paid in cash or recorded.
Accrued Revenues	Revenues earned but not yet received in cash or recorded.
Adjusted Trial Balance	A list of accounts and their balances after the company has made all adjustments for all prepayments and accruals.
Adjusting Entries	Entries made at the end of an accounting period to ensure that companies follow the revenue recognition and matching principles.
Book Value	The difference between the cost of a depreciable asset and its related accumulated depreciation.
Calendar Year	An accounting period that extends from January 1 to December 31.
Cash-basis Accounting	Accounting basis in which companies record revenue when they receive cash and an expense when they pay cash.
Contra Asset Account	An account offset against an asset account on the balance sheet.
Deferrals	Adjusting entries for either prepaid expenses or unearned revenues.
Depreciation	The allocation of the cost of an asset to expense over its useful life in a rational and systematic manner.
Fiscal Year	An accounting period that is one year in length.
Interim Periods	Monthly or quarterly accounting time periods.
Matching Principle	The principle that companies match efforts (expenses) with accomplishments (revenues).
Prepaid Expenses	Expenses paid in cash that benefit more than one accounting period and that are recorded as assets.
Revenue Recognition Principle	The principle that companies recognize revenue in the accounting period in which it is earned.
Time Period Assumption	An assumption that accountants can divide the economic life of a business into artificial time periods.
Unearned Revenues	Cash received and recorded as liabilities before revenue is earned.
Useful Life	The length of service of a long-lived asset.

Lesson 1: Timing Issues

Lesson Objectives

After studying this lesson, you should be able to:

- explain accounting assumptions and principles affecting income; and
- distinguish between cash basis and accrual basis of accounting.

Accounting Assumptions and Principles Affecting Income

We would need no adjustments if we could wait to prepare financial statements until a company ended its operations. At that point, we could easily determine its final balance sheet and the amount of lifetime income it earned. However, most companies need immediate feedback about how well they are doing. For example, management usually wants monthly financial statements, and the Internal Revenue Service requires all businesses to file annual tax returns. Therefore, accountants divide the economic life of a business into artificial periods. This convenient assumption is referred to as the **time/accounting period assumption**. Many business transactions affect more than one of these arbitrary periods.

Fiscal Year, Calendar Year, and Interim Periods

Both small and large companies prepare financial statements periodically to assess their financial condition and results of operations. Accounting periods are generally a month, a quarter, or a year. Monthly and quarterly periods are called **interim periods**. Most large companies must prepare both quarterly and annual financial statements. An accounting period that is one year in length is a **fiscal year**. A fiscal year usually begins with the first day of a month and ends twelve months later on the last day of a month. Most businesses use the **calendar year** (January 1 to December 31) as their accounting period. Some do not.

Cash Vs Accrual Basis of Accounting

Cash Basis

The cash basis of accounting recognizes revenues in the period when cash is received and recognizes expenses when cash is paid out.Cash-basis accounting is not following generally accepted accounting principles (GAAP). Individuals and some small companies do use cash-basis accounting. The cash basis is justified for small businesses because they often have few receivables and payables.

Examples:

(a) Purchase is made by paying cash Tk. 3,000.
(b) Cash received for sales made Tk. 2,000.

Accrual Basis

The accrual basis of accounting recognizes revenues when sales are made or services are provided regardless of when cash is received. Cash is realizable (receivable). The accrual basis also recognizes expenses when they incur regardless of when cash is paid. Cash is payable at any future date. Medium and large companies use accrual-basis accounting.

Examples:

(a) Purchase is made on account for Tk. 3,000 to be paid by next month.
(b) Goods are sold to a customer for Tk. 2,000 to be received by next month.

Revenue Recognition Principle

The revenue recognition principle states that revenue should be recognized in the accounting period in which it is earned. Revenue is earned when goods are sold or services are provided. To illustrate, assume that Muslima Dry Cleaners cleans clothing on June 30 but customers do not claim and pay for their clothes until the first week of July. Under the revenue recognition principle, Muslima Dry Cleaners earns revenue in June when it provided the service, rather than in July when it received the cash. On June 30, Muslima Dry Cleaners would report a receivable on its balance sheet and revenue in its income statement for the service provided.

Various criteria are acceptable for determining when revenue is realized. The most used criteria are as follows:

(a) **Point of Sale**: When a direct sale is involved the revenue is recognized at the point of sale. In the sale of goods when the title of the goods passes to the buyer i,e.,the buyer acquires the right of ownership in the goods and the seller has a legal claim against the buyer. Revenue from the sale of services may be realized similarly.

(b) **Receipt of Payment**: In some cases, services are rendered but payment is delayed and revenue is recognized at the time of payment. This procedure is adopted by a physician, legal advisers, and others whose source of revenue is professional service. Such a procedure has the practical advantage of avoidance of the problem of recognition of losses from uncollectible accounts. It may be considered as a fair practice for professional persons for determining their income for tax purposes.

(c) **Percentage of Completion Method**: When large contracts are undertaken and it takes several years to complete, it becomes necessary to consider some revenues for years of completion. In such a case, this method is used to recognize revenue. For example, if a contract for Tk. 40,00,000 is accepted and it requires three years to complete with a cost of Tk. 30,00,000 then for the first two years' revenue may be estimated based onthe progress of work.

(d) **Installment Method**: Under this method, the price of goods is paid over some time by installments and each installment generally contains (i) some money paid for the cost of goods and paid for gross profit from sales.

N.B: To know in detail about revenue recognition, you may study the IAS 18.

Matching Principle

Accountants follow a simple rule in recognizing expenses: "Let the expenses follow the revenues." Thus, expense recognition is tied to revenue recognition. In the dry cleaning example, this means that Muslima dry Cleaners should report the salary expense incurred in performing the June 30 cleaning service in the same period in which it recognizes the service revenue. The critical issue in expense recognition is when the expense makes its contribution to revenue. This may or may not be the same period in which the expense is paid. If Muslima Dry Cleaners does not pay the salary incurred on June 30 until July, it would report salaries payable on its June 30 balance sheet. This practice of expense recognition is referred to as the expense recognition principle (often referred to as the **matching principle**). It dictates that efforts (expenses) be matched with results (revenues).

Review Questions

1. Explain accounting assumptions and principles affecting income.
2. Distinguish between cash basis and accrual basis of accounting.
3. When is the revenue of an organization recognized? Explain.
4. What is the main theme of the matching principle and why isthe matching principle important?
5. The total contract price for the construction of a building was Tk. 100,00,000 and the estimated construction cost was Tk. Tk. 80,00,000. During the current year, the project was estimated to be 40% completed and the cost would be Tk. 30,50,000. Under the percentage of contract completion method of accounting, what amount of income would be recognized for the current year?
   Ans: Income Tk.950,000.

Further Readings *(For working out more problems, consult this book*)

Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Lesson 2: Basics of Adjusting Entries-Prepayments

Lesson Objectives

After studying this lesson, you should be able to:

- define adjusting entries;
- explain the need for adjusting entries;
- describe different types of adjusting entries; and
- pass adjusting entries for prepayments.

Adjusting Entries-Meaning, Importance, and Types

Meaning of Adjusting Entries:

Adjusting entries are journal entries, which are made at the end of an accounting period to ensure that:

(a) revenues are recognized in the period in which they are earned,
(b) expenses are recorded in the period in which they are incurred so that
(c) balance sheet and income statement accounts have correct balances.

Need for Adjusting Entries

As per the accrual basis, adjusting entries make it possible to report correct or up-to-date amounts on the balance sheet and the income statement. The trial balance we prepare after journalizing and posting may not contain up-to-date and complete data. Because you know there are

i) **Some events are not recorded daily** even they can be recorded so. For example, the daily use of supplies or stationeries like paper, pen, basket, envelope, rubber, etc., or the earning of wages by employees. And there are
ii) **Some costs are not recorded during the accounting period** because they expire over time rather than as a result of daily transactions. Examples are rent, insurance, deprecation, etc. There are also
iii) **Some items may be unrecorded**. An example is a utility like gas, electricity, or water bill that the company will not receive until the next accounting period.

Adjusting entries must be made whenever financial statements are prepared. Thus, if monthly financial statements are prepared, monthly adjusting entries are required, though by custom the financial reports are made annually.

Types of Adjusting Entries

Adjusting entries are classified as either:

A. Prepayments	1. Prepaid Expenses
	2. Unearned Revenues
B. Accruals/Deferrals	1. Accrued Revenues
	2. Accrued Expenses
C. Estimates	Depreciation, Bad debts, Income tax, etc.

Adjusting Entries for Prepayments

Adjusting entries for prepayments are required to record the portion of the prepayment that represents the expense incurred or the revenue earned in the current period.As mentioned earlier, prepayments are either **prepaid expenses** or **unearned revenues.**

1. Prepaid Expenses

Prepaid Expenses are those expenses that are paid in advance and recorded as assets. Why are they called prepaid? Because the benefits of these payments will accrue for more than the current accounting period.

*Examples*of common prepayments are insurance, supplies, advertising, and rent. Besides, the purchase of fixed assets such as buildings and equipment, furniture, machinery, etc. is also a sort of advance payment.

Prepaid expenses are costs that expire either with the passage of time (e.g., rent and insurance) or through use and consumption (e.g., supplies).The expiration of these costs does not require daily journal entries. Companies postpone recognizing these costs until they prepare financial statements.

At each statement date, organizations make adjusting entries:

- to record the expenses that apply to the current accounting period, and
- to show the unexpired costs in the asset accounts.

The adjusting entry for the prepaid expense is:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Oct. 31	Expense Account Asset Account (To record asset used/expired)	***	 ***

For adjustment, the expense (income statement account) is increased and the asset (balance sheet account) is decreased. If the adjustment for prepaid expenses is not made, assets will be overstated and expenses will be understated.

Let's discuss in more detail some specific types of prepaid expenses, beginning with supplies.

Supplies

Businesses use various types of supplies. For example, a CA Firm may use office supplies such as stationery, envelopes, and accounting paper. An advertising firm may use advertising supplies, such as graph paper, video film, poster paper, etc. Companies generally debit supplies to an asset account when they acquire them. In the course of operations, supplies are used, but companies postpone recognizing their use until the adjustment process. At the end of the accounting period, a company counts the remaining supplies. The difference between the balance in the Supplies (shown in trial balance) and the supplies on hand represents the supplies used (an expense) for the period.

Suppose, on October 5, 2023, Nahid Advertising Agency purchased advertising supplies at a cost of Tk.25,000 and recorded that transaction by increasing (debiting) the asset Advertising Supplies. This account shows a balance of Tk.25,000 in the October 31 trial balance. An inventory count at the close of business account on October 31 reveals that Tk.10,000 of supplies are still on hand. Thus, the remaining balance of Tk.15,000 (Tk.25,000 – Tk.10,000) is the cost of supplies used or expense. For this change, Nahid makes the following adjusting entry.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023 Oct. 31	Advertising Supplies Expense Advertising Supplies (To record supplies used)	15,000	 15,000

Due to the use of supplies, the expense-advertising supplies expense is increased and debited and the asset-advertising supplies are decreased and credited. If Nahid does not make the adjusting entry, October expenses will be understated and net income overstated by Tk.15,000. Also, both assets and owner's equity will be overstated by Tk.15,000 on the October 31 balance sheet.

Insurance

Companies pay the insurance premium in advance to protect themselves from losses due to fire, theft, and other unforeseen events. For this advance or pre-payment, prepaid insurance is normally debited and at the end of the accounting period, it is credited for the amount expired and the insurance expense is debited.

Suppose, On October 4, 2023,Nahid Advertising Agency paid Tk.6,000 for a one-year fire insurance policy, coverage began on October 1. Nahid recorded the payment by increasing (debiting) Prepaid Insurance. This account shows a balance of Tk.6,000 in the October 31 trial balance. But during October Insurance of Tk.500 (Tk.6,000 ÷ 12) expires. Thus, Nahid makes the adjusting entry:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023 Oct. 31	Insurance Expense Prepaid Insurance (To record insurance expired)	500	 500

Here, due to the expiration of prepaid insurance, the expense-insurance expense is debited and the asset-prepaid insurance is credited as it is decreased. If Nahid does not make this adjustment, October expenses will be understated and net income overstated by Tk.500. Also, both assets and owner's equity will be overstated by Tk.500 on the October 31 balance sheet.

2. ***Unearned Revenues***

Unearned revenues are those revenues that are not earned. You know, as per the revenue recognition principle, revenues are normally earned when goods are sold or services are provided. So in the case of unearned revenue cash received in advance and recorded as a liability because the revenue has not been earned i.e.,goods/services have not been sold. Unearned revenues often occur regarding**rent, magazine subscriptions, and customer deposits, etc.** for future service.

You know, *US BanglaAirlines* receives cash in advance from its passengers for the sale of tickets and treats the receipts as unearned revenue until it provides the flight service. Unearned revenues are the *opposite* of prepaid expenses.

Suppose, on October 2, 2023, Nahid Advertising Agency received Tk.12,000 from Shahin Enterprise for Advertising services expected to be completed by December 31. Unearned Service Revenue shows a balance of Tk.12,000 in the October 31 trial balance. Analysis reveals that the company earned Tk.4,000 of those fees in October. So the adjusting entry would be as:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023 Oct. 31	Unearned Service Revenue Service Revenue (To record revenue earned for services provided)	4,000	 4,000

Because of providing services, the liability-unearned service revenue is decreased and debited and the revenue-service revenue is increased and credited.

Without this adjustment, revenues and net income are understated by Tk. 4000 in the income statement. Also, liabilities are overstated and the owner's equity is understated by Tk.4,000 on the October 31 balance sheet.

Example: 3.2.1

The ledger of Ragib Company, on March 31, 2024, includes these selectedaccounts before adjusting entries are prepared.

Account Titles	*Debit*	*Credit*
Prepaid Insurance	Tk. 3,60,000	
Supplies	2,80,000	
Equipment	25,00,000	
Accumulated Depreciation—Equipment		Tk.5,00,000
Unearned Service Revenue		9,20,000

An analysis of the accounts shows the following.

1. Insurance expires at the rate of Tk.10,000 per month.
2. Supplies on hand total Tk.80,000.
3. The equipment depreciates Tk.20,000 a month.
4.One-half of the unearned service revenue was earned in March.

Required:

Prepare the adjusting entries for March.

Solution:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2024			
Mar. 31	Insurance Expense	10,000	
	Prepaid Insurance		10,000
	(To record insurance expired)		
31	Supplies Expense	200,000	
	Supplies		200,000
	(To record supplies used)		
31	Depreciation Expense	20,000	
	Accumulated Depreciation—Equipment		20,000
	(To record monthly depreciation)		
31	Unearned Service Revenue	460,000	
	Service Revenue		460,000
	(To record revenue earned)		

https://www.youtube.com/watch?v=duRkCX8bEGU

Review Questions

1. What are adjusting entries and why are they made?
2. The followings are some of the account balances extracted from Trial Balance of Riad Ltd. on December 31, 2023, before adjusting entries are prepared:

Account Titles	*Debit*	*Credit*
Prepaid Insurance	Tk. 48,000	
Store Supplies	37,000	
Office Equipment	250,000	
Delivery Van	100,000	
Accumulated Depreciation—Office Equipment		Tk.75,000
Accumulated Depreciation—Delivery Van		30,000
Unearned Fees		1,05,000

An analysis of the accounts shows the following.

(i) Store supplies on hand total Tk.7,000.
(ii) The insurance expires at the rate of Tk.30,000 per annum.
(iii) The office equipment depreciates Tk.25,000 a year.
(iv) Delivery van depreciates Tk. 10,000 per year.
(v) One-half of the unearned fees were earned in December 2023.

Required:

Prepare the adjusting entries for the yearended December 2023.

Further Readings *(For working out more problems, consult this book*)

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Readings

Lesson 3: Basics of Adjusting Entries-Accruals

Lesson Objectives

After studying this lesson, you should be able to:

- pass adjusting entries for accruals; and
- prepare to adjust journal entries for estimates and others.

Adjusting Entries for Accruals

The second category of adjusting entries is **accruals**. Concerns make adjusting entries for accruals to record revenues earned and expenses incurred in the current accounting period that have not been recognized through daily entries.

1. ***Accrued Revenues***: Accrued revenues are those revenues that are earned but not yet recorded at the statement date. Accrued revenues may accumulate (accrue) over time, as in the case of interest revenue and rent revenue. Or they may result from services that have been performed but are neither billed nor collected. Interest and rent revenues are unrecorded because the earning process does not involve daily transactions. Performed services may be unrecorded because the concern has provided only a portion of the total service.

An adjusting entry for accrued revenues serves two purposes:

(a) It shows the receivable that exists at the balance sheet date, and
(b) It records the revenues earned during the period.

The adjusting entry for accrued revenue is as:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Asset Account [Accounts Receivable]	***	
	Revenue Account		***
	(To record revenue for services provided)		

For adjustment, the asset (balance sheet account) is increased and the revenue (income statement account) is increased. If the adjustment for accrued revenue is not made, both assets and revenues will be understated.

Suppose in October 2023, Nahid Advertising Agency earned Tk.2,000 for advertising services that have not been recorded. Nahid makes the following adjusting entry on October 31.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023			
Oct. 31	Accounts Receivable	2,000	
	Service Revenue		2,000
	(To record revenue for services provided)		

If On November 10, Nahid receives cash of Tk.2,000 for the services performed in October, the general journal entry on November 10 will be:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023			
Nov.10	Cash	2,000	
	Accounts Receivable		2,000
	(To record cash collected on account)		

2. ***Accrued Expenses***: Accrued expenses are those expenses that have been incurred but not yet paid or recorded at the statement date. Interest, rent, taxes, and salaries are typical accrued expenses. Accrued expenses result from the same causes as accrued revenues. An accrued expense on the books of concern is accrued revenue to another concern. For example, Nahid Advertising Agency's Tk.2,000 accrual of revenue is an accrued expense to the client that received the service.

An adjusting entry for accrued expenses serves two purposes:

(a) It records the obligations that exist at the balance sheet date, and
(b) It recognizes the expenses of the current accounting period.

The adjusting entry for the accrued expense is:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Expense Account Liability Account[Accounts Payable] (To record expense accrued for services received)	***	 ***

For adjustment, the expense (income statement account) is increased and the liability (balance sheet account) is also increased. If the adjustment for the accrued expense is not made, both liabilities and expenses will be understated.

Nahid Advertising Agency signed a Tk.50,000, 3-month note payable on October 1.The note requires Nahid to pay interest at an annual rate of 12%.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023 Oct. 31	Interest Expense Interest Payable (To record interest on notes payable)	500	 500
Face Value of Note × Annual Interest Rate× Time in Terms of One Year = Interest Tk.50,000 × 12% × 1/12 = Tk.500			

Example: 3.3.1

Ratul and Rafin are the new owners of Micro Computer Services. At the end of August 2023, their first month of operations, Ratul and Rafinattempted to prepare monthly financial statements. The following information relates to August.

(i) On August 31, the concern owed its employees Tk.80,000 in salaries and wages that will be paid on September 1.
(ii) On August 1, the concern borrowed Tk.30,00,000 from a local bank on a 15-year mortgage. The annual interest rate is 10%.
(iii) Revenue earned but unrecorded for August totaled Tk.1,10,000.

Required:

Prepare the adjusting entries needed on August 31, 2023.

Solution:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023 Aug. 31	Salaries and Wages Expense Salaries and Wages Payable (To record accrued salaries)	Tk.80,000	 Tk.80,000
31	Interest Expense Interest Payable (To record accrued interest: Tk.30,00,000 × 10% × 1/12= Tk.25,000)	25,000	 25,000
31	Accounts Receivable Service Revenue (To record revenue earned)	110,000	 110,000

Adjusting Entries for Estimates and Others

Accountants very often need to make estimates of future events to comply with an accrual accounting basis. They are as follows:

1. Depreciation

Business concerns typically own buildings, equipment, and vehicles, etc., and record them as long-lived or non-current assets rather than expenses, in the year they are acquired. According to the matching principle, concerns then report a portion of the cost of a long-lived asset as an expense during each period of the asset's useful life, which is called Depreciation. **Depreciation** is the process of allocating the cost of an asset to expense over its useful life rationally and systematically.

The adjusting entry for recording depreciation is as:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Depreciation Expense Accumulated Depreciation (To record depreciation expense for the accounting period)	***	 ***

For example, if Nahid Advertising Agency purchased the office equipment on October 2, 2023, at a cost of Tk.50,000 and its useful life is expected to be 10 years, and salvage value Tk.2,000, it estimates depreciation on the office equipment to be Tk.4,800 a year or Tk.400 per month. Thus, Nahid makes the adjusting entry to record depreciation for October 2023 as:

Date	*Account Titles and Explanations*	*Debit*	*Credit*
2023 Oct. 31	Depreciation Expense Accumulated Depreciation—Office Equipment (To record monthly depreciation)	400*	 400

*[(Tk.50,000 – 2,000) ÷ 10] ÷ 12

The balance in the accumulated depreciation account will increase by Tk.400 each month. After journalizing and posting the adjusting entry on November 30, the balance will be Tk.800; on December 31, Tk.1,200; and so on.

2. Other Adjusting Entries [All Independent Cases]

(*a*) *To adjust the allowance for bad debt/provision for bad debt*:

Allowance for doubtful debt to be created 10% on accounts receivable of Tk. 11,000.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Bad Debt Expense /Uncollectible Accounts Allowance for Bad Debt/Uncollectible Accounts (To record estimated uncollectible accounts)	1,100	 1,100

(b) To write off of bad debt:

TK. 500 is to be written off as bad debt.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Bad Debt Expense/Uncollectible AccountsAccounts Receivable (To write off uncollectible accounts)	500	 500

(c) To adjust estimated income tax:

Estimated income taxes accrued Tk. 5,000.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Income Tax Expense Income Tax Payable (To record income tax expenses)	5,000	 5,000

(d) *To adjust the installation of machinery included in wages*:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Machinery Wages (To record installation of machinery included in wages)	***	 ***

(e) *To adjust repairs expense included in machinery*:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Repairs Expense Machinery (To record repairs expense)	***	 ***

(f) *To adjust the proposed dividend*:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Dividend Expense Dividend Payable (To record dividend declared)	***	 ***

(g) *To adjust goods destroyed by fire and the insurance concern admitted the claim partially*:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Insurance Claim Receivable Loss by Fire Cost of Goods Sold (To record the value of destroyed goods, loss, and claim)	** **	 ***

(h) *To adjust goods sold without profit*:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
Last day of the accounting period	Sales Purchase (To record the value of goods sold without profit)	**	 **

Example: 3.3.2

Selected accounts of City Real Estate Firm are shown below as of January 31, 2024, of the current year before any adjusting entries have been made:

Account Titles	*Debit*	*Credit*
Prepaid Insurance	Tk.27,000	
Supplies	7,500	
Office Equipment	84,000	
Unearned rental fees		Tk.30,000
Salaries expenses	21,000	
Rental fees		120,000

Required:

Based on the following information, record in a general journal the necessary adjusting entries on January 31, 2024:

(a) Prepaid insurance represents premiums for 3 years paid on January 1.
(b) Supplies of Tk. 4,500 were on hand on January 31.
(c) Office equipment is expected to last 10 years.
(d) The firm collected 6- month rent in advance on January 1 from a tenant renting space for Tk. 5,000 per month.
(e) Accrued salaries not recorded as of January 31 are Tk. 3,600.

Solution:

City Real Estate Firm
Adjusting Journal Entries

Date	*Account Titles & Explanation*	*L.F.*	*Dr*	*Cr*
2024				
Jan. 31	(a) Insurance Expense		Tk. 750	
	Prepaid Insurance			Tk.750
	(To record expired insurance premium)			
	[27,000*1/36=Tk 750]			
31	(b) Supplies Expense		3,000	
	Supplies			3,000
	(To record supplies expense)			
	[7,500-4,500=Tk 3,000]			
31	(c) Depreciation Expense		700	
	Accumulated Depreciation –Equipment			700
	(To record monthly depreciation)			
	[84,000/10×1/12=Tk. 700]			
31	(d) Unearned Rental Fees		5,000	
	Rental Fees			5,000
	(To record earned revenue)			
31	(e) Salaries Expense		3,600	
	Salaries Payable			3,600
	(To record accrued salaries)			

https://www.youtube.com/watch?v=duRkCX8bEGU

Review Questions

1. What adjusting entries are passed for accruals?
2. Prepare adjusting journal entries for yearly depreciation.
3. Uzzal&Sajal are the owners of an advertising agency. At the end of March 31, 2024, the first month of operations the company is going to prepare a monthly financial statement. The following information relates to March:
   (i) On March 1, Uzzal&Sajalborrowed Tk. 500,000 from a bank on a 10-year mortgage. The annual interest rate is 15%.
   (ii) On March 31, outstanding salaries of employees amounted to Tk. 12,000.
   (iii) Fees earned but unrecorded for March totaled Tk. 23,000.

Required:

Prepare the adjusting entries needed on March 31, 2024.

4. Nuha Company accumulates the following adjustment data on December 31,2023.
   (i) Supplies of Tk.30,000 have been used.
   (ii) Depreciation on the equipment for 2023 is Tk.1,000.
   (iii) Rent collected in advance totaling Tk.65000 has been earned.
   (iv) Prepaid insurance totaling Tk.35,000 has expired.

Required:

Prepare adjusting entries for the items described above.

5. Ahmed Raju started his consulting firm, Ahmed Company, on June 1, 2024. The trial balance at June 30 is shown below.

Ahmed Company
Trial Balance
June 30, 2024

Account Number	*Account Titles*	*Debit*	*Credit*
101	Cash	Tk. 7,15,000	
112	Accounts Receivable	6,00,000	
126	Supplies	2,00,000	
130	Prepaid Insurance	3,00,000	
157	Equipment	15,00,000	
201	Accounts Payable		Tk. 4,50,000
209	Unearned Service Revenue		4,00,000
301	Owner's Capital		21,75,000
400	Service Revenue		7,90,000
726	Salaries and Wages Expense	4,00,000	
729	Rent Expense	1,00,000	
		Tk.38,15,000	Tk.38,15,000

In addition to those accounts listed on the trial balance, the chart of accounts for Ahmed Company also contains the following accounts and account numbers: No. 158 Accumulated Depreciation—Equipment, No. 212 Salaries and Wages Payable, No. 631 Supplies Expense, No. 711 Depreciation Expense, No. 722 Insurance Expense, and No. 732 Utility Expense.

Other data:

i) Supplies on hand on June 30 are Tk.75,000.
ii) A utility bill for Tk.15,000 has not been recorded and will not be paid until next month.
iii) The insurance policy is for a year.
iv) Tk.2,80,000 of unearned service revenue has been earned at the end of the month.
v) Salaries of Tk.1,90,000 are accrued on June 30.
vi) The equipment has a 5-year life with no salvage value. It is being depreciated at Tk.25,000 per month for 60 months.
vii) Invoices representing Tk.1,20,000 of services performed during the month have not been recorded as of June 30.

Required:

Prepare the adjusting entries for June. Use J3 as the page number for your Journal.

Further Readings *(For working out more problems, consult this book)*

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Readings

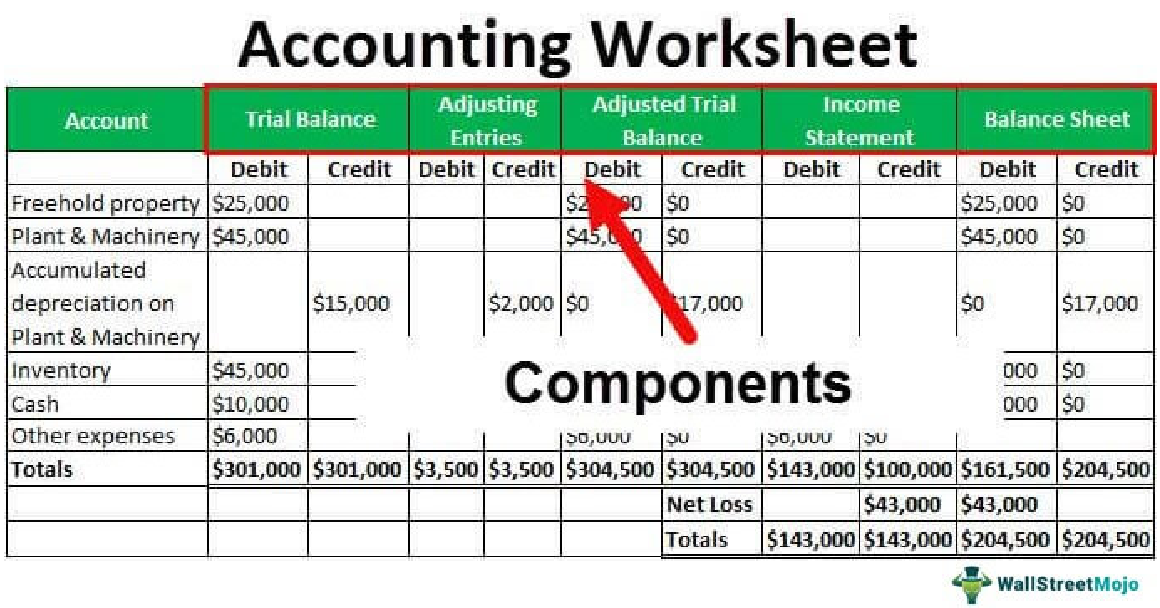
Unit 4: Completing the Accounting Cycle

Unit Highlights

- Preparation of worksheet.
- The closing journal entries.

Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program



Account	Trial Balance		Adjusting Entries		Adjusted Trial Balance		Income Statement		Balance Sheet	
	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit
Freehold property	$25,000				[illegible]	$0			$25,000	$0
Plant & Machinery	$45,000				[illegible]	$0			$45,000	$0
Accumulated depreciation on Plant & Machinery		$15,000		$2,000	$0	[illegible]			$0	$17,000
Inventory	$45,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0
Cash	$10,000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	$0
Other expenses	$6,000				[illegible]	[illegible]	[illegible]	[illegible]		
Totals	$301,000	$301,000	$3,500	$3,500	$304,500	$304,500	$143,000	$100,000	$161,500	$204,500
						Net Loss		$43,000	$43,000	
						Totals	$143,000	$143,000	$204,500	$204,500

Terminology

Classified balance sheet	A balance sheet that contains standard classifications or sections.
Closing entries	Entries made at the end of an accounting period to transfer the balances of temporary accounts to a permanent owner's equity account, Owner's Capital.
Current assets	Assets that a company expects to convert to cash or use up within one year or its operating cycle, whichever is longer.
Current liabilities	Obligations that a company expects to pay within the coming year or its operating cycle, whichever is longer.
Income Summary	A temporary account used in closing revenue and expense accounts.
Intangible assets	Long-lived assets that do not have physical substance.
Liquidity	The ability of a company to pay obligations expected to be due within the next year.
Long-term investments	Generally, (1) investments in stocks and bonds of other companies that are normally held for many years; (2) long-term assets, such as land and buildings, not currently being used in operating activities; and (3) long-term notes receivable.
Long-term liabilities	Obligations that a company expects to pay after one year.
Operating cycle	The average time that it takes to purchase inventory, sell it on account, and then collect cash from customers.
Permanent (real) accounts	Accounts that relate to one or more future accounting periods. Consist of all balance sheet accounts. Balances are carried forward to the next accounting period.
Post-closing trial balance	A list of permanent accounts and their balances after a company has journalized and posted closing entries.
Property, plant, and equipment	Assets with relatively long useful lives that are currently being used in operations.

Lesson 1: Preparation of Worksheet

Lesson Objectives

After studying this lesson, you should be able to:

- define the meaning and format of a worksheet;
- identify the steps involved in preparing a worksheet; and
- prepare financial statements from a worksheet.

Definition of Worksheet

A worksheet, in the word's original meaning, is a sheet or piece of paper on which one performs work. In other words, a worksheet is a multiple-column form or a columnar sheet of paper or a computer spread sheet or a document on which accountants make adjusting and closing entries and prepare financial statements. It serves as a tool for working of an accountant. Unlike an accounting record, it does not last forever. It is not a part of a journal or ledger. It acts as an intermediary step between the trial balance and the preparation of financial statements. The primary purpose of a worksheet is to make adjustments and corrections to ensure the accuracy of financial information before it is presented to external users. Spreadsheet programs such as Microsoft Excel are generally used by companies to computerize their worksheets.

Format of Worksheet

(a) 8-column worksheet

Sagin Company
Worksheet
For the Month Ended March 31, 2024

Account Titles	Trial Balance		Adjustments		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.

(b) 10-column worksheet

Sagin Company
Worksheet
For the Month Ended March 31, 2024

Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.

(c) 12-column worksheet

Sagin Company
Worksheet
For the Month Ended March 31, 2024

Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Retained Earnings Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.

Steps Involved in Preparing a Worksheet

1. Enter the titles and balances of ledger accounts in the Trial Balance columns.
2. Enter adjustments in the Adjustments columns.
3. Enter adjusted account balances in the Adjusted Trial Balance columns.
4. Extend adjusted balances of revenue and expense accounts from the Adjusted Trial Balance columns to the Income Statement columns.
5. Extend any balances in the Retained Earnings and Dividends accounts to the Statement of Retained Earnings columns.[In case of 12-column]
6. Extend adjusted balances of asset, liability, and owner's equity (capital stock) accounts from the Adjusted Trial Balance columns to the Balance Sheet columns.

Basic Format of Worksheet (10-Column)

Sagin Company
Worksheet
For the Month Ended March 31, 2024

Amount in Tk. '00

Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Balance Sheet	
	Dr.	**Cr.**	**Dr.**	**Cr.**	**Dr.**	**Cr.**	**Dr.**	**Cr.**	**Dr.**	**Cr.**
Cash	3,800				3,800				3,800	
Prepaid insurance	1,200			(a) 800	400				400	
Repair supplies	2,000			(b) 1,700	300				300	
Repair equipment	15,000				15,000				15,000	
Accumulated dep.- Repair equipment		1,000		(c) 2,100		3,100				3,100
Common stock		10,000				10,000				10,000
Revenue from rent		1,500				1,500		1,500		
Revenue from repairs		40,000				40,000		40,000		
Salaries expenses	21,500		(d) 500		22,000		22,000			
Rent expenses	9,000				9,000		9,000			
	52,500	52,500								
Insurance expense			(a) 800		800		800			
Repair supplies expense			(b) 1,700		1,700		1,700			
Depreciation expense-Repair equipment			(c) 2,100		2,100		2,100			
Salaries payable				(d) 500		500				500
Net Income							5,900			5,900
Total			5,100	5,100	55,100	55,100	41,500	41,500	19,500	19,500

Example 4.1.1

At the end of the annual accounting period, a trial balance of the ledger ofKhan Repair Service carried the items that follow.

Khan Repair Service
Trial Balance
As on December 31, 2023

Account Titles	Debit	Credit
Cash	Tk. 1,21,500	
Prepaid insurance	86,500	
Repair supplies	2,92,500	
Repair equipment	5,24,000	
Accumulated depreciation-repair equipment		1,28,000
Accounts payable		19,500
Khan, capital		4,12,500
Khan, withdrawals	18,80,000	
Revenue from repairs		37,23,000
Wages expenses	10,14,000	
Rent expenses	3,00,000	
Utilities expense	64,500	
Totals	Tk. 42,83,000	Tk. 42,83,000

Required:

1. Enter the trial balance on a work sheet from and complete the work sheet using the information that follows:
    a. Expired insurance, Tk. 53,500.
    b. A repair supplies inventory showed Tk. 77,500 of unused supplies on hand.
    c. Estimated depreciation on repair equipment, Tk. 66,000.
    d. Wages earned by the one employee but unpaid and unrecorded, Tk. 8,000.
2. Prepare adjusting journal entries and closing entries.
3. From the work sheet, prepare an income statement and a classified balance sheet.

Solution*:*
(1)

Khan Repair Service
Worksheet
For the Year Ended December 31, 2023

Amount in Tk. '00

Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Balance Sheet	
	Dr.	**Cr.**	**Dr.**	**Cr.**	**Dr.**	**Cr.**	**Dr.**	**Cr.**	**Dr.**	**Cr.**
Cash	1,215				1,215				1,215	
Prepaid insurance	865			(a) 535	330				330	
Repair supplies	2,925			(b) 2,150	775				775	
Repair equipment	5,240				5,240				5,240	
Accumulated Dep. Repair equipment		1,280		(c) 660		1,940				1,940
Accounts payable		195				195				195
Khan. capital		4,125				4,125				4,125
Khan., drawings	18,800				18,800				18,800	
Revenue from repairs		37,230				37,230		37,230		
Wages expense	10,140		(d) 80		10,220		10,220			
Rent expense	3,000				3,000		3,000			
Utility expense	645				645		645			
	42,830	42,830								
Insurance expense			(a) 535		535		535			
Repaid supplies expense			(b) 2,150		2,150		2,150			
Depreciation expense			(c) 660		660		660			
Wages payable				(d) 80		80				80
Sub Totals			3,425	3,425	43,570	43,570	17,210	37,230	26,360	6,340
Net income							20,020			20,020
Totals							37,230	37,230	26,360	26,360

(2)

Adjusting Entries

Date	*Account Titles and Explanation*	*Ref.*	*Dr.*	*Cr.*
(a)	Insurance Expenses Prepaid Insurance (To record insurance expired)		53,500	53,500
(b)	Repair Supplies Expenses (2,92,500-77,500) Repair Supplies (To record repair supplies used)		2,15,000	2,15,000
(c)	Depreciation Expense Accumulated Depreciation-Repair Equipment (To record depreciation expense)		66,000	66,000
(d)	Wages Expense Wages Payable (To record wages accrued)		8,000	8,000

Closing Entries

Date	Account Titles and Explanation	Ref.	Debit	Credit
2023 Dec.31	Revenue from Repairs		Tk.37,23,000	
	Income Summary			Tk.37,23,000
	(To close revenue accounts)			
31	Income Summary		17,21,000	
	Wages Expenses			10,22,000
	Rent Expenses			3,00,000
	Utilities Expenses			64,500
	Insurance Expenses			53,500
	Repair Supplies Expenses			2,15,000
	Depreciation Expenses-Repair Equipment			66,000
	(To close expense accounts)			
31	Income Summary		20,02,000	
	Khan, Capital			20,02,000
	(To close net income to capital)			
31	Owner's Capital		18,80,000	
	Owner's Drawings			18,80,000
	(To close drawings to capital)			

(3)

Khan Repair Service
Income Statement
For Year Ended December 31, 2023

Revenues:		
Revenue from repairs		Tk. 37,23,000
Operating Expenses :		
Wages expense	Tk. 10,22,000	
Rent expense	3,00,000	
Utilities expense	64,500	
Insurance expense	53,500	
Repair supplies expense	2,15,000	
Depreciation expense, repair equipment	66,000	
Total operating expenses		17,21,000
Net Income		Tk. 20,02,000

Khan Repair Service
Balance Sheet
December 31, 2023

Assets			
Current Assets:			
Cash		Tk. 1,21,500	
Prepaid insurance		33,000	
Repair supplies		77,500	
Total current assets			Tk. 2,32,000
Property, Plant, and Equipment:			
Repair equipment	Tk. 524,000		
Less : accumulated depreciation	194,000		
Total plant and equipment			3,30,000
Total assets			5,62,000
Liabilities and Owner's Equity			
Current Liabilities:			
Accounts payable		19,500	
Wages payable		8,000	
Total liabilities			27,500
Owner's Equity:			
Khan, Capital, January 1, 2023		412,500	
Net Income for the year		20,02,000	
		24,14,500	
Less : Khan, Drawings		18,80,000	
Khan, Capital, December 31, 2023			5,34,500
Total liabilities and owner's equity			Tk. 5,62,000

Example 4.1.2

At the end of its first month of operations, Sadman Service has the following unadjusted trial balance:

SADMAN SERVICE
Trial Balance
August 31, 2023

Account Titles	Debit	Credit
Cash	Tk. 5,40,000	
Accounts Receivable	2,80,000	
Prepaid Insurance	2,40,000	
Supplies	1,30,000	
Equipment	60,00,000	
Notes Payable		Tk. 40,00,000
Accounts Payable		2,40,000
Sadman, Capital		30,00,000
Sadman, Drawing	1,00,000	
Service Revenue		4,90,000
Salaries Expense	3,20,000	
Utilities Expense	80,000	
Advertising Expense	40,000	
	Tk. 77,30,000	Tk. 77,30,000

Other data consist of the following:

a. Insurance expires at the rate of Tk. 20,000 per month
b. There are Tk. 1,00,000 of supplies on hand at August 31
c. Monthly depreciation on the equipment is Tk. 90,000.
d. Interest of Tk. 50,000 on the notes payable has accrued during August 1.

Required:

1. Journalize the adjusting entries.
2. Prepare a worksheet.
3. Prepare a classified balance sheet assuming Tk. 35,000 of the notes payable are long-term.
4. Journalize the closing entries.

Solution*:*

(1)

Adjusting Entries

Date	***Account Titles and Explanation***	***Ref.***	***Debit***	***Credit***
2023				
Aug. 31	Insurance Expense		20,000	
	Prepaid Insurance			20,000
	(To record insurance expired)			
31	Supplies Expense (1,30,000-1,00,000)		30,000	
	Supplies			30,000
	(To record supplies used)			
31	Depreciation Expense-Equipment		90,000	
	Accumulated Depreciation-Equipment			90,000
	(To record monthly depreciation)			
31	Interest Expense		50,000	
	Interest Payable			50,000
	(To record interest accrued)			

(2)

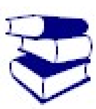
SADMAN SERVICES
Worksheet
For the Month Ended August 31, 2023

Tk. in '00

Account Titles	Trial Balance		Adjustments		Adjusted Trial Balance		Income Statement		Balance Sheet	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Cash	5,400				5,400				5,400	
Accounts Receivable	2,800				2,800				2,800	
Prepaid Insurance	2,400			(a) 200	2,200				2,200	
Supplies	1,300			(b) 300	1,000				1,000	
Equipment	60,000				60,000				60,000	
Notes Payable		40,000				40,000				40,000
Accounts Payable		2,400				2,400				2,400
Sadman, Capital		30,000				30,000				30,000
Sadman, Drawings	1,000				1,000				1,000	
Service Revenue		4,900				4,900		4,900		
Salaries Expense	3,200				3,200		3,200			
Utilities Expense	800				800		800			
Advertising Expense	400				400		400			
Totals	77,300	77,300								
Insurance Expense			(a) 200		200		200			
Supplies Expense			(b) 300		300		300			
Depreciation Expense			(c) 900		900		900			
Accumulated Depreciation- Equipment				(c) 900		900				900
Interest Expense			(d) 500		500		500			
Interest Payable				(d) 500		500				500
Sub Totals			1,900	1,900	78,700	78,700	6,300	4,900	72,400	73,800
Net Loss								1,400	1,400	
Totals							6,300	6,300	73,800	73,800

https://www.youtube.com/watch?v=bEck-ntJGhU

Further Readings *(For working out more problems, consult this book)*



Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

(3)

Sadman Services
Balance Sheet
August 31, 2023

Assets		
Current assets:		
Cash		Tk.5,40,000
Accounts Receivable		2,80,000
Prepaid Insurance		2,20,000
Supplies		1,00,000
Total current assets		11,40,000
Property, plant, and equipment:		
Equipment	Tk.60,00,000	
Less: Accumulated depreciation-Equipment	90,000	59,10,000
Total Assets		Tk.70,50,000
Liabilities and Owner's Equity		
Current liabilities:		
Notes payable (40,000-35,000)	Tk.5,00,000	
Accounts payable	2,40,000	
Interest payable	50,000	
Total current liabilities		7,90,000
Long-term liabilities:		
Notes payable		35,00,000
Total liabilities		42,90,000
Owner's equity		
Sadman, capital	30,00,000	
Less Net loss for the year	1,40,000	
	28,60,000	
Less: Sadman, drawing	1,00,000	27,60,000
Total liabilities and owner's equity		Tk.70,50,000

(4) Closing Entries

Date	***Account Titles and Explanation***	***Ref.***	***Debit***	***Credit***
2023				
Aug. 31	Service Revenue		4,90,000	
	Income Summary			4,90,000
	(To close revenue account)			
31	Income Summary		6,30,000	
	Salaries Expense			3,20,000
	Depreciation Expenses			90,000
	Utilities Expense			80,000
	Interest Expense			50,000
	Advertising Expense			40,000
	Supplies Expense			30,000
	Insurance Expense			20,000
	(To close expense accounts)			
31	Sadman, Capital		1,40,000	
	Income Summary			1,40,000
	(To close net loss to capital)			
31	Sadman, Capital		10,0,000	
	Sadman, Drawing			1,00,000
	(To close drawings to capital)			

Review Questions

1. What do you mean by a worksheet? Why is the preparation of a worksheet important?
2. What are the formats for preparing a worksheet?
3. What steps will you follow in preparing a worksheet?
4. From the following Trial Balance of MamunLimited, prepare a 10-column worksheet showing: (a) Unadjusted Trial Balance, (b) Adjustments, (c) Adjusted Trial Balance, (d) Income Statement, and (e) Balance Sheet.

MamunLimited
Trial Balance
June 30, 2024

Account Titles	Debit	Credit
Cash	Tk.4,50,000	
Bank	1,00,00,000	
Prepaid Insurance	1,50,000	
Office Equipment	25,00,000	
Accumulated Depreciation-Office equipment		Tk.2,50,000
Office Vehicle	250,00,000	
Accumulated Depreciation- Office vehicle		50,00,000
Accounts Receivable	241,00,000	
Accounts Payable		25,00,000
Mamun, Capital		5,00,00,000
Mamun, Drawing	55,60,000	
Bank Loan		3,23,00,000
Sales Returns	10,50,000	
Merchandising Purchases	4,40,00,000	
Freight in	5,50,000	
Merchandising Inventory (1.7.2023)	250,00,000	
Purchases Returns		8,50,000
Salary Expense	55,00,000	
Office Rent	22,00,000	
Advertising Expense	10,50,000	
Repair Expense	36,00,000	
Uniform & Liveries	5,00,000	
Office Supplie Expense	11,50,000	
Miscellaneous Expense	60,000	
Merchandising Sales		6,15,20,000
	Tk. 15,24,20,000	Tk.15,24,20,000

Additional Information for preparing Worksheet:

a. Inventory of Merchandise goods as on June 30, 2024 valued at Tk. 2,90,50,000.
b. Insurance expenses for the year Tk. 40,000.
c. Outstanding rent for June, 2024 Tk. 2,00,000.
d. Interest Income accrued on Bank balance Tk. 5,60,000.
e. Office supplies in hand on June 30, 2024 Tk. 1,50,000.
f. Allowance for bad debt estimated at 5% on Accounts Receivables.
g. Depreciation on Motor Vehicle & Office equipment @ 15% and 10% respectively.

Ans: Net income Tk. 20,25,000, Balance Sheet Total Tk. 9,74,80,000

Lesson 2: The Closing Journal Entries

Lesson Objectives

After studying this lesson, you should be able to:

- explain the concepts of closing entries;
- know the importance of closing journal entries; and
- pass closing journal entries for the temporary accounts.

Closing Entries-Meaning and Importance

Closing entries are journal entries required to close all the nominal or temporary accounts at the end of a certain accounting period or the end of a financial or accounting year.

Revenue increases capital whereas expenses and drawing decrease it. Revenues, expenses, and drawings are called nominal or temporary accounts because they accumulate the transactions of only one accounting period. In this connection, it is to be noted that the capital or retained earnings and other Balance sheet accounts are called real or permanent accounts, because their balances continue to exist beyond the current accounting period.

At the end of an accounting period, the change in retained earnings as accumulated through temporary i,e.,temporary accounts need to be transferred to capital or Retained earnings statement. This process of transfer is called closing the accounts and the journal entries made in this regard are called closing journal entries.

At year-end, to prepare financial statements, revenues and expenses are transferred to an account called Income Summary or Income Statement. When through such transfer the credit balance of revenue account and a debit balance of expenses account are transferred to the summary account, the balance of that account will be net income or a net loss. This is consistent with the rule that the increase in owners' equity is recorded by credits and the decrease is recorded by debits.

Closing Journal Entries-Illustration

The following journal entries are needed to close the major temporary accounts (RED):

R=Revenues
E=Expenses
D=Drawing

1. To Close the Revenues

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	All Revenues Income Summary (To close revenue accounts)		***	 ***

2. To Close the Expenses

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	Income Summary All Expenses (To close expense accounts)		***	 ***

3. To Record the Profit

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	Income Summary Capital or Retained earnings (To close/transfer net income to capital)		***	 ***

4. To Record the Loss

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	Capital or Retained earnings Income Summary (To close/transfer net loss to capital)		***	 ***

5. To Transfer the Dividends Declared

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	Retained earnings Dividends (To close dividend to retained earnings)		***	 ***

6. To Transfer the Drawings

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	Owner's Capital Owner'sDrawings (To close drawings to capital)		***	 ***

Example: 4.2.1

The trial balance of Raisa Clothing Company on December 31 shows Merchandise Inventory Tk.25,000, Sales Tk.162,400, Sales returns and allowances, Tk.4,800, Sales discounts Tk.3,600, Cost of goods sold Tk.110,000, Rental revenueTk. 6,000, Freight-out Tk.1,800, Rent expense Tk.8,800, salaries and wages expense Tk.22,000, and Drawing Tk.2,900.

Required:
Prepare the closing entries for the above accounts.

Solution:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
December 31	Sales		Tk.162,400	
	Rental revenue		6,000	
	Income summary			Tk.168,400
	(To close accounts with credit balances)			
31	Income summary		151,000	
	Cost of goods sold			110,000
	Sales returns and allowance			4,800
	Sales discounts			3,600
	Freight-out			1,800
	Rent expense			8,800
	Salaries and wage expense			22,000
	(To close accounts with debit balances)			
31	Income summary		17,400	
	Capital			17,400
	(To close net income to capital)			
31	Raisa's Capital		2,900	
	Raisa's Drawings			2,900
	(To close drawings to capital)			

Note: Merchandise is an asset and it is not closed as it is a permanent account. You may also close the net sales by deducting the sales returns and sales discounts from sales.

After Closing Trial Balance

After the revenue and expenses accounts have been closed through closing entries, it is possible and also considered necessary to prepare an After Closing Trial Balance" which thus, of course, will consist solely of Balance Sheet items. This after closing or sometimes called post-closing trial balance will be prepared based on ledger accounts and the transfer effects of closing entries. It gives assurance that the accounts are in balance and also arithmetically accurate.

Reversing Entries

Some of the adjusting entries recorded at the end of an accounting period may have a significant effect on otherwise routine transactions that occur in the succeeding (i.e.,following) year. A typical example is an adjusting entry for accrued salaries. The salary expenses of an enterprise and the accompanying liability to employees accumulate day by day during any part of the year. Thus when salaries are paid weekly, it will be recorded 52 or 53 times a year. In such a case, if there has been an adjusting entry for accrued salaries at the end of the year, the payment of salary at year-end may include a part for the current and apart for next year. As such, it will be necessary to the debit salary payable for the amount owed for the earlier year and salary expense for the portion of the payroll that representsan expense for the later year. The following example will make the point clear

Example: 4.2.2

a) Salaries are paid on Thursday for 5- day week.
b) The balance in salary expense as of Thursday day, December 27, is Tk.60,000
c) Salary accrued for Sunday & Monday, December 30 & 31 amounts to Tk.1,000
d) Salary paid on Thursday, January 3 amounts to Tk.4,000

The adjusting entry to record accrued salary payable for Sunday & Monday will be:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Last day of the accounting period	Salaries Expense Salaries Payable (To close accrued salaries)		1,000	 1,000

After this adjusting entry has been passed the Salaries expense will have a debit balance of Tk.61,000 (60,000+1,000) & Salaries payable will have a credit balance of Tk.1,000. At this stage, now it will be necessary to record Tk.4,000 payroll on January 3, as a debit of Tk.1,000 to salary payable & a debit of Tk.3,000 to Salaries expense. This requires the employee who records payroll to determine the amount of Tk.4,000 payment to distinguish and debit to each of the two accounts.

But the need to refer to earlier entries and to decide the debit between two accounts can be avoided by an optional procedure of recording a reversing entry as of the first day as follows:

Salaries Expense

Date	*Explanations*	*Ref.*	*Debit*	*Credit*	*Balance*	
					Debit	*Credit*
2023						
Dec.27	....	....			60,000	
31	Adjusting		1,000		61,000	
31	Closing			61,000	—	—
2024						
Jan. 1	Reversing			1,000		1,000
3					3,000	

Salaries Payable

Date	Explanations	Ref.	Debit	Credit	Balance	
					Debit	Credit
2023 Dec.31	Adjusting			1,000		1,000
2024 Jan. 1	Reversing		1,000			

After reversing entry is posted, the salary payable comes into balance. The entire amount of the first payroll in January will be debited to salary expenses & the balances of the accounts will thus automatically represent the expenses of the new period.

https://www.youtube.com/watch?v=duRkCX8bEGU

Review Questions

1. What are the closing entries? What accounts are normally closed at the end of the accounting period?

2. The trial balance of Khalid Fabrics on December 31, 2023, shows Merchandise inventory Tk.50,000, Sales Tk.340,000, Sales discounts Tk.5,600, Cost of goods sold Tk.250,000, Freight-out Tk.2,500, Prepaid expense Tk. 15,000, Rent expense Tk.12,800, Salaries and wages expense Tk.42,000.

   Required:
   Prepare the closing entries for the above accounts.

3. On December 31, 2023, the adjusting trial balance of Dhaka Regency shows the following selected data:

Accounts payable	TK. 6,000
Interest expense	8,900
Commission revenue	98,000
Interest payable	3,000

   The analysis shows that adjusting entries are made to
   (i) accrue Tk. 6,000 of commission revenue, and
   (ii) accrue Tk. 3,000 interest expense.

   Required:
   (a) Prepare the closing entries for the temporary accounts on December 31, 2023.
   (b) Prepare the reversing entries on January 1, 2024.

Further Readings *(For working out more problems, consult this book)*

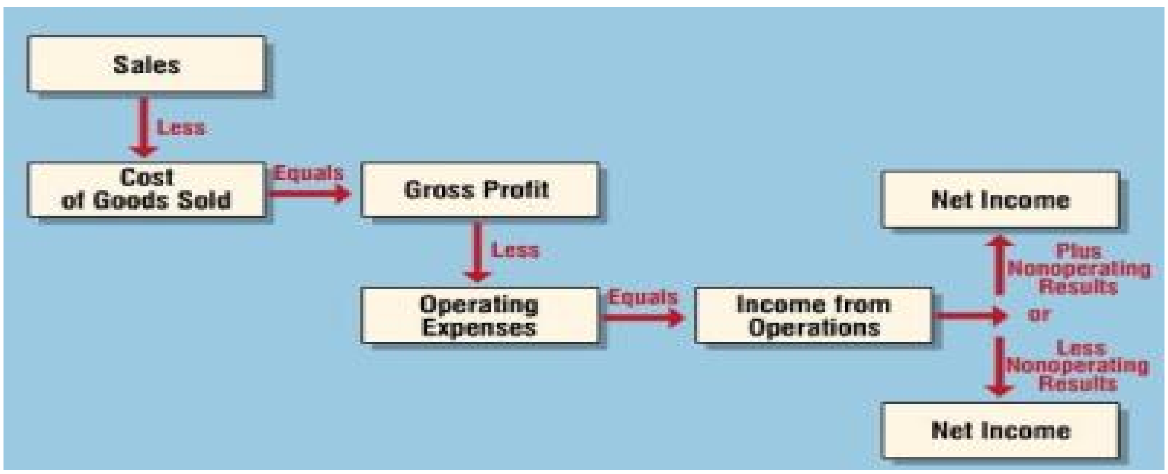
Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Unit 5: Accounting for Merchandising Operations

Unit Highlights

- Differences between service and merchandising companies.
- Recording of purchases under a perpetual inventory system.
- Recording of sales revenues under a perpetual inventory system.
- Steps in the accounting cycle for a merchandising company.
- Distinction between a multiple-step and a single-step income statement.
- Computation and importance of gross profit.



Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program

Terminology

Contra-Revenue Account	An account that is offset against a revenue account on the income statement.
Cost of Goods Sold	The total cost of merchandise sold during the period.
FOB Destination	Freight terms indicating that the seller places the goods free on board to the buyer's place of business, and the seller pays the freight.
FOB Shipping Point	Freight terms indicating that the seller places goods free onboard the carrier, and the buyer pays the freight costs.
Gross Profit	The excess of net sales over the cost of goods sold.
Income from Operations	Income from a company's principal operating activity; determined by subtracting the cost of goods sold and operating expenses from net sales.
Multiple-Step Income Statement	An income statement that shows several steps in determining net income.
Net Sales	Sales less sales returns and allowances and less sales discounts.
Non-Operating Activities	Various revenues, expenses, gains, and losses that are unrelated to a company's main line of operations.
Operating Expenses	Expenses incurred in the process of earning sales revenues. Selling and administrative expenses are operating expenses.
Periodic Inventory System	An inventory system under which a concern does not keep detailed inventory records throughout the accounting period but determines the cost of goods sold only at the end of an accounting period.
Perpetual Inventory System	An inventory system under which a concern keeps detailed records of the cost of each inventory purchase and sale, and the records continuously show the inventory that should be on hand.
Purchase Allowance	A deduction made to the selling price of merchandise, granted by the seller so that the buyer will keep the merchandise.
Purchase Discount	A cash discount claimed by a buyer for prompt payment of a balance due.
Purchase Invoice	A document that supports each credit purchase.
Purchase Return	A return of goods from the buyer to the seller for a cash or credit refund.
Sales Discount	A reduction given by a seller for prompt payment of a credit sale.

Lesson 1: Merchandising Operations

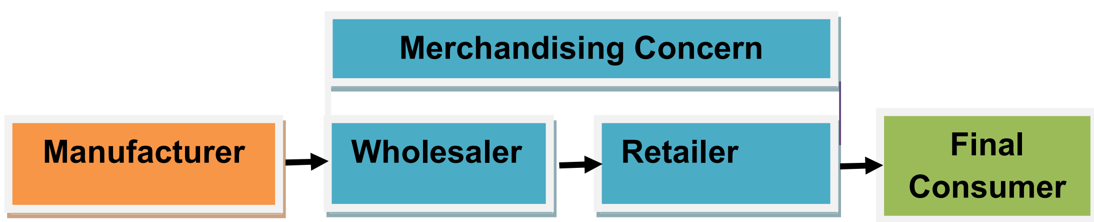
Lesson Objectives

After studying this lesson, you should be able to:

- identify the differences between merchandising and service rendering concerns;
- depict the operating cycle of a merchandising and a service renderingconcern;
- explain the income measurement process for a merchandising concern; and
- distinguish between perpetual inventory system and periodic inventory system.

Merchandising Concern and Service Rendering Concern

Operations mean activities and merchandising operations mean to purchase and sale of merchandise or goods. So the concern that purchases merchandiseat a lower price and then resells them generally for a higher price is called a **merchandising concern**. There are two types of merchandising concerns - retail and wholesale. A **retailconcern** is a concern that sells products directly to customers such as grocery stores (eg. Agora), drugstores (e.g. Lazz Pharma), restaurants (Seven Eleven), and so on. A **wholesaleconcern** is a concern that buys items in bulk from manufacturers and resells them to retailers or other wholesalers.



Merchandise (or merchandise inventory)—goods held for sale to customers in the ordinary course of business. Note that this includes only goods held for resale. For example, if a grocery store decided to sell an old display case, this would not be merchandise because grocery stores do not normally sell display cases. But a display case would be merchandise for a furniture store. *Merchandise for one firm may be an asset for another***.** The merchandise (display cases) for the furniture store is an asset (non-current) for the grocery store.

- Revenues of a merchandiser primarily result from sales of goods or merchandise and known as *sales revenue* or *sales*.
- Expenses for a merchandising concern are divided into two categories:

  a) *Cost of goods sold* (COGS): total cost of merchandise sold during the period.

  b) *Operating expenses* (OE): expenses incurred in the process of earning sales revenue that is deducted from gross profit in the income statement). Examples are sales salaries and insurance expenses.

- *Gross profit* (GP) is equal to Sales Revenue less Cost of Goods Sold.

A service rendering concern, on the other hand**,** is a concern thatearns revenue by selling (providing or rendering) its services to customers. Examples of service rendering concerns are Premium bus service, Banking service, Consulting service, etc. The above figure shows that cost of goods sold and gross profit are not used in a service rendering concern.

Operating Cycles of Merchandising and Service RenderingConcerns

An operating cycle is the average length of the time span between the purchase of merchandise inventory and the realization of cash from customers.An operating cycle is also known as the cash cycle or earning cycle.

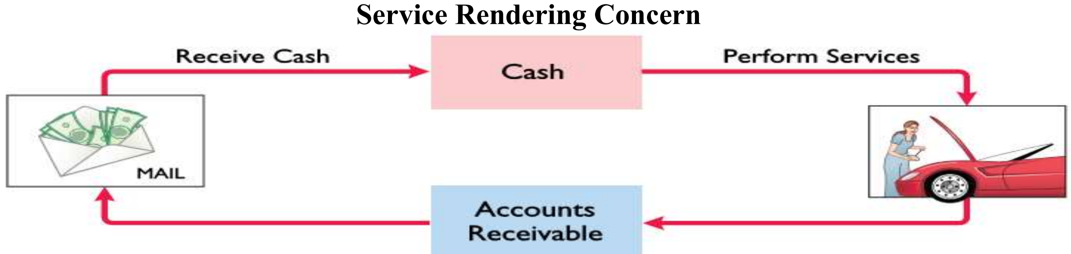
Operating Cycles—Operating Cycles for a merchandising concern and a service concern:

- ***Merchandising ConcernOperatingCycle***(cash to cash) involves:
  a) Buy Inventory,
  b) Sell Inventory,
  c) Obtain Accounts Receivable, and
  d) Receive Cash.

Merchandising Concern

- ***Service Rendering ConcernOperating Cycle*** (to go from cash to cash) involves performing services which involve an outflow of cash and finally receiving the cash from customers receiving the services.

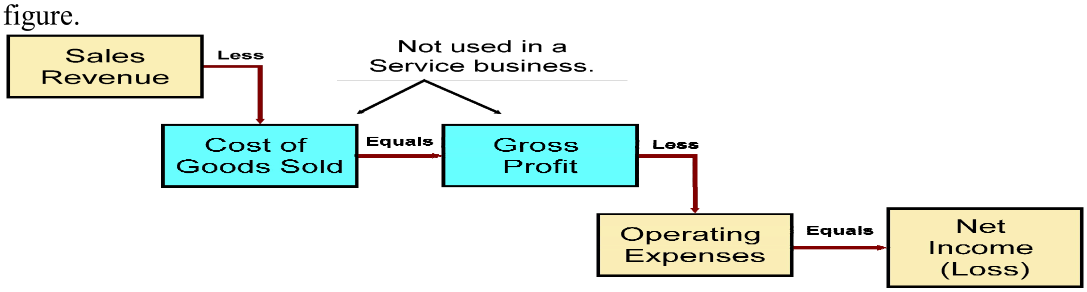
Service Rendering Concern



The operating cycle of a merchandising concern is usually longer than that of a service concern.

Income Measurement Process for a Merchandising Concern

The net income or loss of a merchandising concern is measured as shown in the following figure.



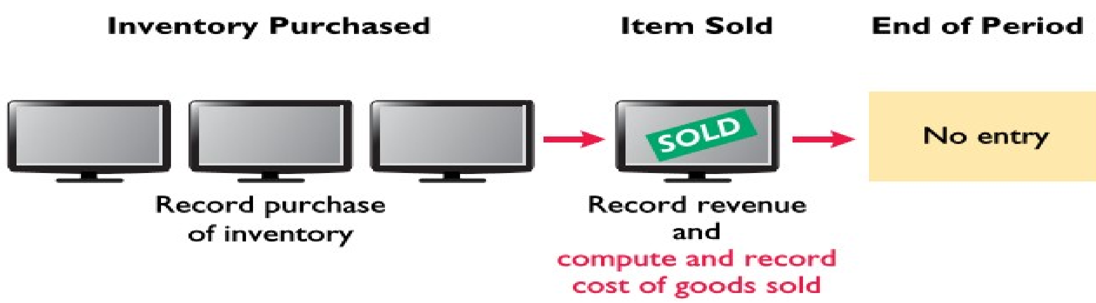
Perpetual and Periodic Inventory Systems

The flow of costs for a merchandising concern is as follows: Beginning inventory plus the cost of goods purchased is the cost of goods available for sale. As goods are sold, they are assigned to the cost of goods sold. Those goods that are not sold by the end of the accounting period represent ending inventory. Concerns use one of two systems to account for inventory:

- a perpetualinventory system,or
- a periodic inventory system.

Perpetual Inventory System

- Merchandise inventory and cost of goods sold are updated continuously on each sale and purchase transaction.
- Some other transactions may also require an update to the inventory account, for example, sale/purchase return, purchase discounts, etc.
- Purchases are directly debited to the inventory account whereas for each sale two journal entries are made: one to record the sale value of inventory and the other to record the cost of goods sold.
- Purchases account is not used in the perpetual inventory system.

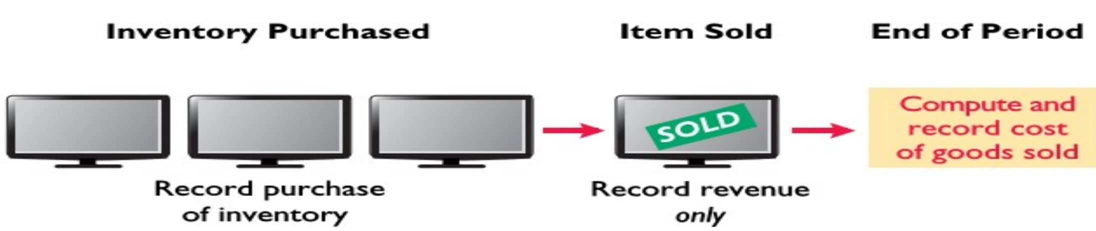


Example: Volvo Car Overseas Corporation AB sells Volvo cars in Bangladesh. It needs to maintain an inventory record each time a car is sold to a customer.

Periodic Inventory System

- Merchandise inventory and cost of goods sold are not updated continuously.
- Purchases are recorded in the Purchases account and each sale transaction is recorded via a single journal entry.
- Cost of goods sold account does not exist during the accounting period.

It is determined at the end of the accounting period via a closing entry.



Example: Hallmark may follow this inventory system. Because they sell low-value items in a large quantity. They need not maintain a record of inventory each time a purchase or sale is made.

Differences between Perpetual and Periodic Inventory Systems

Points of Difference	Perpetual Inventory System	Periodic Inventory System
Merchandise inventory and cost of goods sold	are updated continuously on each sale and purchase transaction and also for sale/purchase return, purchase discounts, etc.	are not updated continuously, rather an inventory is counted physically and the cost of goods sold is computed at the end of the accounting period.
Purchases	are directly debited (increased) to the Inventory account.	are recorded in the Purchases account.
For each sale	two journal entries are made: one to record the sales value of inventory and the other to record the cost of goods sold.	only sales value of inventory is recorded. The cost of goods sold account does not exist during the accounting period.
Inventory position and cost of goods sold at any time	can be known.	can't be known.
Organizations involved in	merchandising of high-priced low-volume items and using bar code or optical scanning use it. For example, automobiles, furniture shops, computer shops, departmental stores, etc.	merchandising of low-priced large volume items and using no computer or electronic scanning use it. For example, grocery, medicine stores, fast food shops, hardware shops, etc.
Better control over inventories and identification of product deficiencies	are possible.	are not possible.
Freight /Transportation cost (FOB shipping point)	is debited (increased) to the Inventory account.	is debited to Freight-in.
Purchase returns and allowances /Purchase discount	is credited (decreased) to the Inventory account as it decreases the cost of purchasing inventory.	is credited by its name (Purchase returns and allowances /Purchase discount).
Closing journal entries	are not required for inventory account.	are only required to update inventory and the cost of goods sold.

Activity

Find two organizations where a perpetual and a periodic inventory system is followed to keep the records of inventory. Identify the differences in inventory accounting systems of these organizations.

Review Questions

1. What are the major differences between a service rendering concern and a merchandising concern?
2. Graphically show the operating cycle of a merchandising and a service rendering concern.
3. Explain how the income for a merchandising concern is measured.
4. Distinguish between a perpetual inventory system and a periodic inventory system.
5. Why is the perpetual inventory system growing in popularity and use? Explain.

Lesson 2: Recording Purchases of Merchandise

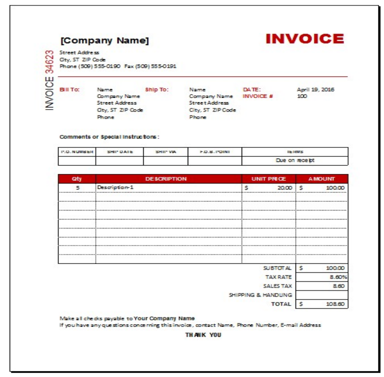
Lesson Objectives

After studying this lesson, you should be able to:

- record of purchases under a perpetual inventory system; and
- record of sales revenues under a perpetual inventory system.

Purchase of Merchandise

- Merchandise is purchased for resale to customers
- Merchandise Inventory is debited for the cost of goods purchase.
- Purchases may be made for cash or on account (credit).
- The purchase is normally recorded by the purchaser when the goods are received from the seller.
- Each credit purchase should be supported by a purchase invoice.



INVOICE 34623

[Company Name]
Street Address
City, ST ZIP Code
Phone (509) 555-0190 Fax (509) 555-0191

INVOICE

Bill To: Name, Company Name, Street Address, City, ST ZIP Code, Phone
Ship To: Name, Company Name, Street Address, City, ST ZIP Code, Phone
DATE: April 19, 2016
INVOICE #: 100

Comments or Special Instructions:

P.O. NUMBER	SHIP DATE	SHIP VIA	F.O.B. POINT	TERMS
				Due on receipt

Qty	DESCRIPTION	UNIT PRICE	AMOUNT
5	Description-1	$ 20.00	$ 100.00
		SUBTOTAL	$ 100.00
		TAX RATE	8.60%
		SALES TAX	8.60
		SHIPPING & HANDLING	
		TOTAL	$ 108.60

Make all checks payable to Your Company Name
If you have any questions concerning this invoice, contact Name, Phone Number, E-mail Address
THANK YOU

Recording Purchases of Merchandise Inventory Under Perpetual System

A. *Purchase of Merchandise*

- **When merchandise is purchased** for resale to customers, the account, *Merchandise Inventory*, is debited for the cost of goods purchased.

(a) Each credit purchase should be supported by a *purchase invoice*.

(b) A purchase invoice is a document that indicates the total purchase price and other relevant information. This invoicereceived (not prepared) by the buyer is actually a *sales invoice* prepared by the seller. Note that only purchases of merchandise are debited to Merchandise Inventory. Purchases of other assets: supplies, equipment, and similar items are debited to their respective accounts.

Example: A4TECH Stereo makes the following journal entry to record its purchase from Fagun Audio Visuals on credit. The entry increases (debits) Inventory and increases (credits) Accounts Payable.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
May 4	Merchandise Inventory	Tk. 380,000	
	Accounts Payable		Tk. 380,000
	(To record goods purchased on account from Fagun Audio Visual)		

*If the purchase is made for cash, cash is credited in place of accounts payable.

B. Purchase Returns and Allowances

- A purchaser may be dissatisfied with the goods or merchandise purchased because they may-
  - ➢ be damaged or defective,
  - ➢ be of inferior quality, or
  - ➢ not meet his or her specifications.

- The purchaser initiates the request for a reduction of the balance due through the issuance of a debit memorandum.
- The debit memorandum is a document issued by a buyer to inform a seller that the seller's account has been debited because of unsatisfactory merchandise.

A purchase return or a purchase allowance (a deduction from the purchase price when unsatisfactory goods are kept) is shown by the entry, where *Accounts Payable* is debited and *Merchandise Inventory* is credited to show that the cost of the merchandise inventory is reduced with a return or an allowance. Assume that on May 8 A4TECH Stereo returned goods costing Tk. 30,000 to Fagun Audio Supply. The following entry by A4TECH Stereo for the returned merchandise decreases (debits) Accounts Payable and decreases (credits) Merchandise Inventory.

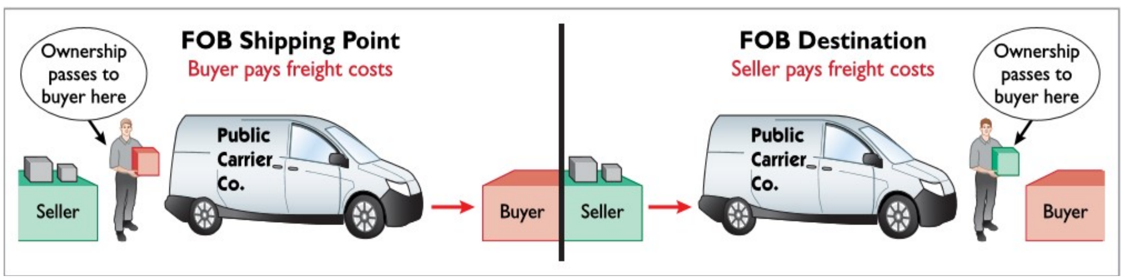
Date	*Account Titles and Explanation*	*Debit*	*Credit*
May 8	Accounts Payable Merchandise Inventory (To record return of goods purchased on account From Fagun Audio Visual)	Tk. 30,000	 Tk. 30,000

A4TECH Stereo increased Inventory when it receivedgoodsand decreased Inventory when it returned the goods (or when it is granted an allowance). Suppose instead that A4TECH Stereo chose to keep the goods after being granted a Tk.5,000 allowance (reduction in price). It would reduce (debit) Accounts Payable and reduce (credit) Inventory for Tk.5,000.

C. Accounting for Freight (Transportation)Costs

Here a question arises: whether the costs of transporting the goods are to be borne by the seller or the buyer. The question leads to two concepts:

a) FOB (free on board) Shipping Point
b) FOB (free on board) Destination



a) FOB Shipping Point

- Supplier/seller places the goods free on board at the point of origin.
- Buyer pays the freight costs.
- It is also called 'FOB Factory'.

Example: A buyer of Dhaka purchased equipment from a dealer of Japanese Toshiba Corporation. Toshiba delivered the shipment free on board to Chattogram. The buyer paid the transportation cost from Chattogram to Dhaka.

Freight Terms	*Place of Delivery*	*Who Pays the Freight Cost*	*Accounting Treatment in the Buyer's Book*
FOB Shipping Point	At origin	Buyer	<u>*Perpetual System*</u>: Merchandise Inventory Dr. Cash Cr. <u>*Periodic System*</u>: Freight-in Dr. Cash Cr.
FOB Destination	At destination	Seller/ Supplier	<u>*No accounting entry*</u>

When Freight Costs are Borne or Incurred by the Buyer

When the buyer incurs the transportation costs, these costs are considered part of the cost of purchasing inventory. Therefore, the buyer debits (increases) the account Inventory. For example, if upon delivery of the goods on May 6, A4TECH Stereo (the buyer) pays Acme Freight Company Tk. 15,000 for freight charges, the entry on A4TECH Stereo's books is:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
May 6	Merchandise Inventory Cash (To record payment of freight on goods purchased)	Tk.15,000	 Tk.15,000

Thus, any freight costs incurred by the buyer are part of the cost of merchandise purchased. The reason: Inventory cost should include any freight charges necessary to deliver the goods to the buyer.

b) FOB Destination

- Supplier/seller places the goods at the place of delivery.
- Seller pays the freight costs.

Example: A buyer purchased equipment from Japanese Toshiba Corporation. They delivered the shipment to Dhaka (Destination). The seller (Toshiba Corporation) paid the transportation cost of the shipment (FOB destination).

When Freight Costs are Incurred by the Seller

In contrast, freight costs incurred by the seller on outgoing merchandise are an operating expense to the seller. These costs increase an expense account titled Freight-out or Delivery Expense. If the freight terms on the invoice had required Fagun Audio Supply (the seller) to pay the freight charges, the entry by Fagun Audio Supply would be:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
May 4	Freight-out (or Delivery Expense) Cash (To record payment of freight on goods sold)	Tk.15,000	 Tk.15,000

When the seller pays the freight charges, it will usually establish a higher invoice price for the goods to cover the shipping expense.

Freight cost incurred by the seller is an operating expense.

D. Purchase Discounts/Cash Discounts

- **Purchase discount** is an offer from the supplier to the purchaser, to reduce the payment amount if the payment is made within a certain period of time. For example, a purchaser brought a Tk.10,000 item, with a credit term 3/10, net 30. If he pays within 10 days, he will only need to pay Tk.9,700.
- *Credit terms* (specify the amount of cash discount and time period during which a discount is offered) may permit the buyer to claim a cash discount for the prompt payment of a balance due.
    - 2/10, n/30: a 2% discount is allowed if payment is made within 10 days (called the *discount period*); otherwise the invoice amount is due in 30 days (credit period).
    - 2/10, EOM (end of month): a 2% discount is available if the amount is paid within the first 10 days of the next month.
    - 2/EOM, n/60: a 2% discount is available if the payment is made by the end of the current month, otherwise the payment is due in 6o days.

- The buyer calls this discount a *purchase discount* or discount received or cash discount.
- Like a sales discount, a purchase discount is based on the invoice cost less returns and allowances, if any.
- A buyer should usually take all available discounts because trade credit is very costly.

When the buyer pays an invoice within the discount period, the amount of the discount decreases Inventory. Why? Because companies record inventory at cost and, by paying within the discount period, the merchandiser has reduced that cost. To illustrate, assume A4TECH Stereo pays the balance due of Tk.3,50,000 (gross invoice price of Tk.3,80,000 less purchase returns and allowances of Tk.30,000) on May 14, the last day of the discount period. The cash discount is Tk.7,000 (Tk.3,50,000 × 2%), and A4TECH Stereo pays Tk.3,43,000 (Tk.3,50,000 - Tk.7,000). The entry A4TECH Stereo makes to record its May 14 payment decreases (debits) Accounts Payable by the amount of the gross invoice price, reduces (credits) Inventory by the Tk.7,000 discount, and reduces (credits) Cash by the net amount owed.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
May14	Accounts Payable	Tk.350,000	
	Cash		Tk.343,000
	Merchandise Inventory		7,000
	(To record payment within discount period)		

If A4TECH Stereo failed to take the discount, and instead made full payment of Tk.350,000 on June 3, it would debit Accounts Payable and credit Cash for Tk.350,000 each.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
June 3	Accounts Payable	Tk.350,000	
	Cash		Tk.350,000
	(To record payment with no discount taken)		

Example: 5.2.1

On September 5, 2023Nowel Company buys merchandise on account from Rekha Company. The selling price of the goods is Tk.150,000, and the cost to Rekha Company was Tk.80,000. On September 8, Nowel returns defective goods with a selling price of Tk.20,000.

Required:

Record the transactions on the books of Nowel Company under the perpetual system.

Solution:

On the Books of Nowel Company
Journal Entries

Date	*Account Titles and Explanation*	*Debit*	*Credit*
2023		Tk.150,000	
Sept. 5	Merchandise Inventory		
	Accounts Payable		Tk.150,000
	(To record goods purchased on account)		
8	Accounts Payable	Tk.20,000	
	Merchandise Inventory		Tk.20,000
	(To record return of defective goods)		

Review Questions

1. Explain the recording of purchases under a perpetual inventory system.
2. Furnished below are the selected transactions of Shaheen Company during July of the current year:

July 2	Purchased merchandise on account from Zahir Company at a cost of Tk. 30,000. FOB shipping point, terms 2/10, net 30.
5	Paid freight charges of Tk. 1,500 on merchandise purchased from Zahir Company on July 2.
7	Returned damaged goods costing Tk. 3,000 to Zahir Company.
14	Paid Zahir Company the balance due related to July 2 purchase.

Required:

Journalize the July transactions on the books of Shaheen Company.

https://www.youtube.com/watch?v=jz7pRBCfoN4

Further Readings *(For working out more problems, consult this book*)

Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Lesson 3: Recording Sales of Merchandise

Lesson Objectives

After studying this lesson, you should be able to:

- record of sales revenues under a perpetual inventory system.

Sales of Merchandise

- Like purchases, sales may be made either for cash or on account (credit).
- The sale is normally recorded when earned, usually when goods transfer from seller to buyer.
- Sales invoice should support each credit sale.

B. Sales of Merchandise

- *Revenues* are reported when earned in accordance with the *revenue recognition principle*, and in a merchandising company, revenues are earned when the goods are transferred from seller to buyer.
- All sales should be supported by a document such as a cash register tape (provide evidence of cash sales) or sales invoice.
- *Two entries* are made with each sale:
  - a) The first entry records the sale:
    1) Debit—Accounts Receivable (if a credit sale) or Cash (if a cash sale) which increases assets for the sales amount.
    2) Credit—Sales which increases revenues
  - b) The second entry records the cost of the merchandise sold:
    1) Debit—Cost of Goods Sold which increases expenses.
    2) Credit—Merchandise Inventory which decreases assets.
- The sales account is credited *only for sales of goods held for resale*. Sales of assets not held for resale (such as equipment, buildings, land, etc.) are credited directly to the asset account.

Example: 5.3.1

The seller, Fagun Audio Supply, records the sale of Tk. 380,000 of merchandise to A4TECH Stereo on May 4 as follows. Assume the merchandise cost Fagun Audio Supply Tk. 240,000.

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
May 4	Accounts Receivable		Tk. 380,000	
	Sales Revenue			Tk. 380,000
	(To record credit sales to A4TECH Stereo)			
4	Cost of Goods Sold		Tk. 240,000	
	Merchandise Inventory			Tk. 240,000
	(To record cost of merchandise sold to A4TECH Stereo)			

C. Sales Returns and Allowances

- Sales Returns result when customers are dissatisfied with merchandise and are allowed to *return* the goods to the seller for credit or a refund.
- Sales Allowances result when customers are dissatisfied, and the seller allows a *deduction* from the selling price.
- To grant the return or allowance, the seller prepares a credit memorandum to inform the customer that a credit has been made to the customer's account receivable.
- *Sales Returns and Allowances* is a contra revenue account to the Sales account.

a) A contra account is used, instead of debiting sales, to disclose in the accounts the amount of sales returns and allowances.

b) This information is important to management as excessive returns and allowances suggest inferior merchandise, inefficiencies in filling orders, errors in billing customers, and mistakes in delivery or shipment of goods.

- The normal balance of Sales Returns and Allowances is a debit balance.
- *Two entries* are made with each sale return and allowance:

c) The first entry records the sales return or allowance:

1) Debit—Sales Return and Allowances which decreases revenues for the amount of the sale.
2) Credit—Accounts Receivable (if a credit sale) or Cash (if a cash sale and refund) which decreases assets.

d) The second entry records the increase in Merchandise Inventory:

1) Debit—Merchandise Inventory which increases assets.
2) Credit—Cost of Goods Sold which decreases expenses.

Fagun Audio Supply's entries to record credit for returned goods involve (1) an increase (debit) in Sales Returns and Allowances (a contra account to Sales Revenue) and a decrease (credit) in Accounts Receivable at the Tk.30,000 selling price, and (2) an increase (debit) in Inventory (assume a Tk.14,000 cost) and a decrease (credit) in Cost of Goods Sold, as shown below (assuming that the goods were not defective).

Date	*Account Titles and Explanation*	*Debit*	*Credit*
May 8	Sales Returns and Allowances	Tk. 30,000	
	Accounts Receivable		Tk. 30,000
	(To record credit granted to A4TECH Stereo for returned goods)		
8	Merchandise Inventory	Tk. 14,000	
	Cost of Goods Sold		Tk. 14,000
	(To record cost of goods returned)		

If A4TECH Stereo returns goods because they are damaged or defective, then Fagun Audio Supply's entry to Inventory and Cost of Goods Sold should be for the fair value of the returned goods, rather than their cost. For example, if the returned goods were defective and had a fair value of Tk. 5,000, Fagun Audio Supply would debit Inventory for Tk. 5,000, and would credit Cost of Goods Sold for Tk. 5,000.

Example 5.3.2

On September 5, 2023 Nowel Company buys merchandise on account ofRekha Company. The selling price of the goods is Tk.150,000, and the cost to Rekha Company was Tk.80,000. On September 8, Nowel returns defective goods with a selling price of Tk.20,000 and a fair value of Tk. 3,000.

Required:

Record the transactions on the books of Rekha Company.

Solution:

On the Books of Rekha Company
Journal Entries

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
2023 Sept. 5	Accounts Receivable Sales Revenue (To record credit sale)		Tk.150,000	Tk.150,000
5	Cost of Goods Sold Merchandise Inventory (To record cost of goods sold on account)		Tk. 80,000	Tk. 80,000
8	Sales Returns and Allowances Accounts Receivable (To record credit granted for receipt of returned goods)		Tk.20,000	Tk.20,000
8	Merchandise Inventory Cost of Goods Sold (To record the fair value of goods returned)		Tk. 3,000	Tk. 3,000

Journalization of Major Merchandising Transactions under Perpetual & Periodic Systems

Purchase Related Transactions	*Perpetual Inventory System*		*Periodic Inventory System*	
Purchase of merchandise for cash	Merchandise Inventory Cash	Dr. Cr.	Purchase Cash	Dr. Cr.
Purchase of merchandise on account	Merchandise Inventory Accounts Payable	Dr. Cr.	Purchase Accounts Payable	Dr. Cr.
Purchase returns and allowance	Accounts Payable Merchandise Inventory	Dr. Cr.	Accounts Payable Purchase Returns & Allowances	Dr. Cr.
Purchase returns and allowances out of cash purchase and cash refunded	Cash Merchandise Inventory	Dr. Cr.	Cash Purchase Returns & Allowances	Dr. Cr.
Purchase discount	Accounts Payable Merchandise Inventory	Dr. Cr.	Accounts Payable Purchase Discount	Dr. Cr.
Transportation (Freight) cost on purchase [FOB Shipping Point]	Merchandise Inventory Cash	Dr. Cr.	Freight-in Cash	Dr. Cr.
Payment on account without a discount	Accounts Payable Cash	Dr. Cr.	Accounts Payable Cash	Dr. Cr.
Payment on account with a discount (payment within discount period)	Accounts Payable Cash Merchandise inventory	Dr. Cr. Cr.	Accounts Payable Cash Purchase Discounts	Dr. Cr. Cr.

Sales Related Transactions	*Perpetual Inventory System*	*Periodic Inventory System*
Sale of merchandise for cash	*(i) For sales price* Cash Dr. Sales Revenue Cr. *(ii) For cost price* Cost of Goods Sold Dr. Merchandise Inventory Cr.	*(i) For sales price* Cash Dr. Sales Revenue Cr. *(ii) For cost price* No entry
Sale of merchandise on account	*(i) For sales price* Accounts Receivable Dr. Sales Revenue Cr. *(ii) For cost price* Cost of Goods Sold Dr. Merchandise Inventory Cr.	*(i) For sales price* Accounts Receivable Dr. Sales Revenue Cr. *For cost price* No entry
Return of merchandise sold (Sales returns and allowances)	*(i) For sales price* Sales Returns and Allowances Dr. Accounts Receivable Cr. (i) *For cost price* Merchandise Inventory Dr. Cost of Goods Sold Cr.	*(i) For sales price* Sales Returns and Allowances Dr. Accounts Receivable Cr. (ii) *For cost price* No entry
Sales discount	Sales Discounts Dr. Accounts Receivable Cr.	Sales Discounts Dr. Accounts Receivable Cr.
Freight cost on sales	Freight-out or Delivery Exp. Dr. Cash or Accounts Payable Cr.	Freight-out or Delivery Expense Dr. Cash or Accounts Payable Cr.
Cash received on account without a discount	Cash Dr. Accounts Receivable Cr.	Cash Dr. Accounts Receivable Cr.
Cash received on account with a discount	Cash Dr. Sales Discounts Dr. Accounts Receivable Cr.	Cash Dr. Sales Discounts Dr. Accounts Receivable Cr.

➢ <u>**Points to Remember**</u>

Merchandise Inventory under a perpetual inventory system	
is Debited for	is Credited for
• purchase of merchandise (goods) • freight-in/Transportation-in (FOB Shipping Point) • sales returns (at cost price)	• purchase returns & allowances, and purchase discount • payment within the discount period • sale of merchandise (for cost price)

Comparison of Entries-Perpetual Vs Periodic Inventory Systems

On the Books of A4TECH
Journal Entries

Date	*Transaction*	*Perpetual Inventory System*			*Periodic Inventory System*		
May 4	Purchase of merchandise on credit.	Inventory Accounts Payable	380,000	 380,000	Purchases Accounts Payable	380,000	 380,000
6	Freight costs on purchases.	Inventory Cash	15,000	 15,000	Freight-in Cash	15,000	 15,000
8	Purchase returns and allowances.	Accounts Payable Inventory	30,000	 30,000	Accounts Payable Purchase Returns and Allowances	30,000	 30,000
14	Payment on account with a discount.	Accounts Payable Cash Inventory	350,000	 343,000 7,000	Accounts Payable Cash Purchase Discounts	350,000	 343,000 7,000

On the Books of A4TECH
Journal Entries

Date	*Transaction*	*Perpetual Inventory System*			*Periodic Inventory System*		
May 4	Sale of merchandise on credit.	A/Cs Receivable Sales Revenue Cost of Goods Sold Inventory	380,000 240,000	 380,000 240,000	Accounts Receivable Sales Revenue No entry for cost of goods sold	380,000	 380,000
8	Return of merchandise sold.	Sales Returns and Allowances A/Cs Receivable Inventory Cost of Goods Sold	30,000 14,000	 30,000 14,000	Sales Returns and Allowances A/Cs Receivable No entry	30,000	 30,000
14	Cash received on account with a discount.	Cash Sales Discounts A/Cs Receivable	343,000 7,000	 350,000	Cash Sales Discounts A/Cs Receivable	343,000 7,000	 350,000

Example 5.3.3

Purchase and sales transactions of the Pakiza Boutiques during May 2024 are listed below:

May 1 Purchased merchandise on account for Tk.3,000, terms 2/10, n/30.
7 Paid for merchandise purchased on May 1.
10 Purchased merchandise on account for Tk.5,000, terms 1/10, n/30.
11 Returned part of merchandise purchased on May 10, Tk. 200.
14 Sold merchandise on account for Tk.2,000, terms 2/10, n/30. The cost of merchandise sold is Tk.1,800.
25 Paid amount owed on May 10 purchase.
27 Received payment in full for merchandise sold on May 14.
28 Sold merchandise on account for Tk.4,000, terms 2/10, n/30. The cost of merchandise sold is Tk.3,500.
31 Received payment in full for merchandise sold on May 28.

Required:

Make journal entries to record the transactions for the month of May 2024 for Pakiza Boutiques, using perpetual and periodic inventory systems.

Solution:

On the Books of Pakiza Boutiques
Journal Entries

Date	Perpetual Inventory System			Periodic Inventory System		
	Account Titles and Explanation	*Debit*	*Credit*	*Account Titles and Explanation*	*Debit*	*Credit*
2024 May 1	Merchandise Inventory Accounts Payable (To record purchase of merchandise on account)	Tk.3,000	 Tk.3,000	Purchase Accounts Payable (To record purchase of merchandise on account)	Tk.3,000	 Tk.3,000
7	Accounts Payable Cash Merchandise Inventory (Tk.3,000×2%) (To record payment on account with a discount)	Tk.3,000	 Tk. 2,940 Tk.60	Accounts Payable Cash Purchase Discounts (Tk.3,000×2%) (To record payment on account with a discount)	Tk.3,000	 Tk. 2940 Tk.60
10	Merchandise Inventory Accounts Payable (To record goods purchased on account)	Tk.5,000	 Tk.5,000	Purchase Accounts Payable (To record goods purchased on account)	Tk.5,000	 Tk.5,000
11	Accounts Payable Merchandise Inventory (To record return of defective goods)	Tk.200	 Tk.200	Accounts Payable Purchase Returns & Allowances (To record return of defective goods)	Tk.200	 Tk.200
14	Accounts Receivable Sales Revenue (To record sale of merchandise on account)	Tk.2,000	 Tk.2,000	Accounts Receivable Sales Revenue (To record sale of merchandise on account)	Tk.2,000	 Tk.2,000
14	Cost of Goods Sold Merchandise Inventory (To record cost of goods sold on account)	Tk. 1,800	 Tk. 1,800			
25	Accounts Payable Cash (To record payment on account without a discount)	Tk.4,800	 Tk. 4,800	Accounts Payable Cash (To record payment on account without a discount)	Tk.4,800	 Tk. 4,800

May 27: Received payment in full for merchandise sold on May 14.

27	Cash Accounts Receivable (To record collection of cash for goods sold without discount)	Tk.2,000	 Tk.2,000	Cash Accounts Receivable (To record collection of cash for goods sold without discount)	Tk.2,000	 Tk.2,000

28	*(i)For sales price* Accounts Receivable Sales Revenue *(ii) For cost price* Cost of Goods Sold Merchandise Inventory (To record credit sales and cost of merchandise sold on account)	 Tk.4,000 3,500	 Tk.4,000 3,500	Accounts Receivable Sales Revenue (To record credit sales and cost of merchandise sold on account)	Tk.4,000	 Tk.4,000
31	Cash Sales Discounts (Tk.4,000×2%) Accounts Receivable (To record collection of cash within 2/10, n/30 discount period)	Tk. 3,920 Tk. 80	 Tk.4,000	Cash Sale Discounts (Tk.4,000×2%) Accounts Receivable (To record collection of cash within 2/10, n/30 discount period)	Tk.3,920 Tk. 80	 Tk.4,000

Review Questions

1. Write the journal entries required to record of sales revenues, sales returns and sales discounts under a perpetual inventory system.
2. Following transactions occurred between Salam Store and Kalam Store during the month of Janauary 2024:

Jan. 5 Salam Store purchased merchandise on account from Kalam Store for Tk.50,000, terms 2/10, net 30.
10 Salam Store received allowances of Tk. 2,000 from the gross invoice price because of damaged goods.
13 Salam Store returned Tk. 4,000 from gross invoice price because they were not the quality ordered.
14 Salam Store paid half of the amount due.
30 Kalam Store received payment in full from Salam Store.

Required:

Journalize the January transactions on the books of both Salam Store and Kalam Store.

Further Readings *(For working out more problems, consult this book*)

Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Lesson 4: Forms of Financial Statement

Lesson Objectives

After studying this lesson, you should be able to:

- know the components of multiple-step income statement and balance sheet;
- identify the sections of a classified income statement and a balance sheet; and
- prepare different statements.

Multiple-Step and Single-Step Income Statement

A. *Multiple-Step Income Statement*

Gross Profit	=	Net sales – Cost of goods sold (COGS)
Net Sales	=	Sales- (Sales returns & allowances + Sales discounts)
COGS	=	Beginning inventory+ Net purchase – Ending inventory
Net Purchase	=	Purchase +Transportation in+ Import duty (if any) – (Purchase discounts+ Purchase returns and allowances)
Operating Income	=	Gross profit- Operating expenses
Operating Expenses	=	Selling expenses+ Administrative expenses
Selling Expenses	=	Sales salaries expense+ Sales commission expense +Depreciation expense of Delivery equipment+ Bad debts+ Other selling expenses
Administrative Expenses	=	Office salaries expense+ Depreciation expense of asset(s) used in office + Property tax expense+ Utilities expense+ Insurance expense+ Other administrative expenses
Net Income before Tax	=	Operating income + Non-operating revenue – Non-operating expenses
Non-operating Revenue	=	Other revenues & gains (e.g. interest revenue (on investment), dividend, rental revenue, gain on sale of fixed asset etc.)
Non-operating Expenses	=	Other expenses & losses (e.g. interest expenses, loss on sale of fixed asset etc.)
Net Income after Tax	=	Net income before tax – Income tax expense

The following **Figure** exhibits the Multiple-Step Income Statement of Padma Limited with imaginary figures:

Padma Limited
Income Statement
For the Year Ended December 31, 2023

Sales Revenue		
Sales		Tk.7,500,000
Less: Sales Return and Allowances	Tk.5,000	
Sales Discounts	45,000	50,000
Net Sales		7,450,000

Cost of Goods Sold			
Inventory, January 1		2,225,000	
Add: Purchases	Tk.3,785,000		
Less: Purchase Returns			
& Allowances Tk. 5,500			
Purchases Discounts 9,500	15,000		
	3,770,000		
Add: Transportation in	85,000		
Net purchases		3,855,000	
Cost of Goods Available for Sales		6,080,000	
Less: Inventory, December 31		270,000	
Cost of Goods Sold			5,810,000
Gross Profit on Sales			**1,640,000**
Operating Expenses			
Selling Expenses			
Sales Salaries	135,000		
Advertising	150,000		
Delivery Expenses	25,000		
Insurance, selling	70,000		
Telephone	60,000		
Depreciation	75,000		
Total Selling Expenses		515,000	
Administrative Expenses			
Office Salaries	200,000		
Rent	50,000		
Insurance, General	65,000		
Depreciation, Building	25,000		
Depreciation, Equipment	35,000		
Total Administrative Expenses		375,000	
Total Operating Expenses			890,000
Net Income from Operations			**750,000**
Other Revenues and Gains			
Dividend revenue		185,000	
Rental revenue		135,000	
Interest revenue		120,000	440,000
			11,90,000
Other Expenses and Losses			
Interest on debentures		115,000	
Loss on sale of equipment		125,000	240,000
Income before Income Tax			950,000
Income tax			110,000
Net Income after Income Tax			**Tk.840,000**

B. *Single-Step Income Statement*

- All data are classified under two categories:
  (1) Revenues (operating revenues and other revenues and gains)
  (2) Expenses (cost of goods sold, operating, and other expenses and losses)
- *Only one step* is required in determining net income or net loss
  Revenues – Expenses = Net Income.

- Two primary reasons for using a single-step format:
  (1) A company does not realize any type of profit or income until total revenues exceed total expenses, so it makes sense to divide the statement into two categories.
  (2) The format is simpler and easier to read than the multiple-step format.

The following **Figure** exhibits the Single-Step Income Statement of Jamuna Limited.

Jamuna Limited
Income Statement
For the Year Ended December 31, 2023

Revenues and Gains		
Net Sales	Tk.3,975,000	
Interests	25,500	
Dividends	127,500	
Rent	72,000	
Total Revenues & Gains		Tk.4,200,000
Expenses and Losses		
Cost of Goods Sold	2,500,000	
Selling Expenses	250,000	
Administrative Expenses	500,000	
Interest	150,000	
Income Taxes	95,000	
Loss on Sale of Securities	55,000	
Total Expenses and Losses		3,550,000
Net income		Tk.650,000

C. *Retained Earnings Statement*

Retained earnings are the number of enterprise earnings that have not been returned to shareholders as dividends. The statement summarizes the increases and decreases in retained earnings resulting from the business operations for the period. This final section links the period's income statement to the beginning of the period and end-of-the-period balance sheets by completing two balance sheets snapshots.

The following **Figure** exhibits the Retained Earnings Statement of Meghna Limited with imaginary figures.

Meghna Limited
Statement of Retained Earnings
For the Year Ended December 31, 2023

Retained earnings, January 1		Tk.445,500
Add: Net income for the year		327,500
		773,000
Deduct dividends declared on:		
Preference stock, at Tk.6.00 per share	Tk.120,000	
Common stock at Tk.8.00 per share	160,000	280,000
Retained earnings, December 31		Tk.493,000

D. *Classified Balance Sheet*

- *The balance sheet,* also commonly known as the *statement of financial position,* is a summary of assets, liabilities, and owners' equity accounts and their related account balances at a specific date.

- When general-purpose external financial statements are divided into useful categories, they are called *classified* financial statements. The assets of a company are generally divided into four categories: (i) current assets, (ii) investments, (iii) property, plant, and equipment, and (iv) intangible assets. Some companies use a fifth category called other assets if there are miscellaneous assets that do not fall into any other groups. Liabilities are divided into two categories: (i) current liabilities, and (ii) long-term liabilities.

  The following **Figure** exhibits the C*lassified Balance Sheet* of Meghna Limited

Meghna Limited
Balance Sheet
As of December 31, 2023

Assets			
Current Assets			
Cash		Tk.25,000	
Notes Receivable		20,000	
Accounts Receivable		75,000	
Merchandise Inventory		225,000	
Office Supplies		30,000	
Prepaid Insurance		15,000	
Prepaid Expenses		10,000	
Total Current Assets			Tk.400,000
Investments [Long Term]			
Investments in Padma Co.		250,000	
Land held for future		300,000	
Total Investment			550,000
Property, Plant, and Equipment			
Land		225,000	
Building	Tk.530,000		
Less: Accumulated Depreciation	210,000	320,000	
Delivery Equipment	215,000		
Less: Accumulated Depreciation	85,000	130,000	
Total Property, Plant & Equipment			675,000
Intangible Assets			
Trade Mark		55,000	
Goodwill		40,000	
Total Intangible Assets			95,000
Total Assets			Tk.1,720,000

Liabilities and Stockholders' Equity

Current Liabilities				
Note Payable	85,000			
Accounts Payable	135,000			
Accrued Salaries, Wages	40,000			
Accrued Interest	30,000			
Income Tax Payable	35,000			
Total Current Liabilities			325,000	
Long-Term Liabilities			200,000	
Total Liabilities				525,000
Stockholders' Equity				
Common Stock		1,000,000		
Retained Earnings		195,000	1,195,000	
Total Liabilities & Stockholders' Equity				Tk.1,720,000

Example 5.4.1

From the following trial balance and additional information prepare: (a) multiple-step income statement, (b) a retained earnings statement, and (c) a classified balance sheet. The periodic inventory system is in use.

Chand Sultana & Company
Trial Balance
December 31, 2023

Account Titles	*Debit*	*Credit*
Cash	Tk. 10,000	
Accounts Receivable	50,000	
Notes Receivable	15,000	
Merchandise Inventory, January 1, 2023	125,000	
Purchase	750,000	
Sales		Tk. 1,500,000
Purchase Returns &Allowances		10,000
Purchase Discounts		25,000
Sales Returns & Allowances	45,000	
Sales Discount	35,000	
Land & Building	650,000	
Fixtures	225,000	
Accumulated Depreciation-Land & Building		150,000
Accumulated Depreciation-Fixtures		100,000
Office Supplies	15,000	
Marketable Securities	45,000	
Delivery Equipment	200,000	
Notes Payable		40,000
Accounts Payable		75,000
Mortgage Payable		50,000
Transportation-in	20,000	
Officers' Salaries	110,000	
Office Salaries	60,000	
Sales Salaries	80,000	
Advertising	60,000	
Delivery Expenses	50,000	
Utilities Expenses	15,000	
Rent Expenses	30,000	
Dividend Income		30,000
Investment in Uttara Company	100,000	
Dividends	100,000	
Common stock		600,000
Retained Earnings, January 1, 2023		215,000
Interest	5,000	
	Tk. 2,795,000	Tk. 2,795,000

Additional Information:

1. A physical inventory of merchandise on hand at December 31, 2023 showed goods worth Tk.120,000.
2. Office supplies unused on December 31, estimated to Tk.5,000.
3. Interest accrued on investment Tk.7,000.

4. Land and Building is to be depreciated @ 5% p.a.
5. Interest on Mortgage due Tk.5,000.
6. Depreciate Fixtures @ 10% and Delivery Equipment @ 15%.
7. Accrued expenses: Officers' salaries Tk.10,000 Office salaries Tk.5,000 and Delivery expenses Tk.15,000.

https://www.youtube.com/watch?v=skEWaBTT32M

https://www.youtube.com/watch?v=pi4lo7573oU

Solution:

Chand Sultana & Company
Income Statement
For the Year Ended December 31, 2023

Sales Revenue				
Sales				Tk.1,500,000
Less: Sales Returns & Allowances			Tk.45,000	
Sales Discounts			35,000	80,000
Net Sales				1,420,000
Cost of Goods Sold :				
Merchandise Inventory, January 1			125,000	
Purchases		Tk.750,000		
Less: Purchases Returns				
& Allowances	Tk.10,000			
Purchase Discounts	25,000	35,000		
715,000				
Add: Transportation-in		20,000		
Net purchases			735,000	
Cost of goods available for sale			860,000	
Less: Merchandise Inventory, Dec. 31			120,000	
Cost of Goods Sold				740,000
Gross profit on sales				**Tk.680,000**
Operating Expenses				
Selling Expenses				
Sales Salaries		Tk.80,000		
Advertising		60,000		
Delivery Expenses	50,000			
Add: Accrued	15,000	65,000		
Depreciation: Fixtures		22,500		
Depreciation: Delivery Equipment		30,000		
Total Selling Expenses			257,500	
Administrative Expenses				
Offices Salaries	110,000			
Add: Due	10,000	120,000		
Officers' Salaries	60,000			
Add: Due	5,000	65,000		
Office supplies	15,000			
Less: Unused	5,000	10,000		
Utilities Expenses		15,000		
Rent 30,000				
Depreciation: Land & Building		32,500		
Total Administration Expenses			272,500	
Total Operating Expenses				Tk.530,000
Income from operations				**Tk.150,000**
Add: Non-operating Income				
Dividend Income			30,000	
Interest			7,000	37,000
Less: Non-operating Expenses				Tk.187,000
Interest			5,000	
Add due			5,000	10,000
Net Income				**Tk.177,000**

Chand Sultana & Company
Statement of Retained Earnings
For the Year Ended December 31, 2023

Retained Earnings, January 1	Tk.215,00
Add: Net income for the year	177,000
	392,000
Less: Dividends	100,000
Retained Earnings, December 31	Tk.292,000

Chand Sultana & Company
Balance Sheet
As on December 31, 2023

		Assets	
Current Assets			
Cash		Tk.10,000	
Notes Receivable		15,000	
Accounts Receivable		50,000	
Marketable Securities		45,000	
Merchandise Inventory		120,000	
Office supplies		5,000	
Interest Accrued		7,000	
Total Current Assets			Tk.252,000
Investments			
Investment in Uttara Company			100,000
Property, Plant and Equipment			
Land and Building	Tk.650,000		
Less: Accumulated Depreciation (150,000+32,500)	182,500		
		467,500	
Fixtures 225,000			
Less: Accumulated Depreciation (100,000+22,500)	122,500		
		102,500	
Delivery Equipment	200,000		
Less: Accumulated Depreciation	30,000	170,000	
Total Property, Plant & Equipment			740,000
Total Assets			Tk.1,092,000
		Liabilities & Stockholders' Equity	
Current Liabilities			
Notes Payable		Tk.40,000	
Accounts Payable		75,000	
Interest on Mortgage Due		5,000	
Accrued Officers' Salaries		10,000	
Accrued Office Salaries		5,000	
Accrued Delivery Expenses		15,000	
Total Current Liabilities			Tk.150,000
Long-Term Liabilities			
Mortgage Payable			50,000
Stockholders' Equity			
Common Stock		600,000	
Retained Earnings		292,000	
Total Stockholders' Equity			892,000
Total Liability & Stockholders' Equity			Tk.1,092,000

Review Questions

1. How is a single-step income statement different from a multiple-step income statement? Explain.
2. Max Company distributes suitcases to retail stores and extends credit terms of 1/10, n/30 to all of its customers. At the end of June, Max's inventory consisted of suitcases costing Tk.1,20,000. During the month of July 2023 the following merchandising transactions occurred.

July	1	Purchased suitcases on account for Tk.1,80,000 from Padma Manufacturers, FOB destination, terms 2/10, n/30. The appropriate party also made a cash payment of Tk.10,000 for freight on this date.
	3	Sold suitcases on account to Chattogram Leather for Tk.2,00,000. The cost of suitcases sold is Tk.1,20,000.
	9	Paid Padma Manufacturers in full.
	12	Received payment in full from Chattogram Leather.
	17	Sold suitcases on account to Apex Ltd. for Tk.1,80,000. The cost of the suitcases sold was Tk.1,08,000.
	18	Purchased suitcases on account for Tk.1,90,000 from Jamuna Manufacturers, FOB shipping point, terms 1/10, n/30. The appropriate party also made a cash payment of Tk.12,500 for freight on this date.
	20	Received Tk.30,000 credit (including freight) for suitcases returned to Jamuna Manufacturers.
	21	Received payment in full from Apex Ltd.
	22	Sold suitcases on account to Diamond's for Tk.2,25,000. The cost of suitcases sold was Tk.1,35,000.
	30	Paid Jamuna Manufacturers in full.
	31	Granted Diamond's Tk.20,000 credit for suitcases returned costing Tk.12,000.

Max's chart of accounts includes the following: No. 101 Cash, No. 112 Accounts Receivable, No. 120 Inventory, No. 201 Accounts Payable, No. 401 Sales Revenue, No. 412 Sales Returns and Allowances, No. 414 Sales Discounts, and No. 505 Cost of Goods Sold.

Required:

Journalize the transactions for the month of July 2023 for Max Co. using a perpetual inventory system.

3. With the help of the following account information of Cresent Company, prepare a classified /multiple-step income statement.

Sales	Tk. 97,00,000
Sales returns and allowances	475,000
Sales Discount	250,000
Inventory, January 1	15,50,000
Purchases	45,00,000
Purchase discounts	375,000
Purchase returns and allowance	560,000
Freight-in	175,000
Inventory, December 31	750,000
Sales salaries expense	800,000
Sales commission expense	590,000
Depreciation expense - Delivery equipment	150,000

Utilities expense	75,000
Insurance expense	85,000
Office salaries expense	950,000
Depreciation expense – Building	185,000
Property tax expense	75,000
Utilities expense	65,000
Insurance expense	75,000
Interest revenue	36,000
Gain on sale of equipment	25,500
Interest expense	15,000
Loss on sale of equipment	35,000
Casualty loss from vandalism	7,500
Income tax expense	65,000

Answer:

Net sales	Tk. 8,975,000
Cost of goods sold:	4,540,000
Gross profit on sales	4,435,000
Total operating expenses	3,050,000
Income before income taxes	1,389,000
Net income	1,324,000

Unit 6: Inventories

Unit Highlights

- Concept of inventory.
- Importance of accurate inventory costing.
- Description of the steps involved in determining inventory quantities**.**
- Systems of accounting for inventory.
- Methods for inventory costing under perpetual and periodic inventory systems.



Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program

Terminology

Average-Cost Method	Inventory costing method that uses the weighted-average unit cost to allocate to ending inventory and cost of goods sold the cost of goods available for sale.
Finished Goods Inventory	Manufactured items that are completed and ready for sale.
First-in, First-out (FIFO) Method	Inventory costing method assumes that the costs of the earliest goods purchased are the first to be recognized as cost of goods sold.
FOB (Free on board) Destination	Freight terms indicating that ownership of the goods remains with the seller until the goods reach the buyer. Freight costs will be borne by the seller.
FOB (Free on board) Shipping point	Freight terms indicating that ownership of the goods passes to the buyer when the public carrier accepts the goods from the seller. The buyer will bear the freight costs.
Last-in, First-out (LIFO) Method	Inventory costing method that assumes the costs of the latest units purchased are the first to be allocated to the cost of goods sold.
Lower-of-Cost-or-Market (LCM) Basis	A basis whereby inventory is stated at the lower of either its cost or its market value as determined by current replacement cost. This is the conservatism concept.
Periodic Inventory System	A system of inventory in which updates are made on a periodic basis. In this system, no effort is made to keep up-to-date records of either the inventory or the cost of goods sold. Ending inventory is the value at the end of an accounting period.
Perpetual Inventory System	A system of inventorythat updates inventory accounts after each purchase or sale. The inventory subsidiary ledger is updated after each transaction.
Raw Materials Inventory	Basic goods that will be used in production but have not yet been placed into production.
Specific Identification Method	An actual physical flow costing method in which items still in inventory are specifically valued to arrive at the total cost of the ending inventory.
Weighted-Average Unit Cost	Average cost is weighted by the number of units purchased at each unit cost.
Work in Process	That portion of manufactured inventory has been placed into the production process but is not yet complete.

Lesson 1: Inventory Basics

Lesson Objectives

After studying this lesson, you should be able to:

- know the concept of inventory;
- explain the importance of accurate inventory costing; and
- describe the steps in determining inventory quantities.

Concept of Inventory

Inventories are *assets* that are owned by the business organization and are *in a form ready for sale* to customers in the ordinary course of business. In a manufacturing organization, inventories are usually classified into 3 categories:

(a) Finished Goods: are goods that are completed and ready for sale. For example trading merchandise, software, land, or other properties held for resale.

(b) Work-in-Process: are those portions of inventory that are partially completed and are on the factory floor of a manufacturing organization.

(c) Raw Materials: are basic *materials* or substances which are on hand waiting to be used or consumed in the production process or in the rendering of services. For example,cotton in a spinning mill, fabrics for garments, etc.

In a merchandising or manufacturing organization, inventories, as a part of working capital, are considered as their lifeblood. Conventionally, inventories are the most essential items for the smooth functioning of a business, and the sale of inventories provides the major source of revenue.

Importance of Accurate Inventory Costing

Now we will discuss why accurate inventory costing is important in an organization. If we want to determine actual income, we have to measure all assets properly. You know, inventories are relatively large and their sizes fluctuate. So the correct inventory costing is important in measuring the proper income. If there is an error in inventory costing, it can cause a material misstatement of financial position and of net income. Let's see how the correct and incorrect inventory costing affects income measurement.

Relationship of Inventory Measurements to Reported Income

Assumed Data	With Correct Ending Inventory	With Incorrect Ending Inventory	
Sales	Tk.415,000	Tk.415,000	Tk.415,000
Beginning Inventory	70,000	70,000	70,000
Net Cost of Purchases	310,000	310,000	310,000
Cost of Goods Available forSale	380,000	380,000	380,000
Less: Ending Inventory	65,000	50,000	80,000
Cost of Goods Sold	315,000	330,000	300,000
Gross Profit on Sales	100,000	85,000	115,000
Operating Expenses	35,000	35,000	35,000
Reported Net Income	Tk.65,000	Tk.50,000	Tk.80,000

You see in both cases the sales, beginning inventory, the net cost of purchase, and operating expenses are identical. When the actual ending inventory is Tk. 65,000, the net income is Tk. 65,000. If the ending inventory is understated by Tk. 15,000 (at Tk. 50,000), the net income will also be decreased by Tk. 15,000 (from Tk. 65,000 to Tk. 50,000). Again if the ending inventory costing is incorrectly made at Tk. 80,000, the net income will be increased to Tk. 80,000 from Tk. 65,000. You know, the ending inventory of one year is also the beginning inventory of the following year. Sometimes it is argued that an error is reported income due to incorrect inventory costing of one year is exactly offset by the error in the reported income for the next year. So, ultimately the error has no serious consequences. But this is totally a wrong concept. Management may take many actions on the basis of reported income. Moreover, the bankers, creditors, investors, and other interested groups may be influenced by the reported income and its trends. So, accurate ending inventory costing in a period is essential to determine the actual income of an organization.

Determining Inventory Quantities

At the end of the accounting period, each concern calculates the quantities of inventory whether it uses a periodic or perpetual inventory system. If it uses the perpetual system, it takes a physical inventory for two reasons:

(a) To check the accuracy of their perpetual inventory records.
(b) To determine the amount of inventory lost due to wasted raw materials, shoplifting, or employee theft.

The concern, which uses the periodic inventory system, takes a physical inventory to determine the inventory on hand at the balance sheet date, and to determine the cost of goods sold for the period. The quantities of inventory are calculated by two steps:

(i) taking a physical inventory of goods which involves actually counting, weighing, or measuring each kind of inventory on hand.; and
(ii) determining the ownership of goods ensuring that all of the goods included in the count belong to the concern. Goods in transit should be included in the inventory of the concern that has legal title to the goods.

Review Questions

1. Explain what inventory is.
2. Why is an accurate valuation of inventory important? Explain with examples.
3. Describe the steps in determining inventory quantities**.**

Lesson 2: Inventory Costing/Pricing/Valuation: Perpetual Inventory System

Lesson Objectives

After studying this lesson, you should be able to:

- know the systems of accounting for inventory;
- discuss different methods for inventory costing under perpetual inventory system; and
- make a comparison and find out the effects of alternative methods of inventory costing.

Systems of Accounting for Inventory

According to conservatism constraints, inventory costing is made at a lower cost or net realizable value. If all merchandise is purchased at the same unit cost, there will be no problem determining the cost of goods sold and that of ending inventory for a period. But merchandise may have to be purchased at different prices on different dates. In this case, an accountant faces a problem in determining which prices should be used as the costs of goods sold and that of ending inventory (unsold). An accountant may follow any one of the systematic inventory cost flow assumptions. In practice, the actual physical flow of goods and the cost flow assumptions are quite different, the assumption is really an assumption about the flow of costs rather than the flow of physical inventory. The flow of goods describes the actual physical movement of goods in a concern's operations. Cost flow is the real or assumed association of unit costs with goods either sold or in hand. The assumed cost flow may not reflect the actual flow of materials.

Dear learners, there are two systems of accounting for inventories:

(i) **Perpetual Inventory System:** In a perpetual inventory system, merchandise inventory and the cost of goods sold are updated continuously on each sale and purchase transaction.

(ii) **Periodic Inventory System**: In a periodic inventory system, merchandise inventory and the cost of goods sold are not updated continuously. Instead, purchases are recorded in the Purchases account and each sale transaction is recorded via a single journal entry.

Inventory Costing-Meaning and Methods

Inventory is accounted for at cost. Cost includes all expenditures necessary to acquire goods and place them in a condition ready for sale. For example, freight costs incurred to acquire inventory are added to the cost of inventory, but the cost of shipping goods to a customer is a selling expense.

After a concern has determined the number of units of inventory, it applies unit costs to the quantities to compute the total cost of the inventory and the cost of goods sold. This process can be complicated if a concern has purchased inventory items at different times and at different prices.

An inventory ledger is a document or computer record that tracks inventory transactions. The total of all transactions listed in this ledger should match the total for the corresponding account in the general ledger. Depending upon the type of usage, and inventory ledger can be considered a subsidiary ledger of the general ledger.

Example: 6.2.1

WALTON TV Company purchases three identical 50-inch TVs on different dates at costs of Tk.70,000, Tk.75,000, and Tk.80,000. During the year, WALTON sold two sets at Tk.1,20,000 each. These facts are summarized below.

	Purchases		Sales
February 3	1 TV at Tk.70,000	June 1	2 TVs for Tk.2,40,000 (Tk.1,20,000 × 2)
March 5	1 TV at Tk.75,000		
May 22	1 TV at Tk.80,000		

Cost of goods sold will differ depending on which two TVs the company sold. For example, it might be Tk.1,45,000 (Tk.70,000 + Tk.75,000), or Tk.1,50,000 (Tk.70,000 + Tk.80,000), or Tk.1,55,000 (Tk.75,000 + Tk.80,000). In this section, we discuss alternative costing methods available to WALTON.

There are two major generally accepted methods of inventory costing: These are:

(i) Specific Identification.
(ii) Assumed Cost Flow
  (a) First-in, first-out (FIFO).
  (b) Last-in, first-out (LIFO).
  (c) Average-cost.

Each of the two methods of inventory costing is acceptable for use in published financial statements. The factors that should be considered in choosing an inventory costing method are the effects of each method on the balance sheet, the income statement, income taxes, and management decisions.

(i) Specific Identification Method

If the units in ending inventory can be identified as coming from specific purchases, the specific identification method may be used to price the inventories. This method is also called the actual physical flow costing method. Under this method,

a) the purchase price of each specific unit is recorded.

b) the specific units sold are known.

c) the actual prices of the specific units unsold are costs of ending inventory.

This method is suitable for the valuation of high-priced but low-volume items, such as automobiles, heavy equipment, jewelry, estate homes, and other types of real estate. Conceptually, this method appears to be logical and ideal as the actual costs are matched against actual revenue, and ending inventory is reported at actual or original cost. Nowadays, in computerized accounting systems, due to the use of barcoding, electronic product codes, etc., this method has become popular for nearly any type of product. However, the reality is that this method is not widely used because it is very difficult and impractical in most cases to keep track of each item and make them separate if the number of items is substantial and physically identical.

Example: 6.2.2

To illustrate the specific identification inventory costing method, we will consider the records of WALTON Limited. for the month of July 2023, which sells identical items.

July 1	Beginning inventory 200 units	@ Tk. 400 each
5	Purchased 160 units	@ Tk. 500 each
8	Sold 240 units	@ Tk. 800 each
17	Purchased 320 units	@ Tk. 600 each
25	Purchased 200 units	@ Tk. 640 each
30	Sold 400 units	@ Tk. 800 each

Assume that of the 240 units sold on July 8, 160 units come from the beginning inventory and 80 units from the July 5 purchase, and that of the 400 units sold on July 30, 300 units come from the July 17 purchase and 100 units from the July 25 purchase.

Solution:

Under specific identification method, the cost of ending inventory is the total of the individual costs of inventories still in hand at the end of the period.

Remaining 40 units from beginning inventory	@	Tk.400 =	Tk.16,000
Remaining 80 units purchased on July 5	@	Tk. 500=	Tk.40,000
Remaining 20 units purchased on July 17	@	Tk. 600=	Tk.12,000
Remaining 100 units purchased on July 25	@	Tk. 640=	Tk.64,000
Total ending inventory (240 units)		=	Tk.132,000

Learners, you see here, the company's beginning inventory is 200 units @ Tk. 400 and purchased more than 160 units on July 5 @ Tk. 500. On July 8, the company sold 240 units @Tk. 800. Assume that out of 240 units sold, 160 units come from beginning inventory and the remaining 80 units from the purchase of July 5. So, on July 1, the remaining balances of inventory are 40 units @Tk. 400 or Tk. 16,000 and on July 5, 80 units remain @Tk. 500, i,e.,Tk. 40,000. Further, assume that on July 30 the company sold 400 units of which 300 units come from July 17 purchase and 100 units from the July 25 purchase. So the remaining balances of July 17 and July 25 are 20 units and 100 units or Tk. 12,000 and Tk. 64,000 respectively. Similarly, under the specific identification method, the cost of goods sold is the total cost of the specific units sold.

160 units from beginning inventory	@	Tk. 400=	Tk.64,000
80 units from the purchase of July 5	@	Tk. 500=	Tk.40,000
300 units from the purchase of July 17	@	Tk. 600=	Tk.180,000
100 units from the purchase of July 25	@	Tk. 640=	Tk.64,000
The total cost of goods sold			Tk. 348,000

Here, as 160 units are sold @ Tk. 400 from beginning inventory of July 1, the cost of goods sold on July will be Tk. 64,000. The similar treatments will be on July 5, 17, and 25. Thus, the total cost of goods sold Tk. 348,000.

(ii) Assumed Cost Flow Methods

Because specific identification is often impractical, other cost flow methods are permitted. These differ from specific identification in that they assumeflows of costs that may be unrelated to the actual physical flow of goods. There are three assumed cost flow methods: Now we will discuss various assumed cost flow methods of inventory valuation. Under perpetual system issues of merchandise are valued.

(a) First-in, First-out (FIFO) Method

The first-in, first-out method is based on the assumption that the oldest or earliest goods are sold first and that the most recently or latest purchased goods remain in the ending inventory. This means that cost of older inventory is charged to the cost of goods sold first and the costs of ending inventory consists of the costs of those goods which are purchased or produced later. This is the most widely used method for inventory valuation. FIFO method is somewhat closer to the actual physical flow of goods because concerns normally sell goods in order in which these are purchased or produced. IASB allows the use of this method. Now, we will see what will be the costs of ending inventory and goods sold if WALTON LIMITED uses the FIFO method.

WALTON LIMITED
Inventory/Store Ledger
Under FIFO Method

Date	Ref.	Purchases			Cost of Goods Sold			Balance (Cost) of Inventory		
		No. of Units	Unit Cost Tk.	Total Cost Tk.	No. of Units	Unit Cost Tk.	Total Cost Tk.	No. of Units	Unit Cost Tk.	Total Cost Tk.
July1		--	--	--	--	--	--	200	400	80,000
5		160	500	80,000	--	--	--	200 160	400 500	160,000
8		--	--	--	200 40	400 500	100,000	120	500	60,000
17		320	600	192,000	--	--	--	120 320	500 600	252,000
25		200	640	128,000	--	--	--	120 320 200	500 600 640	380,000
30		--	--	--	120 280	500 600	228,000	40 200	600 640	152,000
Total		680		400,000	640		328,000	240		152,000

You see on July 1, the company had an inventory of 200 units of Tk. 400 per unit. So the balance of beginning inventory is Tk. 80,000. On July 5, the company purchased 160 units @Tk. 500 per unit. So the balance of inventory will be 200 units & 160 units or Tk. 160,000 (80,000+80,000). The learning point is on July 8 when the company sold 240 units. As per the FIFO method, the company sold the older 200 units first then the remaining 40 units from 160 units at the respective rates. So the balance of inventory remains 120 units of Tk. 500 each unit i.e., Tk. 60,000. Similarly, the purchases of July 17 and 25 are added to costs of inventory, and the sales of 400 units on July 30 are made from the earliest balances i,e.,120 units and the remaining 280 units from 320 units. So, the total cost of goods sold is Tk. 328,000 and the cost of inventory remains Tk. 152,000.

The distinguishing characteristics of the FIFO method are that the oldest purchase costs are transferred to the cost of goods sold, while most recent purchase costs remain in inventory.

(b) Last-in, First-out (LIFO) Method

This method of costing inventories is based on the assumption that the costs of the latest goods purchased are to be included in costs of goods sold first and that the costs of the ending inventory consist of the costs of merchandise purchased earliest. This assumption, of course, does not agree with the actual physical movement of goods in most businesses. IASB does not allow the use of this method. Let's see how the costs of goods sold and ending inventory are computed under the LIFO method.

WALTON LIMITED
Inventory/Store Ledger
Under LIFO Method

Date	Ref.	Purchases			Cost of Goods Sold			Balance (Cost) of Inventory		
		No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost
			Tk.	Tk.		Tk.	Tk.		Tk.	Tk.
July 1		--	--	--	--	--	--	200	400	80,000
5		160	500	80,000	--	--	--	200 160	400 500	160,000
8		--	--	--	160 80	500 400	112,000	120	400	48,000
17		320	600	192,000	--	--	--	120 320	400 600	240,000
25		200	640	128,000	--	--	--	120 320 200	400 600 640	368,000
30		--	--	--	200 200	640 600	248,000	120 120	400 600	120,000
Total		680		400,000	640		360,000	240		120,000

Learners, you see, like the FIFO method, the balances of inventory on July 5 remain 200 units and 160 units or Tk. 160,000. Under the LIFO method, for sales of 240 units on July 8, the latest purchased goods 160 units are to be sold first, then the remaining 80 units from the earlier balance of 200 units are to be sold and the 120 units or Tk. 48,000 remain as inventory. Similarly, the balances of inventory on July 25 are 120, 320, and 200 units of different unit costs. On July 30, as per the LIFO method, out of 400 units sold, at first, the latest 200 units @Tk. 640 per unit are to be sold, then the remaining 200 units from the immediate past purchase of 320 units @Tk. 600 are to be sold. Thus, the total cost of goods sold will be Tk. 3,60,000 and the cost of inventory for 240 units will be Tk. 120,000.

(c) Moving Average- Cost Method

Another important assumed cost flow method of inventory valuation is the moving average cost method. This method is also known as the moving weighted average unit cost method. Under this method, a new unit cost is computed each time a purchase is made by dividing the total cost of goods in inventory by a total number of units in inventory. This average cost is then used as the unit cost of goods sold and of ending inventory. This alternative is also allowed by IASB. Let's see what will be the cost of goods sold and the cost of ending inventory if WALTON LIMITED usesthe average cost method.

Average cost per unit after each purchase $= = \frac{\text{Total Cost of Inventory}}{\text{Total Units in Inventory}}$

WALTON LIMITED
Inventory/Store Ledger
Under Average Cost Method

Date	Ref.	Purchases			Cost of Goods Sold			Balance (Cost) of inventory		
		No. of Units	Unit Cost Tk.	Total Cost Tk.	No. of Units	Unit Cost Tk.	Total Cost Tk.	No. of Units	Unit Cost Tk.	Total Cost Tk.
July1		---	---	---	---	---	---	200	400.00	80,000
5		160	500	80,000				360	444.44	160,000
8		---	---	---	240	444.44	106,667	120	444.44	53,333
17		320	600	192,000	---	---	---	440	557.58	245,333
20		200	640	128,000	---	---	---	640	583.33	373,333
30					400	583.33	233,333	240	583.33	140,000
Total		680		400,000	640		340,000	240	583.33	140,000

Learners, notice here that after purchase on July 5, the weighted average unit cost Tk. 444.44 is calculated by dividing the total cost of inventory of Tk. 160,000 by the total inventory of 360 units. Then only July 8, this average unit cost is multiplied by the number of units sold 240 units to get the cost of goods sold and with the number of units in inventory 120 units to obtain the cost of ending inventory. Similarly, on the sale of July 30, the unit cost of inventory is multiplied by the number of units sold and in hand to obtain the cost of goods sold and of ending inventory respectively.

Example: 6.2.3

The inventory records of Apex Company show the following:

Jan 1	Beginning inventory consists of 12 units costing Tk. 48 per unit.
5	Purchased 15 units @Tk. 49 per unit.
10	Sold 9 units @Tk. 108 per unit.
12	Sold 7 units @Tk. 108 per unit.
20	Purchased 20 units @Tk. 50 per unit.
22	Purchased 5 units @Tk. 51 per unit.
30	Sold 20 units @Tk. 110 per unit.

Assume all purchases and sales are made on account.

Required:

(a) Using FIFO perpetual inventory procedure, compute the cost of goods sold for January.
(b) Using FIFO perpetual inventory procedure, prepare the journal entries for January.

Solution:

(a) Computation of Cost of Goods Sold for January

Apex Company
Inventory Ledger
Under **FIFO** Method

Date	Ref.	Purchases			Cost of Goods Sold			Balance (Cost) of Inventory		
		No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost
			Tk.	Tk.		Tk.	Tk.		Tk.	Tk.
Jan 1		--	--	--	--	--	--	12	48	576
5		15	49	735	--	--	--	12 15	48 49	1,311
10		--	--	--	9	48	432	3 15	48 49	879
12		--	--	--	3 4	48 49	340	11	49	539
20		20	50	1,000	--	--	--	11 20	49 50	1,539
22		5	51	255	--	--	--	11 20 5	49 50 51	1794
30		--	--	--	11 9	49 50	989	11 5	50 51	805
Total		40		1,990	36		1,761	16		805

So, the cost of goods sold for January is Tk. 1,761.

(b) Preparation of Journal entries:

Apex Company
Journal Entries
For January
(Under FIFO Perpetual Inventory System)

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Jan 5	Merchandise Inventory Accounts Payable (To record purchase of 15 units @Tk. 49 on account)		Tk. 735	Tk. 735
10	Accounts Receivable Sales (To record sales of 9 units @Tk. 108 on account)		Tk. 972	Tk. 972
10	Cost of Goods Sold Merchandise Inventory (To record cost of goods sold of 9 units @Tk. 48)		Tk. 432	Tk. 432
12	Accounts Receivable Sales (To record sales of 7 units @Tk. 108 on account)		Tk. 756	Tk. 756
12	Cost of Goods Sold Merchandise Inventory (To record cost of goods sold of 3 units @Tk. 48 and 4 units @Tk.49)		Tk. 340	Tk. 340
20	Merchandise Inventory Accounts Payable (To record purchase of 20 units @Tk. 50 on account)		Tk. 1,000	Tk. 1,000
20	Inventory Accounts Payable (To record purchase of 5 units @Tk. 51 on account)		Tk. 255	Tk. 255
30	Accounts Receivable Sales (To record sales of 20 units @Tk. 110 on account)		Tk. 2,200	Tk. 2,200
30	Cost of Goods Sold Merchandise Inventory (To record cost of goods sold of 11 units @Tk. 49 and 9 units @Tk.50)		Tk. 989	Tk. 989

Comparison and Effects of Alternative Methods of Inventory Costing

The specific identification, average cost, FIFO, and LIFO methods of pricing inventory have been discussed so far. The specific identification method is based on actual costs, whereas the other methods are based on assumptions regarding the flow of costs. Let us now compare the effects of the four methods on net income, using the same data as before:

	Specific Identification Method	Average Cost Method	First-in, First-out Method	Last-in, First out Method
Net sales	Tk.512,000	Tk.512,000	Tk.512,000	Tk.512,000
Cost of Goods sold:				
Beginning Inventory	80,000	80,000	80,000	80,000
Net Purchase	400,000	400,000	400,000	400,000
Cost of Goods Available for Sale	480,000	480,000	480,000	480,000
Less: Ending Inventory	132,000	140,000	152,000	120,000
Cost of Goods sold	348,000	340,000	328,000	360,000
Gross Margin from Sales	Tk.164,000	Tk.172,000	Tk.184,000	Tk.152,000

Effect of Inventory Costing Method on Net Income in Inflationary and Deflationary Conditions

The effect of the methods of costing upon the net profit in inflationary and deflationary time is of great significance. The use of the FIFO method in a rising price matches rising sales prices with the oldest low-cost inventory, thus expanding the gross margin on sales. In a period of falling prices, declining sales prices are matched against the oldest high-cost inventory, thus narrowing the margin on sales. On the other hand, the use of the LIFO method leads to relating the current high cost of acquiring merchandise with rising sales prices in a period of rising prices and the low cost of acquiring merchandise with decreasing sales, prices in a period of falling prices. The average method, however, recognizes both past and present costs in the inventory. In this case, generally, results will closely parallel to FIFO costs since ordinarily purchases during the period are usually several times the inventory balance carried into the period and the average cost forming the classing inventory valuation will thus approach current costs.

https://www.youtube.com/watch?v=Nn1wmtftj8g
https://www.youtube.com/watch?v=94RGIYXEZdc
https://www.youtube.com/watch?v=SAi9khpeumM

Review Questions

1. State the nature of business where the specification identification and assumed cost flow methods are normally used for inventory costing.
2. Make a comparison and find out the effects of alternative methods of inventory costing. Distinguish between perpetual and periodic inventory costing systems.
3. During inflation, which method between FIFO and LIFO would show more income and why?
4. What is meant by goods flow and cost flow?

5. On June 10, 2024 Kogan Company purchased Tk.60,000 of merchandise from R. Rego Company FOB shipping pint, terms 2/10, n/30. Kogan pays the freight costs of Tk. 3,000 on June 11. Damaged goods totaling Tk.4,000 are returned to R. Rego for credit on June 12. The scrap value of these goods is Tk.2,000. On June 19, Kogan pays R. Rego Company in full less the purchase discount. Both companies use a perpetual inventory system.

   Required:

   (a) Prepare separate entries for each transaction on the books of Kogan Company.
   (b) Prepare separate entries for each transaction for Rego Company. The merchandise purchased by Kogan on June 10 had cost Rego Tk.30,000.

6. The beginning inventory, purchase, and sales of product F 75 for April 2024 are presented below:

April 1	Beginning inventory	400 units @ Tk.50
5	Purchases	350 units @ Tk.55
8	Sales	500 units
12	Purchases	800 units @ Tk.66
15	Purchases	300 units @ Tk.58
20	Sales	1,000 units
25	Purchases	750 units @ Tk.62
30	Sales	800 units

   Required:
   Ascertain the quantity of ending inventory as of April 30, 2024 and state what will be its value (in each case) if issues are made under the following methods:

   (a) Specific Identification
   (b) First-in, First-out (FIFO)
   (c) Last-in, First-out (LIFO)
   (d) Average cost

Lesson 3: Inventory Costing/Pricing/Valuation: Periodic Inventory System

Lesson Objectives

After studying this lesson, you should be able to:

- explain the periodic system of accounting for inventory which is different from perpetual inventory; and
- discuss different methods for inventory costing under the periodic inventory system.

Periodic Inventory System

Although the perpetual inventory method provides excellent control over merchandise and allows for a quick determination of the amount of inventory at all times, some businesses do not use the perpetual system because it is too time-consuming, complex, and costly. A periodic inventory system is an alternative to a perpetual inventory system. Under a periodic inventory system, no effort is made to keep up-to-date records of either the quantum of inventory or the cost of goods sold, instead, the quantity and cost of inventory are determined, as its name implies, only periodically - usually at the end of each accounting year. It allows a firm to determine inventory and cost of goods sold at the end of the period without recording the effect on the inventory of every sale and purchase transaction. Under this method, all the acquisitions of merchandise of the period are debited to the purchase account. The total purchase account is added with the cost of beginning inventory at the end of the period to determine the cost of goods available for sale. To compute the cost of goods sold, ending inventory is deducted from the *cost of goods available for sale.*

Beginning Inventory of Merchandise	Tk.***
Add Net Purchase	***
Cost of Goods Available for Sale	***
Less Cost of Ending Inventory	***
Cost of Goods Sold	Tk.***

Note that under this system, the *cost of goods sold* is a residual amount that is dependent upon the physical count of inventory at the end of the period and its costs. Since inventory available for sale has to be either included in the ending inventory or sold during the period, ending inventory and cost of goods sold are complementary amounts, and their sum must always equal the total cost of goods available for sale. The physical count of inventory should be taken at the end of the accounting year of the company so that correct inventory quantities both in physical and financial measures are available, for use in preparing annual accounting reports and statements.

Periodic Inventory Cost Flow Assumptions

As discussed above, a concernthat maintains a periodic inventory system does not keep track of the cost of goods sold during the period. The quantity of inventory is determined by taking a complete physical count of the inventory on hand at the end of the financial year. The cost of ending inventory is computed at the time of physical count and subtracted from the *cost of goods available for sale* to determine the *cost of goods sold.*An accountant must choose one of several systematic inventory cost flow assumptions - FIFO, LIFO, or Weighted Average costing [LIFO is not allowed by IASB].

First-in, First-out (FIFO) Method

This method assumes that the earliest acquired items are first used or sold. The ending inventory, therefore, represents the most recent purchases. Unlike the perpetual method, which makes calculations throughout the period, the periodic inventory system makes all calculations at the end of the period, normally after the physical counting of ending inventory. To illustrate, under the periodic FIFO method, WALTON LIMITED (see the previous example) would determine its ending inventory and cost of goods sold as follows:

	Units	Costs
Beginning inventory	200	Tk.80,000
Add: Net Purchases	680	400,000
Goods available for sale	880	Tk.480,000
Less: Ending inventory *	240	152,000
Cost of goods sold	640	Tk.328,000
*200 units @ Tk. 640 (Purchased on July 25)		Tk.128,000
40 units @ Tk. 600 (Purchased on July 17)		24,000
		= Tk.152,000

Note that same results may be obtained under the perpetual FIFO method also. Whatever the method is, the perpetual or periodic system is used under FIFO, the amount of cost of goods sold, net income, and ending inventory will be the same. Only the recording process is different.

Last- in, First-out (LIFO) Method

The LIFO method is opposite to FIFO i,e.,under the LIFO method the cost of the last items purchased is first matched against revenue. With periodic LIFO system, the cost of goods sold and the ending inventory of WALTON LIMITED (see the previous example) is calculated as follows:

	Units		Costs
Beginning inventory	200		Tk.80,000
Add: Net Purchases	680		400,000
Goods available for sale	880		Tk.480,000
Less: Ending inventory *	240		100,000
Cost of goods sold	640		Tk.380,000
* 200 units beginning inventory @ Tk.400 =			Tk.80,000
40 units (Purchased on July 17) @ Tk.500 =			20,000
		Total	Tk. 100,000

The cost of ending inventory under the periodic LIFO method is Tk.100,000 and under the perpetual LIFO method is Tk.120,000. This difference of Tk.20,000 arises due to the fact that under the periodic LIFO method no calculation is made until the end of the period.

Weighted Average- Cost Method

The weighted average cost approach is a cost flow alternative whereby the cost of goods sold and the cost of ending inventory are determined by using a weighted average cost of all inventories available for sale during the period. To illustrate, assuming that WALTON LIMITED (see the previous example) used the periodic inventory method, the ending inventory and cost of goods sold would be computed as follows using a weighted average method:

	Units	Costs
Beginning inventory	200	Tk.80,000
Add: Net Purchases	680	400,000
Goods available for sale	880	Tk.480,000
Less: Ending inventory *	240	130,909
Cost of goods sold	640	Tk.349,091

***** Under periodic weighted average method the average cost is computed by the cost of goods available for sale by the number of units available for sale during that period, or;

$$\frac{Cost\ of\ goods\ available\ for\ sale}{Total\ no.\ of\ units\ available\ for\ sale} = \frac{Tk.\ 480{,}000}{680} = Tk.548.454$$

As discussed earlier, in the periodic weighted average method, the rate is calculated only once at the end of the period. By contrast, in the perpetual moving average method, a new average rate is computed after each purchase.

The Consistency in the Inventory Costing

The reliability of the financial statement of concern depends to a large extent whether the company follows the principle of consistency. The principle of consistency means that once a concern has adopted a particular method of accounting, the concern should follow the method that consists in the following years without shifting to another method frequently. Therefore, before selecting a particular method, the pros and cons of the method should be considered carefully. A concern can increase or decrease its net income simply by changing its method of inventory costing. As discussed earlier, the reported income of a concern differs due to the adoption of different methods of inventory valuation. Frequent methods switching would make income statements not reliable. In order to ensure the reliability of financial statements, an organization should follow a particular method for a reasonable period of time.

The principle of consistency does not mean that concern can never change its inventory valuation method. If circumstances demand, a concern can switch to another method. However, when a concern changes its methods of inventory valuation, the effect of the change upon the reported income should be disclosed fully in the footnotes accompanying financial statements. However, it may be mentioned that when a concern follows a particular method consistently for adequate disclosure of all information, even then inventory valuation method in use should be disclosed in the Balance sheet.

Example: 6.3.1

Elegant Company has the following inventory, purchases, and sales data for the month of March.

Inventory:		
March 1	200 units @ Tk.4.00	Tk. 800
Purchases:		
March 10	500 units @ Tk.4.50	2,250
March 20	400 units @ Tk.4.75	1,900
March 30	300 units @ Tk.5.00	1,500
Sales:		
March 15	500 units	
March 25	400 units	

The physical inventory count on March 31 shows 500 units on hand.

Required:

Under perpetual and periodic inventory systems, determine the cost of inventory on hand at March 31 and the cost of goods sold for March under (a) FIFO, (b) LIFO, and (c) Average-cost methods.

Solution:

Under Perpetual Inventory System

Elegant Company
Inventory Ledger
Under **FIFO** Method

Date	Ref.	Purchases			Cost of Goods Sold			Balance (Cost) of Inventory		
		No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost
			Tk.	Tk.		Tk.	Tk.		Tk.	Tk.
Mar 1		--	--	--	--	--	--	200	4.00	800
10		500	4.50	2,250	--	--	--	200 500	4.00 4.50	3,050
15		--	--	--	200 300	4.00 4.50	2,150	200	4.50	900
20		400	4.75	1,900	--	--	--	200 400	4.50 4.75	2,800
25		--	--	--	200 200	4.50 4.75	1,850	200	4.75	950
30		300	5.00	1,500	--	--	--	200 300	4.75 5.00	2,500
Total		1,200		5,650	900		4,000	500		2,500

Cost of inventory on hand at March 31 Tk. 2,500 and the cost of goods sold Tk. 4,000.

Elegant Company
Inventory Ledger
Under **LIFO** Method

Date	Purchases			Cost of Goods Sold			Balance (Cost) of Inventory		
	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost
		Tk.	Tk.		Tk.	Tk.		Tk.	Tk.
Mar 1	--	--	--	--	--	--	200	4.00	800
10	500	4.50	2,250	--	--	--	200 500	4.00 4.50	3,050
15	--	--	--	500	4.50	2,250	200	4.00	800
20	400	4.75	1,900	--	--	--	200 400	4.00 4.75	2,700
25	--	--	--	400	4.75	1,900	200	4.00	800
30	300	5.00	1,500	--	--	--	200 300	4.00 5.00	2,300
Total	1,200		5,650	900		4,150	500		2,300

Cost of inventory on hand at March 31 Tk. 2,300 and the cost of goods sold Tk. 4,150.

Elegant Company
Inventory Ledger
Under **Average-Cost** Method

Date	Purchases			Cost of Goods Sold			Balance (Cost) of Inventory		
	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost	No. of Units	Unit Cost	Total Cost
		Tk.	Tk.		Tk.	Tk.		Tk.	Tk.
Mar 1	--	--	--	--	--	--	200	4.00	800
10	500	4.50	2,250	--	--	--	700	4.36	3,050
15	--	--	--	500	4.36	2,180	200	4.36	872
20	400	4.75	1,900	--	--	--	600	4.62	2,772
25	--	--	--	400	4.62	1,848	200	4.62	924
30	300	5.00	1,500	--	--	--	500	4.85	2,424
Total	1,200		5,650	900		4,028	500		2,424

Cost of inventory on hand at March 31 Tk. 2,420 and the cost of goods sold Tk. 4,030.

Under Periodic Inventory System

The cost of goods available for sale is Tk.6,450, as follows.

Inventory:		200 units @ Tk.4.00	Tk. 800
Purchases:			
	March 10	500 units @ Tk.4.50	2,250
	March 20	400 units @ Tk.4.75	1,900
	March 30	300 units @ Tk.5.00	1,500
Total:		1,400 units	Tk.6,450

Under a periodic inventory system, the cost of goods sold under each cost flow method is as follows.

FIFO Method

Ending inventory:

Date	Units	Unit Cost	Total Cost
March 30	300	Tk.5.00	Tk.1,500
March 20	200	4.75	950
			Tk.2,450

Cost of goods sold: Tk.6,450 - Tk.2,450 = Tk.4,000

LIFO Method

Ending inventory:

Date	Units	Unit Cost	Total Cost
March 1	200	Tk.4.00	Tk. 800
March 10	300	4.50	1,350
			Tk.2,150

Cost of goods sold: Tk.6,450 - Tk.2,150 = Tk.4,300

Average-Cost Method

Average unit cost: Tk.6,450 ÷ 1,400 = Tk.4,607
Ending inventory: 500 × Tk.4,607 = Tk.2,303.50
Cost of goods sold: Tk.6,450 – Tk.2,303.50 = Tk.4,146.50

Review Questions

1. You are provided with the following information for Atlas Inc. for the month ended October 31, 2023. Atlas uses a periodic inventory method.

Date	Description	Units	Unit Cost or Selling Price
October 1	Beginning inventory	60	Tk.25
October 9	Purchase	120	26
October 11	Sale	100	35
October 17	Purchase	70	27
October 22	Sale	60	40
October 25	Purchase	80	28
October 29	Sale	110	40

Required:

(a) Calculate ending inventory, cost of goods sold, gross profit, and gross profit rate under each of the following methods:

(i) LIFO.
(ii) FIFO.
(iii)Average-cost.

(b) Compare results for the three cost flow assumptions.

2. Yamin Ltd. is a retailer operating in Pabna. Yamin uses the perpetual inventory methods. All sales returns from customers result in the goods being returned to inventory; the inventory is not damaged. Assume that there are no credit transactions; all amounts are settled in cash.

Date	Description	Units	Unit Cost or Selling Price
January 1, 2024	Beginning inventory	60	Tk.25
January 9, 2024	Purchase	120	26
January 11, 2024	Sale	100	35
January 17, 2024	Purchase	70	27
January 22, 2024	Sales	60	40
January 25, 2024	Purchase	80	28
January 29, 2024	Sale	110	40

Required:

(a) Calculate ending inventory, cost of goods sold, gross profit, and gross profit rate under each of the following methods.

(i) LIFO.
(ii) FIFO.
(iii) Average-cost.

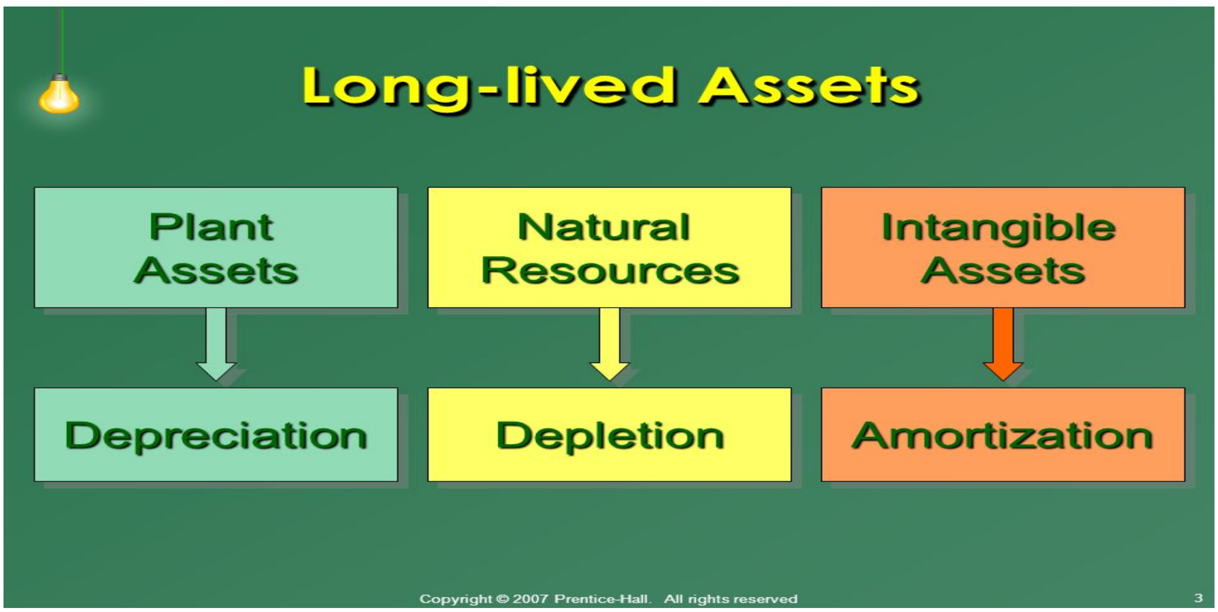
(b) Compare results for the three cost flow assumptions.

https://www.youtube.com/watch?v=94RGIYXEZdc

Unit 7: Plant Assets, Natural Resources, and Intangibles

Unit Highlights

- Concepts underlying long-term assets.
- Concept of depreciation.
- Computation of depreciation under different methods.
- Issues related to accounting for natural resources and intangible assets.



Technologies Used for Content Delivery

- BOUTUBE
- BOU LMS
- WebTV
- Web Radio
- Mobile Technology with MicroSD Card
- LP+ Office 365
- BTV Program
- Bangladesh Betar Program

Terminology

Additions and Improvements	Costs incurred to increase the operating efficiency, productive capacity, or useful life of a plant asset.
Amortization	The allocation of the cost of an intangible asset to expense over its useful life in a systematic and rational manner.
Capital Expenditures	Expenditures that increase the concern's investment in productive facilities.
Copyright	Exclusive grant from the government of a country that allows the owner to reproduce and sell an artistic or published work.
Depletion	The allocation of the cost of a natural resource to expense in a rational and systematic manner over the resource's useful life.
Depreciation	The process of allocating to expense the cost of a plant asset over its useful (service) life in a rational and systematic manner.
Depreciable cost	The cost of a plant asset less its salvage value.
Franchise (license)	A contractual arrangement under which the franchisor grants the franchisee the right to sell certain products, provide specific services, or use certain trademarks or trade names, usually within a designated geographical area.
Goodwill	The value of all favorable attributes that relate to a business enterprise.
Intangible assets	Rights, privileges, and competitive advantages that result from the ownership of long-lived assets that do not possess physical substance.
Licenses	Operating rights to use public property, granted to a business enterprise by a governmental agency.
Natural resources	Assets that consist of standing timber and underground deposits of oil, gas, or minerals and resources in the sea.
Patent	A government authority or license conferring a right or title for a set period, especially the sole right to exclude others from making or selling an invention.
Plant assets	Tangible resources that are used in the operations of the business and are not intended for sale to customers.
Research and development (R&D) costs	Expenditures that may lead to patents, copyrights, new processes, or new products or product development.
Revenue expenditures	Expenditures that are immediately charged against revenues as an expense.
Salvage value	An estimate of an asset's value at the end of its useful life. It is also known as scrap value or residual value or resale value.
Trademark (trade name)	A word, phrase, jingle, or symbol that identifies a particular enterprise or product.
Useful life	An estimate of the expected productive life, also called service life, of an asset.

Lesson 1: Concepts Underlying Long-term Assets

Lesson Objectives

After studying this lesson, you should be able to:

- explain the concept of long-term assets and their characteristics;
- identify the three major categories of long-term assets;
- understand the accounting issues related to acquisition of plant assets; and
- distinguish between capital expenditure and revenue expenditure.

Concept of Long-term(Non-current) Assets

'Long-term' assets are held and used by a business for a number of years, but they wear out or lose their usefulness over time. Every tangible non-current asset has a limited life. The only exception is land held freehold or on a very long leasehold. In the Balance Sheet, it is termed non-current assets or fixed assets or property, plant, and equipment.

Characteristics of Long-term (Non-current) Assets

Long-term assets (or *fixed assets or non-current assets*) have the following characteristics:

■ **They have a useful life of more than one year.** This distinguishes them from current assets, which a concern expects to use up or convert to cash within 1 year or during its operating cycle, whichever is longer. The most common criterion for the useful life of a long-term asset is that it be capable of repeated use for more than a year.

■ **They are used in the operation of a business.** For an asset to be classifiedas property, plant, and equipment, it must be "put in use," which means it is available for its intended purpose. An emergency generator is "put in use" when it is available for emergencies, even if it is never used. Assets not used in the normal course of business, such as land held for speculative reasons or buildings no longer used in ordinary operations, should be classifiedas investments.

■ **They are not intended for resale to customers.** An asset that a concern intends to resell to customers should be classified as inventory, no matter how durable it is. For example, a computer that a concern uses in an office is a long-term plant asset. An identical computer that a concern sells to customers is inventory.

Classification, Accrual Accounting, and Disclosure of Long-term Assets

Long-term assets are classified into three categories:

- Plant Assets /Property, plant, and equipment;
- Natural Resources; and
- Intangible Assets.

Plant Assets are long-lived assets that have physical substance. This category includes land, building, machinery, equipment, furniture, etc.

Natural Resources such as petroleum and natural gas under the ground, mineral deposits, gravel deposits, and timber tracts are assets that are physically consumed or are used up.

Intangible Assets are long-lived assets that do not have physical substance and in most cases, they provide their owners with competitive advantages over other firms. Typical intangible assets are patents, copyrights, trademarks, franchises, and goodwill.

Under accrual accounting,the cost of these assets, with the exception of land and some intangible assets, is allocated to the periods they benefit, as follows:

■ The periodic allocation of the costs of plant and equipment over their estimated useful lives is called **depreciation**. Although the land is property, it is not depreciated because it has an unlimited life.

■ The allocation of the costs of natural resources is called **depletion**.

■ The allocation of the costs of most long-term intangible assets, which represent a legal right or advantage, is called **amortization**. Some intangible assetsare not subject to amortization.

The methods used to determine depreciation, depletion, and amortization are *disclosed* in the notes to the financial statements. The following table shows how long-term assets are *classified* and defines the *accrual accounting* methods of allocating the cost of their use to the income statement.

Balance Sheet **Long-term Assets**		**Income Statement** **Expenses**
	**Plant Assets or Property, Plant, and Equipment:** long-term assets with the physical substance used in business operations • Land • Plant Assets − Plant − Buildings − Equipment	Land is not expensed because it has an unlimited life. **Depreciation:** periodic allocation of the cost of a tangible long-lived asset (other than land and natural resources) over its estimated useful life
	**Natural Resources:** long-term assets purchased for the economic value that can be taken from the land and used up, as with ore, lumber, crude oil, and gas, or other resources contained in the land • Mines • Timberland • Oil and Gas Fields	**Depletion:** exhaustion of a natural resource through mining, cutting, pumping, or other extraction and the way in which the cost is allocated
	**Intangible Assets:** long-term assets that have no physical substance but have a value based on rights or advantages accruing to the owner *Subject to Amortization and Impairment Test* • Copyrights • Customer lists • Franchises • Licenses • Leaseholds • Non-compete covenants • Patents • Software *Subject Only to Annual Impairment Test* • Brand names • Goodwill • Trademarks	**Amortization:** periodic allocation of the cost of an intangible asset to the periods it benefits **Impairment:** occurs when the fair value of the asset falls below the carrying value; all long-term assets are subject to an annual test for impairment

Acquisition Cost of Plant Assets

The acquisition cost of plant assets or property, plant, and equipment includes all expenditures reasonable and necessary to:

- get an asset in place, and
- make it ready for intended use.

For example, the cost of installing and testing a machine is a legitimate cost of acquiring the machine. However, if the machine is damaged during installation, the cost of repairs is an operating expense. The cost of an asset is equal to its purchase price plus other costs:

Cost of Asset = Purchase Price + Additional Expenditures (freight, installation, etc.)

Thus, expenditures for freight, insurance while in transit, and installation are included in the cost of the asset because they are necessary for the asset to function. In accordance with *accrual accounting*, these expenditures are allocated over the asset's useful life. Any interest charges incurred in purchasing an asset are not a cost of the asset. They are a cost of borrowing the money to buy the asset and are, therefore, an operating expense. An exception to this rule is that interest costs incurred during the construction of an asset are properly included as a cost of the asset.

Many concerns establish policies that define when expenditure should be recorded as an expense or as an asset. For example, small expenditures for items that qualify as long-term assets may be treated as expenses because the amounts involved are not *material*. Thus, although a wastebasket may last for years, it would be recorded as an expense rather than as a depreciable asset.

Specific Applications of Determining the Acquisition Cost of Plant Assets

Item	***What Assets are Included?***	***What Costs are Included in Acquiring and Using?***	***Depreciable?***
Land	Raw land, building site, vacant lot, etc.	(1) the cash purchase price, (2) closing costs such as title and attorney's fees, (3) real estate broker's commissions, and (4) accrued property taxes and other liens assumed by the purchaser.	NO
Land Improvement	Paving, fencing, lighting, flag-poles, sidewalks, etc. built on a piece of land.	The costs associated with the improvement, i,e.,paving costs, fencing, and lighting costs, include all costs to make ready for intended use.	YES
Buildings	Factory, store, office etc.	Purchase price, closing costs, title insurance costs, broker's commissions, remodeling costs, repair or replacement of the roof, furnace, etc. Include architect's fees, permits, cost of excavation, if self-constructed building. Also: include interest costs during the construction period.	YES
Equipment	Manufacturing devices, office equipment, vehicles, etc.	Purchase price, sales taxes, freight, insurance in transit; also costs for machine assembly, installation, and test runs.	YES

Illustrations

Land

The purchase price of land should be debited to the Land account. Other expenditures that should be debited to Land include:

- Commissions to real estate agents
- Lawyers' fees
- Accrued taxes paid by the purchaser
- Costs of preparing the land to build on, such as the costs of tearing down old buildings and grading the land
- Assessments for local improvements, such as putting in streets and sewage systems
- Landscaping

Example: 7.1.1

A company pays Tk.340,000 for land, Tk.16,000 in brokerage and legal fees, Tk.20,000 to have an old building on the site torn down, and Tk.2,000 to have the site graded. It receives Tk.8,000 in salvage from the old building. The cost of the land is Tk.370,000, calculated as follows.

Net purchase price		Tk.340,000
Brokerage and legal fees		16,000
Tearing down the old building	Tk.20,000	
Less salvage value	8,000	12,000
Grading		2,000
Total cost		Tk.370,000

Land Improvements

Some improvements to real estates, such as driveways, parking lots, and fences, have a limited life and, thus, are subject to depreciation. They should be recorded in an account called 'Land Improvements'.

Buildings

Buildingsare facilities used in operations, such as stores, offices, factories, warehouses, and airplane hangars. Companies debit to the Buildings account all necessary expenditures related to the purchase or construction of a building. When a company buys a building, the cost includes the purchase price and all expenditures required to put the building in usable condition.

When a *building is purchased*, such costs include the

- Purchase price
- Brokerage commissions
- Sales and other taxes
- Repairing or renovating the building for its intended purpose

Costs to make the *building ready* for its intended use include:

- expenditures for remodeling and replacing or repairing the roof, floors, electrical wiring, and plumbing.

When a *new building is constructed*, cost consists of the:

- Architectural fees
- Building permits
- Contractor's charges
- Materials
- Labor
- Overhead
- Cost of interest

In addition, companies charge certain interest costs to the Buildings account: Interest costs incurred to finance the project are included in the cost of the building when a significant period of time is required to get the building ready for use. In these circumstances, interest costs are considered as necessary as materials and labor. However, the inclusion of interest costs in the cost of a constructed building is limited to the construction period. When construction has been completed, the company records subsequent interest payments on funds borrowed to finance the construction as debits (increases) to Interest Expense.

Equipment

Equipment includes assets used in operations, such as store check-out counters, office furniture, factory machinery, delivery trucks, and airplanes. The cost of equipment includes all expenditures connected with purchasing the equipment and preparing it for use. These expenditures include:

- Invoice price less cash discounts
- Freight, including insurance
- Excise taxes and tariffs
- Buying expenses
- Installation costs
- Test runs to ready the equipment for operation

Equipment is subject to depreciation.

Example: 7.1.2

Maxpro Company purchases factory machinery at a cash price of Tk.50,00,000. Related expenditures are for sales taxes Tk.3,00,000, insurance during shipping Tk.50,000, and installation and testing Tk.1,00,000. The cost of the factory machinery is Tk.54,50,000, computed as below.

Factory Machinery	
Cash price	Tk. 50,00,000
Sales taxes	3,00,000
Insurance during shipping	50,000
Installation and testing	1,00,000
Cost of factory machinery	Tk. 54,50,000

Maxpro makes the following summary entry to record the purchase and related expenditures.

Date	*Account Titles and Explanation*	*Debit*	*Credit*
	Equipment Cash (To record purchase of factory machine)	Tk. 54,50,000	 Tk. 54,50,000

Example: 7.1.3

Landmark Company purchases a delivery truck at a cash price of Tk.22,00,000. Related expenditures consist of sales taxes Tk.1,32,000, painting and lettering Tk.50,000, motor vehicle license Tk.8,000, and a three-year accident insurance policy Tk.1,60,000. The cost of the delivery truck is Tk.23,82,000, computed as follows.

Delivery Truck

Cash price	Tk. 22,00,000
Sales taxes	1,32,000
Painting and lettering	50,000
Cost of the delivery truck	Tk. 23,82,000

Landmark treats the cost of the motor vehicle license as an expense and the cost of the insurance policy as a prepaid asset. Thus, Landmark makes the following entry to record the purchase of the truck and related expenditures:

Date	*Account Titles and Explanation*	*Debit*	*Credit*
	Equipment	Tk. 23,82,000	
	License Expense	8,000	
	Prepaid Insurance	1,60,000	
	Cash		Tk.25,50,000
	(To record purchase of the delivery truck and related expenditures)		

Example: 7.1.4

Assume that Diamond Heating and Cooling Co. purchases a delivery truck for Tk.15,00,000 cash, plus sales taxes of Tk.90,000 and delivery costs of Tk.50,000. The buyer also pays Tk.20,000 for painting and lettering, Tk.60,000 for an annual insurance policy, and Tk.8,000 for a motor vehicle license. Explain how each of these costs would be accounted for.

Solution:

The first four payments (Tk.15,00,000, Tk.90,000, Tk.50,000, and Tk.20,000) are expenditures necessary to make the truck ready for its intended use. Thus, the cost of the truck is Tk.16,60,000. The payments for insurance and the license are operating costs and, therefore, are expensed.

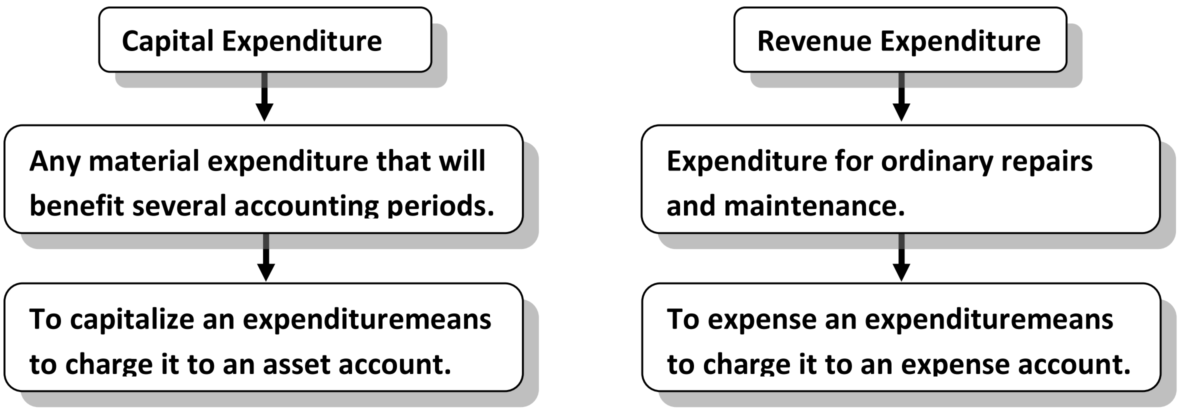
Capital Expenditure and Revenue Expenditure

An **expenditure** is a payment or an obligation to make a future payment for an asset or a service. Expenditures are *classified* as capital expenditures or revenue expenditures.

- An item of **capital expenditure** is for the purchase or expansion of a long-term/non-current asset. Capital expenditures are recorded in asset accounts because they benefit more than the current period.
- An item of **revenue expenditure** is for the ordinary repairs and maintenance needed to keep a long-/non-current asset in good operating condition. For example, trucks, machines, and other equipment require periodic tune-ups and routine repairs. Expenditures of this type are recorded in expense accounts because their benefits are realized in the current period.

Capital expenditures include outlays for plant assets, natural resources, and intangible assets. They also include the following:

- **Additions** are enlargements to the physical layout of a plant asset. For example, if a new wing is added to a building, the benefits from the expenditure will be received over several years, and the amount paid should be debited to an asset account.
- **Betterments** are improvements to a plant asset but not an addition to the plant's physical layout. The installation of an air-conditioning system is an example. Because betterments provide benefits over a period of years, their costs should be debited to an asset account.
- **Extraordinary repairs** are repairs that significantly enhance a plant asset's estimated useful life or residual value. For example, the overhaul of a building's heating and cooling system may extend the system's useful life by five years. Extraordinary repairs are typically recorded by reducing the Accumulated Depreciation account. The effect is to increase the asset's carrying value by the cost of the extraordinary repair. The new carrying value should be depreciated over the asset's new estimated useful life.



The distinction between capital and revenue expenditures is important in applying *accrual accounting*, as illustrated in the examples that follow.

	Asset Incorrectly Recorded as Revenue Expenditure	**Revenue Expenditure Incorrectly Recorded as Asset**
Example	The purchase of a machine that will benefit a concern for several years is mistakenly recorded as a revenue expenditure.	A revenue expenditure, such as the routine overhaul of a piece of machinery, is charged to an asset account.
Result	The total cost of the machine becomes an expense on the income statement in the current period. ▼Current net income will be reported at a lower amount *(understated)*. ▲In future periods, net income will be reported at a higher amount *(overstated)*.	▼ The expense of the current period will be *understated*. ▲ Current net income will be *overstated* by the same amount. ▼ The net income of future periods will be *understated*.

Review Questions

1. What is meant by long-term asset? When are assets said to be long-term? Explain.
2. What costs are included in the costs of the acquisition of land?
3. Distinguish between capital expenditure and revenue expenditure.
4. Distinguish between depreciation, depletion, and amortization.
5. Nova Ltd. bought land with a vacant building for Tk.17,00,000. Nova will use the building in its operations. Must Nova allocate the purchase price between the land and building? Why or why not? Would your answer be different if Nova intends to raze the building and build a new one? Why or why not?
6. Sys Computers acquired twelve Linux Computers from an outside supplier for cash Tk. 45,000 each. Set up cost for each computer is Tk. 500 and the installation cost for all the computers is Tk. 3,000. The license fee is Tk. 1,000 for each computer. Compute the acquisition cost of twelve computers.
7. ABC Manufacturing Company acquires land for Tk. 500,000. The land contains an old godown that is removed at a cost of Tk. 20,000 (Tk. 50,000 in cost less Tk. 30,000 proceeds from salvage materials). Other expenditures are deed registration fees Tk. 7,000, attorney’s fees Tk. 3,000, clearing and grading Tk. 2,000 and real estate broker’s commission Tk. 3,000. What cost should be assigned to land?

Lesson 2: Depreciation

Lesson Objectives

After studying this lesson, you should be able to:

- explain the meaning of depreciation;
- recognize the major causes of depreciation;
- describe the objectives of providing depreciation; and
- identify the factors affecting depreciation.

Depreciation: Meaning

In accounting, economics, and finance, we often talk about the term ‘Depreciation’ but we all are not well conversant with it. The concept of depreciation is really pretty simple. For example, let’s say you purchase a truck for your business. The value of the truck will start to decline just after acquiring it. The truck is considered an operational asset in running your business. Each year that you own the truck, it loses some value, until the truck finally stops running and has no value to the business. Measuring the loss in value of an asset is known as depreciation.

You know an asset will never have the same value throughout its lifetime. As time passes, every plant asset except land asset loses value, which is known as ‘DEPRECIATION’. This total loss in value is systematically divided into the total economic life of the assets. Therefore, depreciation is the amount of plant asset cost allocated over its useful life. Depreciation is considered an expense and is listed in an income statement under expenses.

Plant assets or depreciable assets are those assets which:

(i) are tangible;
(ii) have a useful life of more than one year; and
(iii) are held for use in the business rather than resale to a customer.

Major Causes of Depreciation

There are various causes of depreciation. The major causes are:

1. Physical deterioration;
2. Inadequacy for future needs; and
3. Obsolescence.

Physical Deterioration results from the use of the assets – (that means wear and tear of the assets) - and the action of the elements. For example, an automobile may have to be replaced after a time because its body rusted out.

The **Inadequacy** of a plant asset is its inability to produce enough products or provide enough services to meet current demands. For example, an airplane with a seating capacity of 90 passengers cannot provide air service for 125 passengers on a flight.

The **Obsolescence** of an asset is its decline in usefulness due to new inventions and technological improvements. For example, with the introduction of a sophisticated model of computer like Pentium-4, the old models of computers like 386 become obsolete.

Objectives of Providing Depreciation

The following are objectives of providing depreciation:

- ***Allocation of Asset Cost***

Assets are consumed over the potential life of the assets. This consumption represents the expired cost of the assets which must be distributed over the estimated life of the asset-based on relevant principles and methods. This allocation of cost is the main objective of providing for depreciation.

- ***Determination of True Profits***

The purchase of an asset is nothing more than a payment in advance for an expense. For example, an asset is purchased for Tk.500,000, used for several years, and then sold for Tk.50,000. The Tk.450,000 decline in value is, in every sum of the word, and expense of generating the revenue realized during the periods that the asset was used. Therefore, if the income figure is to be meaningful, Tk.450,000 of expense must be allocated to these periods and matched against the respective revenue. Failure to do so would overstate income for the periods. Depreciation is a tax deductive expense.

- ***Presentation of True Financial Position***

An important objective of providing depreciation is that unless shrinkage in the value of the assets is provided for, the value of assets will be overstated in the balance sheet. In order to present a true state of affairs of the business, the assets should be shown in the balance sheet at their proper values.

- ***Replacement of Assets***

The object of replacement of assets is also important in the question of providing for depreciation. If profits are fully distributed without providing for depreciation, a time will come when the concern will find themselves in great difficulties to replace assets for want of necessary funds. This objective, if to be achieved need the creation of such fund and investment of the same to be realized at the required time. So, a depreciation provision is necessary to guard against impairment of capital and for the replacement of fixed assets when the need for such replacement may arise. This is possible if there is enough profit.

Factors Affecting Depreciation

Now we discuss the factors that we should consider in computing depreciation. In computing depreciation of a plant asset, we should consider the:

1. Cost of the assets;
2. Estimated Salvage Value/ Scrap Value of the asset;
3. Estimated Useful Life of the asset; and
4. Depreciation Method to be used in depreciating the asset.

Cost: The amount of cash and /or cash equivalent given up to acquire a plant asset and place it in operating condition at its proper location.

Salvage Value/Scrap Vale/ Residual Value: The amount of money a concern expects to recover, less disposal costs, on the date a plant asset is scrapped, sold, or traded in.

Useful Life: The useful life of a plant asset is either:

a. The period over which a plant asset is expected to be used; or
b. The number of outputs expected to be obtained.

Review Questions

1. Explain the term “depreciation”.
2. Discuss the major causes of depreciation.
3. Describe the objectives of providing depreciation.
4. What factors should be considered during computing depreciation?

Lesson 3: Methods of Computing Depreciation

Lesson Objectives

After studying this lesson, you should be able to:

- compute the full-year depreciation under different methods;
- compute the partial-year depreciation under different methods; and
- describe the procedure for revising periodic depreciation.

Depreciation Methods

There are various methods for calculating depreciation on assets. The most common methods are:

1. Straight- Line Method;
2. Units–of–Production/Output/Activity Method; and
3. Accelerated Depreciation Methods:
   a. Sum-of-the-Years'-Digits Method
   b. Double-Declining Balance Method

Computation of Full- Year Depreciation

Straight-Line Method

The straight-line method is the simplest and most widely used method for calculating depreciation. In this method, an equal amount of plant asset cost is charged to each accounting period. It is measured solely by the passage of time. This method is generally suitable for buildings or furniture because depreciation for these assets is more a function of time than of use. Under this method, the depreciation per period is calculated by dividing the depreciable cost (Asset Cost-Estimated salvage value) by the estimated useful life.

$$\text{Depreciation Per Period} = \frac{\text{Asset Cost} - \text{Estimate Salvage Value}}{EstimatedUsefulLife}$$

Suppose on January 1, 2021, you purchased a machine for Tk.270,000 with an estimated useful life of 10 years, and the estimated salvage value is Tk.20,000. S0, the depreciation for 2021 would be: $= \frac{\text{Tk. } 270{,}000 - \text{Tk.}20{,}000}{10} =$ Tk.25,000.

And each year, this Tk.25,000 should be charged on the machine up to its useful life of 10 years.

Units–of–Production/Output/Activity Method

Under this method, useful life is expressed in terms of the total units of production or output expected from the asset, rather than as a time period. This method is ideally suitable for factory machinery. Production can be measured in units of output or in machine hours. This method can also be used for such assets like:

- delivery equipment (Kilometers driven) and
- airplanes (hours in use)

Under this method, at first, the depreciation per unit is calculated by dividing the depreciable cost (Asset Cost-Estimated salvage value) by the total units of production or level of activity and then the depreciation per period is calculated by multiplying this per unit depreciation with the number of units produced during the depreciation period.

Depreciation Per Unit=$\frac{\text{Asset Cost}-\text{Estimated Salvage Value}}{EstimatedTotalUnitsofProduction}$

Depreciation Per Period=Depreciation Per Unit × No. of Units Produced During Accounting Period

For example, if the machine you purchased in 2021 could produce total 50,000 units, the depreciation per unit would be = $\frac{\text{Tk. }270{,}000-\text{Tk.}20{,}000}{50{,}000}$ = Tk.5

And if the machine produced 1,000 units in 2021, depreciation expense for 2021 would be (Tk.5×1,000)=Tk.5,000.

Accelerated Depreciation Methods

So far we have discussed straight line and units-of-output methods. With straight-line depreciation, each time period during the asset's useful life is assigned an equal amount of depreciation. With units-of-output depreciation, each kilometer driven, hours used, or other measurements of useful life is assigned an equal amount of depreciation. A second concept recognizes that the stream of benefits provided by a fixed asset may not be level. Rather, benefits provided may be greatest in the first year of the asset's service life and least in the last year. The ***accelerated method*** recognizes this fact. Accelerated depreciation methods record higher amounts of depreciation during the early years of an asset's life and lower amounts in the later years of the asset's life. This is consistent with the basic accounting concept of matching costs with related revenue.

The two most common accelerated methods of depreciation are:

a. Sum-of –the-Years' –Digits (SOYD) Method
b. Double-Declining –Balance(DDB) Method

Sum–of–the–Years' –Digits Method: This method is so-called because the consecutive digits for each year of an asset's estimated life are added together and used as the denominator of a fraction. The numerator is the number of years of useful life remaining at the beginning of the accounting period. This fraction is then multiplied by the acquisition cost of the asset less the estimated salvage value to compute the periodic depreciation expense. So, the formula for calculating periodic depreciation in this method is:

Periodic Depreciation Expense =

$$\frac{\text{Asset Cost}-\text{Estimated Salvage Value}}{\text{SOYD}} \times \text{Remaining Useful Life at the Beginning of Accounting Period}$$

Here SOYD is calculated by adding the consecutive digits of the useful life or it can also be found out by the formula:

SOYD=$\frac{n(n+1)}{2}$ $\text{where}, n = \text{No. of Periods in the Asset's Useful Life.}$

Referring to previous example, SOYD for an asset with a 10-year useful life is: = $\frac{10(10+1)}{2}$ =55

Using the formula, the depreciation for first year = $\frac{\text{Tk. }270{,}000-\text{Tk.}20{,}000}{55} \times 10$ = Tk.45,455

Double-Declining –Balance Method: This method is so named because the periodic depreciation is based on a declining book value (cost minus accumulated depreciation) of the asset. The formula for calculating periodic depreciation under this method is:

Depreciation Expense= (Asset Cost - Accumulated Depreciation) × (2×Straight Line Rate)

The straight-line rate is computed by dividing 100% by the number of years of useful life of the asset.

Referring to the original data and this formula, straight-line rate = $\frac{100\%}{useful\ life} = \frac{100\%}{10}$ =10 %

Again referring to the original data, depreciation for first year (2021) = (Tk.270,000 - Tk.0) × 2 × 10% = Tk.54,000

Here, in the first year of the asset's useful life, the accumulated depreciation is zero. But for computing depreciation in 2022, it would be Tk.54, 000, and so on.

Computation of Partial- Year Depreciation

So far we have discussed the depreciation for the 12 months or full year where the assets were acquired at the beginning of the year. Now we discuss how the depreciation for the partial year is calculated under four depreciation methods.

First of all,**Straight-Line Method**: Under this method, at first the depreciation for 12 months is normally calculated as explained earlier. Then this amount is multiplied by the fraction of the year for which depreciation should be recorded. Let's explain the calculations.

Suppose, on September 1, 2021, you purchased a machine for Tk.76,000 with an estimated salvage value of Tk.4,000 and an estimated useful life of 5 years. As the machine was used for four months (i.e., from September to December) of the year 2021, the depreciation for 4 months (one-third of the year) would be

2021: $\frac{\text{Tk. } 76{,}000 - \quad .4{,}000}{5} \times \frac{4}{12}$ = Tk. 4,800

Units-of-Production Method: In this method, the depreciation is calculated as we explained earlier. Here the per-unit depreciation charge is multiplied by the no. of units produced during the partial year (here 4 months). The depreciation for a particular year will probably be less than for a full year because fewer units of goods or services are produced.

Sum-of-the-Years-Digits Method: Under this method, the computation of partial year depreciation is more complex. Here the problems occur because the 12 months for which depreciation is computed using the SOYD fraction do not correspond with the 12 months for which the financial statements are being prepared. Let's know the details.

Suppose, in 2021, the depreciation is computed on the machine of Tk. 76,000 for the last 4 months or one-third of the first year of the machine's life. So the depreciation for the four months of 2021 will be Tk. 8,000. At this moment the machine has a useful life of 4 years and 8 months.

Depreciation for 2021=.$\frac{\text{Tk. } 76{,}000 - \text{Tk.}4{,}000}{15} \times 5 \times \frac{4}{12}$ = Tk.8,000

The depreciation for 2022 is computed as follows:

For the first 8 months (two thirds) of 2022 = $\frac{\text{Tk. } 76{,}000 - \text{Tk.}4{,}000}{15} \times 5 \times \frac{8}{12}$ = Tk. 16,000

For the last 4 months (one third) of 2022 = $\frac{\text{Tk. } 76{,}000 - \text{T } .4{,}000}{15} \times 4 \times \frac{4}{12}$ = Tk. 6,400

Total depreciation expense for 2022 = Tk.22,400

Double-Declining-Balance Method: Under this method, it is relatively easy to determine depreciation for a partial year and then for subsequent full years. For the partial year, simply multiply the straight-line rate times the asset's cost times the fraction of the year.

2021: (76,000-0) $\times 2 \times \frac{100\%}{5} \times \frac{4}{12}$ = = Tk. 10,133

Here, you see for the last 4 months or one-third of the first year of the asset's useful life, the accumulated depreciation is zero. But for computing depreciation in 2022 it would be Tk.10,133.

Example: 7.3.1

On January 1, 2020, Jamuna Ltd. purchased a truck at a cost of Tk.4,50,000. The following facts apply:

Estimated salvage value	Tk.50,000
Estimated life:	
In years	4 years
In kilometers driven	1,60,000 kilometers

Year-wise kilometers driven:

2020	60,000 kilometers
2021	40,000 kilometers
2022	35,000 kilometers
2023	25,000 kilometers

Required:

Prepare depreciation schedules for the following methods and compare them: (a) straight-line, (b) units of- activity, (c) sum-of-the- years' digits, and (d) declining-balance using double straight-line rate.

Solution:

Straight-line Method

The annual depreciation expense for the truck will be calculated as:

$$\frac{Tk.4{,}50{,}000 - Tk.50{,}000}{4\ years} = Tk.1{,}00{,}000$$

This depreciation computation is shown below in the tabular form.

Cost of the depreciable asset	Tk.4,50,000
Less: Estimated salvage or residual value	50,000
Total amount to be depreciated (depreciable cost)	Tk.4,00,000
Estimated useful life	4 years
Depreciation expense each year (Tk.4,00,000 ÷ 4)	Tk.1,00,000

The depreciation expense for four years would be as follows:

Depreciation Schedule: Straight-line Method:

Year	Annual Depreciation	Accumulated Depreciation	Book /Carrying Value
January 1, 2020	---	---	Tk.4,50,000
December 31, 2020	Tk.1,00,000	Tk.1,00,000	3,50,000
December 31, 2021	1,00,000	2,00,000	2,50,000
December 31, 2022	1,00,000	3,00,000	1,50,000
December 31, 2023	1,00,000	4,00,000	50,000
	Tk.4,00,000		

Units-of-Activity Method

$$2020: \frac{4{,}50{,}000 - 50{,}000}{1{,}60{,}000\ \ kilometers} \times 60{,}000\ \ kilometers = Tk.\ 1{,}50{,}000$$

The entry to record units-of-output depreciation at the end of the first year of the truck's life is:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
2020 Dec.31	Depreciation Expense Accumulated Depreciation-Truck (To record depreciation for the first year of the truck)		Tk.1,50,000	 Tk.1,50,000

The depreciation expense for four years would be as follows:

Depreciation Schedule: Units–of–Activity Method

Year	Kilo-metros Driven	Depreciation Expense	Accumulated Depreciation	Book/Carrying Value
January 1, 2020	---	---	---	Tk.4,50,000
December 31, 2020	60,000	Tk.1,50,000	Tk.1,50,000	3,00,000
December 31, 2021	40,000	1,00,000	2,50,000	2,00,000
December 31, 2022	35,000	87,500	3,37,500	1,12,500
December 31, 2023	25,000	62,500	4,00,000	50,000
	1,60,000	Tk.4,00,000		

Accelerated Depreciation Methods

Sum-of -the -Years'-Digits Method

In our example, the SOYD for a four-year asset life is

$1 + 2 + 3 + 4 = 10$

Determining the SOYD factor by simple addition may require tedious calculations for long-lived assets. For these assets, the formula is n (n+1)/2. Where n = the number of years in the asset's useful life, can be applied to find out SOYD. In our example,

$$SOYD = \frac{n(n+1)}{2} = \frac{4(4+1)}{2} = \frac{20}{2} = 10$$

The formula for yearly depreciation is:

$$\frac{\text{Remaining useful life (Years)}}{SOYD} \times (Cost - Salvage\ value) = Depreciation\ expense$$

In our example, for the first year the depreciation on the truck will be:

2020: $\frac{4}{10} \times (Tk.4,50,000 - Tk.50,000) = Tk.1,60,000$.

The depreciation schedule for the 4 years will be as follows:

Depreciation Schedule, Sum-of-the-Years' Digits Method

Year	Computation	Depreciation Expense	Accumulated Depreciation	Book/Carrying Value
January 1, 2020	--	--	--	Tk.4,50,000
December 31, 2020	$(\frac{4}{10} \times 4,00,000)$	Tk.1,60,000	Tk.1,60,000	2,90,000
December 31, 2021	$(\frac{3}{10} \times 4,00,000)$	1,20,000	2,80,000	1,70,000
December 31, 2022	$(\frac{2}{10} \times 4,00,000)$	80,000	3,60,000	90,000
December 31, 2023	$(\frac{1}{10} \times 4,00,000)$	40,000	4,00,000	50,000

The schedule portrays that the depreciation is the highest in the first year and declines each year after that. The book value of the asset decreases each year by the amount of depreciation until it reaches the salvage value.

Declining-Balance Method

The formula for computing yearly depreciation

=(Asset cost-Accumulated depreciation) ×2×Straight-line rate

Where, the straight-line rate=1÷Useful life

In our example, straight-line rate=1÷ 4 = 25 per cent

Double the straight-line rate =25 per cent × 2=50 per cent

Depreciation for the first year when there is no accumulated depreciation will be:

2020: (450,000-0) ×2×25%=225,000

Annual depreciation= 50 per cent × Book value (Un-depreciated cost).

The following table shows the computation of each year's depreciation expense by the declining-balance method:

Depreciation Schedule: Double-Declining-Balance Method:

Year	Computation	Depreciation Expense	Accumulated Depreciation	Book/Carrying Value
January 1, 2020	---	---	---	Tk.4,50,000
December 31, 2020	(50% × 4,50,000)	Tk.2,25,000	Tk.2,25,000	2,25,000
December 31, 2021	(50% × 2,25,000)	1,12,500	3,37,500	1,12,500
December 31, 2022	(50% × 1,12,500)	56,250	3,93,750	56,250
December 31, 2023	*	6,250	4,00,000	50,000

* At the end of fourth year, depreciation expense cannot exceed Tk.6,250 since the book value cannot be reduced below salvage value (Tk.50,000). It is to be noted here that although salvage value is ignored in the initial computations, the assets is not depreciated below its salvage value.

Example: 7.3.2

Rafin Company purchases a factory machine at a cost of Tk. 18,00,000 on January 1, 2020. Rafin expects the machine to have a salvage value of Tk. 2,00,000 at the end of its 4-year useful life. During its useful life, the machine is expected to be used 1,60,000 hours. Actual annual hourly use was: 2020, 40,000; 2021, 60,000; 2022, 35,000; and 2023, 25,000.

Required:

Prepare depreciation schedules for the following methods and compare them: (a) straight-line, (b) units of- activity, and (c) declining-balance using double straight-line rate.

Solution:
(a)

Straight-Line Method

Year	Computation				Annual	End of Year	
	Depreciable Costs*	×	Depreciation Rate	=	Depreciation Expense	Accumulated Depreciation	Carrying/Book Value
2020	Tk.16,00,000		25%		Tk.4,00,000	Tk.4,00,000	Tk.14,00,000**
2021	16,00,000		25%		4,00,000	8,00,000	10,00,000
2022	16,00,000		25%		4,00,000	12,00,000	6,00,000
2023	16,00,000		25%		4,00,000	16,00,000	2,00,000

*Tk.18,00,000 - Tk.2,00,000
**Tk.18,00,000 -Tk.4,00,000

(b)

Units-of-Activity Method

Year	Computation				Annual	End of Year	
	Units of Activity	×	Depreciation Cost/Unit	=	Depreciation Expense	Accumulated Depreciation	Carrying/Book Value
2020	40,000		Tk. 0.10*		Tk.4,00,000	Tk.4,00,000	Tk.14,00,000**
2021	60,000		0.10		6,00,000	10,00,000	8,00,000
2022	35,000		0.10		3,50,000	13,50,000	4,50,000
2023	25,000		0.10		2,50,000	16,00,000	2,00,000

*(Tk. 18,00,000 – Tk. 2,00,000) ÷160,000.

(c)

Declining-Balance Method

Year	Computation				Annual	End of Year	
	Book Value Beginning of Year	×	Depreciation Rate*	=	Depreciation Expense	Accumulated Depreciation	Carrying/Book Value
2020	Tk.18,00,000		50%		Tk.9,00,000	Tk.9,00,000	Tk.9,00,000
2021	9,00,000		50%		4,50,000	13,50,000	4,50,000
2022	4,50,000		50%		2,25,000	15,75,000	2,25,000
2023	2,25,000		50%		25,000**	16,00,000	2,00,000

*¼ × 2.
**Adjusted to Tk. 25,000 because the ending book value should not be less than the expected salvage value.

Comparison of Methods

Year	Straight-Line Method	Units- of- Activity Method	Declining- Balance Method
2020	Tk.4,00,000	Tk.4,00,000	Tk.9,00,000
2021	4,00,000	6,00,000	4,50,000
2022	4,00,000	3,50,000	2,25,000
2023	4,00,000	2,50,000	25,000**
Total	Tk. 16,00,000	Tk. 16,00,000	Tk. 16,00,000

Annual depreciation varies considerably among the methods, but total depreciation is the same for the five-year period under all three methods. Each method is acceptable in accounting because each recognizes in a rational and systematic manner the decline in service potential of the asset.

Revising Periodic Depreciation

Depreciation is one example of the use of estimation in the accounting process. Management should periodically review annual depreciation expenses. If wear and tear or obsolescence indicate that annual depreciation estimates are inadequate or excessive, a concern should change the amount of depreciation expense.

When a change in an estimate is required, the concern makes the change in current and future years. It does not change depreciation in prior periods. The rationale is that continual restatement of prior periods would adversely affect confidence in financial statements.

To determine the new annual depreciation expense, the concern first computes the asset's depreciable cost at the time of the revision. It then allocates the revised depreciable cost to the remaining useful life.

Example: 7.3.3

Nibras Company decides on January 1, 2023, to extend the useful life of the machine one year (a total life of five years) and increase its salvage value to Tk.2,20,000. The company has used the straight-line method to depreciate the asset to date. Depreciation per year was Tk.4,00,000 ((Tk.18,00,000 - Tk.2,00,000) ÷ 4). Accumulated depreciation after three years (2020–2022) is Tk.12,00,000 (Tk. 4,00,000 × 3), and book value is Tk.6,00,000 (Tk.18,00,000– Tk.12,00,000). The new annual depreciation is Tk.1,20,000, computed as follows.

Book value, 1/1/23	Tk. 6,00,000	
Less: Salvage value	2,20,000	
Depreciable cost	Tk. 3,80,000	
Remaining useful life	2 years	(2023–2024)
Revised annual depreciation (Tk.3,80,000 ÷ 2)	Tk. 1,90,000	

Nibras Company makes no entry for the change in estimate. On December 31, 2023, during the preparation of adjusting entries, it records the depreciation expense of Tk. 1,90,000. Companies must describe in the financial statements significant changes in estimates.

Example: 7.3.4

Metro Corporation purchased a piece of equipment for Tk.36,00,000. It estimated a 6-year life and Tk.6,00,000 salvage value. Thus, straight-line depreciation was Tk.5,00,000 per year {(Tk.36,00,000 - Tk.6,00,000) ÷ 6}. At the end of year three (before the depreciation adjustment), it estimated the new total life to be 10 years and the new salvage value to be Tk.2,00,000. Compute the revised depreciation.

Solution:

Original depreciation expense {(Tk.36,00,000 - Tk.6,00,000) ÷ 6} = Tk.5,00,000
Accumulated depreciation after 2 years = 2 × Tk.5,00,000 = Tk.10,00,000
Book value = Tk.36,00,000 - Tk.10,00,000 = Tk.26,00,000

Book value after 2 years of depreciation	Tk.26,00,000
Less: New salvage value	2,00,000
Depreciable cost	24,00,000
Remaining useful life	8 years
Revised annual depreciation(Tk.24,00,000 ÷ 8)	Tk. 3,00,000

https://www.youtube.com/watch?v=AwIMwBQNoDk

Review Questions

1. Which depreciation method would best reflect the risk of obsolescence from rapid technological changes?
2. Describe the procedure for revising periodic depreciation.
3. Nova Ltd. bought land with a vacant building for Tk.17,00,000. Nova will use the building in its operations. Must Nova allocate the purchase price between the land and building? Why or why not? Would your answer be different if Nova intends to raze the building and build a new one? Why or why not?
4. A business enterprise acquired a delivery truck for Tk. 200,000 cash. Its estimated salvage value at the end of its useful life 10 years is Tk. 20,000. Find out the depreciable cost of the truck.
5. On January 1, 2020, Nowel Electronics Company, an electronics tool manufacturer, acquired for Tk. 120,000 a piece of new industrial equipment. The equipment had a useful life of 8 years and salvage value was estimated to be Tk. 20,000 and its total production is estimated 48,000 units. Nowel Company estimated that the new equipment can produce 10,000 electronic tools in its first year. It estimates that production will decline by 1,000 units per year over the remaining life of the equipment.

   The following depreciation methods may be used: (a) straight-line, (b) units of output, (c) double declining balance, and (d) sum-of-the- years' digits.

   Required:

   (a) Which depreciation method would minimize net income for income tax reporting for the three-year period ending December 31, 2023?

   (b) Which depreciation method would maximize net income for financial statement reporting for the three-year period ending December 31, 2023?
6. On January 13, 2022, Padma Oil Company purchased a drilling truck for Tk.90,00000. Precision expects the truck to last five years or 200,000 miles, with an estimated residual value of Tk.15,00000 at the end of that time. In2023, the truck is driven 48,000 miles. Precision's year-end is December 31. Compute the depreciation for 2023 under each of the following methods: (a) straight-line, (b) units of production, and (c) double-decliningbalance. Using the amount computed in (c), prepare the journal entry to record depreciation expense for the second year, and show how the Drilling Truck account would appear on the balance sheet.
7. Eva Company purchased a new machine on October 1, 2022, at a cost of Tk.120,00,000.The company estimated that the machine will have a salvage value of Tk.12,00,000. The machine is expected to be used for 10,000 working hours during its 5-year life.

   Required:

   Compute the depreciation expense under the following methods for the year indicated (a) straight-line, (b) units of output (assume that the machine hours used during 2022and 2023 were 600 hours and 2,000 hours respectively) , and (c) double straight-line rate for 2022 and 2023.[Ans: (a) Tk. 540,000, Tk.21,60,000; (b) Tk. 648,000, Tk. 21,60,000; (c) Tk. 12,00,000, Tk. 43,20,000]

Further Readings *(For working out more problems, consult this book*)

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.

Lesson 4: Plant Asset Disposals

Lesson Objectives

After studying this lesson, you should be ableto:

- explain how to account for the retirement of plant assets;
- compute and record the gain or loss on disposal of sale of plant assets; and
- explain the accounting treatment for the exchanges of plant assets.

Plant Assets Disposals

When plant assets except for land, like buildings and equipment, are no longer useful because they have physically deteriorated or become obsolete, a concern can:

- Discard them (retirement)
- Sell them
- Trade them in on the purchase of a new asset (exchange)

Regardless of how a concern disposes of a plant asset, it must record depreciation expense for the partial year up to the date of disposal. This step is required because the concern used the asset until that date and, under accrual accounting, the accounting period should receive the proper allocation of depreciation expense.

Steps for Disposal of Plant Assets

- First, record depreciation to the date of disposal.
- Remove the asset and related accumulated depreciation from the books.
- Record the asset received in exchange (maybe cash or other assets).
- Record the gain or loss on the disposal, if any.

Retirement of Plant Assets

Plant assets are retired from services when they are no longer useful to the concern and they have no market value. It is an internal transaction.

What happens if a fully depreciated plant asset is still useful to the concern?

In this case, the asset and its accumulated depreciation continue to be reported on the balance sheet, without further depreciation adjustment, until the concern retires the asset. Reporting the asset and related accumulated depreciation on the balance sheet informs the financial statement reader that the asset is still in use. Once fully depreciated, no additional depreciation should be taken, even if an asset is still being used. In no situation can the accumulated depreciation on a plant asset exceed its cost.

If Cash> Book Value, Record a gain (Credit)
If Cash< Book Value, Record a loss (Debit)
If Cash= Book Value, Record no gain or loss

When a company disposes of an asset, it must bring the depreciation up to date and remove all evidence of ownership of the asset, including the contra account Accumulated Depreciation.

Discarding Assets with no Carrying/Book Value (No gain or loss on Retirement)

To illustrate the retirement of plant assets, assume that Canon Enterprise retires its computer printers, which cost Tk.32,00,000. The accumulated depreciation on these printers is Tk.32,00,000. The equipment, therefore, is fully depreciated (zero book value). The entry to record this retirement is as follows:

Date	Account Titles and Explanation	Ref.	Debit	Credit
Disposal day	Accumulated Depreciation—Equipment Equipment (To record retirement of fully depreciated equipment)		Tk.32,00,000	 Tk.32,00,000

Discarding Assets with a Carrying/Book Value (Loss on Retirement)

If a concern retires a plant asset before it is fully depreciated, and no cash is received for scrap or salvage value, a loss on disposal occurs.

Transaction: Sunrise Concern discards its machinery that cost Tk.13,00,000 and has accumulated depreciation of Tk.9,30,000. The discarded machinery has a carrying/book value of Tk.3,70,000 at the time of its disposal (Tk.13,00,000 less accumulated depreciation of Tk.9,30,000).

Analysis: A loss equal to the carrying/book value should be recorded. This journal entry:

- ▼ *decreases* the asset *Machinery* with a credit.
- ▼ *decreases* Machinery's related *Accumulated Depreciation* with a debit.
- ▲ *increases* the *Loss on Disposal of Machinery* account with a debit.

Journal Entry

Date	Account Titles and Explanation	Ref.	Debit	Credit
Disposal day	Accumulated Depreciation—Machinery Loss on Disposal of Machinery Machinery (To record retirement of machinery at a loss)		Tk. 9,30,000 3,70,000	 Tk. 13,00,000

Comment: Companies report a loss on disposal of plant assets in the "Other expenses and losses (Non-operating income)" section of the income statement.

Sale of Plant Assets for Cash

The entry to record a plant asset sold for cash is similar to the one just illustrated, except that the receipt of cash should also be recorded. The following entries show how to record the sale of a machine at three different selling prices.

Cash Received Equal to Carrying/Book Value (No Gain or Loss on Sale)

Transaction: Tk.3,70,000 cash is received and is exactly equal to the Tk.3,70,000 carrying value of the machine.

Analysis: The journal entry to record the sale of an asset at carrying value.

- ▼ *decreases* the *Machinery* account and the *Accumulated Depreciation* account.
- ▲ *increases* the *Cash* account.

Journal Entry

Date	Account Titles and Explanation	Ref.	Debit	Credit
Disposal day	Cash Accumulated Depreciation—Machinery Machinery (To record sale of machinery at a no gain or loss)		Tk.3,70,000 9,30,000	 Tk. 13,00,000

Comment: No gain or loss is *recognized* because the amount of cash is exactly equal to thecarrying value of the machinery being sold.

Cash Received Less than Carrying/Book Value (Loss on Sale)

Transaction: Tk.2,00,000 cash is received, which is less than the carrying value of Tk.3,70,000, resulting in a loss of Tk.1,70,000.

Computation of Loss:

Cost of machinery	Tk. 13,00,000
Less: Accumulated depreciation	9,30,000
Book value at the date of disposal	3,70,000
Proceeds from sale	2,00,000
Loss on disposal of the plant asset	Tk.1,70,000

Analysis: The journal entry to record the sale of an asset at less than the carrying amount.

▼ *decreases* the *Machinery* account and the *Accumulated Depreciation* account.
▲ *increases* the *Cash* account.
▲ *increases* the *Loss on the Sale of Machinery* account for the difference.

Journal Entry

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Disposal day	Cash		Tk.2,00,000	
	Accumulated Depreciation—Machinery		9,30,000	
	Loss on Disposal of Machinery		1,70,000	
	Machinery			Tk. 13,00,000
	(To record sale of machinery at a loss)			

Comment: A loss is *recognized* because the amount of cash is less than the carrying value of the machinery being sold.

Cash Received More than Carrying/Book Value (Gain on Sale)

Transaction: Tk.4,00,000 cash is received, which exceeds the carrying/book value of Tk.3,70,000, resulting in a gain of Tk.30,000.

Computation of Gain:

Cost of machinery	Tk. 13,00,000
Less: Accumulated depreciation	9,30,000
Book value at the date of disposal	3,70,000
Proceeds from sale	4,00,000
Loss on disposal of the plant asset	Tk.30,000

Analysis: The journal entry to record the sale of an asset at less than the carrying amount.

▼ *decreases* the *Machinery* account and the *Accumulated Depreciation* account.
▲ *increases* the *Cash* account.
▲ *increases* the *Gain on Sale of Machinery* account for the difference.

Journal Entry

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Disposal day	Cash		Tk.4,00,000	
	Accumulated Depreciation—Machinery		9,30,000	
	Machinery			Tk. 13,00,000
	Gain on Disposal of Machinery			30,000
	(To record sale of machinery at gain)			

Comment: Gain is *recognized* because the amount of cash is more than the carrying value of the machinery being sold.

Example: 7.4.1

Ashokleyland Trucking has an old truck that cost Tk.30,00,000, and it has accumulated depreciation of Tk.16,00,000 on this truck. Ashokleyland has decided to sell the truck.

Required:

(a) What entry would Ashokleyland Trucking make to record the sale of the truck for Tk.17,00,000 cash?
(b) What entry would Ashokleyland trucking make to record the sale of the truck for Tk.10,00,000 cash?

Solution:

(a) *Sale of truck for cash at gain*:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Disposal day	Cash		Tk.17,00,000	
	Accumulated Depreciation—Equipment		16,00,000	
	Equipment			Tk. 30,00,000
	Gain on Disposal of Equipment			3,00,000
	(To record sale of equipment at gain)			

(b)*Sale of truck for cash at a loss:*

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Disposal day	Cash		Tk.10,00,000	
	Accumulated Depreciation—Equipment		16,00,000	
	Loss on Disposal of Equipment		4,00,000	
	Equipment			Tk. 30,00,000
	(To record sale of equipment at a loss)			

Exchanges of Plant Assets

Some items of plant assets are disposed of by trading them in or exchanging them for new assets. An exchange may involve similar assets or dissimilar assets. In either case, the purchase price is reduced by the amount of the trade-in allowance given for the asset traded-in. The amount used in this calculation depends on whether or not the asset traded is similar to the new asset. If the trade-in is similar - of the same type or performing the same function-its value is assumed to be its net book value. If the asset traded in is dissimilar, its value is its estimated fair market value.

• *Exchange of Similar Plant Assets*

When a plant asset is traded into a similar new asset, the accounting analysis depends on whether a loss or gain is implicit in the transaction. If the trade-in allowance received is greater than the book value of the asset surrendered, there has been a ***gain.*** If the allowance is less, there has been a ***loss.*** A loss will be reflected in the accounting entry, but a gain will not.

To illustrate the ***recognition of loss***, let us assume that the computer (in our earlier example) is traded in after four years (accumulated depreciation Tk.60,000) for a newer, modern computer on the following terms:

Price of the new computer	Tk.90,000
Trade-in allowance for old computer	10,000
Cash payment required	Tk.80,000

In this case, the trade-in allowance (Tk.10,000) is less than the book value (Tk.15,000) of the old computer. There is a loss of Tk.5,000 (Tk.15,000 – Tk.10,000). The entry to record the exchange would be:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Exchange day	Computer (new)		Tk.90,000	
	Accumulated Depreciation – Computer		60,000	
	Loss on the exchange of Computer		5,000	
	Computer (old)			Tk.75,000
	Cash			80,000
	(To record trade of computer)			

According to financial accounting principles, the loss on exchange transactions should be recognized in the financial statement. However, if a trade-in transaction involved only a small loss, most companies do not recognize the loss. But the generally accepted accounting principles require that no gain would be recognized when a depreciable asset is traded in on another similar asset. If in the proceeding exchange the trade-in allowance was Tk.18,000 (rather than 10,000), there the concern would require to pay cash Tk.72,000. There is a gain of Tk.3,000. But this gain would not be recognized. The cost of the new asset would be the sum of the book value of the old asset traded in plus the additional amount paid or to be paid in acquiring the new asset.

The journal entry for this exchange transaction is as follows:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Exchange day	Computer (new)		Tk.87,000	
	Accumulated Depreciation – Computer		60,000	
	Computer (old)			Tk.75,000
	Cash			72,000
	(To record trade of computer)			

Note that in both cases the cost and accumulated depreciation of old assets are removed from the accounts. In case of gain, the new asset is recorded at an amount equal to the sum of the book value the assets traded in plus cash paid.

- ***Exchange of Dissimilar Plant Asset***

Both gains and losses are recognized when a concern exchanges ***dissimilar assets***. Assets are dissimilar when they perform different functions. When dissimilar assets are exchanged, the new assets should be recorded at the fair value of the asset. The used asset's book value, of course, is removed from the accounts. ***Loss or gain*** on the exchange transaction is determined by comparing the fair value assigned to the new asset with the total of the used asset's book value plus cash payment. If the used asset's book value plus cash paid exceeds the new asset's fair value, there is a ***loss.*** On the other hand, if the new asset's fair value is larger, a ***gain*** is recorded. To illustrate the recognition of a gain, we will continue the just earlier example, assuming that the computer is exchanged for a machine. Here the trade-in allowance (Tk.18,000) exceeds the book value (Tk.15,000) of the computer by Tk.3,000. Thus, there is a gain, if it is assumed that the price of the new machine is not a figure that has been inflated for the purpose of allowing an excessive trade-in value. Assuming this condition is true, the entry to record this transaction is as follows:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Exchange day	Machinery (new)		Tk.90,000	
	Accumulated Depreciation – Computer		60,000	
	Gain on exchange of computer			Tk.3,000
	Computer (old)			75,000
	Cash			72,000
	(To record the exchange transaction)			

In some exchanges, the suggested selling price may be higher than the asset's cash selling price, therefore, the trade-in allowance is inflated and does not indicate the used asset's fair value. Situation like this, the gain should not be recognized.

Nature of Assets Exchanged	*Loss Recognized*	*Gain Recognized*	*In Compliance with Standards*
Dissimilar	YES	YES	
Similar	NO	NO	IAS
	YES	NO	GAAP(US)

Example: 7.4.2

On January 2, the first day of business of the current year, Nova Company sold a sports car that cost Tk.47,50,000 and on which Tk.30,40,000 of accumulated depreciation had been recorded.

Required:

For each of the following assumptions, prepare the journal entry (without explanation) for the disposal:

(a) The car was sold for Tk.17,10,000 cash.
(b) The car was sold for Tk.15,00,000 cash.
(c) The car was sold for Tk.20,00,000 cash.

Solution:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Disposal day	Cash		Tk.17,10,000	
	Accumulated Depreciation—Automobile		30,40,000	
	Automobile			Tk. 47,50,000
	Cash		Tk.15,00,000	
	Accumulated Depreciation—Automobile		30,40,000	
	Loss on Disposal of Automobile		2,10,000	
	Automobile			Tk. 47,50,000
	Cash		Tk.20,00,000	
	Accumulated Depreciation—Automobile		30,40,000	
	Automobile			Tk. 47,50,000
	Gain on Disposal of Automobile			2,90,000

Review Questions

1. How can you dispose of a plant asset? Write a short note on the exchange of plant assets.
2. When would the disposal of a long-term asset result in no gain or loss?
3. Why is the accounting treatment different in between the exchange of similar and that of dissimilar assets?
4. Rasel Printing owned a piece of equipment that cost Tk.32,40,000 and on which it had recorded Tk.18,00,000 of accumulated depreciation. The company disposed of the equipment on January 2, the first day of business of the current year.

Required:

(a) Calculate the carrying value of the equipment.
(b) Calculate the gain or loss on the disposal under each of the following assumptions:
    (i) The equipment was discarded as having no value.
    (ii) The equipment was sold for Tk.6,00,000 cash.
    (iii) The equipment was sold for Tk.16,00,000 cash.

5. Shahjahan Company purchased a computer on January 2, 2020, at a cost of Tk.2,50,000. The computer is expected to have a useful life of five years and a residual value of Tk.25,000. Assume that the computer is disposed of on July 1, 2023. Using the straight-line method, record the depreciation expense for half a year and the disposal under each of the following assumptions:
   (a) The computer is discarded.
   (b) The computer is sold for Tk.40,000.
   (c) The computer is sold for Tk.1,10,000.
6. A piece of equipment that cost Tk. 64,80,000 and on which Tk. 36,00,000 of accumulated depreciation had been recorded was disposed of on January 2, the first day of business of the current year. For each of the following assumptions, compute the gain or loss on the disposal:
   (a) The equipment was discarded as having no value.
   (b) The equipment was sold for Tk. 12,00,000 cash.
   (c) The equipment was sold for Tk. 36,00,000 cash.

Lesson 5: Natural Resources and Intangible Assets

Lesson Objectives

After studying this lesson, you should be ableto:

- compute periodic depletion of natural resources; and
- explain the basic issues related to accounting for intangible assets.

Natural Resources

Natural resources are long-term assets that appear on a balance sheet with descriptive titles like “Timberlands,” “Oil and gas reserves,” and “Mineral deposits.” These assets are converted to inventory by cutting, pumping, mining, or other extraction methods.

Natural resources are recorded at acquisition cost, which may include some costs of development. As these resources are converted to inventory, their asset accounts must be proportionally reduced. For example, the carrying value of oil reserves on the balance sheet is reduced by the proportional cost of the barrels pumped during the period. The original cost of the oil reserves is thus gradually reduced, and depletion is recognized.

Depletion

Depletion refers not only to the exhaustion of a natural resource but also to the proportional allocation of the cost of a natural resource to the units extracted. The way in which the cost of a natural resource is allocated closely resembles the production method of calculating depreciation. When a natural resource is purchased or developed, the total units that will be available, such as tons of coal, must be estimated. The depletion cost per unit is computed as follows.

Depletion Cost per Unit = $\frac{Cost - SalvageValue}{EstimatedNumberofUnits}$

Depletion of a Natural Resource

Transaction: A mine was purchased for Tk.3,600,000. It has an estimated residual value of Tk.600,000, and it contains an estimated 3,000,000 tons of coal. The depletion charge per ton of coal is Tk.1, calculated as follows.

Depletion Cost per Unit = $\frac{Cost - SalvageValue}{EstimatedNumberofUnits} = \frac{\text{Tk. } 3{,}600{,}000 - Tk.\ 600{,}000}{3000{,}000\ Tons}$ = Tk.1 per ton

The amount of the depletion cost for each accounting period is then computed by multiplying the depletion cost per unit by the number of units extracted and sold. Thus, if 230,000 tons of coal are mined and sold by Lane Coal Company during the first year, the depletion charge for the year is Tk.230,000.

Analysis: The journal entry to record the depletion of a natural resource.

▲ *increases* the *Depletion Expense* account.

▲ *increases* the *Accumulated Depletion* account.

Journal Entry

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
Dec. 31	Depletion Expense—Coal Deposits Accumulated Depletion—Coal Deposits (To record depletion of a coal mine:Tk.1 per ton for 230,000 tons mined and sold)		Tk. 230,000	 Tk.230,000

On the balance sheet, data for the mine would be presented as follows.

Lane Coal Company
Balance Sheet

Coal deposits	Tk.3,600,000	
Less accumulated depletion	230,000	Tk.3,370,000

Comment: If a natural resource is not sold in the year it is extracted, it is reported as inventory. It would be *recorded* as a depletion *expense* in the year it is *sold*.

Many companies do not use an Accumulated Depletion account. In such cases, the company credits the amount of depletion directly to the natural resources account. Sometimes, a company will extract natural resources in one accounting period but not sell them until a later period. In this case, the company does not expense the depletion until it sells the resource. It reports the amount not sold as inventory in the current assets section.

Example: 7.5.1

Sharp Mining Company paid Tk.8,800,000 for land containing an estimated 40 million tons of ore. The land without the ore is estimated to be worth Tk.2,000,000. The company spent Tk.1,380,000 to erect buildings on the site and Tk.2,400,000 on equipment installed on-site. The buildings have an estimated useful life of 30 years, and the equipment has an estimated useful life of 10 years. Neither the buildings nor the equipment has a residual value. The company expects to mine all the usable ore in 10 years. During its first year of operation, it mined and sold 2,800,000 tons of ore.

Required:

(i) Compute the depletion charge per ton.
(ii) Compute the depletion expense that Sharp Mining should record for its first year of operation.
(iii) Determine the depreciation expense for the year for the buildings, making it proportional to the depletion.
(iv) Determine the depreciation expense for the year for the equipment, using two alternatives:
(a) making the expense proportional to the depletion, and
(b) using the straight-line method.

Solution:

(i) Depletion charge per ton= $\frac{\text{Tk. } 88{,}00{,}000 - Tk.\ 20{,}00{,}000}{40{,}000{,}000\ Tons}$ = Tk.0.17 per ton

(ii) Depletion expense = $28{,}00{,}000 \text{ tons} \times Tk.\ 0.17\ perton$ = Tk.476,000

(iii) Depreciation expense= $\frac{28{,}00{,}000 \text{ tons}}{40{,}000{,}000\ Tons} \times \text{Tk. } 1{,}380{,}000$ = Tk.96,600

(iv) (a) Depreciation expense= $\frac{28{,}00{,}000 \text{ tons}}{40{,}000{,}000\ Tons} \times \text{Tk. } 2{,}400{,}000$ = Tk.1,68,000

(b) Depreciation expense= $\frac{\text{Tk.}2{,}400{,}000}{10\ years} \times 1 \text{ year}$ = Tk.240,000

Intangible Assets

As the word ***intangible*** implies, assets in this classification have no physical substance. Intangible assets are exclusive rights and privileges that are long-term, are not held for resale, and usually provide their owner with comparative advantages over other firms. Familiar examples are patents, copyrights, leaseholds, trademarks and brand names, franchises, licenses, formula, and goodwill. An account receivable, for example or certain prepaid expenses have no physical existence, but they are not called intangible assets because they are short-term. Intangible assets are both long-term and nonphysical. In short, ***intangible assets*** are assets that are used in the operation of the business but which have no physical substance and are long-term.

The basis of valuation for intangible assets is cost. A firm should record intangible assets acquired from outside entities at acquisition cost, that is, the amount paid for them. Certain intangible assets such as goodwill or trademarks may have great value and are needed for profitable operations but may have been acquired at a little or no cost. An intangible asset should not appear on the balance sheet of the company unless a cost of acquisition or development has been incurred.

The accounting process connected with intangible assets is essentially the same process as the depreciation of a tangible asset. The systematic allocation of the costs of an intangible asset over the term of its expected useful life is called ***amortization.*** Because salvage values are ordinarily not involved, amortization typically entails (i) determining the asset's cost, (ii) estimating the period over which it provides benefits the firm, and (iii) allocating the cost in equal amount to each accounting period involved. Although it is difficult to estimate the useful life of an intangible asset, yet some intangible assets have a determinable life, such as patents, copyrights and leaseholds should be written off through periodic amortization over their useful lives. Even though some intangible assets, such as goodwill and trademarks, have no measurable limit on their useful lives, they should also be amortized over a reasonable length of time (but no more than 40 years), because few things last forever. The straight-line method of amortization is generally used for intangible assets.

The usual accounting entry for amortization consists of debiting the appropriate ***amortization expense account*** and a credit to the ***intangible asset account.*** There is no theoretical objection to credit an accumulated amortization account rather than an intangible asset account, but generally, there is no particular benefit to financial statement users from accumulating amortization in a separate contra asset account. To illustrate the accounting for patents, assume that Mehedi Ltd. purchased a patent for Tk. 125,000. The entry to record the patent would be:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
	Patents		Tk. 125,000	
	Cash			Tk.125,000
	(To record legal costs of acquiring patent)			

It is expected that the patent would provide benefits for 10 years. The following entry records the first year's straight-line amortization:

Date	*Account Titles and Explanation*	*Ref.*	*Debit*	*Credit*
	Amortization Expense– Patent		Tk.12,500	
	Patents			Tk.12,500
	(To record annual amortization of patent)			

Because an accumulated amortization account is not used, the asset account balance reflects the asset's book value. The balance sheet presentation at year-end would be:

Patent (cost less amortization to date) Tk.112,500

Review Questions

1. What are intangible assets and what are their characteristics?
2. Ideal Company purchased land containing an estimated 5 million tons of ore for a cost of Tk.8,800,000. The land without the ore is estimated to be worth Tk.500,000. During its first year of operation, the company mined and sold 750,000 tons of ore. Compute the depletion charge per ton (Round to two decimal places.). Compute the depletion expense that Ideal should record for the year.
3. Aptech Company has created a new software application for PCs. Its costs during research and development were Tk. 500,00,000. Its costs after the working program was developed were Tk. 350,00,000. Although the company's copyright may be amortized over 40 years, management believes that the product will be viable for only 5 years. How should the costs be accounted for? At what value will the software appear on the balance sheet after 1 year?
4. Sun Company purchased land containing an estimated 10 million tons of ore for a cost of Tk.33,00,000. The land without the ore is estimated to be worth Tk.6,00,000. The company expects that all the usable ore can be mined in 10 years. Buildings costing Tk.300,000 with an estimated useful life of 20 years were erected on the site. Equipment costing Tk.3,60,000 with an estimated useful life of 10 years was installed. Because of the remote location, neither the buildings nor the equipment has an estimated residual value. During its first year of operation, the company mined and sold 4,50,000 tons of ore.

   Required:

   (a) Compute the depletion charge per ton.
   (b) Compute the depletion expense that Sun Company should record for the year.
   (c) Determine the depreciation expense for the year for the buildings, making it proportional to the depletion.
   (d) Determine the depreciation expense for the year for the equipment under two alternatives: (i) making the expense proportional to the depletion, and (ii) using the straight-line method.

Further Readings

Readings

- Weygandt, J.J. Kimmel, P.D. and Mitchell, J.E. (2021). *Accounting principles* (14th ed.). John Wiley & Sons Inc.
- Saha, S.K., Mahmud, M. M., and Hossain, A.T.M. (2008). *FinancialAccounting*. Bangladesh Open University.