3. Inventory Systems

3.1 Periodic Inventory System and Perpetual Inventory System

Inventory System refers to – (a) system of recording receipts and issues of inventory, and physical counting of actual stock available at the period end and (c) comparing physical stock as per books and records to ascertain discrepancies if any.

There are two broad Inventory Systems – (1) Periodic Inventory System, and (2) Perpetual Inventory System. The salient features / differences between these two methods are – **N19**

Particulars	Periodic Inventory System	Perpetual Inventory System
1. **Meaning**	This involves ascertaining inventory value by actual physical count. It is also called as Physical Inventory System.	This involves ascertaining inventory value by keeping uptodate records and ascertaining the value from such Books and Records.
2. **COGS**	Cost of Goods Sold (COGS) = Opening Inventory (known from Books) + Purchases during the year (known) – Closing Inventory (by **physical count**)	Cost of Goods Sold (COGS) is determined from the books, since each receipt and issue of materials is recorded on an immediate basis.
3. **COGS vs Stock**	This system determines Inventory Value, and calculates COGS as balancing figure.	This system determines COGS for every issue and determines Inventory / Stock Value as balancing figure.
4. **Treat–ment of Loss**	COGS includes loss of goods, as goods not in stock are assumed to be sold.	Closing Inventory includes loss of goods as all unsold goods are assumed to be in Inventory.
5. **Stock Taking**	Stock Verification takes place at the end of a financial period, say a year.	Stocks are verified at regular intervals in the year. Since Stock–Taking takes place regularly, it is called Continuous stock–taking.
6. **Coverage in Stock Taking**	All items of Stocks are covered in a single stretch of verification, say over two or three days.	In each verification, two or three items are covered on random basis. In the entire period, all items are covered on rotation basis.
7. **Effect on work**	Regular stores procedures like materials receipts, issues, etc. may have to be stopped to facilitate stock–taking.	There is no interference with regular work flow.
8. **Control**	Discrepancies can be known only at the end of the period. Responsibility cannot be easily fixed.	Discrepancies are ascertained immediately in order to take corrective action and avoid recurrence.
9. **Records**	Inventory Records may be updated periodically, say weekly or monthly, infact, at any time before physical verification.	Due to surprise element involved, Inventory records must be maintained up–to–date at all times. Such records are called **Perpetual Inventory Records**.
10. **Posting**	Transactions can be accumulated and posted, e.g. all receipts and issues during a week, etc. So, **Batch Posting** is possible.	Each transaction should be posted individually. **Transaction Posting** (not Batch Posting) is required.
11. **Cost**	This is simple and **less costly** method.	This is a relatively **costly** method.
12. **Interim Results**	This does not facilitate or help the quick compilation of interim or final financial results.	Provides stock figures on real–time basis. Hence final accounts and Interim Results can be prepared easily.

3.2 Physical Stock vs Book Stock

Wherever required, the following adjustments are carried out in respect of value of Physical Stock, to arrive at the Value of Inventory as per the Balance Sheet –

	Value of **Physical Stocks** on the Closing Date	XXX
Add	Goods in Transit, i.e. goods in respect of which the Firm has the title and ownership, but lying with the Transporter / Carrier, pending delivery.	XXX
Add	Goods held by Other Entities on our behalf (e.g. Our Stock held by Agent, Sub–Contractor, Job Worker, etc.)	XXX
Add	Goods sent on approval for which confirmation not received from Customer.	
Less	Any goods sold in respect of title has been transferred to the Buyer, but delivery pending at Buyer's request.	XXX
Less	Goods held by us on behalf of Other Entities (e.g. As Agent, as Sub–Contractor, as Job Worker, etc.)	XXX
Less	Adjustments required to mark–down defectives / obsolete items, etc. to their NRV, if any.	XXX
	Value of Stocks as per Balance Sheet	

Illustration 7: Physical Stock vs Balance Sheet Value

Subramanya Ltd provides the following information. Find the Value of Inventory for Balance Sheet purposes.
Value of Stocks as per Physical Verification on 31st March = ₹ 28,00,000. The following items are to be considered.

- **Goods held by Sub–Contractors and Job Workers of Aruna Ltd, for which Confirmation Certificates have been received = ₹ 8,30,000**
- **Goods sold to Harini Ltd, a customer, who has requested for despatch only on 7th April, included in above physical stock = ₹ 10,00,000.**
- **Goods held by Aruna Ltd on behalf of Padmini Ltd (Consignor) = ₹ 2,50,000**
- **Goods sold on approval to Sankari Ltd ₹ 7,00,000 for which confirmation not yet received in respect of ₹ 2,00,000.**
- **Goods purchased under Firm Contracts, still in transit at year–end = ₹ 3,50,000.**

Solution:

	Value of **Physical Stocks** on 31st March	₹ 28,00,000
Add	Goods in Transit	₹ 3,50,000
Add	Goods held by Other Entities (e.g. Stock held by Sub–Contractor, Job Workers)	₹ 8,30,000
Add	Goods sent on approval & confirmation not received from Customer Sankari Ltd	₹ 2,00,000
Less	Goods sold but delivery pending at Buyer's request (Harini Ltd)	₹ 10,00,000
Less	Goods held by us on behalf of Other Entities (e.g. in our capacity as Consignee Agent)	₹ 2,50,000
	Value of Stocks as per Balance Sheet	**₹ 29,30,000**

3.3 Verification of Stock on other than Balance Sheet date

Generally, Physical Stock Verification and Valuation is done at the end of the last day of the accounting year. Sometimes, in big organizations, it may not be possible to verify the stocks exactly on the last date of the accounting period. In such cases, stock is taken either few days earlier or later, according to the situation. The following adjustments are carried out in order to arrive at the Stock Value on the Balance Sheet date –

1. **Stock Taking after Balance Sheet date**	2. **Stock Taking before Balance Sheet date**
Value of Stocks on verification date (e.g. 6th April)	Value of Stocks on verification date (e.g. 25th March)
(+) Cost of Sales made during the interim period	(+) Purchases made during the interim period
(+) Purchase Returns during the interim period	(+) Sales Returns (at Cost Price) during the period
(–)Purchases made during the interim period	(–)Cost of Sales made during the interim period
(–) Sales Returns (at Cost Price) during the period	(–)Purchase Returns during the interim period
Value of Stocks on Balance Sheet date, i.e. 31st March	Value of Stocks on Balance Sheet date, i.e. 31st March

Illustration 8: Stock Taking at a later date

Shanmuga Bros could organize their stock–taking only on 12th April, even though their financial year ended on 31st March. The following data is provided for the period 1st April to 12th April –

Sales during the period (at an average Gross Profit of 25% on Cost)	**10,00,000**
Purchases during the period (including Cash Purchases ₹ 3,80,000)	**7,80,000**
Purchase Returns (only out of Credit Purchases)	**80,000**
Sales Returns by Customers (at Market Prices)	**1,00,000**

Value of Physical Stock as per Stock–taking was ₹ 30,00,000. What would be value of Inventory for B/s purposes?

Solution: GP = 25% on Cost = 1/4th on Cost = 1/5th on Sales Value = 20% on Sales

	Value of **Physical Stocks** on 12th April	₹ 30,00,000
Add	Cost of Sales made during the interim period (₹ 10,00,000 less 20% thereon)	₹ 8,00,000
Add	Purchase Returns during the interim period	₹ 80,000
Less	Purchases made during the interim period	₹ 7,80,000
Less	Sales Returns (at Cost Price) during the period (₹ 1,00,000 less 20% thereon)	₹ 80,000
	Value of Stocks as per Balance Sheet	**₹ 30,20,000**

Illustration 9: Inventories - Valuation of Stock after Balance Sheet date M 19

Raj Ltd. Prepared their accounts for financial year ended on 31st March 2019. Due to unavoidable circumstances actual stock has been taken on 10th April 2019, when it was ascertained at ₹ 1,25,000. It has been found that,

(i) Sales are entered in the Sales Book on the day of dispatch and return inwards in the Return Inward Book on the day of the goods received back.
(ii) Purchases are entered in the Purchase Book on the day the Invoice are received.
(iii) Sales between 1st April 2019 to 9th April 2019 amounting to ₹ 20,000 as per Sales Day Book .
(iv) Free samples for business promotion issued during 1st April 2019 to 9th April 2019 amounting to ₹ 4,000 at cost.
(v) Purchases during 1st April 2019 to 9th April 2019 amounting to ₹ 10,000 but goods amounts to ₹ 2,000 not received till the date of stock taking.
(vi) Invoices for goods purchased amounting to ₹ 20,000 were entered on 28th March 2019 but the goods were not included in stock

Rate of Gross Profit is 25% on cost.

Ascertain the value of Stock as on 31st March 2019.

Solution: **Statement of Valuation of Stock on 31st March**

		₹	₹
	Value of Stock as on 10th April		1,25,000
Add:	Cost of Sales (20,000-20,000 x 20%)	16,000	
	Free Samples for Business Promotion issued	4,000	
	Invoices for goods purchased not included in stock	20,000	40,000
			1,45,000
Less:	Purchases excluding goods in transit (₹ 10,000 - ₹ 2,000)	8,000	(8,000)
	Value of Stock as on 31st March		**1,37,000**

Illustration 10: Valuation of Inventories

From the following information, ascertain the value of stock as on 31.03.2018–

Value of Stock on 01.04.2017	**₹70,000**
Purchases during the period from 01.04.2017 to 31.03.2018	**₹3,46,000**
Manufacturing Expenses during the above period	**₹70,000**
Sales during the same period	**₹5,22,000**

At the time of valuing Stock on 31.03.2017, a sum of ₹6,000 was written off a particular item which was originally purchased for ₹20,000 and was sold for ₹16,000. But for the above transaction the Gross Profit earned during the year was 25% on cost.

Solution: **Trading Account for the Year ending31.03.2018**

Particulars	Normal	Abnl	Total	Particulars	Normal	Abnl	Total
To Opening Stock	**(B/f)** 56,000	14,000	70,000	By Sales	**(B/f)** 5,06,000	16,000	5,22,000
To Purchases	3,46,000		3,46,000	By Clg. Stock	**(B/f)** 67,200		67,200
To Manuf. Expenses	70,000		70,000				
To Gross Profit **(WN)**	1,01,200	2,000	1,03,200				
Total	**5,73,200**	**16,000**	**5,89,200**	**Total**	**5,73,200**	**16,000**	**5,89,200**

Working Note: GP = 25% on Cost = 20% on Sales. So, Gross Profit on Normal Sales = 5,06,000 × 20% = ₹1,01,200.

Illustration 11: Valuation of Inventories after Balance Sheet Date

X, who was closing his books on 31stMarch, failed to take the actual Stock which he did only on 9th April, when it was ascertained by him to be worth ₹25,000. It was found that Sales are entered in the Sales Book on the same day of despatch and Return Inwards in the Returns Book as and when the Goods are received back. Purchases are entered in the Purchases Day Book once the Invoices are received. It was found that Sales between 31stMarch and 9thApril as per the Sales Day Book are ₹1,720. Purchases between 31stMarch and 9thApril as per Purchases Day Book are ₹120, out of these Goods amounting to ₹50 were not received until after the Stock was taken. Goods invoiced during the month of March, but goods received only on 4thApril amounted to ₹100. Rate of Gross Profit is 33.33% on Cost. Ascertain the value of Physical Stock as on 31stMarch.

Solution: **Memorandum Trading A/c for the period from 1^{st} April to 9^{th} April**

Particulars	₹	Particulars	₹
To Opening Stock **(Bal. fig.)** To Purchases (120 – 50) To Gross Profit (1,720 × 25%)	26,220 70 430	By Sales By Closing Stock	1,720 25,000
	26,720		**26,720**

Value of Physical Stock = Balance as per Trading A/c 26,220 Less Purchases during March received on 4^{th} April 100 = 26,120.

Illustration 12: Valuation of Inventories before Balance Sheet Date

Physical verification of Stock in a business was done on 23rdJune. The value of the Stock was ₹4,80,000. The following transactions took place between 23rdJune and 30thJune:

(a) Out of the Goods sent on Consignment, Goods at Cost worth ₹24,000 wereunsold.
(b) Purchases of ₹40,000 were made out of which Goods worth ₹16,000 were delivered on 5thJuly.
(c) Sales were ₹1,36,000, which include Goods worth ₹32,000 sent on approval. Half of these Goods were returned before30th
(d) June, but no information is available regarding the remaining goods.
(e) Goods are sold at Cost plus 25%. However, Goods costing ₹24,000 had been sold for ₹12,000. Determine the value of stock on 20thJune.

Solution: **Statement of Valuation of Stock on 30^{th} June**

	Particulars	₹	₹
	Value of Stock as on 23^{rd} June		4,80,000
Add:	Unsold Stock out of the Goods sent onConsignment	24,000	
	Purchases during the period from 23^{rd} June to 30^{th} June	24,000	
	Goods in transit on 30^{th} June	16,000	
	Cost of goods sent on approval basis (80% of ₹16,000)	12,800	76,800
Less:	Cost of Sales from 23^{rd} June to 30^{th} June		
	Sales (₹1,36,000 – ₹16,000)	1,20,000	
	Less: Gross Profit **(WN)**	(9,600)	(1,10,400)
	Value of Stock as on 30^{th} June		**4,46,400**

Working Notes:

1. Calculation of Normal Sales		₹
	Actual sales	1,36,000
Less:	Abnormalsales	(12,000)
	Return of goods sent on approval	(16,000)
	Normal Sales	**1,08,000**

2. Calculation of Gross Profit:	₹
GP on Normal Sales = 20% × ₹ 1,08,000	21,600
Less: Loss on Sale of Abnormal Goods (₹ 24,000 – ₹ 12,000)	(12,000)
Gross Profit	**9,600**

Illustration 13: Valuation of Inventories after Bakance Sheet Date

A trader prepared his accounts on 31st March each year. Due to some unavoidable reasons, No Stock Taking could be possible till 15th April on which date total Cost of Goods in his Godown came to ₹50,000. The following facts were established between 31st March and 15th April

(a) Sales ₹41,000 (including Cash Sales ₹10,000).
(b) Purchases ₹5,034 (including Cash Purchases ₹1,990).
(c) Sales Return ₹1,000.

On 15th March, Goods of the Sale Value of ₹10,000 were sent on Sale or Return basis to a Customer, the period of Approval being four weeks. He returned 40% of the Goods on 10th April, approving the rest. The Customer was billed on 16th April. The Trader had also received Goods costing ₹8,000 in March, for sale on Consignment Basis. 20% of the Goods had been sold by 31st March, and another 50% by the 15th April. These sales are not included in above sales. 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.

Solution: **Statement of Valuation of Stock on 31^{st} March**

	Particulars	₹	₹
	Value of stock as on 15^{th} April		50,000
Add:	Cost of Sales during the period from 31^{st} March to 15^{th} April 80% of Normal Sales = 80% × (₹ 41,000 – ₹ 1,000)	32,000	
	Cost of Goods sent on Approval Basis (80% of ₹6,000)	4,800	36,800
Less:	Purchase during the period from 31^{st} March to 15^{th} April	5,034	
	Unsold Stock out of goods received on Consignment basis (30% of ₹8,000)	2,400	(7,434)
	Closing Stock as on 31^{st} March		**79,366**

Illustration 14: Valuation of Inventories after Bakance Sheet Date

From the following information ascertain the Value of Stock as on 31^{st} March and also the Profit for the Year: (₹)

Opening Stock	**14,250**	**Administrative Expenses**	**3,000**
Purchases	**76,250**	**Financial Charges**	**2,150**
Manufacturing Expenses	**15,000**	**Sales**	**1,24,500**
Selling Expenses	**6,050**		

At the time of Valuing Closing Stock of Previous Year, a sum of ₹ 1,750 was written off on a particular item, which was originally purchased for ₹5,000 and was sold during the year at ₹ 4,500. Barring the transaction relating to this item, the Gross Profit earned during the year was 20% on Sales.

Solution:

1. Trading Account

Particulars	Normal	Abnl	Total	Particulars	Normal	Abnl	Total
To Opg Stock **(WN)**	**(B/f)** 11,000	3,250	14,250	By Sales	**(B/f)** 1,20,000	4,500	1,24,500
To Purchases	76,250		76,250	By Clg. Stock	**(B/f)** 6,250		6,250
To Manuf. Expenses	15,000		15,000				
To Gross Profit **(WN)**	24,000	1,250	25,250				
Total	**1,26,250**	**4,500**	**1,30,750**	**Total**	**1,26,250**	**4,500**	**1,30,750**

Working Note:

(a) Book Value of Abnormal Stock = ₹5,000 – ₹1,750 = ₹3,250.

(b) Gross Profit = 20% on Sales. So, Gross Profit on Normal Sales = 1,20,000 × 20% = ₹24,000.

2. Statement showing Profit for the year ended 31^{st} March

	Particulars	₹	₹
	Total Gross Profit		25,250
Less:	Selling Expenses	6,050	
	Administrative Expenses	3,000	
	Financial Charges	2,150	(11,200)
	Net Profit		**14,050**

State with reasons, whether the following statements are True or False

	Statements	T/F	Reasoning
1.	Finished Goods are normally valued at Cost or Market Price whichever is higher.	False	Finished goods are normally valued at Cost or Net Realizable Value whichever is lower.
2.	Inventory By–Products, should be valued at Net Realizable Value, where Cost of By–Product scan be separately determined.	False	Inventory By–Products, should be valued at Net Realizable Value in situations where cost of By–Products cannot be separately determined.
3.	Damaged Inventory should be valued at Cost or Market Price, whichever is lower.	False	Damaged Inventory should be valued at Net Realizable Value.
4.	Inventory under AS 2 is valued basis on Cost or Current Replacement Cost, whichever is less.	False	According to AS–2 on Valuation of Inventories, Inventory is valued at the lower of Historical Cost and NRV.
5.	**Valuation of inventory at cost or net realizable value is based on principle of Conservatism. [N19]**	True	**According to conservatism,** If there is a choice between two methods of valuing an asset, the Accountant should choose a method which leads to the lesser value, e.g. Inventories are valued at Cost or NRV, whichever is lower.