ACCOUNTING AND FINANCE

LEVEL - IV

Based on November, 2023curriculum V - II

Module Title: Maintaining Inventory Records and valuation system

Module code: LSA ACF4 M10 1123

Nominal duration: 100hrs

Prepared by: Ministry of Labor and Skills

November, 2023

Addis Ababa, Ethiopia

Acknowledgment

Ministry of Labor and Skills wish to extend thanks and appreciation to the many representatives of TVT instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

Tables of Contents

Acronym

COGS ——— Cost of goods sold

FIFO ——— First in first out

LIFO ——— Last in first out

LCM ——— Lower of cost or market

NRV ——— Net Realizable Value

Introduction of the Module

Accounting and finance filed; ‘This module covers the competence required to comply with organizational inventory procedures, reconcile inventory record to general ledgers, record inventory flows, prepare schedules and produce ad hoc reports. Inventory refers to the collection of goods, materials, or products that a business holds for the purpose of resale, production, or use in its day-to-day operations.

This module is designed to meet the industry requirement under the Accounting and Finance occupational standard, particularly for the unit of competency providing management accounting information.

This module covers

- Inventory Purchase Process.
- Inventory Flows.
- Inventory Records.
- Inventory Reports.

Learning objectives of the Module:

At the end of the module the trainee will be able to:

- Process inventory purchase
- Record inventory flows
- Reconcile inventory records to general ledgers
- Prepare inventory schedules and ad hoc reports

Module Instruction

For effective use these modules trainees are expected to follow the following module instruction:

1. Read the information written in each unit
2. Accomplish the Self-checks at the end of each unit
3. Perform Operation Sheets which were provided at the end of units
4. Read the identified reference book for Examples and exercise

Unit One: Inventory Purchase Process

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Fundamentals of Inventory.
- Inventory system.
- Inventory record.

This unit will also assist you to attain the learning outcomes stated in the cover page.

Specifically, upon completion of this learning guide, you will be able to:

- Describe Inventory and types of inventories.
- Identify periodic and perpetual inventory system.
- Record inventory of purchase and sales in subsidiary ledger.

1.1 Fundamentals of Inventory.

Inventories are asset items that a company holds for sale in the ordinary course of business, or goods that it will use or consume in the production of goods to be sold. The description and measurement of inventory require careful attention. The investment in inventories is frequently the largest current asset of merchandising (retail) and manufacturing businesses. A merchandising concern, such as Carrefour (FRA), usually purchases its merchandise in a form ready for sale. It reports the cost assigned to unsold units left on hand as merchandise inventory. Only one inventory account, Inventory, appears in the financial statements. Manufacturing concerns, on the other hand, produce goods to sell to merchandising firms.

- Inventory is the raw materials used to produce goods as well as the goods that are available for sale.
- It is classified as a current asset on a company's balance sheet.
- The three types of inventories include raw materials, work-in-progress, and finished goods. Inventory is valued in one of three ways, including the first-in, first-out method; the last-in, first-out method; and the weighted average method.
- Inventory management allows businesses to minimize inventory costs as they create or receive goods on an as-needed basis.

Merchandise inventory

Merchandise inventory includes all goods that a company owns and holds for sale. This rule holds regardless of where the goods are located when inventory is counted. Certain inventory items require special attention, including goods in transit, goods on consignment, and goods damaged and obsolete.

The following is an example of current assets section of merchandising companies:

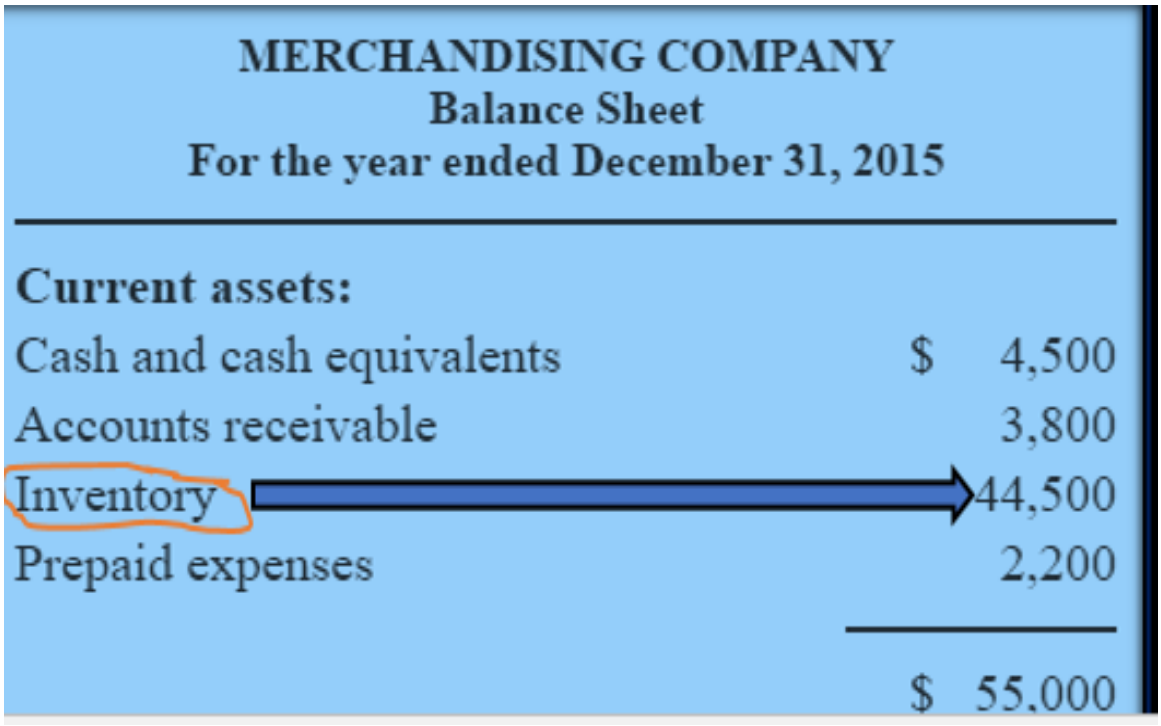


Figure 1. 1 balance sheet for merchandise company

Manufacturers normally have three inventory accounts—

A. Raw Materials,
B. Work in Process,
C. Finished Goods.

Raw materials: - A company reports the cost assigned to goods and materials on hand but not yet placed into production as raw materials inventory. Raw materials include the wood to make a baseball bat or the steel to make a car. These materials can be traced directly to the end product.

Types of raw materials

A. Direct raw materials
B. Indirect raw materials

Raw materials are obtained naturally, they can be divided into 3 types based according to where it is derived from.

Plant/tree-based - materials like vegetables, fruits, flowers, wood, resin, latex are obtained from plants and trees.

Animal-based- materials like leather, meat, bones, milk, and wool, silk is all obtained from animals.

Mining-based- materials like minerals, metals, crude oil, coal, etc. are obtained by mining the earth.

Apart from this, a manufacturing unit divides the raw materials into 2 main categories.

Direct raw materials

The primary component from which a finished product is made is called direct raw materials.

For example, wood is a direct raw material from which furniture like chair, tables, bed, etc. are made. Another example is leather used for making purses, shoes, bags, etc.

Indirect raw materials

Indirect raw materials are the materials that supplement in making the finished product from the direct materials.

For example, the glue, nails, varnish, etc. used in making wooden furniture like chair, table, bed, etc. are all indirect raw materials. Similarly, the buckles, metal hoops, zips, glue, lining fabric, colors, etc. used in making leather purses, shoes, and bags are all indirect raw materials.

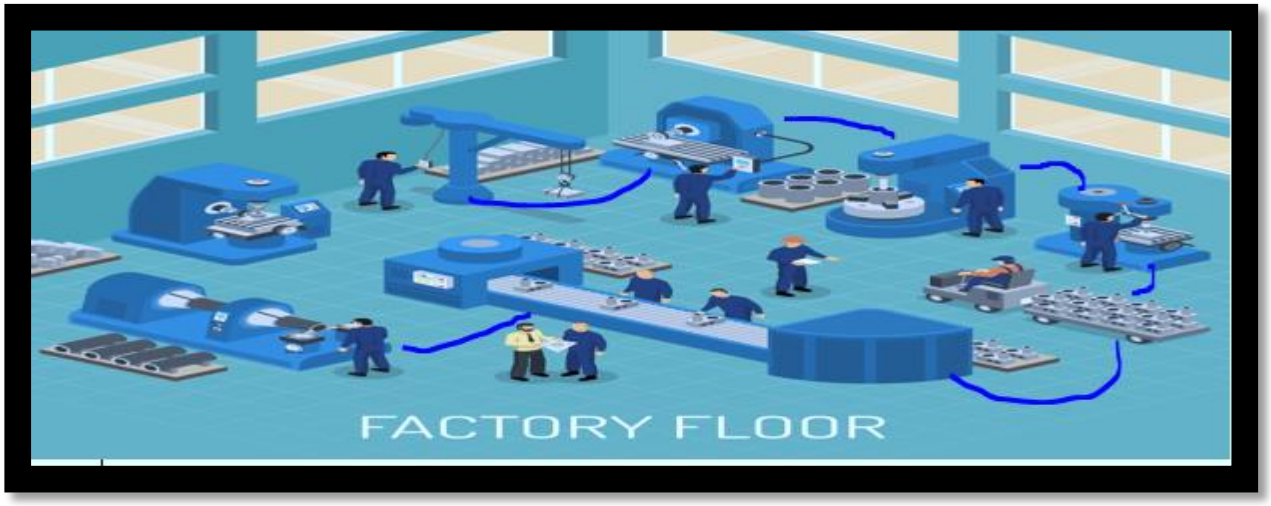


Figure 1. 2 raw materials inventory

Raw materials calculation formula

Opening raw material + raw material purchases - closing raw material = Raw material used

Opening raw materials worth - $ 12000, Raw materials purchased worth - $ 5000

Closing raw materials - $ 9000

calculate as per the above formula, = 12000 + 5000 - 9000 = 8000

All the closing stock worth, opening stock worth, materials purchase worth is taken from the balance sheet.

closing stock of raw materials is as follows.

Opening raw materials + raw material purchases - raw material used = Closing raw materials Let's understand this with the help of an example, suppose Star Manufacturing Company has Opening raw materials worth - $ 12000 Raw materials purchased worth - $ 5000 Raw material used worth - $ 8000

Therefore, as per the formula, 12000 + 5000 - 8000 = 9000

Hence, closing raw materials worth $9000 is with Star Manufacturing Company.

Work in Process, a continuous production process, some units are only partially processed. The cost of the raw material for these unfinished units, plus the direct labor cost applied specifically to this material and a ratable share of manufacturing overhead costs, constitute the work in process inventory. Companies report the costs identified with the completed but unsold units on hand at the end of the fiscal period as finished goods inventory.

Once the manufacturer gets the raw materials in-house, the process for making the finished products begin. Thus, the inventory which is in the process of turning into finished products from the raw materials is called work in process inventory.

"Work-in-process is a company's partially finished goods waiting for completion and eventual sale or the value of these items. The term is used in production and supply chain management."

"Work-in-process (WIP) refers to a component of a company's inventory that is partially completed. The value of that partially completed inventory is sometimes also called goods in process on the balance sheet (particularly if the company is manufacturing tangible items rather than providing services)."

Work in process formula

It is essential for any manufacturing company to know the exact amount of inventory they hold whether it is in terms of raw materials or work in process inventory. Inventory management helps in counting and maintaining all kinds of inventory. The accurate number of inventories by regularly counting the stock will give the manufacturer a fair

idea of how much needs to be produced and also help in forecasting the production as per the demand.

Apart from this, calculating work in process expenses is one of the important tasks for financial management. While recording the inventory in the financial balance sheet, work in process inventory is mentioned as assets.

To calculate the work in process inventory, you need to use the following formula: Beginning work in process amount + manufacturing costs - cost of manufactured goods

For instance, let us assume a company called Crown Industries who is into manufacturing furniture.

As per the previous year's balance sheet, Crown industries have $8000 worth of beginning work in process inventory and they incur $ 240,000 as manufacturing costs and their total worth of finished goods is 238000

Therefore, as per the formula, 8000+ 240000 - 238000 = 10000

This means that Crown Industries has $10000 work in process inventory with them.

However, by using this formula, you can get only an estimate of the work in process inventory. For the exact number of works in process inventory, you need to calculate it manually. One of the advantages of calculating it manually will be you can add expenses like the cost of scrap, spoilage of raw material, etc. as well in it since it is all visible during physical counting.

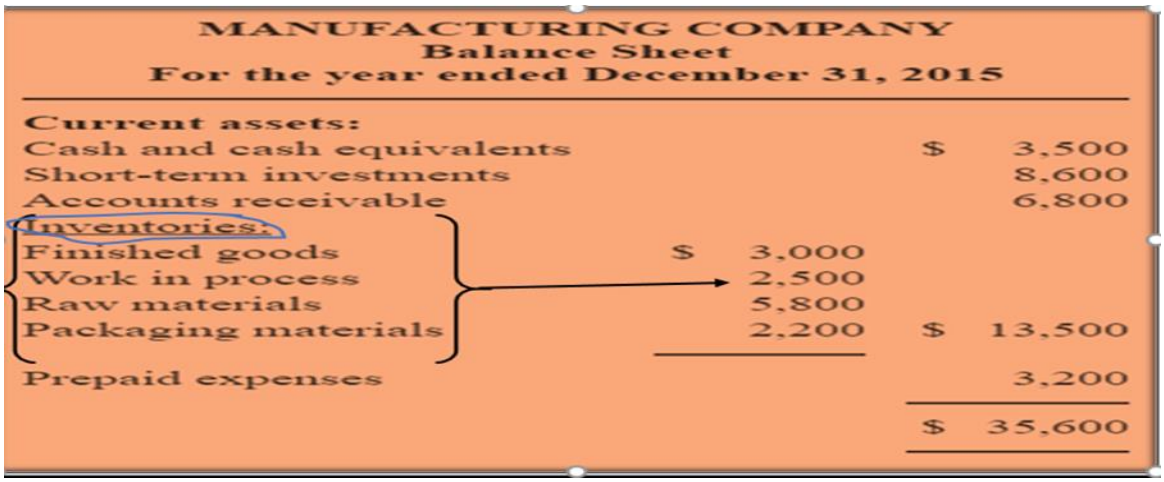
1.1.1 Work In Process and Work in Progress

Though both these terms are used interchangeably, their meaning differs in the business terminology. Here are some of the major differences between work in process and work in progress:

Work in process is generally used by companies into manufacturing products since the products that are in process and not yet transformed into finished goods can be counted or recorded in the books of accounts.

Whereas, Work in progress is a term used mainly in the construction business when a certain building is being constructed.

Work in process is generally used for unfinished products that will be turned into finished



MANUFACTURING COMPANY
Balance Sheet
For the year ended December 31, 2015

Current assets:		
Cash and cash equivalents		$ 3,500
Short-term investments		8,600
Accounts receivable		6,800
Inventories:		
Finished goods	$ 3,000	
Work in process	2,500	
Raw materials	5,800	
Packaging materials	2,200	$ 13,500
Prepaid expenses		3,200
		$ 35,600

Figure 1. 3 balance sheet for manufacturing

Finished good Those goods that are completed by the manufacturing process and are ready to be sold to the retailers or end customers are called 'Finished Goods'.

However, once the finished goods are sold, they are called merchandise.

'Finished goods' or 'Finished product' is a term specifically used by manufacturers.

A retailer houses all the finished goods in his store, therefore, he doesn't have the need to classify his inventory into raw materials, work in process or finished goods. Hence, the products sold by a retailer are called merchandise. Whereas the manufacturers have to Produce and manage inventory of all the goods, no matter which stage of production they are - raw materials, WIP, or finished goods.

When the good is completed as to manufacturing but not yet sold or distributed to the end-user, it is called a "finished good".

This is the last stage for the processing of goods. The goods are ready to be consumed or distributed. There is no processing required in terms of the goods after this stage by the seller. However, in the supply chain management flow the finished goods of one supplier can be a raw material for another manufacturer and hence, finished goods is a relative term.

Calculating Finished Goods can be a daunting task. However, here's a simple formula that will make it easy for you.

Finished goods at the beginning of year + Finished goods produced − Finished goods sold

= Finished goods at the end of a year

For example, Diamond Manufacturers are into manufacturing swimming products like swimsuits.

Now, to calculate how much worth of Finished Goods is lying in your warehouse or manufacturing unit, you need to refer to the last balance sheet from there you will get the worth of beginning stock.

Let us say for instance, you have $10000 worth of unsold swimsuits in your warehouse at the start of the year. Due to the extended summer season, the swimsuits were in great Demand and therefore, the retailers bought them in great numbers. So, you produced swimsuits worth $40000. Now you managed to sell $45000 worth of swimsuits this year.

Now as per the formula: **$10000 + $40000 - $45000 = $5000**

Therefore, you have worth $5000 finished goods lying in your warehouse this year.

Important to calculate Finished Goods

One of the main reasons why calculating the ending finished goods is because to make the production strategies for the upcoming year or month.

Figure 1. 4 finished good

Cost of Goods Sold

Goods sold (or used) during an accounting period seldom correspond exactly to the goods bought (or produced) during that period. As a result, inventories either increase or decrease during the period. Companies must then allocate the cost of all the goods available for sale (or use) between the goods that were sold or used and those that are still on hand. The cost of goods available for sale or use is the sum of (1) the cost of the goods on hand at the beginning of the period, and (2) the cost of the goods acquired or produced during the period. The cost of goods sold is the difference between (1) the cost of goods

available for sale during the period, and (2) the cost of goods on hand at the end of the period.

Beginning inventory, Jan. 1	$100,000
Cost of goods acquired or produced during the year	800,000
Total cost of goods available for sale	900,000
Ending inventory, Dec. 31	(200,000)
Cost of goods sold during the year	$700,000

Figure 1. 5 computation of cost good sold

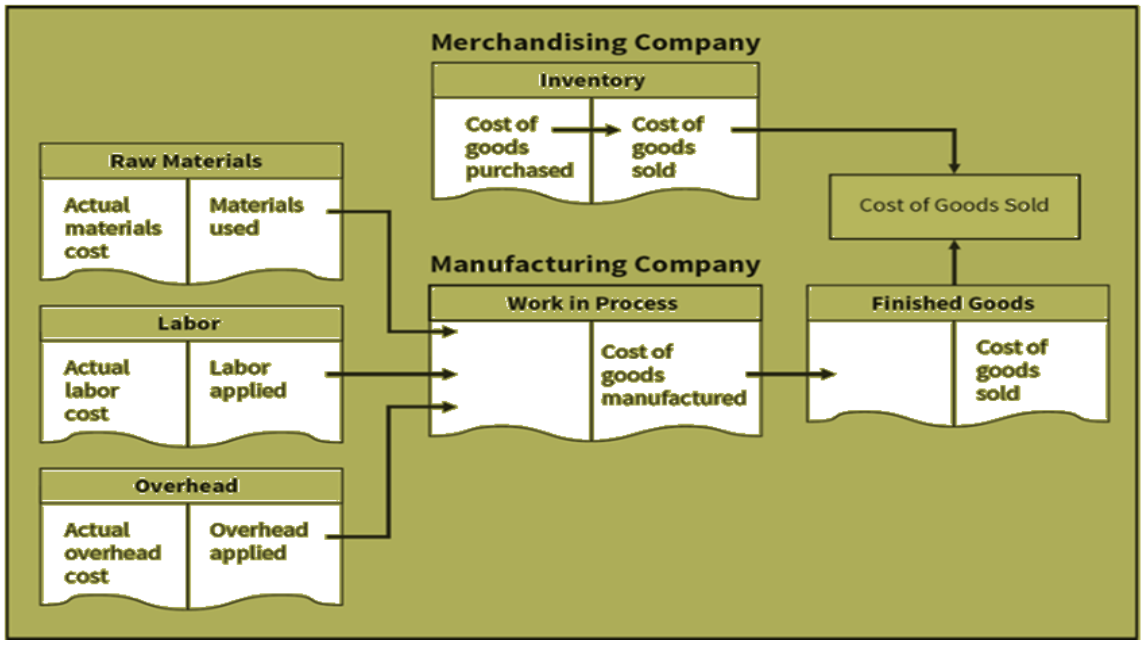


Figure 1. 6: types of manufacturing and merchandise company

1.1.2 Ownership of Goods

Goods in Transit: Purchased goods not yet received and sold goods not yet delivered are called goods in transit. The buyer and seller must agree on who is responsible for paying any freight costs and who bears the risk of loss during transit for merchandising transactions. Goods in transit should be included in the inventory of the company that has **legal title** to the goods. Legal title is determined by the **terms of sale**.

Illustration 1.1 Terms of sale

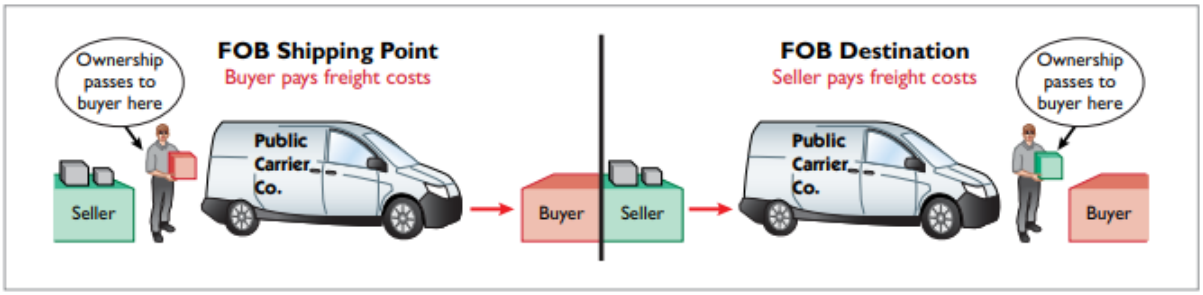


Figure 1. 7 Transit good

The point of transfer (terms of sale) is called the **FOB** (free on board) point, which determines the ownership title, who pays transportation costs (and often other incidental costs of transit such as insurance). The two alternative points of transfer;

FOB shipping point

Also called FOB factory, means the buyer accepts ownership when the goods depart the seller's place of business. Ownership of the goods passes to the buyer when the public carrier accepts the goods from the seller. The buyer is then responsible for paying shipping costs and bearing the risk of damage or loss when goods are in transit. The goods are part of the buyer's inventory when they are in transit since ownership has transferred to the buyer.

FOB destination

FOB destination means ownership of goods transfers to the buyer when the goods arrive at the buyer's place of business that is the legal title to the goods remains with the seller until the goods reach the buyer.

- The seller is responsible for paying shipping charges and bears the risk of damage or loss in transit.
- The seller does not record revenue from this sale until the goods arrive at the destination because this transaction is not complete before that point.
- A seller records the costs of shipping goods to customers in a Delivery Expense account when the seller is responsible for these costs. Delivery Expense, also called transportation-out or freight-out, is reported as a selling expense in the seller's income statement.

Consigned merchandise: Consigned merchandise is merchandise sold on behalf of another company or individual, who retains title to it. Although the seller (consignee) of the merchandise displays the items, only the owner (consignor) includes the items in inventory. Therefore, companies that sell goods on consignment must be careful to exclude from inventory those items provided by consignors.

Goods Damaged or Obsolete: Damaged and obsolete (and deteriorated) goods are not counted in inventory if they cannot be sold. If these goods can be sold at a reduced price, they are included in inventory at a conservative estimate of their **net realizable value.** Net realizable value is sales price minus the cost of making the sale. The period when damage or obsolescence (or deterioration) occurs is the period when the loss in value is reported.

1.1.3 Inventory Costs

Merchandise inventory includes costs of expenditures necessary, directly or indirectly, to bring an item to a salable condition and location. This means that the cost of an inventory item includes its invoice cost minus any discount, and plus any incidental costs necessary to put it in a place and condition for sale. Incidental costs can include import duties, freight, storage, insurance, and costs incurred in an aging process.

Accounting principles prescribe those incidental costs be added to inventory. Also, the matching (expense recognition) principle states that inventory costs should be recorded against revenue in the period when inventory is sold. However, some companies use the materiality constraint (cost to- benefit constraint) to avoid assigning some incidental costs of acquiring merchandise to inventory. Instead, they expense them when incurred. These companies argue either that those incidental costs are immaterial or that the effort in assigning them outweighs the benefit.

1.1.4 Internal Controls and Taking a Physical Count

The Inventory account under a perpetual system is updated for each purchase and sale, but events can cause the Inventory account balance to differ from the actual inventory available.

Such events include theft, loss, damage, and errors. Thus, nearly all companies take a physical count of inventory at least once each year—informally called taking an inventory. This often occurs at the end of a fiscal year or when inventory amounts are

low. This physical count is used to adjust the Inventory account balance to the actual inventory available.

A company applies internal controls when taking a physical count of inventory that usually include the following:

- Prenumbered inventory tickets are prepared and distributed to the counters-each ticket must be accounted for.
- Counters of inventory are assigned and do not include those responsible for inventory.
- Counters confirm the validity of inventory, including its existence, amount, and quality.
- A second count is taken by a different counter.
- A manager confirms that all inventories are ticketed once, and only once.

Accounting for inventory affects both the balance sheet and the income statement. A major goal in accounting for inventory is to properly match costs with sales.

The cost of items remaining in inventory and the cost of goods sold are easy to determine if purchase prices and other inventory costs never change, but price fluctuations may force a company to make certain assumptions about which items have sold and which items remain in inventory.

Management decisions in accounting for inventory involve the following:

- Items included in inventory and their costs.
- Costing method (specific identification, FIFO, LIFO, or weighted average).
- Inventory system (perpetual or periodic).
- Use of market values or other estimates.

CIF shipment- CIF is a short form for Cost, Insurance and Freight. Under the Cost Insurance Freight shipment, the ownership of the goods is with the seller since he pays for shipment cost, insurance and freight. The buyer gets the ownership of it as soon as it reaches the destination port.

Ecommerce shipping - This is one of the most trending shipments types these days since there is a huge boom in the world of online shopping.

An ecommerce merchant has the ownership of the inventory till it reaches the end-customer under the ecommerce shipping terms of agreement.

1.1.5 Inventory System.

Companies use one of two types of systems for maintaining accurate inventory records for these costs—the perpetual system or the periodic system. Perpetual System A perpetual inventory system continuously tracks changes in the Inventory account. That is, a company records all purchases and sales (issues) of goods directly in the Inventory account as they occur. The accounting features of a perpetual inventory system are as follows.

Purchases of merchandise for resale or raw materials for production are debited to Inventory rather than to Purchases.

- Freight-in is debited to Inventory, not Purchases. Purchase returns and allowances and purchase discounts are credited to Inventory rather than to separate accounts.
- Cost of goods sold is recorded at the time of each sale by debiting Cost of Goods Sold and crediting Inventory.
- A subsidiary ledger of individual inventory records is maintained as a control measure. The subsidiary records show the quantity and cost of each type of inventory on hand.

The perpetual inventory system provides a continuous record of the balances in both the Inventory account and the Cost of Goods Sold account.

Periodic System

periodic inventory system, a company determines the quantity of inventory on hand only periodically, as the name implies. It records all acquisitions of inventory during the accounting period by debiting the Purchases account. A company then adds the total in the Purchases account at the end of the accounting period to the cost of the inventory on hand at the beginning of the period. This sum determines the total cost of the goods available for sale during the period. To compute the cost of goods sold, the company then subtracts the ending inventory from the cost of goods available for sale. Note that under a periodic inventory system, the cost of goods sold is a residual amount that depends on a physical count of ending inventory. This process is referred to as “taking a physical

inventory." Companies that use the periodic system take a physical inventory at least once a year

Comparing Perpetual and Periodic Systems To illustrate the difference between a perpetual and a periodic system, assume that Fesmire Company had the following transactions during the current year.

The key steps involved in the periodic inventory system are as follows:

- Beginning Inventory: Determine the value and quantity of inventory on hand at the start of the accounting period.
- Purchases: Record all inventory purchases made during the accounting period. This includes both the cost and quantity of each item acquired.
- Ending Inventory: Take a physical count of the inventory at the end of the accounting period. This involves physically counting each item and determining its value.
- Cost of Goods Sold (COGS) Calculation: Calculate the cost of goods sold by subtracting the ending inventory value from the sum of the beginning inventory and purchases. This represents the cost of the inventory items that have been sold during the accounting period.

Cost of Goods Sold = Beginning inventory + Purchases - Ending inventory

- Gross Profit Calculation: Calculate the gross profit by subtracting the COGS from total sales revenue.

Gross Profit = Sales Revenue - Cost of Goods Sold

The journal entries to be prepared are: (Periodic system)

1. At the time of purchase of merchandise:

Purchases	XX		at cost
Accounts payable or cash		XX	

2. To record purchase discount:

Account payable	XX	
Purchase discount		XX

3. At the time of sale of merchandise:

Accounts receivable or cash	XX		at retail price
Sales		XX	

4. To record purchase returns and allowance:

Accounts payable or cash	XX	
Purchase returns and allowance		XX

5. To record adjusting entry or closing entry for merchandise inventory:

Income Summary	XX	
Merchandise inventory (beginning)		XX

To close beginning inventory

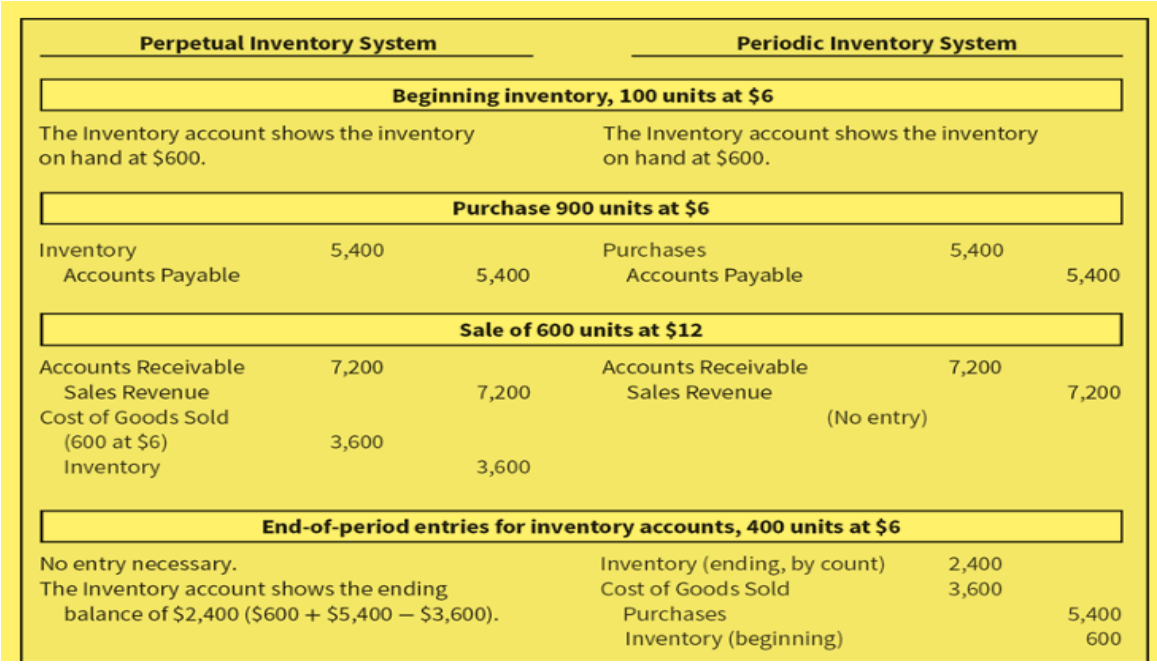
Merchandise inventory (ending)	XX	
Income summary		XX

To record ending inventory

In both periodic and perpetual inventory systems, it is important to maintain accurate and reliable records through proper documentation, monitoring, and regular reconciliations to ensure the accuracy of inventory valuations and financial reporting.

Beginning inventory	100 units at $6 = $ 600
Purchases	900 units at $6 = $5,400
Sales	600 units at $12 = $7,200
Ending inventory	400 units at $6 = $2,400

Figure 1. 8 example of inventory



Perpetual Inventory System			Periodic Inventory System		
Beginning inventory, 100 units at $6					
The Inventory account shows the inventory on hand at $600.			The Inventory account shows the inventory on hand at $600.		
Purchase 900 units at $6					
Inventory	5,400		Purchases	5,400	
Accounts Payable		5,400	Accounts Payable		5,400
Sale of 600 units at $12					
Accounts Receivable	7,200		Accounts Receivable	7,200	
Sales Revenue		7,200	Sales Revenue		7,200
Cost of Goods Sold (600 at $6)	3,600		(No entry)		
Inventory		3,600			
End-of-period entries for inventory accounts, 400 units at $6					
No entry necessary. The Inventory account shows the ending balance of $2,400 ($600 + $5,400 − $3,600).			Inventory (ending, by count)	2,400	
			Cost of Goods Sold	3,600	
			Purchases		5,400
			Inventory (beginning)		600

Figure 1. 9 examples for periodic and perpetual inventory system

Perpetual inventory system is a method of tracking and managing inventory in real-time. It uses technology such as barcode scanners and computerized systems to update inventory quantities in real-time. Every purchase, sale, or return is recorded immediately, allowing for accurate and up-to-date inventory information.

- A perpetual inventory system keeps a continual record of the amount of inventory on hand.
- The merchandise inventory account is updated after each purchase and each sale.
- Cost of goods sold account also is updated after each sale.
- When an item is sold, its cost is recorded in a cost of goods sold inventory

The perpetual inventory system provides several benefits, including:

- Real-time inventory tracking: Inventory levels are constantly monitored, allowing businesses to have accurate information about stock levels, reorder points, and potential stock outs.

- Timely financial reporting: The perpetual inventory system facilitates timely and accurate preparation of financial statements, as the cost of goods sold and the value of ending inventory can be readily determined.
- Enhanced inventory control: With real-time data, businesses can make informed decisions regarding inventory management, such as optimizing reorder quantities, identifying slow-moving or obsolete items, and minimizing lost sales due to stock outs.

Journal entries to be prepared are: (Perpetual System)

1. At the time of purchase of merchandise

Merchandise inventory	XX	}	at cost
Accounts payable/cash		}	XX

2. To record purchase discount

Account payable	XX	
Merchandise inventory		XX

3. At the time of sale of merchandise

Accounts receivable or cash	XX	}	at retail price
Sales		XX	}
Cost of goods sold	XX		at cost
Merchandise inventory			XX

4. To record purchase returns and allowances

Accounts payable or cash	XX	
Merchandise inventory		XX

5. No adjusting entry or closing entry for merchandise inventory is needed at the end of each accounting period.

Example:

At the beginning of the current season on April 1, the ledger of Anam Company had 120 units of merchandise that cost Br. 8 per unit. The following transactions were completed during 2022.

February 5, Purchased on credit 150 units of merchandise at Br. 10 per unit.

9, Returned 20 units defective units from February 5 purchases to the supplier.

June 15, Purchased for cash 230 units of merchandise at Br 9 per unit.

September 6, Sold 220 units of merchandise for cash at a price of Br. 15 per unit.

These goods are: 120 units from the beginning inventory and 100 units for February Purchases.

December 31, 260 units are left on hand, 30 units from February 5 purchases.

Required: Prepare general journal entries for Anam Company to record the above transactions and adjusting or closing entry for merchandise inventory on December 31,

a) Perpetual inventory system
b) Periodic inventory system

Solutions:

Journal entries (Perpetual System)

Recording Purchases of Inventory on account:

Feb 05	Merchandise inventory……	1,500	
	Accounts payable (150*10=1,500) …….....		1,500
	Purchased inventory on account		

Recording Purchase Return and Allowance:

Feb 09	Accounts payable ……. …….	200	
	Merchandise inventory (20*10=200) ……...		200
	Returned inventory to seller		

Recording Purchases of Inventory for cash:

June 15	Merchandise inventory ……	2,070	
	Cash (230*9=2,070) ……		2,070
	Purchased inventory for cash		

Recording the Sale of Inventory:

Sep 06	Cash……	3,300	
	Sales (220*15=3,300) …….		3,300
	Sale for account		
	Cost of goods sold……	1,960	
	Merchandise inventory……...		1,960
	(120*8+ 100*10=1,960)		

Recording Closing entry of inventory:

December 31 No closing and adjusting entry is needed

Journal entries (Periodic System)

Recording Purchases of Inventory on account:

Feb 05	Purchase……..... 1,500		
	Accounts payable (150*10=1,500) ……		1,500

Purchased inventory on account

Recording Purchase Returns and Allowances:

Feb 09	Accounts payable ……..... 200		
	Purchase returns and allowance ……...		200

Returned inventory to seller

Recording the purchase of Inventory for cash:

June 15	Purchase ……...……... 2,070		
	Cash……. ……..		2,070

Purchased inventory for cash

Recording the Sale of Inventory:

September 06	Cash ……. 3,300		
	Sales ……		3,300

Sale for cash

Recording Closing entry of inventory:

Dec 31	Income Summary (120*8=960) ……...	960	
	Merchandise inventory (beginning)……...		960

To close beginning inventory

	Merchandise inventory (ending)……2,370		
	Income summary (30*10+230*9= 2,370) ……		2,370

To record ending inventory

During the period, the business records the cost of all inventory bought in the Purchases account. The balance of Purchases is a gross amount because it does not include subtractions for discounts, returns, or allowances. Net purchase is the remainder after subtracting the contra accounts from Purchases:

Purchases (debit)

− Purchase Discounts (credit)

− Purchase Returns and Allowances (credit)

= **Net purchases (a debit subtotal)**

1.2 Recording Inventory

Recording inventory purchases in a subsidiary ledger involves creating a separate record for each item purchased. This allows for accurate tracking of inventory levels, costs, and other relevant details. By keeping a subsidiary ledger, businesses can easily monitor their inventory and make informed decisions about restocking or product availability.

Maintaining periodic and perpetual records of inventory involves on-going monitoring and updating of inventory records. Periodic records are typically updated at specific intervals, such as monthly or annually, while perpetual records are continuously updated as inventory transactions occur. Both methods play a vital role in providing accurate and up-to-date information about the quantity, value, and movement of inventory.

Your inventory is a type of asset. An asset is physical or non-physical property that adds value to your business. As you know by now, debits and credits impact each type of account differently. Assets are increased by debits and decreased by credits.

ACCOUNT	INCREASED BY	DECREASED BY
Assets	Debit	Credit
Expenses	Debit	Credit
Liabilities	Credit	Debit
Equity	Credit	Debit
Revenue	Credit	Debit

PATRIOT

Figure 1. 10 debit and credit

There are a number of accounts that can come into play when it comes to recording journal entries for inventory. Here are a few you may recognize while recording inventory transactions in your books:

- Inventory (of course)
- Accounts Payable
- Cost of Goods Sold
- Raw Materials Inventory
- Merchandise Inventory
- Work-in-process Inventory
- Finished Goods Inventory

Depending on the type of inventory you have and how much your business carries, there are different kinds of inventory accounting journal entries to help you determine the financial expenses and earnings of your business.

Inventory purchase

In your inventory purchase entries, **inventory purchases** are reflected as current assets because they are typically intended to be sold within one financial year.

In the double-entry accounting method inventory purchased on credit is also recorded as accounts payable, or your short-term financial obligation to pay your supplier.

To identify the amount of inventory purchased within a set timeframe you start with the total value of your beginning inventory, ending inventory, and of your COGS. Subtract the beginning inventory from the ending inventory and add the COGS to the difference to determine your entire inventory purchases for the accounting period.

Illustration: Say you purchase $1,000 worth of inventory on credit. Debit your Inventory account $1,000 to increase it. Then, credit your Accounts Payable account to show that you owe $1,000.

Table 1. 1 record inventory on account

Date	**Account**	**Debit**	**Credit**
XX/XX/XXXX	Inventory	1,000	
	Accounts Payable		1,000

Now, let's say you purchased your inventory using cash instead of credit. Your journal entry would look something like this:

Table 1.2: record inventory on cash

Date	Account	Debit	Credit
XX/XX/XXXX	Inventory	1,000	
	Cash		1,000

Cost of goods sold (COGS):- is the cost allocated to the sale of goods or services to your customers.

The COGS inventory accounting journal entries are your beginning inventory plus purchases during the **accounting period**, minus your ending inventory. COGS are only recorded at the end of an accounting period to show inventory sold.

Different **inventory valuation methods** can result in different net values and therefore the total inventory assets on your balance sheet. For this reason, companies are obligated to select one valuation method and use it consistently over time.

To determine the cost of goods sold journal entry:

A. Verify your beginning inventory balance**.**

B. Identify accumulated purchase costs of inventory.

C. Calculate ending inventory units. Establishing the cost of your ending inventory will depend on the inventory accounting method used to determine the cost. For example, **FIFO, LIFO,** or **weighted average**.

Under Determine the cost of goods sold include: -

- Indirect production costs
- Lower of cost
- Sales transactions
- Production labour.
- Raw materials
- Work in progress

- Finished goods
- Cash sale
- Inventory spoilage
- Inventory write-off
- Obsolete inventory
- Returns

Indirect production costs

This inventory accounting journal entry is where production-related expenses for your inventory such as rent, utilities, storage, and materials used in the **manufacturing process** are recorded. The entry debits your manufacturing overhead and credits your raw materials inventory to record your indirect material costs.

It's important to identify any indirect production cost, allowing you to create a complete budget that includes all the expenses related to your inventory.

Lower of cost

The lower-of-cost rule states that a business inventory accounting journal entry must record inventory at the lower of cost.

The lower of cost is compared to the original cost of your inventory and its current market price. Lower-of-cost journal entries are generally used **when inventory has deteriorated, become obsolete,** or if there has been a decline in market prices.

It's important to undertake periodic market assessments to get an accurate insight of your inventory value. When the market value is higher or lower than the recorded value of the inventory you carry, a journal entry is created to reflect that change in value.

Sales transactions

As well as recording your expenses, inventory accounting journal entries must also record your sales. Sales transaction entries record any profits from the sale of finished goods.

You can record this transaction by transferring the cost of the finished goods sold to the expense account for the cost of goods sold. This moves the cost of inventory from where it's recorded as an asset on your balance sheet, to your income statement, where it is recorded as an expense.

Production labour.

Production labour entries help you keep track of your labour expenses.

These entries record the wages paid to your employees who produce, warehouse, and transport and **sell your products**.

Production labour entries include:

- Payroll taxes
- Superannuation
- Holiday pay
- Leave entitlements
- Healthcare
- Any other payments you provide to an employee in addition to their regular wages.

Production labour costs can be categorized as direct and indirect costs.

Direct labour costs include wages for employees who are directly involved in the **manufacture, assembly, or inspection** of a product during its various stages of production.

Indirect labour costs are the wages for employees such as maintenance staff, technicians or managers who assist the direct labour employees to do their jobs but aren't directly involved in the product production.

Raw materials

A raw materials journal entry is separate from an inventory purchase entry. The raw materials entry also accounts for the movement of raw materials within your warehouse, allowing you to track when your production materials are moved from storage into production.

Raw material costs are the necessary expenses incurred to manufacture a product and include the purchase of any **raw materials, parts, and components** that go directly into making a product.

Not all businesses use the **raw materials inventory entry**, but for those that do, it helps to track the cost of materials that move through a lengthy manufacturing process.

Illustration: - Now, let's say you bought $500 in raw materials on credit to create your product. Debit your Raw Materials Inventory account to show an increase in inventory. And, credit your Accounts Payable account $500.

Table 1.3: purchase raw materials on account

Date	Account	Debit	Credit
XX/XX/XXXX	Raw Materials Inventory	500	
	Accounts Payable		500

Work in progress

Work-in-progress (WIP) journal entries record and document current assets on your business balance sheet.

WIP accounting entries don't include raw materials or finished goods inventory.

Instead, the WIP inventory journal entry includes the total amount of raw materials that are necessary to produce a specific item because these costs of materials first appear at the start of the production process.

This cost will eventually be applied to your finished goods account. Depending on the length of production time, instead of applying this to the WIP account, it might be easier to move the cost of raw materials directly into the finished goods account.

Your WIP account indicates goods that have progressed through the **manufacturing stage** but are still not ready for sale.

Illustration: - After you receive the raw materials, you will eventually use them to create your product. When that happens, record it in your books.

To show that raw materials have moved to the work-in-process phase, debit your Work-in-process Inventory account to increase it, and decrease your Raw Materials Inventory account with a credit.

Table 1.4: record work in process

Date	Account	Debit	Credit
XX/XX/XXXX	Work-in-process Inventory	500	
	Raw Material Inventory		500

Finished goods

The journal entry for your finished goods helps you to keep track of completed products. It identifies the cost of completed goods once they are out of the production phase of the manufacturing process.

Your finished goods entry helps you to compare the cost of completed goods with those still in production.

Item ready to be sold

When an item is ready to be sold, transfer it from Finished Goods Inventory to Cost of Goods Sold to shift it from inventory to expenses.

Debit your Cost of Goods Sold account and credit your Finished Goods Inventory account to show the transfer.

Table 1.5: record finished good

Date	**Account**	**Debit**	**Credit**
XX/XX/XXXX	Cost of Goods Sold	500	
	Finished Goods Inventory		500

Cash sale

When you sell to a customer, you're getting rid of inventory. So, you need to record it.

Say a customer pays for a product in cash. Debit your Cash account to record the increase in cash. To account for how much the item cost you to make, debit your Cost of Goods Sold account. You also need to credit your Revenue account to show an increase from the sale, and credit your Inventory account to reduce it. Your journal entry should look something like this:

Table 1.6: record cash sale

Date	**Account**	**Debit**	**Credit**
XX/XX/XXXX	Cash	500	
	Cost of Goods Sold	300	

Date	Account	Debit	Credit
	Revenue		500
	Inventory		300

Inventory spoilage

In accounting, normal inventory spoilage is included in the standard COGS. Spoilage incurred through accidents, damage, or theft is charged as an expense.

While the cost of common inventory spoilage may initially be recorded as an asset, it will later be charged to your expenses in a subsequent accounting period.

Where inventory loss is not found until after an inventory count is conducted at the end of the accounting period to compare inventory value against your records, these losses are recorded as a debit and a corresponding credit to the inventory account itself.

Inventory write-off

An inventory write-off expense account records the value of any damaged inventory that cannot be sold. Inventory may be lost because of spoilage or other factors in the manufacturing process.

Whenever an entry is made in your inventory write-off expense account, you reduce the total amount of inventory carried.

You will debit your COGS account and credit your inventory write-off expense account. However, if the amount of lost inventory is significantly high or abnormally low, you can record the expenses as part of the COGS instead of accounting for them as an asset.

The inventory accounting journal entry that accounts for a write-off will reduce your inventory value by the write-off amount.

Obsolete inventory

Obsolete inventory is any finished products that fail to be sold as expected.

It’s not unusual for a business to not sell off the products in its inventory. Businesses even anticipate a certain percentage of their inventory stock may spoil, become damaged, go out of season, or become unsellable for some reason.

They indicate inventory obsolescence as part of their inventory journal. You report inventory obsolescence by debiting the relevant expense account and crediting the opposing asset account.

When the expense account has been debited, the amount spent on the now obsolete inventory is shown as an expense.

Returns

When merchandise is returned, it is necessary to make two journal entries.

- The first is a debit entry to reflect the return in your returns and allowances account.
- The subsequent entry will debit your cash account and credit your accounts receivable account.

Essentially, you must apply your journal adjustments according to the accounting rule of debits and credits:

- Debit your returns and allowances account for the amount you sold the inventory for, which is generally higher than the inventory purchase price or production cost. The debit amount is entered in the accounting ledger as a negative figure but will result in an increase on your returns and allowances journal balance.
- Credit the cost of the return to your accounts receivables if your customer purchased the inventory on credit and was invoiced for payment. Credits are entered as a positive figure in your accounts receivable, but decrease the balance of your accounts receivable.
- Debit the value of the inventory from your inventory account for the cost of the goods purchased. This reflects the inventory that has been added back into stock and will increase your inventory account.
- Credit the cost of the inventory to your COGS account. This inventory accounting journal entry will reduce the figure in your COGS expense account.

Self-check 1.1

Part I- Multiple choice questions

1. A seller sold merchandise which has a list price of ETB 4,000 on account, giving a trade discount of 20 per cent. The entry on the books of the seller is:
   A. Accounts Receivable……...3,200
      Trade Discounts……..... 800
      Sales……...…...4,000
   B. Accounts Receivable……4,000
      Sales…….….4,000
   C. Accounts Receivable…….3,200
      Trade Discounts……... 800
      Sales……4,000
   D. Accounts Receivable…….3,200
      Sales……3,200
2. A classified income statement consists of all of the following major sections except for:
   A. Operating revenues.
   B. Cost of goods sold.
   C. Operating expenses.
   D. Non-operating revenues and expenses.
   E. Current assets.
3. Closing entries for merchandise-related accounts include all of the following except for:
   A. Credit to Sales Discounts.
   B. Credit to Merchandise Inventory for the cost of ending inventory.
   C. Debit to Purchase Discounts.
   D. Credit to Transportation-In.
   E. Debit to Sales.

4. The cost of goods sold is determined and recorded each time a sale occurs in:
   A. Periodic inventory system only.
   B. A perpetual inventory system only.
   C. Both a periodic and perpetual inventory system.
   D. Neither a periodic nor perpetual inventory system.
5. In a perpetual inventory system, a return of defective merchandise by a purchaser is recorded by crediting:
   A. Purchases
   B. Purchase Returns
   C. Purchase Allowance
   D. Merchandise Inventory
6. The difference between net sales and cost of merchandise sold for a merchandising business is:
   A. Sales
   B. Net Sales
   C. Gross Profit
   D. Gross Sales
7. When purchases of merchandise are made on account, the transaction would be recorded with the following entry:
   A. Debit Accounts Payable, credit Merchandise Inventory
   B. Debit Merchandise Inventory, credit Accounts Payable
   C. Debit Merchandise Inventory, credit Cash
   D. Debit Cash, credit Merchandise Inventory
8. Multiple-step income statements:
   A. Show gross profit but not income from operations
   B. Show both gross profit and income from operations
   C. Show neither gross profit nor income from operations
   D. Show income from operations but not gross profit
9. Merchandise with an invoice price of ETB7,000 is purchased with terms of 2/10, n/30, FOB shipping point. Transportation costs paid by the seller were ETB125. What is the cost of the merchandise purchased if payment is made during the discount period?
   A. ETB6,860.00
   B. ETB6,982.50
   C. ETB7,000.00
   D. ETB6,985.00

10. Cost of Merchandise Sold would be classified as:
    A. Asset
    B. Expense
    C. Liability
    D. Revenue

11. The discount period for credit terms of 1/10, n/30 is:
    A. 1 day
    B. 10 days
    C. 20 days
    D. 30 days

12. Freight costs incurred by the seller are recorded in the;
    A. Sales account
    B. Cost of merchandise sold account
    C. Transportation In account
    D. Transportation Out account

13. Which of the following would be classified in an income statement as Other Income or Other Expense?
    A. Advertising Expense
    B. Interest Expense
    C. Transportation Out
    D. Cost of merchandise sold

14. The sales discount is based on;
    A. Invoice price plus transportation costs
    B. Invoice price less discount
    C. Invoice price plus transportation costs less returns and allowances
    D. Invoice price less returns and allowances

15. Assume that sales are ETB450,000, sales discounts are ETB10,000, net income is ETB35,000, and cost of merchandise sold is ETB320,000. Gross profit and operating expenses are, respectively:
    A. ETB130,000 and ETB95,000
    B. ETB120,000 and ETB95,000
    C. ETB130,000 and ETB85,000
    D. ETB120,000 and ETB85,000

Part II: Listed below are the terms and associated definitions from the chapter. Match the correct definition (description) letter with each term number.

	Column "A"		**Column "B"**
1.	An incentive to encourage customers to pay their accounts early.	A.	Net Sales
2.	Expenses associated with making sales	B.	Sales discounts
3.	Freight terms that require the seller to pay the freight cost	C.	Source documents
4.	Sales less sales returns and allowances and sales discounts.	D.	Periodic inventory system
5.	Purchase invoice, sales ticket, bank statements	E.	FOB destination
6.	Net sales less cost of goods sold.	F.	FOB shipping point
7.	Freight cost to deliver goods to customers reported as a selling expense	G.	Freight-out
8.	Requires a physical count of goods on hand to compute cost of goods sold.	H.	Gross profit
9.	Inventory system that updates account balance continuously	I.	Selling expenses
10.	Gross profit less total operating expenses	J.	Income from operations
11.	Freight terms that require the buyer to pay the freight cost	K.	Net income
12.	The amount of inventory that is lost, stolen, or spoiled	L.	Perpetual inventory system
13.	Goods purchased for resale	M.	Consigned goods
14.	Contra purchase account	N.	Shrinkage
15.	Cost flow assumptions	O.	Merchandise
		P.	FIFO, LIFO, weighted average
		Q.	Purchase discount
		R.	Retail method, gross profit

S. Lower of cost or market

Part III. Work out question

1. The following information is available for Miley Company:

Administrative expenses	ETB 30,000
Cost of goods sold	245,000
Sales	350,000
Sales returns and allowances	15,000
Selling expenses	50,000

Instructions

Compute each of the following:

(a) Net sales

(b) Gross profit

(c) Income from operations

2. Assume that Guardian Company uses a periodic inventory system and has these account balances: Purchases ETB600,000; Purchase Returns and Allowances ETB25,000; Purchase Discounts ETB11,000; and Freight-in ETB19,000; beginning inventory of ETB45,000; ending inventory of ETB55,000; and net sales of ETB750,000. Determine the cost of goods sold.
3. The income statement of Miller, Inc. includes the items listed below:

Net sales	ETB900,000
Gross profit	320,000
Beginning inventory	80,000
Purchase discounts	15,000
Purchase returns and allowances	8,000
Freight-in	10,000
Operating expenses	300,000
Purchases	540,000

Instructions

Use the appropriate items listed above as a basis for determining:

(a) Cost of goods sold.

(b) Cost of goods available for sale.

(c) Ending inventory.

4. The following information is available for Olson Company:

Beginning inventory	ETB 45,000
Ending inventory	70,000
Freight-in	10,000
Purchases	270,000
Purchase returns and allowances	8,000

Instructions: Compute each of the following:

(a) Net purchases

(b) Cost of goods purchased

(c) Cost of goods sold

5. Presented below is information related to New Corporation for the current year.

Beginning inventory	ETB 600,000
Purchases	1,500,000
Sales	2,300,000

Instructions

Compute the ending inventory, assuming that;

a) gross profit is 40% of sales;

b) gross profit is 60% of cost;

6. A company reports inventory using the lower-of-cost-or-market method. Below is information related to its year-end inventory:

Inventory	Quantity	Cost	Market
Item A	100	ETB25	ETB30
Item B	50	30	20

Required: Calculate ending inventory under lower-of-cost-or-market and record any necessary adjustment to inventory.

7. On the basis of the following data, estimate the cost of merchandise inventory at January 31 using the retail method:

	Cost	Retail
January 1 Merchandise inventory	ETB365,000	ETB550,000
Jan 1 - 31 Purchases (net) for January	ETB355,000	ETB650,000

Sales (net) for January ETB625,000

8. A fire destroyed hank's Hardware's inventory on February 15. The following data was obtained from the accounting records, which he kept at home. Estimated gross profit rate was 30%. Estimate the cost of merchandise destroyed on February 15.

January 1	Merchandise inventory	ETB125,000
Jan 1 - Feb 15	Purchases (net)	150,000
Sales (net)	200,000	

Operation sheet 1.1: Inventory Purchase Process

Purpose: Efficiently and effectively acquire the goods and materials that a business needs to operate. This process involves the procurement of inventory items, including raw materials, finished goods, or components necessary for manufacturing or resale.

Resource requirement

- Laptop
- Computer
- Scientific calculator
- A4 size paeper
- Black and blue pen

1. **Vendor Information:**
    - **Vendor Name:** The name of the supplier or vendor.
    - **Vendor Contact:** Contact details for the vendor (optional).
2. **Purchase Order Details:**
    - **PO Number:** A unique purchase order number.
    - **PO Date:** The date the purchase order is issued.
3. **Item Information:**
    - **Item Code/ID:** A unique identifier for each item.
    - **Description:** A brief description of the item.
    - **Unit of Measurement:** The unit in which the item is measured.
    - **Quantity:** The quantity of items being ordered.
    - **Unit Cost:** The cost per unit of the item.
    - **Total Cost:** The total cost for the quantity of items ordered (Quantity x Unit Cost).
4. **Transaction Details:**
    - **Order Date:** The date the purchase order is placed.
    - **Expected Delivery Date:** The anticipated date of delivery.
    - **Received Date:** The date the items are actually received.
5. **Financial Information:**
    - **Subtotal:** The subtotal of the purchase order (sum of total costs).
    - **Tax:** Any applicable taxes.

- **Total Cost:** The total cost including taxes.

6. **Receiving Details:**
    - **Received Quantity:** The actual quantity of items received.
    - **Condition on Arrival:** Notes on the condition of the items upon delivery.
    - **Received By:** The name or ID of the person receiving the items.
7. **Payment Information:**
    - **Payment Terms:** The agreed-upon terms of payment (e.g., net 30 days).
    - **Payment Status:** Indicates whether the payment has been made or is pending.
    - **Payment Date:** The date the payment is made.
8. **Additional Notes/Comments:**
    - Any additional comments or notes related to the purchase.

Example:

Let's say a company named "ABC Electronics" is purchasing electronic components from a supplier named "Tech Parts Inc."

Vendor Information:

- Vendor Name: Tech Parts Inc.

Purchase Order Details:

- PO Number: PO-2023-001
- PO Date: January 15, 2023

Item Information:

- Item Code/ID: ELE001
- Description: Resistors (1K ohm)
- Unit of Measurement: Pieces
- Quantity: 1,000
- Unit Cost: $0.10
- Total Cost: $100.00

Transaction Details:

- Order Date: January 15, 2023
- Expected Delivery Date: January 30, 2023
- Received Date: January 28, 2023

Financial Information:

- Subtotal: $100.00
- Tax: $5.00
- Total Cost: $105.00

Receiving Details:

- Received Quantity: 1,000
- Condition on Arrival: Good
- Received By: John Smith

Payment Information:

- Payment Terms: Net 30 days
- Payment Status: Pending
- Payment Date: Not applicable (pending)

Additional Notes/Comments:

- Non

Lap test 1.1

Instruction: However, I can provide you with some general inventory purchase process questions that might be relevant for an assessment:

Task 1: Purchase Order Creation:

- Describe the key elements of a purchase order.
- Why is it important to issue a purchase order before acquiring goods?

Task 2: Vendor Management:

- What criteria should be considered when selecting a vendor for inventory purchases?
- Explain the importance of maintaining good relationships with vendors.

Task 3: Inventory Valuation:

- How is the cost of goods determined in an inventory purchase?
- Describe different methods of inventory valuation (e.g., FIFO, LIFO, weighted average).

Task 4: Payment Terms:

- Explain common payment terms in inventory purchases (e.g., net 30 days).
- Why is it important for businesses to negotiate favorable payment terms with suppliers?

Task 5: Receiving and Inspection:

- What steps should be taken upon receiving a shipment of inventory?
- Why is it crucial to inspect received goods for quality and quantity?

Task 6: Documenting Transactions:

- How do you record inventory purchase transactions in accounting records?
- Describe the role of purchase invoices and receipts in the documentation process.

Unit Two: Inventory Flows.

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Inventory Flow.
- Inventory valuation rules.

This unit will also assist you to attain the learning outcomes stated in the cover page.

Specifically, upon completion of this learning guide, you will be able to:

- Apply assumptions of inventory flow.
- Use valuation rules in inventory.

2.1 Inventory Flow.

Inventory flow involves making certain assumptions about how the inventory is considered to flow through a business. These assumptions are typically necessary for accounting and financial reporting purposes. There are three assumed cost flow methods: There are four generally accepted methods for assigning costs to ending inventory and cost of goods sold:

A. Specific identification
B. First-In, First Out (FIFO)
C. Last-In, First-Out (LIFO)
D. Weighted Average Cost.

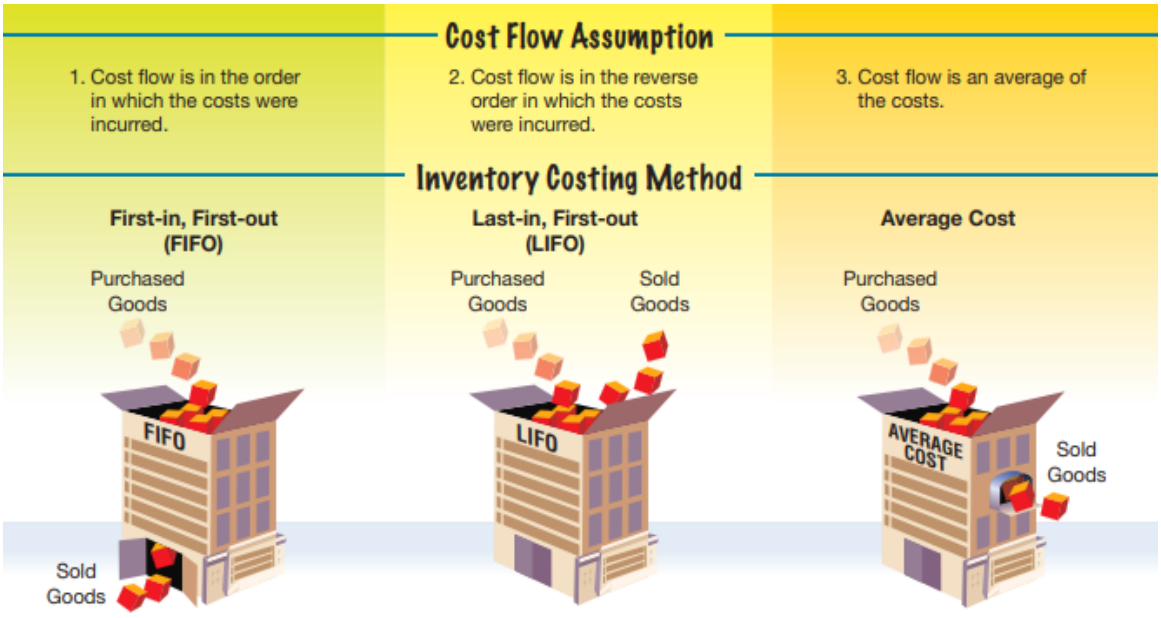


Figure 2.1: inventory flow assumption.

Specific identification:

When each item in inventory can be identified with a specific purchase and invoice, we can use specific identification (also called specific invoice inventory pricing) to assign costs. This method tracks the actual physical flow of the goods. Each item of inventory is marked, tagged, or coded with its "specific" unit cost. We also need sales records that identify exactly which items were sold and when.

Advantages:

a) States cost of goods sold and ending inventory at the actual cost of specific units sold and on hand, and
b) Provides the most precise matching of costs and revenues.

Disadvantage: Income manipulation is possible

Assume that the ending inventory consisted of 15units from April purchases and 85 units from the October 10 purchase, then the ending inventory value and the cost of goods sold can be determined precisely as follows;

a) Periodic

Table 2. 1 Specific Identification Method

	Units		**Per Unit Cost**		**Total Cost**
Purchase–April 10	15	×	ETB16	=	240
Purchase–October 10	85	×	17	=	1,445
Ending Inventory	**100**				**ETB 1,685**

Table 2. 2 Cost of Goods Sold

Cost of Goods Available for Sale	ETB7,200
Less: Ending Inventory	(1,685)
= Cost of Goods Sold	**ETB5,515**

b) **Perpetual**

Table 2. 3 Specific Identification Perpetual

ate	**Purchases**	**Sales**	**Balance**
Jan. 1			100@14=ETB1,400
March 20		50@14=ETB700	50@14=700
April 10	150@16=ETB2,400		50@14=ETB700 150@16=2,400
July 15		100@16=1,600	50@14=700 50@16=800
September 30		50@14=700	50@16=800
October 10	200@17=ETB3,400		50@16=800 200@17=3,400

December 15		50@16=ETB800 115@17=1,955	15@16=**240** 85@17=ETB**1,445**

Since the specific cost of each unit is known, the resulting values for ending inventory and Costs of goods sold are not affected by whether the company uses a periodic or perpetual system to account for inventory. The only difference between the systems is that the value of inventory and the cost of goods sold are determined every time a sale occurs under the perpetual system, and these amounts are calculated at the end of the accounting period under the periodic system.

- Companies that sell a large number of inexpensive items generally do not track the specific cost of each unit in inventory.

First-In, First-Out (FIFO):

Under the FIFO method, it is assumed that the first units of inventory purchased or produced are the first ones to be sold or used and the ending inventory is made up of the most recent purchases. In other words, the cost of the oldest (earliest) inventory is assigned to the goods sold first. This assumption is based on the idea that older inventory is typically sold before newer inventory.

- The **first-in, first-out (FIFO) method** assumes that the earliest goods purchased are the first to be sold.
- FIFO often parallels the actual physical flow of merchandise because it generally is good business practice to sell the earliest units first. Under the
- FIFO method, the costs of the earliest goods purchased are the first to be recognize as cost of goods sold. (Note that this does not necessarily mean that the earliest units are sold first, but that the costs of the earliest units are recognized first).
- Unit costs are assigned to units sold in the order in which they were incurred, regardless of which units were actually sold.
- The most recent unit costs are assigned to the units in ending inventory.

Advantages:

a) FIFO is easy to apply,

b) FIFO assumed flow of costs often corresponds with the normal physical flow of goods,

c) No manipulation of income is possible, and
d) FIFO assigns an amount to inventory on the balance sheet that approximates its current cost

Disadvantages:

a) Recognizes paper profits, and
b) Tax burden is heavier if used for tax purposes when prices are rising.

To illustrate, assume that XYZ Electronics business purchased and sales iPhones during the year, as follows:

	Units (iPhones)	Unit cost	Total Cost
Purchases:			
January 01 beginning inventory	9	Br. 19,000	Br. 171,000
March 03	20	20,000	400,000
May 18	15	21,000	315,000
September 29	10	22,000	220,000
Cost of goods available for sales	**54 units**		Br. **1,106,000**
Sales:			
April 10	14 units for Br. 25,000		
August 23	16 units for Br. 27,000		
October 10	10 units for Br. 28,000		

The physical count on December 31 shows that 14 units of iPhones are on hand.

- Determine ending inventory and the cost of goods sold during the period under a periodic inventory system using **FIFO** method:

  Ending Inventory:

Date	**Units**	**Unit cost**	**Total Cost**
September 29	10	22,000	220,000
May 18	4	21,000	84,000
Ending Inventory	14 units		**304,000**

  Cost of Goods Sold:

Cost of goods available for sale	1,106,000

Less: Ending inventory	304,000
Cost of goods sold	**Br. 802,000**

a) **Periodic**

Table 2. 4 FIFO Periodic

	Units		**Per Unit Cost**		**Total Cost**
Beginning Inventory, Jan. 1	100	×	ETB14	=	ETB 1,400
Add: Purchase–April 10	150	×	16	=	2,400
Purchase–October 10	200	×	17	=	3,400
= Cost of Goods Available for Sale	**450**				**ETB 7,200**

Table 2. 5 Ending Inventory

	Units		**Per Unit Cost**		**Total Cost**
Purchase - October 10	200	×	ETB17	=	3,400
Purchase - April 10	50	x	16		800
Ending Inventory	**250**				**ETB4,200**

The cost of goods sold formula in a periodic system is:

(Beginning Inventory + Purchases) - Ending Inventory = Cost of Goods Sold

Table 2. 6 Cost of goods sold

Cost of Goods Available for Sale	ETB7,200
Less: Ending inventory	(4,200)
= Cost of Goods Sold	**ETB3,000**

- The first-in, first-out method yields the same result whether the company uses a periodic or perpetual system.
- Under the perpetual system, the first-in, first-out method is applied at the time of sale.
- The earliest purchases on hand at the time of sale are assumed to be sold.

b) Perpetual

Table 2. 7 FIFO Perpetual system

Date	Purchases	Sales	Balance
Jan. 1			100@14=ETB1,400
March 20		50@14=ETB700	50@14=ETB700
April 10	150@16=ETB2,400		50@14=ETB700 150@16=2,400
July 15		50@14=700 50@16=1,600	100@16=1,600
September 30		50@16=800	50@16=ETB800
October 10	200@17=ETB3,400		50@16=**ETB800** 200@17=**ETB3,400**

Last-In, First-Out (LIFO):

In contrast to FIFO, the LIFO method assumes that the last units of inventory purchased or produced are the first ones to be sold or used. This means that the cost of the most recent inventory is assigned to the goods sold first. LIFO assumes that inventory is usually sold based on recent purchases.

- The **last-in, first-out (LIFO) method** assumes that the latest goods purchased are the first to be sold. LIFO seldom coincides with the actual physical flow of inventory.
- Unit costs are assigned to units sold in the reverse order of which they were incurred, regardless of which units were actually sold.
- Under the LIFO method, the costs of the latest goods purchased are the first to be assigned to cost of goods sold that is the most recent or last-in unit costs are used to calculate cost of goods sold;
- The oldest unit costs are assigned to the units in ending inventory.

Advantages:

a) LIFO reports both sales revenue and cost of goods sold in current dollars/birr,
b) Lower income taxes result if used for tax purposes when prices are rising.

Disadvantages:

a) Often matches the cost of goods not sold against revenues,

b) Grossly understates inventory, and

c) Permits income manipulation.

To illustrate, assume that XYZ Electronics business purchased and sales iPhones during the year, as follows:

	Units (iPhones)	Unit cost	Total Cost
Purchases:			
January 01 beginning inventory	9	Br. 19,000	Br. 171,000
March 03	20	20,000	400,000
May 18	15	21,000	315,000
September 29	10	22,000	220,000
Cost of goods available for sales	**54 units**		Br. **1,106,000**
Sales:			
April 10	14 units for Br. 25,000		
August 23	16 units for Br. 27,000		
October 10	10 units for Br. 28,000		

The physical count on December 31 shows that 14 units of iPhones are on hand.

- Determine ending inventory and the cost of goods sold during the period under a periodic inventory system using **LIFO** method:

Ending Inventory:

Date	**Units**	**Unit cost**	**Total Cost**
January 01	9	19,000	171,000
March 03	5	20,000	100,000
Ending Inventory	14 units		**271,000**

Cost of Goods Sold:

Cost of goods available for sale	1,106,000
Less: Ending inventory	271,000
Cost of goods sold	**Br. 835,000**

a) **Periodic**

Table 2. 8 LIFO Periodic

	Units		**Per Unit Cost**		**Total Cost**

January 1 beginning balance	100	×	ETB14	=	1,400
Purchase - April 10	150	x	16		2,400
Ending Inventory	**250**				**ETB3,800**

Table 2. 9 cost of goods sold

Cost of Goods Available for Sale	ETB7,200
Less: Ending inventory	(3,800)
= Cost of Goods Sold	**ETB3,400**

- If the company uses the last-in, first-out method with a perpetual system, the cost of the last units purchased is allocated to cost of goods sold whenever a sale occurs.
- This method usually produces different results depending on whether the company uses a periodic or perpetual system.

b) **Perpetual**

Table 2. 10 LIFO perpetual system

Date	Purchases	Sales	Balance
Jan. 1			100@14=ETB1,400
March 20		50@14=ETB700	50@14=ETB700
April 10	150@16=ETB2,400		50@14=ETB700 150@16=2,400
July 15		50@14=700 50@16=800	100@16=1,600
September 30		50@16=800	50@16=ETB800
October 10	200@17=ETB3,400		50@16=**ETB800** 200@17=**ETB3,400**

Weighted Average Cost:

The weighted average cost method calculates the average cost of all units available for sale during a specific period. This method assumes that both the beginning inventory and the purchases made throughout the period are blended together to determine the cost of each unit sold.

- The **average cost method** assumes that the goods available for sale have the same (average) cost per unit. Generally, such goods are identical.
- Under this method, the cost of goods available for sale is allocated on the basis of the **weighted average unit cost**.
- An average cost for all units cost for all units in inventory is calculated and used to value the units in both cost of goods sold and ending inventory.

Advantages

- Due to the averaging process, the effects of year-end buying or not buying are lessened.
- Weighted average tends to smooth out erratic changes in costs

Disadvantage: Manipulation of income is possible.

All four inventory costing methods are acceptable. However, a company must disclose the inventory method it uses in its financial statements or notes.

Illustration: Assume the following data for Wisdom plc.

Table 2. 11 weighted average unit cost.

Date	**Activity**	**Units**	**Unit cost**	**Total cost**
January 1	Beginning inventory	100	ETB14	ETB1,400
March 20	Sale	50		
April 10	Purchase	150	16	2,400
July 15	Sale	100		
September 30	Sale	50		
October 10	Purchase	200	17	3,400
Total units available for sale		**450**		
Total units sold		**200**		
Units in ending inventory		**250**		

The cost of goods available for sale equals the beginning value of inventory plus the cost of goods purchased. Two purchases occurred during the year, so the cost of goods available for sale is ETB 7,200.

Table 2. 12 weighted average cost of goods sold

	Units		**Per Unit Cost**		**Total Cost**
Beginning Inventory, Jan. 1	100	×	ETB14	=	ETB 1,400
Add: Purchase (April 10)	150	×	ETB 16	=	2,400
Purchase (October 10)	200	×	ETB 17	=	3,400
= Cost of Goods Available for Sale	**450**				**ETB 7,200**

To illustrate, assume that XYZ Electronics business purchased and sales iPhones during the year, as follows:

	Units (I phones)	**Unit cost**	**Total Cost**
Purchases:			
January 01 beginning inventory	9	Br. 19,000	Br. 171,000
March 03	20	20,000	400,000

May 18	15	21,000	315,000
September 29	10	22,000	220,000
Cost of goods available for sales	**54 units**		Br. **1,106,000**

Sales:

April 10	14 units for Br. 25,000
August 23	16 units for Br. 27,000
October 10	10 units for Br. 28,000

The physical count on December 31 shows that 14 units of iPhones are on hand.

- Determine ending inventory and the cost of goods sold during the period under a periodic inventory system using **Weighted Average Cost** method:

  Average Unit Cost = Cost of Goods Available for Sale ÷ Total Units Available for Sale

  Average Unit Cost = 1,106,000 ÷ 54

  =20,481.48

  Ending Inventory:

Units	**Unit cost**	**Total Cost**
14	20,481.48	**286,740.74**

  Cost of Goods Sold:

Cost of goods available for sale	1,106,000
Less: Ending inventory	286,740.74
Cost of goods sold	**Br. 819,259.26**

Illustration: Consider the following data for Mars Company for the month ended March 31, 2021.

March 1 beginning Inventory 200 units at Br. 4

Purchases:

March 10	500 units at Br.4.50
March 20	400 units at Br 4.75
March 30	300units at Br5.00

Sales:

March 15	500 units
March 25	400 units

- Determine ending inventory and the cost of goods sold during the period under a perpetual inventory system using:
  A. The FIFO method,
  B. The LIFO method, and
  C. The average-cost method.

Solution:

a. FIFO Method (perpetual system)

Table 2. 13 FIFO perpetual

Date	Purchase			Cost of goods sold			Inventory		
	Units	**Unit cost**	**Total cost**	**Units**	**Unit cost**	**Total cost**	**Units**	**Unit cost**	**Total cost**
Mar 1		-	-	-	-	-	200	4.00	800
10	500	4.50	2,250	-	-	-	200 500	4.00 4.50	800 2,250
15	-	-	-	200 300	4.00 4.50	800 1350	200	4.50	900
20	400	4.75	1,900	-	-	-	200 400	4.50 4.75	900 1900
25	-	-	-	200 200	4.50 4.75	900 950	200	4.75	950
30	300	5.00	1,500	-	-	-	200 300	4.75 5.00	950* 1500*
						4,000			

Cost of ending inventory:

200 units at 4.75 ------950*

300 units at 5.75-------1500*

500 2,450

Cost of goods sold:

- From cost of goods sold column Br 4,000

b. LIFO Method (Perpetual System)

Table 2. 14 LIFO perpetual system

Date	Purchase			Cost of goods sold			Inventory		
	Units	**Unit cost**	**Total cost**	**Units**	**Unit cost**	**Total cost**	**Units**	**Unit cost**	**Total cost**
March 1		-	-	-	-	-	200	4.00	800
10	500	4.50	2,250	-	-	-	200 500	4.00 4.50	800 2,250
15	-	-	-	500	4.50	2250	200	4.00	800
20	400	4.75	1,900	-	-	-	200 400	4.00 4.75	800 1900
25	-	-	-	400	4.75	1900	200	4.00	800
30	300	5.00	1,500	-	-	-	200 300	4.00 5.00	800* 1500*

Cost of ending inventories:

200 Units at Br 4.00 Br 800*

300 Units at Br 5.00 1500*

500 Units **Br 2300**

Cost of goods sold:

From cost of goods sold column 2,250 + 1,900 = **Br 4150**

c. Average Cost Method (Perpetual System)

Table 2. 15 WAM - perpetual

Date	Purchase			Cost of merchandise sold			Inventory		
	Units	Unit cost	Total cost	Units	Unit cost	Total cost	Units	Unit cost	Total cost
March 01							200	4	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	1,500				500	4.85	2,425
Total	5.00			900		4,028	500		2,425

Cost of merchandise sold= **Br. 4,028**

Cost of ending inventory=**Br. 2,425**

2.2 Inventory Errors

Income Statement Effects

An incorrect inventory balance causes an error in the calculation of cost of goods sold and, therefore, an error in the calculation of gross profit and net income. Left unchanged, the error has the opposite effect on cost of goods sold, gross profit, and net income in the following accounting period because the first accounting period's ending inventory is the second period's beginning inventory. The total cost of goods sold, gross profit, and net income for the two periods will be correct, but the allocation of these amounts between periods will be incorrect. Since financial statement users depend upon accurate statements, care must be taken to ensure that the inventory balance at the end of each accounting period is correct. The chart below identifies the effect that an incorrect inventory balance has on the income statement. **Inventory errors affect the computation of cost of goods sold and net income.**

Beginning Inventory + Cost of Goods Purchased − Ending Inventory = Cost of Goods Sold

Table 2. 16 Income Statement Effect

Inventory Error	**Impact of Error on**		
	Cost of Goods Sold	**Gross Profit**	**Net Income**
Ending Inventory:			

Understated	Overstated	Understated	Understated
Overstated	Understated	Overstated	Overstated
Beginning Inventory:			
Understated	Understated	Overstated	Overstated
Overstated	Overstated	Understated	Understated

Balance Sheet Effects

An incorrect inventory balance causes the reported value of assets and owner's equity on the balance sheet to be wrong. This error does not affect the balance sheet in the following accounting period, assuming the company accurately determines the inventory balance for that period. Effect of inventory errors on the balance sheet is determined by using the basic accounting equation:

Beginning Inventory + Cost of Goods Purchased − Ending Inventory = Cost of Goods Sold

Table 2. 17 Ending Inventory Effect

	Impact of Error on				
Ending Inventory Error	**Assets**	**=**	**Liabilities**	**+**	**Owner's Equity**
Understated	Understated		No Effect		Understated
Overstated	Overstated		No Effect		Overstated

Presentation

- Balance Sheet- Inventory classified as current asset.
- Income Statement - Cost of goods sold subtracted from sales.

Lower of Cost or Market

We explained how to assign costs to ending inventory and cost of goods sold using one of four costing methods (FIFO, LIFO, weighted average, or specific identification). However, accounting principles require that inventory be reported at the market value (cost) of replacing inventory when market value is lower than cost. Merchandise inventory is then said to be reported on the balance sheet at the **lower of cost or market (LCM).**

Market in the term LCM is defined as the current replacement cost of purchasing the same inventory items in the usual manner. A decline in replacement cost reflects a loss of value in inventory. When the recorded cost of inventory is higher than the replacement cost, a loss is recognized. When the recorded cost is lower, no adjustment is made.

LCM is applied in one of three ways:

1. To each individual item separately,
2. To major categories of items, or
3. To the whole of inventory.

Illustration: Zemen Camera Shop uses the lower of cost or market basis for its inventory. The following data are available at December 31.

Table 2. 18 Inventory Example

Item	**Units**	**Unit cost**	**Market**
Cameras			
Nokia	5	ETB 175	ETB160
Canon	7	150	152
Light meters			
Sony	12	125	110
Kodak	10	115	135

Instruction: Determine the amount of the ending inventory by applying the lower of cost or market basis to:

a) Individual items
b) Inventory categories and
c) The total inventory

Table 2. 19 Lcm

			Lower of cost or market by:		
	Cost	**Market**	Individual Items	Major Category	Total Inventory
Cameras					

Nokia	875	800	800		
Canon	1050	1064	1050		
Total	1925	1864		1864	
Light meter					
Sony	1500	1320	1320		
Kodak	1150	1350	1150		
Total	2650	2670		2650	
Total inventories	4575	4534	4320	4514	4534

1.3 Inventory Estimation Methods

Inventory sometimes requires estimation for three reasons;

First, companies often require **interim statements** (financial statements prepared for periods of less than one year), but they only annually take a physical count of inventory.

Second, companies may require an inventory estimate if some casualty such as fire or flood makes taking a physical count impossible. Estimates are usually only required for companies that use the periodic system. Companies using a perpetual system would presumably have updated inventory data.

Third, when a physical count is impossible or impractical.

Two ways of estimating inventory levels are the gross profit method and the retail inventory method.

Gross profit method

The **gross profit method** estimates the cost of ending inventory by applying the gross profit ratio to net sales (at retail). This type of estimate often is needed when inventory is destroyed, lost, or stolen. These cases require an inventory estimate so that a company can file a claim with its insurer. Users also apply this method to see whether inventory amounts from a physical count are reasonable.

The gross profit method estimates the value of inventory by applying the company's historical gross profit percentage to current-period information about net sales and the cost of goods available for sale. **Gross profit** equals net sales minus the cost of goods sold.

The **gross profit margin** equals gross profit divided by net sales. If a company had net sales of ETB4, 000,000 during the previous year and the cost of goods sold during that

year was ETB2, 600,000, then gross profit was ETB1, 400,000 and the gross profit margin was 35%.

Net Sales	ETB 4,000,000
Less: Cost of Goods Sold	(2,600,000)
Gross Profit	ETB 1,400,000

Gross profit margin = ETB1, 400,000/4,000,000

= 35%

If gross profit margin is 35%, then cost of goods sold is 65% of net sales.

Example: Estimate the ending inventory from the following data using gross profit method.

Net sales for the month were ETB500, 000

Beginning inventory was ETB50, 000

Purchases during the month totaled ETB300, 000

First, the company multiplies net sales for the month by the historical gross profit margin to estimate gross profit.

Gross profit = Net sales x gross profit margin

=ETB500, 000 x 35%

= ETB175,000

Next, estimated gross profit is subtracted from net sales to estimate the cost of goods sold.

Net Sales	ETB 500,000
Gross Profit	(175,000)
Cost of Goods Sold	ETB 325,000

Alternatively, cost of goods sold may be determined by multiplying net sales by 65% (100% - gross profit margin of 35%).

Finally, the estimated cost of goods sold is subtracted from the cost of goods available for sale to estimate the value of inventory.

Beginning Inventory	ETB50,000
Purchases	300,000

Cost of Goods Available for Sale	350,000
Less: Cost of Goods Sold	(325,000)
Ending Inventory	ETB 25,000

The gross profit method produces a reasonably accurate result as long as the historical gross profit margin still applies to the current period. However, increasing competition, new market conditions, and other factors may cause the historical gross profit margin to change over time.

Retail inventory method:

To avoid the time-consuming and expensive process of taking a physical inventory each month or quarter, some companies use the **retail inventory method** to estimate cost of goods sold and ending inventory.

Retail businesses track both the cost and retail sales price of inventory. This information provides another way to estimate ending inventory. Suppose a retail store wants to estimate the cost of ending inventory using the information shown below.

Table 2. 20 Retail Method

	Cost	**Retail**
Beginning Inventory	ETB49,000	ETB80,000
Purchases	209,000	350,000
Goods Available for Sale	ETB 258,000	430,000
Net Sales		ETB400,000

The first step is to calculate the retail value of ending inventory by subtracting net sales from the retail value of goods available for sale.

	Cost	**Retail**
Beginning Inventory	ETB49,000	ETB80,000
Purchases	209,000	350,000
Goods Available for Sale	ETB258,000	430,000
Net Sales		400,000
Ending Inventory (Retail)		ETB30,000

Next, the cost-to-retail ratio is calculated by dividing the cost of goods available for sale by the retail value of goods available for sale.

	Cost	Retail
Beginning Inventory	ETB49,000	ETB80,000
Purchases	209,000	350,000
Goods Available for Sale	ETB258,000	430,000
Net Sales		400,000
Ending Inventory (Retail)		ETB30,000

Cost to Retail Ratio (ETB258,000/ ETB430,000 = 60%)

Then, the estimated cost of ending inventory is found by multiplying the retail value of ending inventory by the cost-to-retail ratio.

	Cost	Retail
Beginning Inventory	ETB49,000	ETB80,000
Purchases	209,000	350,000
Goods Available for Sale	ETB258,000	430,000
Net Sales		400,000
Ending Inventory (Retail)		ETB30,000
Cost to Retail Ratio (ETB258,000/ETB430,000 = 60%)		
Ending Inventory (Cost) (ETB 30,000 × 60%)		ETB18,000

One limitation of the retail inventory method is that a store's cost-to-retail ratio may vary significantly from one type of item to another, but the calculation simply uses an average ratio. If the items that actually sold have a cost-to-retail ratio that differs significantly from the ratio used in the calculation, the estimate will be inaccurate.

1.4 Valuation at Net Realizable Value.

Valuation at net realizable value (NRV) is a principle used in inventory valuation. It entails valuing inventory items based on the estimated selling price in the ordinary course of business, less the estimated costs of completion, disposal, and transportation.

The net realizable value is the amount that the inventory can reasonably be expected to sell for, considering factors such as market conditions, obsolescence, and damage. It

represents the amount of cash a business could generate from the sale of its inventory after all relevant expenses are accounted for.

Valuing inventory at net realizable value is particularly relevant when the market value of the inventory is lower than its cost. In such cases, the inventory should be written down to reflect the lower expected selling price, ensuring that financial statements provide a more accurate representation of the inventory's value.

Valuation at Net Realizable Value (NRV) is a method used to assess the value of inventory. It involves determining the estimated selling price of inventory minus the estimated costs required to make the sale.

Example:

A company has inventory with a cost of Br. 10,000. The estimated selling price is Br. 12,000, but it requires an additional Br.500 for marketing and distribution costs. What is the valuation at NRV for this inventory?

Valuation at NRV = Estimated Selling Price - Additional Costs

Valuation at NRV = Br. 12,000 – Br. 500 = **Br. 11,500**

Self-check 2

Part I- Choose the Best answer from the given alternatives

1. Which valuation rule considers the estimated selling price of inventory, less any estimated costs of completion and disposal?
    A. Lower of cost or market
    B. Valuation at net realizable value
    C. Average cost method
    D. Weighted average cost method
2. When valuating inventory at net realizable value, what value is considered?
    A. Cost of inventory plus market value
    B. Selling price minus cost of disposal
    C. Cost of goods sold at market value
    D. Current market value plus net profit margin
3. Under the LIFO method, the cost of goods sold consists of:
    A. The oldest inventory purchased first
    B. The newest inventory purchased first
    C. The average cost of all inventory
    D. None of the above
4. A company follows the periodic inventory system using FIFO method. On January 1, the beginning inventory was 200 units at a cost of Br. 10 per unit. During the month, the company purchased 400 units at a cost of Br. 12 per unit. At the end of the month, the physical count revealed 250 units on hand. What is the cost of goods sold during the month?
    A. Br. 3,800
    B. Br. 2,700
    C. Br. 3,200
    D. Br. 4,400

5. A company records the purchase of 100 units of a product at a cost per unit of Br.5. The company uses the perpetual inventory system and assumes a first-in, first-out (FIFO) inventory flow. If the company sells 30 units of the product, what is the value of the ending inventory?
   A. Br.100
   B. Br.350
   C. Br.200
   D. Br.250

Part II Practical demonstration

1. AB Commercial business purchased and sales inventory during the month of January, as following:

January 01, beginning inventory: 75 units @ Br.20 per unit

Purchases:

January 10, 150 units @ Br.25 per unit
22, 125 units @ Br 30 per unit

Sales:

January 01, 200 units @ Br 40 per unit
26, 100 units @ Br 45 per unit

Assume that the company uses periodic inventory system

- Calculate the cost of goods sold (COGS) and ending inventory using FIFO, LIFO and Average methods.

2. The following data for Ene Company for the month of December, 2020
   The company using Perpetual Inventory System - Weighted Average Method:

December 1, beginning inventory: 200 units @ Br. 5 per unit

Purchases:

December 10, 300 units @ Br. 6 per unit
December 25, 400 units @ Br. 7 per unit

Sales:

December 17, 200 units @ Br.10 per unit
28, 500 units @ Br.12 per unit

- Calculate the cost of goods sold (COGS) and ending inventory using the weighted average method.

Part III. Demonstration question

1. **FIFO (First-In, First-Out):**
    - Explain how the FIFO inventory flow assumption works.
    - Using the transactions during the month, demonstrate how FIFO would impact the calculation of the cost of goods sold (COGS) and ending inventory at the end of the month.
2. **LIFO (Last-In, First-Out):**
    - Describe the LIFO inventory flow assumption.
    - Provide a walkthrough of how LIFO would affect the calculation of COGS and ending inventory for the same transactions.
3. **Weighted Average:**
    - Define the weighted average inventory flow assumption.
    - Calculate the weighted average cost per unit and demonstrate how it influences the calculation of COGS and ending inventory.

Operation sheet 2.1: Calculate the cost of goods sold (COGS) and ending inventory

Purpose: For manage inventory

Recourse requirement

- Computer
- A4 size paper
- Scientific calculator

An operation sheet for inventory cost assumption can help track and calculate the cost of goods sold (COGS) and ending inventory based on different cost flow assumptions like FIFO, LIFO, or Weighted Average. Here's a simplified example of an operation sheet for inventory cost assumption using the FIFO method:

plaintext Copy code

Transaction Date	Transaction Type	Product ID	Product Name	Quantity	Unit C
Jan 1, 2023	Beginning Inventory	001	Laptop	50	$80
Jan 5, 2023	Purchase	001	Laptop	20	$850
Jan 10, 2023	Sale	001	Laptop	10	-
Jan 15, 2023	Purchase	001	Laptop	30	$900
Jan 20, 2023	Sale	001	Laptop	20	-
...	...	...	...	...	...
Dec 31, 2023	Ending Inventory	001	Laptop	-	-

Explanation:

1. Transaction Date: The date of the inventory transaction.
2. Transaction Type: The type of transaction, such as Beginning Inventory, Purchase, Sale, or Ending Inventory.
3. Product ID: A unique identifier for each product.
4. Product Name: Description of the product.
5. Quantity: The quantity of the product involved in the transaction.
6. Unit Cost: The cost per unit of the product.
7. Total Cost: The total cost of the product in the transaction (Quantity * Unit Cost).
8. Running Total (Quantity): Cumulative quantity of the product based on the transaction type.

9. Running Total (Cost): Cumulative cost of the product based on the transaction type.

This operation sheet demonstrates how the FIFO method operates by assuming that the first items added to inventory are the first ones sold. Adjustments are made to the running totals based on purchases and sales, and the ending inventory is calculated at the end of the tracking period.

You can adapt this template for LIFO or Weighted Average by adjusting the calculations accordingly

Lap test 2.1 Calculate the ending inventory and cost of goods sold (COGS)

It seems there might be a slight typo in your question, and I'm assuming you meant "Lap test" to be "LIFO test." If I'm incorrect or if you meant something else, please clarify. Assuming you are referring to a LIFO test, it's important to note that there isn't a standardized "LIFO test" per se, but rather a consideration of the principles and calculations involved in Last-In, First-Out (LIFO) accounting.

Here's a brief explanation of a test you might perform to assess the impact of LIFO assumptions on inventory costs:

Task 1: LIFO Reserve Calculation: One way to gauge the impact of LIFO on inventory is by calculating the LIFO reserve. The LIFO reserve represents the difference between the reported inventory value under LIFO and what it would have been under FIFO (First-In, First-Out). A positive LIFO reserve indicates that reported costs are lower under LIFO than under FIFO.

UNIT THREE: Inventory reconciliation

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Inventory reconciliation records.
- Adjusting discrepancies.

This unit will also assist you to attain the learning outcomes stated in the cover page.

Specifically, upon completion of this learning guide, you will be able to:

- Reconcile inventory records.
- Identify and adjusting discrepancies.

3.1 Inventory reconciliation

Reconciling inventory records involves comparing the physical inventory on hand with the recorded quantities in the company's inventory records or accounting system. This process helps identify any discrepancies or errors that may exist and allows for adjustments to be made to ensure accurate financial reporting.

Here is a step-by-step explanation of the reconciling inventory records process with examples:

A. Start with a physical count
B. Obtain the inventory records
C. Compare physical count with recorded quantities
D. Investigate discrepancies
E. Adjust the inventory records
F. Analyse the root causes
G. Reconcile in the accounting system

Start with a physical count: Conduct a physical count of the inventory on hand. This involves physically counting each item in the company's inventory, including raw materials, work-in-progress, and finished goods.

Example: Let's say the physical count reveals that there are 100 units of a particular product in stock.

Obtain the inventory records: Access the company's inventory records or accounting system to retrieve the recorded quantities of the inventory items.

Example: The inventory records state that there should be 120 units of the same product in stock.

Compare physical count with recorded quantities: Compare the physical count from step 1 with the recorded quantities in the inventory records. Identify any differences between the two.

Example: The difference between the physical count of 100 units and the recorded quantity of 120 units is -20 units.

Investigate discrepancies: Investigate the reasons for the discrepancies by examining factors such as miscounts, damaged or expired items, theft, or recording errors.

Example: Upon investigation, it is discovered that there was a miscount during the physical inventory due to an employee overlooking a box of 20 units.

Adjust the inventory records: Make necessary adjustments to the inventory records to reflect the correct inventory levels. This might involve adding or subtracting the identified discrepancies.

Example: Update the inventory record to reflect 120 units as the correct quantity of the product.

Analyse the root causes: Analyse the root causes of discrepancies to identify areas of improvement that can help prevent similar issues in the future.

Example: The root cause of the discrepancy was determined to be a lack of proper supervision during the physical inventory process. Steps will be taken to enhance oversight and ensure accurate counting in the future.

Reconcile in the accounting system: Finally, update the company's accounting system to reconcile the inventory records with the adjusted quantities. This ensures the accurate representation of inventory in the financial statements.

Example: The inventory records in the accounting system are updated to reflect the correct quantity of 120 units.

By reconciling inventory records using these steps, companies can maintain accurate inventory tracking and reporting, which is essential for financial and operational control within the organization.

3.2 Adjusting discrepancies

Identifying and adjusting discrepancies in inventory involves analysing the difference between the recorded inventory levels and the actual physical count of goods. This helps ensure accurate financial reporting and effective inventory management. Let me provide you with a detailed explanation along with numerical examples.

- Identifying Discrepancies
- Analysing Discrepancies
- Adjusting Inventory
- Preventive Measures

Identifying Discrepancies:

Conducting Physical Inventory Count: To identify discrepancies, a physical count of all inventory items is performed. This involves physically counting and verifying the quantity of each item in stock.

Comparing Recorded and Actual Quantities: By comparing the recorded inventory levels with the physically counted quantities, discrepancies can be identified. These discrepancies could arise due to various reasons such as theft, damage, incorrect recording, or misplacement of items.

Analysing Discrepancies:

Root Cause Analysis: Once discrepancies are identified, it is important to analyse their root causes. This includes investigating any inventory shrinkage, discrepancies in receiving or shipping processes, inaccurate data entry, or any other potential factors affecting inventory accuracy.

Adjusting Inventory:

Correcting Recordkeeping: After identifying the discrepancies and their causes, adjustments need to be made to the inventory records to reflect the actual quantities on hand. This entails updating the inventory system or ledger to align with the physical count.

Financial Impact: Adjustments in inventory levels may impact the financial statements. For instance, an increase or decrease in the cost of goods sold (COGS), and potential changes in the value of the inventory.

Preventive Measures:

Implementing Controls: To mitigate discrepancies, businesses should establish effective inventory management policies and procedures. This includes regular cycle counts, usage of barcode systems, implementing security measures, and accurate recordkeeping practices.

Reconciling Discrepancies: Regular reconciliation between recorded and physical inventory counts can help identify and correct any discrepancies promptly.

By identifying and adjusting discrepancies in inventory, businesses can ensure accurate financial reporting, minimize financial losses due to theft or errors, and improve overall efficiency in managing their inventory levels.

Estimating inventory cost

Taking a physical inventory every month would be very expensive and time taking, therefore if a business using periodic inventory is to prepare monthly or quarterly financial statements; it usually estimates the amounts of its inventory and cost of goods sold. One approach to making their estimates is called the gross profit method; another used primarily by retail stores is the retail method

Importance of estimating inventory

It may be necessary for a business to know the amount of inventory when perpetual inventory records are not maintained and it is impractical to take a physical inventory for example when fire has destroyed the inventory the amount of the loss must be determined

The importance of these methods is as follows

- simple technique
- to compare the actual physical count with the estimate
- less costly and applicable where the is no cost data are not available

There are two types of inventory estimation

A. retail method
B. gross profit method

Retail method

The retail inventory method of estimating inventory cost is based on the relationship of the cost of merchandise available for sale to retail price of the same merchandise

Here are steps you are required to follow in apply these method

- The retail price of all goods is maintained and totaled.
- The cost of goods available for sale has to be divided by the goods available for sale at retail to compute the percentage of cost.
- Ending inventory at retail is determined by deducting sale for the period from the retail price of goods available for sale during the period.
- Compute the estimated inventory cost by multiplying the inventory at retail by the ratio of cost to selling (retail) price for merchandise available for sale.

Example: **M Enterprise** whose inventory will not be possible to count, want to estimate its ending inventory at cost. The retail has the following data

Table 3. 1 beginning inventory given

	Cost	**Retail**
Beginning inventory Meskeram 1	9,400	14,100
Purchase in the month Meskeram	15,000	22,500
Sales in the month Meskeram		27,900

Solution:

Table 3. 2 ending inventory solution

	Cost	**Retail**
Beginning inventory	9,400	14,100
Purchase made	15,000	22,500
Goods available for sale	24,400	36,600
Ratio of cost to retail	$\frac{24,400}{36,600} = 66\,^{2}/_{3}$	
Sales		(27,900)
Ending inventory at retail		**8,700**
Ending inventory at cost	8,700*66 $^{2}/_{3}$ = **5,800**	

Therefore, the ending inventory is **Birr 5,800**

Gross profit method

The gross profit method uses the estimated gross profit for the period to estimate the inventory at the end of the period. The gross profit is usually estimated form the actual rate for the preceding year adjustment for any changes made in the cost and sales prices during the current period.

By using the gross profit rate, the amount of sales is divided in to two

A. gross profit and
B. cost of goods sold

The cost of goods sold amount is them deducted from the cost of merchandise available for sale to yield the estimated cost of the inventory.

For example

Nun super markets inventory on Meskeram, 1 is birr 9400 and net purchase made during the month was birr 15,000 at cost and net sales made during the month was 27,900. In addition, the historical gross profit was 30 %of net sales.

Table 3. 3 estimated ending inventory

Beginning inventory		9400
Purchase		15,000
Cost of goods available for sale		24,400
Sales	27,900	
Less gross profit	27900*0.3 (8,570)	
Cost of goods sold		(19,530)
Estimated ending inventory		Birr 4,870

As it is possible for you to see form the above table first you are required to compute the available for sale by adding the beginning inventory with purchase made (9400+15000) them deduct the gross profit form sale, which the result of (27900-(27900*0.3)), to compute the estimated cost of goods sold. And finally deduct the cost of goods sold form the cost goods available for sale (24,400- 19,530) to get estimated ending inventory.

Self- check 3.1

Part I: Feel free to answer each statement with either "True" or "False" based on your understanding of inventory reconciliation.

1. True or False: Inventory reconciliation involves comparing the physical count of inventory items with the recorded quantities in the accounting records to ensure accuracy.
2. True or False: The purpose of inventory reconciliation is to identify and rectify discrepancies between the physical count and the recorded inventory levels.
3. True or False: Regular inventory reconciliation is not necessary as long as the business is using an automated inventory management system.
4. True or False: Adjustments made during the inventory reconciliation process should be well-documented for transparency and audit purposes.
5. True or False: Root cause analysis is not a crucial step in the inventory reconciliation process, as discrepancies are typically due to random errors.

Part II: Short Answer

1. What are the two types of inventory estimation methods?

   _____

   _____

2. What is the importance of estimating inventory?

   _____

   _____

3. What is the logic used in estimating inventory under gross profit method?

   _____

   _____

   _____

4. What is the estimated sot of the ending inventory if the merchandise available for sale is birr 35,000, sales are 50,000 and the gross profit percentage is 40%.

   _____

   _____

   _____

1. **Part III: Scenario:**

- Imagine you are a manager in charge of inventory reconciliation for a retail business. During the reconciliation process, you notice a discrepancy between the physical count and the recorded quantities for a specific product. How would you approach resolving this discrepancy, and what steps would you take to update the inventory records?

2. **Root Cause Analysis:**
    - Discuss the importance of conducting a root cause analysis during the inventory reconciliation process. Provide an example of a situation where a root cause analysis could uncover the reasons for discrepancies, and explain how this understanding would help prevent similar issues in the future.
3. **Documentation and Transparency:**
    - Explain the significance of documenting adjustments made during inventory reconciliation. How does this documentation contribute to transparency in financial reporting, and what types of information should be included in the documentation?
4. **Frequency of Reconciliation:**
    - Discuss the optimal frequency for conducting inventory reconciliation. What factors would influence the decision to reconcile inventory on a monthly, quarterly, or annual basis? How does the frequency of reconciliation impact the accuracy of financial reporting?
5. **Integration with Technology:**

Unit Four: Inventory Reports

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Inventory Turnover.
- Spread Sheets and ad hoc reports.

This unit will also assist you to attain the learning outcomes stated in the cover page.

Specifically, upon completion of this learning guide, you will be able to:

- Develop schedules of inventory turnover.
- Prepare spread sheets and ad hoc reports.

4.1 Inventory Turnover.

Inventory turnover is a measure of how frequently a company sells and replaces its inventory within a specific time period. It is a crucial metric for businesses to understand their efficiency in managing inventory.

To develop schedules of inventory turnover, you need to calculate the inventory turnover ratio and analyse it over different time periods. The formula for inventory turnover ratio is:

Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory

Or

Cost of goods sold

(Beginning inventory + Ending inventory)/2

Example 1:

Suppose a company's cost of goods sold (COGS) for the year is Br. 500,000, and its average inventory level during the same period is Br. 100,000.

Inventory Turnover Ratio = Br. 500,000 / Br. 100,000 = **5**

This means that, on average, the company turns over its inventory five times during the year. To develop a schedule of inventory turnover, you can track this ratio for each month or quarter.

By developing schedules of inventory turnover, businesses can identify trends, seasonality, and potential issues in their inventory management. This information can be used to adjust purchasing, production, and sales strategies accordingly.

Example 2: The following monthly inventory data for MM Company:

Month 1:

Beginning Inventory: 100 units

Ending Inventory: 80 units

Sales: 500 units

Month 2:

Beginning Inventory: 80 units

Ending Inventory: 60 units

Sales: 550 units

Month 3:

Beginning Inventory: 60 units

Ending Inventory: 40 units

Sales: 600 units

Required: Calculate the inventory turnover ratio for each month?

Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory

First, we need to calculate the cost of goods sold (COGS) for each month. Assuming the cost per unit is Br.10, we can calculate the COGS as follows:

Month 1 COGS = Sales - Ending Inventory

= 500 – 80 **= 4200**

Month 2 COGS = Sales - Ending Inventory

= 550 - 60 **= 4900**

Month 3 COGS = Sales - Ending Inventory

= 600 - 40 **= 5600**

Next, we calculate the average inventory for each month by taking the average of the beginning and ending inventory:

Month 1 Average Inventory = (Beginning Inventory + Ending Inventory) / 2

= (100 + 80) / 2 **= 90**

Month 2 Average Inventory = (Beginning Inventory + Ending Inventory) / 2

= (80 + 60) / 2 **= 70**

Month 3 Average Inventory = (Beginning Inventory + Ending Inventory) / 2

= (60 + 40) / 2**= 50**

Finally, we can calculate the inventory turnover ratio for each month:

Month 1 Inventory Turnover Ratio = COGS / Average Inventory

= 4200 / 90 = **46.67**

Month 2 Inventory Turnover Ratio = COGS / Average Inventory

= 4900 / 70 = **70**

Month 3 Inventory Turnover Ratio = COGS / Average Inventory

= 5600 / 50 = **112**

So, the inventory turnover ratio for each month is:

Month 1: 46.67

Month 2: 70

Month 3: 112

The higher the inventory turnover ratio, the more efficiently a company is selling its inventory. On the other hand, a low inventory turnover ratio may indicate overstocking or poor sales performance.

By analysing the inventory turnover ratio, businesses can gain insights into their inventory management practices and make informed decisions regarding purchasing, production, and sales strategies. Additionally, comparing the inventory turnover ratio across different periods or against industry benchmarks can help identify trends and measure performance.

4.2 Spread Sheets and ad hoc reports

Ad hoc reports refer to reports that are created on an as-needed basis for specific purposes or situations. These reports are typically not part of the regular reporting process and are often generated to address a specific question, problem, or decision-making requirement. Ad hoc reports are typically flexible and customizable, allowing users to select the data sources, fields, filters, and visualizations they need. They provide a way to analyse data quickly and provide relevant insights for specific business needs.

Preparing spread sheets and ad hoc reports involves organizing and presenting data in a structured manner for analysis and decision-making purposes. This process is often used to manage inventory schedules and generate reports that are not part of regular, routine reporting.

SPREED SHHEET

1. Open Microsoft Excel: Launch the Microsoft Excel application on your computer.

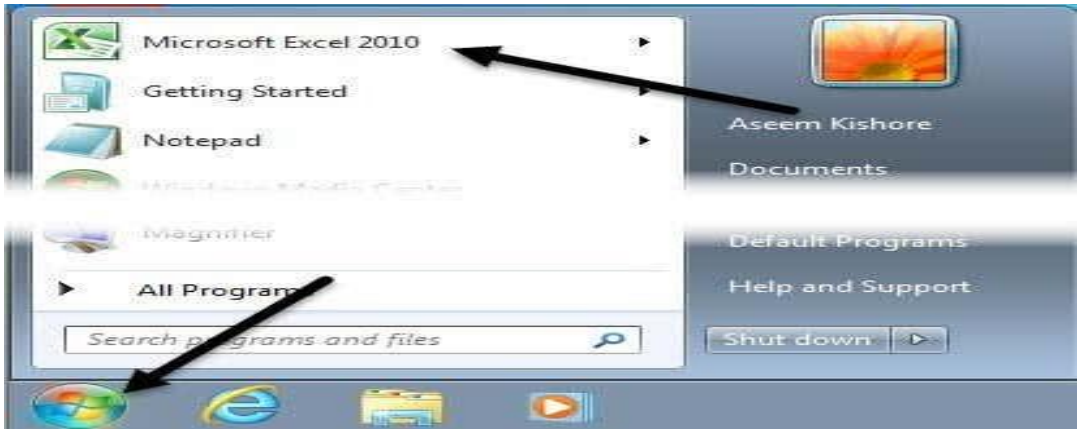


Figure 4. 1 start office

2. Create a new workbook: Click on "File" in the top navigation menu, then select "New" or use the shortcut Ctrl + N to create a new workbook.

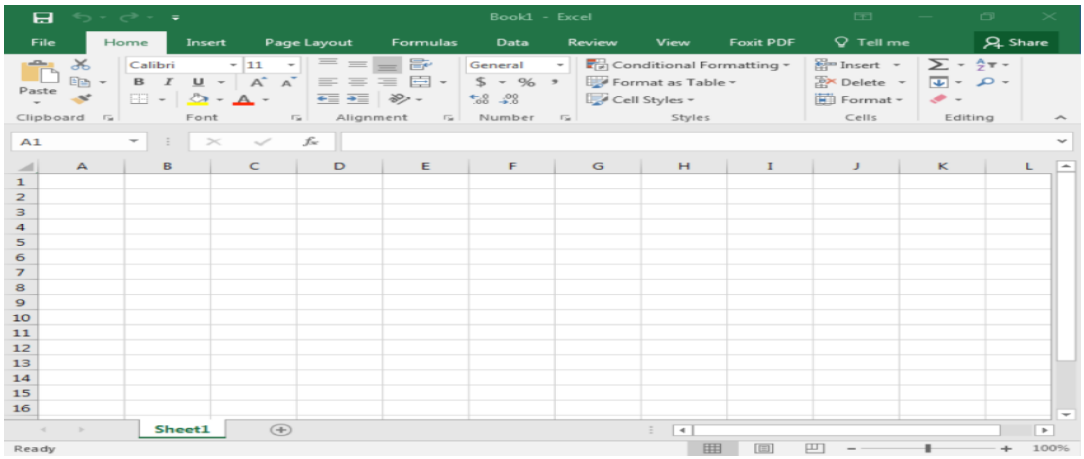


Figure 4. 2 open file

3. Set up the structure: Decide on the information you want to include in your inventory report, such as item names, quantities, prices, and categories. Create column headings for each of these pieces of information by typing them into the first row of your spread sheet.

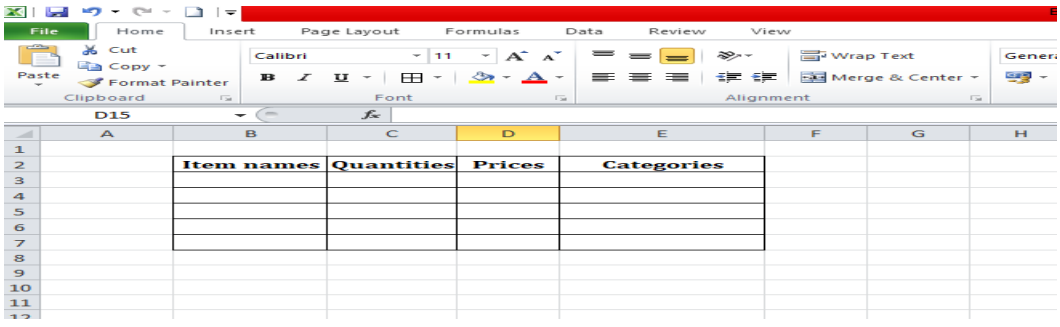


Figure 4. 3 entering data

4. Enter data: Enter the inventory data into the corresponding cells below each column heading. Each row represents a separate item in your inventory.

Product ID	Product Name	Initial Quantity	Purchase Quantity	Sales Quantity	Unit Cost	Total Cost	Current Quantity	Current Value
001	Laptop	50	20	10	$800	$40,000	60	$48,000
002	Smartphone	30	15	5	$500	$15,000	40	$20,000
003	Headphones	100	30	20	$50	$1,500	110	$5,500

Figure 4. 4 inventory record spread sheet

Explanation of Columns:

1. **Product ID:** A unique identifier for each product.
2. **Product Name:** Description of the product.
3. **Initial Quantity:** The quantity of the product at the beginning of the tracking period.
4. **Purchase Quantity:** Quantity purchased during the tracking period.
5. **Sales Quantity:** Quantity sold during the tracking period.
6. **Unit Cost:** Cost per unit of the product.
7. **Total Cost:** Total cost of the product (Unit Cost * Initial Quantity).
8. **Current Quantity:** Calculated as (Initial Quantity + Purchase Quantity - Sales Quantity).
9. **Current Value:** Calculated as (Current Quantity * Unit Cost).

Self- check 4

Part I – write ‘’ true’’, if the statement is correct and write ‘’false’’, if the statement is’’ incorrect’’

1. The inventory turnover ratio is calculated by dividing the cost of goods sold by the average inventory for a specific period.
2. FIFO (First-In, First-Out) is an inventory valuation method where the cost of the most recently acquired items is matched with revenue.
3. An aging analysis of inventory categorizes items based on their production date to determine their shelf life.

4. Just-in-Time (JIT) inventory systems aim to minimize carrying costs by ordering goods in large quantities to take advantage of bulk discounts.
5. The LIFO (Last-In, First-Out) inventory valuation method assumes that the most recently acquired items are the first to be sold.
6. The purpose of an obsolescence reserve is to account for potential increases in the value of inventory due to market trends.
7. Inventory write-downs are adjustments made to increase the recorded value of inventory to reflect its current market value.
8. Disclosure requirements for inventory in financial statements include providing information about the methods used for valuation and the existence of obsolete or slow-moving inventory.

Part II- Choose the Best answer from the given alternatives

1. What does a high inventory turnover ratio indicate?
   a) Efficient management of inventory
   b) Slow sales performance
   c) Overstocking of inventory
   d) Unreliable suppliers
2. What is the main benefit of using ad hoc reports for inventory management?
   a) Real-time insights into inventory levels
   b) Automating stock replenishment processes
   c) Reducing operational costs
   d) Enhancing customer satisfaction
3. In a computer spread sheet, tool used to construct formulas is called
   a) formula bar
   b) filter
   c) auditing toolbar
   d) format printer
4. How can inventory turnover be calculated?
   a) (Beginning Inventory + Ending Inventory) / 2
   b) Cost of Goods Sold / Average Inventory

c) Sales / Ending Inventory

d) None of the above

5. Reports that are created on an as-needed basis for specific purposes or situations.

a) Ad hoc reports

b) Financial report

c) Annual report

d) None

Part III: - demonstration

1. Inventory Valuation:

- How is the value of inventory typically determined in financial reports?
- Explain the difference between the cost of goods sold (COGS) and the ending inventory value on a financial statement.

2. Turnover Ratios:

- What is inventory turnover, and why is it a critical metric for businesses?
- How can a high or low inventory turnover ratio impact a company's financial performance?

3. Obsolete Inventory:

- Discuss the challenges associated with obsolete inventory and how it is reported in financial statements.
- What strategies can a business employ to minimize the risk of having obsolete inventory?

4. LIFO vs. FIFO Impact:

- Explain how the choice of inventory cost assumption methods, such as LIFO or FIFO, can impact the financial reports of a company.
- Provide an example of how the financial statements would differ when using LIFO compared to FIFO during a period of rising prices.

5. Inventory Aging Analysis:

- What is an inventory aging analysis, and how does it help in assessing the health of inventory?
- Can you provide an example of how an aging report for inventory might be structured?

6. Reserve for Obsolescence:

- Describe the concept of a reserve for obsolescence in inventory reporting.
- When and how should a company adjust the reserve for obsolescence, and what impact does it have on the financial statements?

7. Just-in-Time Inventory:
    - Explain the just-in-time (JIT) inventory system and its impact on inventory reporting.
    - What are the potential advantages and challenges of implementing a JIT inventory system?
8. Inventory Write-Downs:
    - Under what circumstances would a company need to write down its inventory?
    - How are inventory write-downs reflected in the financial statements?
9. Disclosure Requirements:
    - What are the disclosure requirements related to inventory in financial statements, and why are they important?
    - Provide an example of how a company might disclose significant information about its inventory in the footnotes to the financial statements.

References:

Warren, Reeve and Duchac, ACCOUNTING 23 edition, 2009

Jerry J. Weygandt, Paul D. Kimmel and Donald E, Kieso Accounting Principles, 10th edition, 2012.

FESS. WARREN, Accounting Principles, 16th edition,

Developers profile

No	Name	Qualification	Educational background	Region	College	Mobile number	E-mail
1	Kassa Terefe Gelaw	MA	Accounting & Finance	A.A.	Kirkos Manufacturing College	0993298301	kssterefe@gmail.com
2	Remedan Abdurehman	MBA	Accounting & Finance	A.A	GENERAL WINGET PTC	0933233939	Rame.abdu10@gmail.com
3	Sewumehon Anteneh	MSC	Accounting & Finance	A. A	Kirkos Manufacturing College	0948032126	sewumehonanteneh@gmail.com
4	Aynabeba Zewdie	MA	Accounting &Finance	Oromya	Sebeta Polytechnic College	0911724881	Aynabebazewdie81@gmail.com
5	Ejigu Terefe	MA	Accounting &Finance	Oromya	Burayu PTC	0913440478	kenaketejigu@gmail.com