Valuation of Inventories

Section A Fundamentals of Accountancy ,Chapter 4

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Learning Objectives

Meaning of Inventory

Types of Inventories

Inventory valuation

Basis of Inventory Valuation

Valuation Inventory Techniques

- FIFO(First in first out) Method
- LIFO(Last in first out)Method
- Average Price Method
- Weighted Average Price Method

Learning Objectives

Non-Historical cost methods

Inventory Record Systems

- Periodic Inventory System
- Perpetual Inventory System

Stock Taking

MCQ

Meaning of Inventory

Inventory can be defined as tangible assets:

Held for sale in the ordinary course of business;

In the process of production for such sale;

In the form of materials or supplies to be consumed in the production process or in the rendering of services.

Types of Inventories

In case of manufacturing Concerns

- Raw Material
- Work in Progress
- Finished Goods
- Stores and Supplies

In case of Trading Concern

- Finished Goods

Inventory Valuation

Determination of income

- The valuation of inventory is necessary for determining the true income earned by a business entity during a particular period to determine gross profit, cost of goods sold is matched with revenue of the accounting period.

Inventory valuation

Inventory valuation is useful to

- Determination of income
- ascertainment of Financial Position
- Liquidity analysis
- Statutory Compliance

Inventory valuation

- Cost of goods sold is calculated as follows

Opening stock	XXXX	
Add Purchases		XXXX
Add Direct expenses		XXXX
Less Closing stock	XXXX	
Cost of goods sold		**XXXX**

Inventory valuation

Impact of Inventory valuation on the income determination

When closing inventory is **overstated**, net income for the accounting period will be **overstated**.

When opening inventory is **overstated,** net income for the accounting period will be **understated**.

Inventory valuation-Question

While finalizing the current year's profit, the company realized that there was an error in the valuation of closing stock of the previous year. In the previous year, closing stock was valued more by Rs.50,000. As a result

Inventory valuation

(a) Previous year's profit is overstated and current year's profit is also overstated

(b) Previous year's profit is understated and current year's profit is overstated

(c) Previous year's profit is understated and current year's profit is also understated

(d) Previous year's profit is overstated and current year's profit is understated

Ans. (d)

Inventory valuation

Ascertainment of Financial Position

- Inventories are classified as current assets. The value of inventory on the date of balance sheet is needed to determine the financial position of the business.

Inventory valuation

In case the inventory is not properly valued, the balance sheet will not disclose the truthful financial position of the business.

Inventory valuation:

Liquidity analysis

Inventory is classified as a current asset, it is one of the components of net working capital which reveals the liquidity position of the business.

Current ratio which studies the relationship between current assets and current liabilities is significantly affected by the value of inventory.

Inventory valuation

Statutory Compliance

Revised Schedule VI of the Companies Act, 1956 requires valuation of each class of goods i.e. raw material, work-in-progress and finished goods under broad head to be disclosed in the financial statements. As per the requirements of the Accounting Standards, the financial statements should disclose

Inventory valuation

Statutory Compliance Contd….

The accounting policies adopted in measuring inventories, including the cost formula used, The total carrying amount of inventories and its classification appropriate to the enterprise. The common classification of inventories are raw materials; work-in-progress; finished goods; stores and spares and loose tools.

Basis of Inventory Valuation

Inventories should be generally valued at the lower of

- Cost
- Net Realizable Value (NRV)

Basis of Inventory Valuation

Cost

- The amount of expenditure incurred on acquisition of goods.

Basis of Inventory Valuation

Net Realizable Value :

- This is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale

Valuation Inventory Techniques

- Inventory, not ordinarily interchangeable
- Inventory, ordinarily interchangeable

Valuation inventory Techniques

Inventory, ordinarily interchangeable

Historical cost Methods

Non-historical cost

Valuation inventory Techniques

Inventory, not ordinarily interchangeable

Specific identification Method

Valuation inventory Techniques

Historical cost Methods

- FIFO
- LIFO
- Average Price
- Weighted Average Price
- Base Stock Method
- Inflated Price Method
- Specific Identification Method

Valuation inventory Techniques

Non-historical cost Methods

- Standard cost
- Adjusted Selling Price
- Latest Purchase Price

Valuation inventory Techniques

Historical cost Methods

Costs of purchase including

- duties and taxes (irrecoverable taxing authorities),
- freight inwards and other expenditure directly attributable to the acquisition of goods.
- Trade discounts, rebates,
- duty drawbacks and other similar items are deducted in determining the costs of purchase.

Valuation inventory Techniques

Specific Identification Method

- It attributes specific costs to identified goods and requires keeping different lots purchased separately to identify the lot out of which units in stock are left.
- (This method is generally used to ascertain the cost of inventories of items that are not ordinarily interchangeable)

Valuation inventory Techniques

FIFO(First in first out) Method

- The actual issue of goods is usually from the earliest lot on hand. The stock of goods on hand therefore, consists of the latest consignments. Thus, the closing in inventory is valued at the price paid for such consignments.

FIFO(First in first out) Method

illustration 1- A manufacturer has the following record of purchases of a condenser, which he uses while manufacturing radio sets:

Date	Quantity (units)	Price per unit
Dec. 4	900	5.00
Dec. 10	400	5.50
Dec.11	300	5.50
Dec. 19	200	6.00
Dec. 28	800	4.75
	2,600	

1600 units were issued during the month

Soluation

The closing stock is 1,000 units and would consist of -

800 units received on 28th December @ 4.75 = 3800/-

200 units received on 19th December @ 6.00 = 1200/-

1000 units 5000/-

LIFO(Last in first out)Method

LIFO (Last in first out) Method

- Goods issued are valued at the price paid for the latest lot of goods on hand which means stock of goods in hand is valued at price paid for the earlier lot of goods. LIFO method is based on an irrational assumption that inventories entering last in the stores are issued or consumed first. However, the flow of goods which is generally observed in business entities is contradictory to this assumption. Therefore, LIFO method is no longer adopted for valuing inventories.

LIFO(Last in first out)Method

illustration 1- A manufacturer has the following record of purchases of a condenser, which he uses while manufacturing radio sets:

Date	Quantity (units)	Price per unit
Dec. 4	900	5.00
Dec. 10	400	5.50
Dec.11	300	5.50
Dec. 19	200	6.00
Dec. 28	800	4.75
	2,600	

1600 units were issued during the month

Solution

The closing stock is 1,000 units and would consist of -

900	units received on 4th December @ 5.00 =	4500/-
100	units received on 10th December @ 5.50 =	550/-
1000 units		5050/-

Average Price Method

Average price for computing value of stock is a very simple approach. (All the different pricesare added together and then divided by the number of prices). The closing stock is then valued according to the price ascertained.

Average Price Method

illustration 3- A manufacturer has the following record of purchases of a condenser, which he uses while manufacturing radio sets:

Date	Quantity (units)	Price per unit
Dec. 4	900	5.00
Dec. 10	400	5.50
Dec.11	300	5.50
Dec. 19	200	6.00
Dec. 28	800	4.75
	2,600	

1600 units were issued during the month

Solution

The closing stock is 1,000 units and would consist of -

$$\frac{5.00+5.50+5.50+6.00+4.75}{5} = 5.35 \text{ per unit}$$

Hence closing stock is 5.35*1000 = 5350

Weighted Average PriceMethod

Weighted Average Price Method

- However, it is more logical to compute weighted average price using the quantities purchased in a lot as weights. Under weighted average price method, cost of goods available for sale during the period is aggregated and then divided by number of units available for sale during the period to calculate weighted average price per unit.

Weighted Average PriceMethod

Thus

Weighted average price per unit =

$$\frac{\text{Total Cost of goods available for sale during the period}}{\text{Total number of units available for sale during the period}}$$

Closing stock = No. of units in stock X Weighted average price per unit

Weighted Average PriceMethod

illustration 3- A manufacturer has the following record of purchases of a condenser, which he uses while manufacturing radio sets:

Date	Quantity (units)	Price per unit	
Dec. 4	900	5.00 =	4500
Dec. 10	400	5.50 =	2200
Dec.11	300	5.50 =	1650
Dec. 19	200	6.00=	1200
Dec. 28	800	4.75 =	3800
	2,600		13350

1600 units were issued during the month

Solution

The closing stock is 1,000 units and would consist of –

Weighted average cost per unit will be 13350/2600= 5.13

1000*5.135 = Rs. 5135/-

Best Method

Generally in Practice FIFO and Average Price Method are popular among the business entities.

Non-Historical cost methods

Adjusted selling price method

- This method is also called retail inventory method. The use of this method is appropriate for measuring inventories of large numbers of rapidly changing items that have similar margins and for which it is impracticable to use other costing methods. The cost of the inventory is determined by reducing from the sales value of the inventory the appropriate percentage of gross margin.
  - Contd….

Non-Historical cost methods

The percentage used takes into consideration inventory which has been marked below its original selling price. An average percentage for each retail department is often used. The calculation of the estimated gross margin of profit may be made for individual items or groups of items or by departments, as may be appropriate to the circumstances.

Inventory Record Systems

There are two principal systems of determining the physical quantities and monetary value of inventories sold and in hand. One system is known as ‘Periodic Inventory System’ and the other as the ‘Perpetual Inventory System’.

Periodic Inventory System

Periodic inventory system is a method of ascertaining inventory by taking an actual physical count (or measure or weight) of all the inventory items on hand at a particular date on which inventory is required. It is because of actual physical count that the system is also called physical inventory system.

Periodic Inventory System

The cost of goods sold is determined as shown below:

Opening inventory (known)	xxx
+ Purchases (known)	xxx
- closing inventory (physically counted)	<u>xxx</u>
Cost of goods sold.	<u>xxx</u>

Periodic Inventory System

<u>Advantages</u>

Periodic inventory system is simpleand less expensive

Periodic Inventory System

Limitations:

- Physical stock taking more than once a year
- More expensive.
- Physical count of goods requires closure of normal operations of business.
- As cost of goods sold is taken as residual figure, it includes loss of goods during the year.
- Inventory control is not possible under this system.

Perpetual Inventory System

Perpetual inventory system is a system of recording inventory balances after each receipt and issue. In order to ensure accuracy of perpetual inventory records, physical stocks should be checked and compared with recorded balances.

Under this system, cost of goods issued is directly determined and stock of goods is taken as residual figure with the help of stock ledger in which flow of goods is recorded on continuous basis.

Perpetual Inventory System

The basic feature of this system is the maintenance of stock ledger to have records of goods on continuous basis. Perpetual inventory system helps to overcome the limitations of periodic system. As stock is taken as residual figure, it includes loss of goods. However, the main limiting factor is the cost of using this system.

Distinction

Periodic inventory System

- This system is based on physical verification.
- This system provides information about stock and cost of goods sold at a particular date
- This system determines inventory and takes

Perpetual inventory System

- It is based on book records.
- It provides continuous information about stock and cost of sales.
- It directly determines cost of goods sold and computes stock as balancing figure.

Distinction

Periodic inventory System

- Cost of goods sold includes loss of goods as goods not in stock are assumed to be sold.
- Under this method, inventory control is not possible.

Perpetual inventory System

- Closing inventory includes loss of goods as all unsold goods are assumed to be in Inventory
- Inventory control can be exercised under this system.

Distinction

Periodic inventory System

- This system is simple and less expensive.
- Periodic system enquires closure of business for counting of stock.

Perpetual inventory System

- It is costlier method.
- Inventory can be determined without affecting the operations of the business.

Stock Taking

Normally all operations are suspended for one or two days during the financial year and physical inventory is taken for everything in the godown or the store periodically.

Stock Taking

Often, stock taking cannot be carried out on the closing day. It is carried out a few days later or some times even a few days earlier. In such a case, the actual value of the stock must be so adjusted as to relate it to the end of the year concerned.

Stock Taking

For doing so, it will be necessary to take into account the goods that have come in (purchases and sales returns) and those that have gone out (sales and purchase returns) during the interval between the close of the year and the date of actual stock taking.

Stock Taking

Calculation of closing stock if physical stock taking is done during the last week of the financial year

Stock as on say 25/03/2013		XXX
Add purchase (less return)from		
25/03/2013 to 31/03/2013	XXX	
Less Sales (less return)	XXX	
25/03/2013 to 31/03/2013	______	
Stock as on 31/03/2013	XXX	

Stock Taking

Calculation of closing stock if physical stock taking is done during the first week of next the financial year

Stock as on say 07/04/2013	XXX
Less purchase (less return)from	
01/04/2013 to 07/04/2013	XXX
Add Sales (less return)	XXX
01/04/2013 to 07/04/2013	XXX
Stock as on 31/03/2013	XXX

Question

Question

A trader prepared his accounts on 31st March, each year. Due to some unavoidable reasons, no stock taking could be possible till 07th April, 2013 on which date the total cost of goods in his godown came to Rs. 50,000. The following facts were established between 31st March and 7th April, 2013

Question

(i) Sales Rs. 41,000 (including cash sales Rs.1,000)

(ii) Purchases Rs.5,034 (including cash purchases Rs. 1,990)

(iii) Sales Return Rs.1,000.

Goods are sold by the trader at a profit of 20% on sales.

You are required to ascertain the value of inventory as on 31st March, 2013

Question

	Value of stock as on 7th April, 2013		Rs. 50000.00
Add	Cost of goods sold during the period from 1st April, 2013 to 07th April, 2013		
	Sales (41,000 - 1,000)	40000.00	
	Less : Gross Profit (20% of 40,000)	8000.00	32,000.00
			82,000.00
Less	Purchases during the period from		5034.00
	Closins Stock as on 31st March, 2013		Rs. 76,966.00

Question

Use the following information to calculate the value of inventory on hand on 31 March under FIFO (First in First Out Method)?

1 Mar Opening Stock 60 units @ Rs.15.00 per unit

5 Mar Purchase 140 units @ Rs. 15.50 per unit

14 Mar Sale 190 units

27 Mar Purchase 70 units @ Rs. 16.00 per unit

29 Mar Sale 30 units

Solution FIFO Method

Date	Purchases			Sales			Balance		
	Units	Unit Cost	Total	Units	Unit Cost	Total	Units	Unit Cost	Total
1-Mar							60	15.00	900.00
5	140	15.50	2170				60	15.00	900.00
							140	15.50	2170.00
14				60	15.00	900.00	10	15.50	155.00
				130	15.50	2015.00			
27	70	16.00	1120				10	15.50	155.00
							70	16.00	1120.00
29				10	15.50	155.00	50	16.00	800.00
				20	16.00	320.00			
31							50	16.00	800.00

Use the following information to calculate the value of inventory on hand on 31 March under LIFO (Last in First Out Method)?

1 Mar Opening Stock 60 units @ Rs.15.00 per unit

5 Mar Purchase 140 units @ Rs. 15.50 per unit

14 Mar Sale 190 units

27 Mar Purchase 70 units @ Rs. 16.00 per unit

29 Mar Sale 30 units

Solution LIFO Method

Date	Purchases			Sales			Balance		
	Units	Unit Cost	Total	Units	Unit Cost	Total	Units	Unit Cost	Total
1-Mar							60	15.00	900.00
5	140	15.50	2170				60	15.00	900.00
							140	15.50	2170.00
14				140	15.50	2170	10	15.00	150.00
				50	15.00	750			
27	70	16.00	1120				10	15.00	150.00
							70	16.00	1120.00
29				30	16.00	480	10	15.00	150.00
							40	16.00	640.00
31							10	15.00	150.00
							40	16.00	640.00

Use the following information to calculate the value of inventory on hand on 31 March under Weight Average Method?

1 Mar Opening Stock 60 units @ Rs.15.00 per unit

5 Mar Purchase 140 units @ Rs. 15.50 per unit

14 Mar Sale 190 units

27 Mar Purchase 70 units @ Rs. 16.00 per unit

29 Mar Sale 30 units

Solution Weighted Average Method

Date	Purchases			Sales			Balance		
	Units	Unit Cost	Total	Units	Unit Cost	Total	Units	Unit Cost	Total
1-Mar							60	15.00	900.00
5	140	15.50	2170				60	15.00	900.00
							140	15.50	2170.00
							200	15.35	3070.00
14				190	15.35	2916.00	10	15.35	154.00
27	70	16.00	1120				10	15.35	154.00
							70	16.00	1120.00
							80	15.92	1274.00
29				30	15.92	478.00	50	15.92	796.00
31							50	15.92	796.00

Conclusion

Closing Stock under various method is-

FIFO	50 X Rs. 16	=	Rs.800.00
LIFO	10 X Rs. 15	=	Rs.150.00
	40 X Rs.16	=	Rs.640.00
	50		Rs. 790.00

Weighted Average Cost 50X Rs.15.92 = Rs.796.00

Question Time

- MCQ's

MCQ.1

If Cost of goods sold is Rs. 80,700, Opening stock Rs.5,800 Closing stock Rs.6,000 then amount of purchase will be-

- (a) Rs.80,500
- (b) Rs.74,900
- (c) Rs.74,700
- (d) Rs.80,900

Answer. (d)
Rs.80,900

MCQ.2

The total cost of goods available for sale with a company during the current year is Rs.12,00,000 and the total sales during the period are Rs.13,00,000. If the gross profit margin of the company is 33 1/3% on cost, the closing inventory during the current year is

- (a) Rs.4,00,000
- (b) Rs. 3,00,000
- (c) Rs.2,25,000
- (d) Rs. 2,60,000.

Answer. (c) Rs. 2,25,000

MCQ.3

while finalizing the current year's profit, the company realized that there was an error in the valuation of closing stock of the previous year. In the previous year, closing stock was valued more by Rs.50,000. As a result

(a) Previous year's profit is overstated and current year's profit is also overstated

(b) Previous year's profit is understated and current year's profit is overstated

(c) Previous year's profit is understated and current year's profit is also understated

(d) Previous year's profit is overstated and current year's profit is understated

Ans. (d) Previous year's profit is overstated and current year's profit is understated

MCQ.4

An overstatement in the value of closing stock overstates all of the following except

a) Net income

b) Current assets

c) Capital of the business

d) Cost of goods sold

Ans. d) Cost of goods sold

MCQ.5

Which one of the following methods of inventory costing yields highest taxable income?

a) FIFO

b) LIFO

c) AVCO or average cost

d) Standard cost method

Ans. (a) FIFO

MCQ.6

Which one of the following inventory costing methods is supposed to issue the most recently purchased goods?

- a) FIFO method

  b) AVCO or average cost method

  c) LIFO method

  d) Moving averag

Answer c) LIFO method

MCQ.7:All of the following are the methods of inventory costing except

a) FIFO

b) LIFO

c) AVCO or average cost

d) Stock take

Answer d) Stock take

MCQ.8:Opening inventory + Net purchases = What?

a) Ending inventory

b) Closing stock

c) Cost of goods manufactured

d) Cost of goods available for sale

Answer: d) Cost of goods available for sale

MCQ.9

Gross profit is 25% on total sales and cost of goods sold amounts to Rs. 750. Which of the following is the amount of gross profit?

- a) Rs. 187.70

  b) Rs. 200.00

  c) Rs. 150.00

  d) Rs. 250.00

Answer. d Rs. 250.00

MCQ.10:NRV or net realizable value of inventory is the expected selling price or market value less-

a) Carry value of the inventory

b) expenses necessary to complete sale

c) Cost of the stock

d) replacement cost

Answer. b) expenses necessary to complete sale

MCQ.11

If a company is experiencing continuous cost increases for the merchandise that it purchases, which cost flow assumption will result in the least amount of profit and the least amount of income tax expense?

- (a)FIFO
- (b) LIFO
- (c) Average
- (d) Weighted Average

Answer.(b) LIFO

MCQ.12:A company in the computer industry is experiencing continuously lower costs. Which cost flow assumption will result in less income tax expense for this company?

- (a)FIFO
- (b)LIFO
- (c) Average
- (d) Weighted Average

Answer.(a) FIFO

MCQ.13:Which accounting concept is most reflected in the following accounting policy ‘Inventories are stated at the lower of average purchase cost and net realisable value?

- a)Prudence
- b)Consistency
- c)Matching
- d)Money measurement

Answer. a)Prudence

MCQ.14:B & Co write off its inventory by Rs. 15,000. As a result, its:

- a)Cost of goods available for sale is decreased
- b)Cost of goods available for sale is increased
- c)Its current assets are decreased
- d)Its stockholders' equity is increased
- Answer. c)Its current assets are decreased

MCQ.15: Goods available for sale is equal to:

a)Cost of goods sold plus ending inventory.

b)Cost of goods sold minus ending inventory.

c)Beginning inventory plus cost of goods sold.

d)Beginning inventory plus purchases minus cost of goods sold.

Answer. a)Cost of goods sold plus ending inventory.

MCQ.16

O & Co having beginning inventory of Rs.25,000 and an ending inventory of Rs.40,000. Its cost of goods sold for the year was Rs.485,000. What was the amount of purchases that it made for the year?

- a)Rs.4,70,000
- b) Rs.5,00,000
- c) Rs.5,25,000
- d) Rs.5,30,000

Answer. b)
Rs.5,00,000

MCQ.17:The specific identification method of inventory valuation is based on the

a) actual cost of each item of merchandise.

b) average cost of each item of merchandise..

c) earliest cost of each item of merchandise

d)latest cost of each item of merchandise

Answer. a) actual cost of each item of merchandise.

MCQ.18:
The weighted average cost of an inventory item is calculated by dividing the:

a) sum of the unit cost on the purchase invoices by the number of units purchased.

b) cost of goods available for sale by the number of units on the ending inventory

c) cost of goods available for sale by the number of units available during the period.

d) cost of goods sold by the number of units available during the period.

Answer. c) cost of goods available for sale by the number of units available during the period

MCQ.19:Which of the following is not a primary goal of inventory management?

a)Obtaining the lowest cost of inventory.

b)Ensuring sufficient quantities of inventory are available to meet customers' needs.

c)Ensuring inventory quality meets customers' expectations and company standards.

d)Minimizing the costs of acquiring and carrying inventory.

Answer. a)Obtaining the lowest cost of inventory.

Thank you