VALUATION OF INVENTORIES

AS 2

Meaning of Inventories	These are the assets: → Held for sale in the ordinary course of business (Finished goods/Stock in trade) → In the process of production for such sale (Work –in-Progress) → In the form of material or supplies to be consumed in the production process or in the rendering of services (raw material, stores and spares*, etc.) * *Inventories do not include spare parts, servicing equipment & standby equipment which meet the definition of property, plant and equipment as per AS 10. Such items are accounted for in accordance with AS 10.*
Common Classification of Inventories	(a) Raw materials & components (b) Work-in progress (c) Finished goods (d) Stock-in- trade (in respect of goods acquired for trading) (e) Stores and spares (f) Loose tools (g) Others (specify nature).
Non - Applicability	This standard <u>does not apply</u> to: • WIP arising under construction contracts • WIP of service providers • Shares, debentures & other financial instruments held as stock in trade • Producers' inventories of livestock, agricultural and forest products, and mineral oils, ores and gases to the extent that they are measured at net realisable value in accordance with well established practices in those industries, e.g. where sale is assured under a forward contract or a government guarantee or where a homogenous market exists and there is negligible risk of failure to sell.
Measurement (PARA 5)	**<u>Inventories should be valued at Lower of Cost or Net Realizable Value</u>**

Cost of Inventories

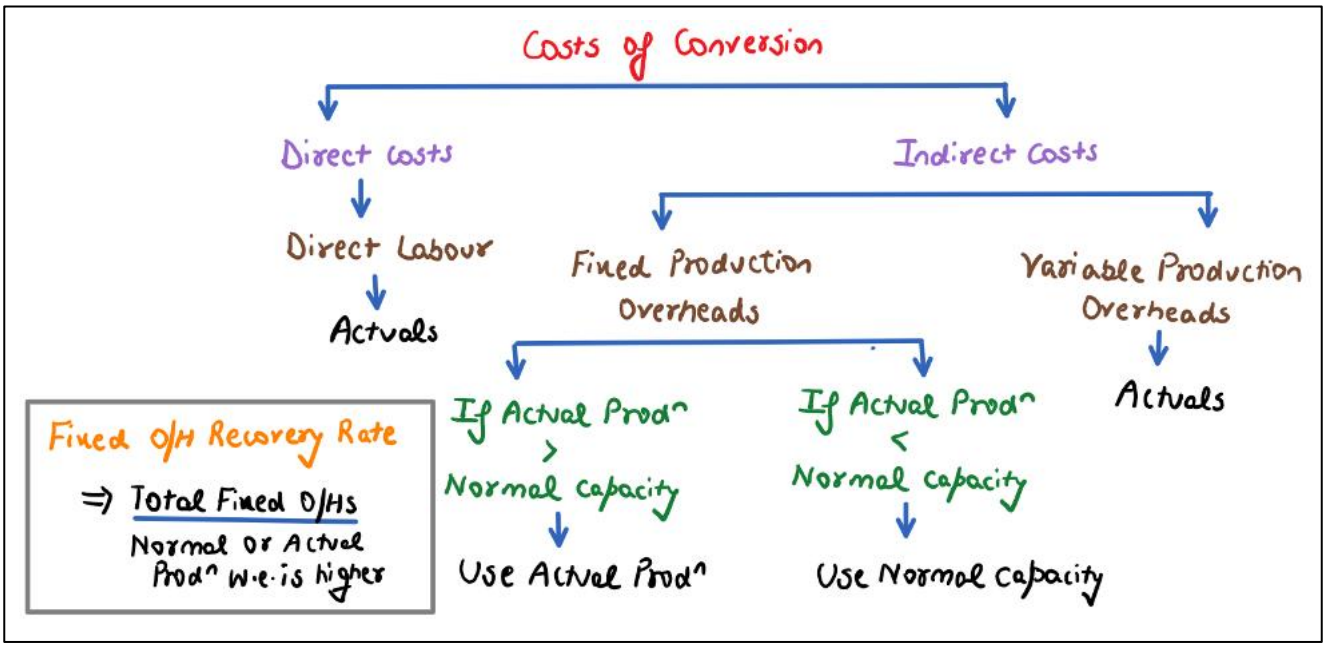
- Cost of Purchase
- Conversion cost
- Other cost incurred in bringing the inventory to their present location and condition

A. COST OF PURCHASE

Purchase Price (Net of Trade discount and rebates)		XX
Add	Duties and Taxes (non-refundable)	XX
Add	Freight inwards	XX
Add	Other expenditure directly attributable to the acquisition (Note)	XX
Cost of Purchase		**XX**

<u>Note:</u> Examples of expenditure directly attributable for purchases are- (a) Costs of Containers (b) Transit Insurance, (c) Buying Commission where purchase of material is possible only through buying agents

B. COST OF CONVERSION



ABC Ltd. has a plant with the capacity to produce 1 lac unit of a product per annum and the expected fixed overhead is ₹ 18 lacs. Fixed overhead on the basis of normal capacity is ₹ 18 (18 lacs/1 lac).

Case 1:

Actual production is 1 lac units. Fixed overhead on the basis of normal capacity and actual overhead will lead to same figure of ₹ 18 lacs.
Therefore, it is advisable to include this on normal capacity.

Case 2:

Actual production is 90,000 units. Fixed overhead is not going to change with the change in output and will remain constant at ₹ 18 lacs, therefore, overheads on actual basis is ₹ 20 per unit (18 lacs/ 90 thousands).
Hence by valuing inventory at ₹ 20 each for fixed overhead purpose, it will be overvalued and the losses of ₹ 1.8 lacs will also be included in closing inventory leading to a higher gross profit then actually earned.
Therefore, it is advisable to include fixed overhead per unit on normal capacity to actual production (90,000 x 18) ₹ 16.2 lacs and rest ₹ 1.8 lacs should be transferred to P&L Account.

Case 3:

Actual production is 1.2 lacs units. Fixed overhead is not going to change with the change in output and will remain constant at ₹ 18 lacs, therefore, overheads on actual basis is ₹ 15 (18 lacs/ 1.2 lacs).
Hence by valuing inventory at ₹ 18 each for fixed overhead purpose, we will be adding the element of cost to inventory which actually has not been incurred. At ₹ 18 per unit, total fixed overhead comes to ₹ 21.6 lacs whereas, actual fixed overhead expense is only ₹ 18 lacs.
Therefore, it is advisable to include fixed overhead on actual basis (1.2 lacs x 15) ₹ 18 lacs.

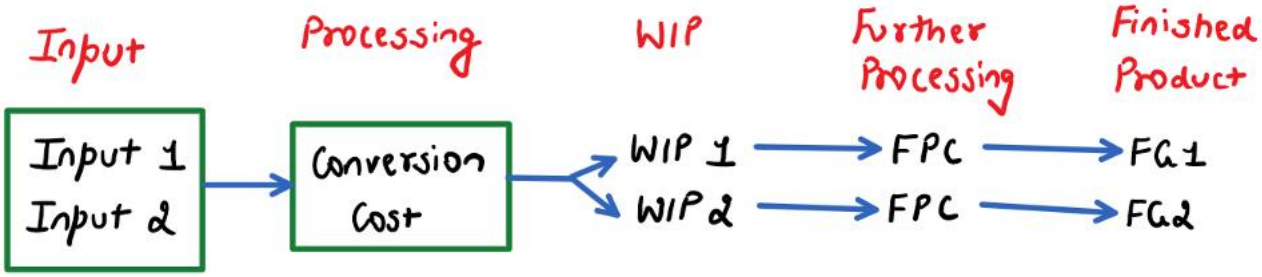
COST OF CONVERSION IN CASE OF PRODUCTION PROCESS RESULTING IN MORE THAN ONE PRODUCT BEING PRODUCED SIMULTANEOUSLY

(NOT SEPARATELY IDENTIFIABLE)

CASE 1: JOINT PRODUCT:

When the cost of conversion of each product are not separately identifiable, they are allocated between the products on a rational and consistent basis.

Allocation may be based for e.g., Relative sales value of each product either at the stage in production process when the products become separately identifiable or at the completion of production.



Basis of Allocation of Conversion Cost

At the stage in Production process	At the completion of Production
↓	↓
On the relative sales value of WIP 1 and WIP 2	On the relative sales value of FG 1 and FG 2

CASE 2: MAIN PRODUCT AND BY PRODUCT:

- Most by products as well as scrap or waste materials, by their nature are immaterial.
- In such a case, they are measured at NRV and such value is deducted from the cost of main product.

C. OTHER COST

Other costs are included in cost of inventories only to the extent that they are incurred in bringing the inventories to their present location and condition.

Example: Cost of designing products for specific customers.

EXCLUSIONS FROM THE COST OF INVENTORIES

- Abnormal amount of wasted materials, labour or other production cost (Abnormal loss)
- Storage cost unless those are necessary in the production process prior to a further production stage.
- Administrative overheads that do not contribute to bringing the inventories to their present location and condition.
- Selling and distribution cost
- Interest and other borrowing costs are usually considered as not relating to bringing the inventories to their present location and condition and are therefore usually not included in cost of inventory *(Exception: AS 16 Borrowing Costs)*

COST FORMULAS

For items that are not ordinarily interchangeable	For other items
Specific identification of cost method: Specific costs are attributed to identified items of inventory	FIFO: Inventory which were purchased or produced first are sold or consumed first. or Weighted Average method: Weighted average of cost of similar items

TECHNIQUES FOR MEASUREMENT OF COST

(May Be Used for Convenience if Results Approximate Actual Cost)

Standard Cost method	Retail method
Takes into account normal levels of consumption of materials and supplies, labour, efficiency and capacity utilization	• Often used in the retail trade for measuring inventories of large numbers of rapidly changing items that have similar margins. • Inventory = Sales value of inventory - GP %

Example

Calculate cost of inventories using adjusted selling price/retail method:
Sales = 2,00,000 Purchases = 2,00,000 Closing Stock at selling price = 50,000

NET REALISABLE VALUE (NRV)

Estimated Selling Price	XX
Less: Estimated selling expenses	(XX)
Less: Estimated cost of completion	(XX)
NRV	**XX**

- ❖ NRV is to be seen on each and every balance sheet date.
- ❖ Inventories should be usually written down to NRV on an item by item basis (individual basis) and not on global basis.
- ❖ In case of firm/committed contract of sale, NRV shall be calculated at the contract price.

Example

X Ltd deals in 2 products A & B neither similar nor interchangeable. At the end of year, the Historical Cost and NRV of items of closing stock are given below. Determine the value of closing stock.

Items	Historical Cost	Net Realizable Value
Item 1	50,000	45,000
Item 2	20,000	24,000

Example

Closing Stock: 3,000 units. Cost per Unit 40. Selling Price per Unit 45.
There is firm contract for 1,000 units @ 37 per unit.

VALUATION OF MATERIALS AND OTHER SUPPLIES (PARA 24)

If finished product in which such raw material is to be used is expected to be sold at or above cost price [$SP_{FG} \geq CP_{FG}$]	Other cases [$SP_{FG} < CP_{FG}$]
Value Raw Material at Cost Price.	Value Raw Material at Lower of Cost price or Replacement price [CP or RP ↓]

DISCLOSURE REQUIREMENTS

- ❖ Accounting policies adopted in measuring inventories
- ❖ Cost formula used
- ❖ Total carrying amount of inventories
- ❖ Classification of amount of inventories

ASSIGNMENT QUESTIONS

Question 1 *(ICAI Study Material)* *Pg no.*_____

Cost of a partly finished unit at end of 2021-22 is ₹ 150. The unit can be finished next year by a further expenditure of ₹ 100.The finished unit can be sold at ₹ 250 subject to payment of 4% brokerage on selling price. Assume that partly finished goods cannot be sold in semi finished form and its NRV is zero without processing it further. What is the value of inventory?

Question 2 *Pg no.*_____

A company had 5,000 units of stock "A", costing @ ₹ 50 each on 31.3.2022. Out of this stock, 3,000 units are to be supplied under a firm contract at ₹ 45 each. Show how the valuation will be done of such stock when

(i) the general selling price is ₹ 49 each.
(ii) the general selling price is ₹ 52 each.

Question 3 *Pg no.*_____

The closing inventory at cost of a company amounted to ₹ 2,84,700. The following items were included at cost in the total:

(a) 400 coats, which had cost ₹ 80 each and normally sold for ₹ 150 each. Owing to a defect in manufacture, they were all sold after the balance sheet date at 50% of their normal price. Selling expenses amounted to 5% of the proceeds.

(b) 800 skirts, which had cost ₹ 20 each. These too were found to be defective. Remedial work in April cost ₹ 5 per skirt and selling expenses for the batch totaled ₹ 800. They were sold for ₹ 28 each. What should the inventory value be according to AS 2 after considering the above items?

Question 4 *(ICAI Study Material)* *Pg no.*_____

You are required to value the inventory per kg of finished goods consisting of:

	₹ Per kg
Material cost	200
Direct labour	40
Direct variable overhead	20

Fixed production charges for the year on normal working capacity of 2 lakh kgs is ₹ 20 lakhs. 4,000 kgs of finished goods are in stock at the year end.

Question 5 *(Inter May 2022) (5 Marks)* *Pg no.*_____

SM Enterprises is a leading distributor of petrol. A detailed inventory of petrol in hand is taken when the books are closed at the end of each month.

For the month ending June 2021 following information is available:

(i) Sales for the month of June 2021 was ₹30,40,000.
(ii) General overheads cost ₹4,00,000.
(iii) Inventory at beginning 10,000 litres @ ₹ 92 per litre.
(iv) Purchases-June 1, 2021, 20,000 litres @ ₹ 90 per litre, June 30, 2021, 10,000 litres @ ₹ 95 per litre.
(v) Closing inventory 13,000 litres.

You are required to compute the following by FIFO method as per AS 2:

a) Value of Inventory on 30th June, 2021.
b) Amount of cost of goods sold for June,2021.
c) Profit/Loss for the month of June,2021.

Question 6 *(RTP May 2022)* Pg no._____

Find value of inventory (by periodic inventory method) as per AS 2, to be considered while preparing Balance Sheet as on 31st Mar, 2022 on weighted Average Basis.

Details of Purchases:

Date of Purchase	Unit (Nos)	Purchase cost per unit
01-03-2022	20	108
08-03-2022	15	107
17-03-2022	30	109
25-03-2022	15	107

Details of Issue of Inventory:

Date of Issue	Unit (Nos)
03-03-2022	10
12-03-2022	20
18-03-2022	10
24-03-2022	20

Net realizable value of inventory as on 31st March, 2022 is ₹ 107.75 per unit. What will be the value of Inventory as per AS 2?

Question 7 Pg no._____

ABC Pvt. Limited ordered 10,000 kg. of certain material at ₹ 100 per kg. The purchase price includes GST ₹ 10 per kg., in respect of which full credit is admissible. Freight, Loading and Unloading incurred amounted to ₹ 40,800. Normal Transit Loss is 2%. Enterprise, actually received 9760 kg. & consumed 9500 kg.

Determine cost of inventory and allocation of material cost as per AS–2.

Question 8 *(ICAI Study Material)* Pg no._____

In a production process, normal waste is 5% of input. 5,000 MT of input were put in process resulting in wastage of 300 MT. Cost per MT of input is ₹ 1,000. The entire quantity of waste is on stock at the year end. State with reference to Accounting Standard, how will you value the inventories in this case?

Question 9 Pg no._____

A Ltd. purchased 1,00,000 MT at ₹ 100 each of raw material and introduced it in the production process and get 85,000 MT as output. Normal wastage is 5%. In the process, company incurred the following expenses:

Direct Labour ₹ 10,00,000

Direct Variable Overheads ₹ 1,00,000

Direct Fixed Overheads ₹ 1,00,000 (Including interest ₹ 40,625)

Of the above 80,000 MT was sold during the year and remaining 5,000 MT remained in closing inventory. Due to fall in demand in market the selling price for the finished goods on the closing day was estimated to be ₹ 105 per MT. Calculate the value of closing inventory.

Question 10 Pg no._____

Z Limited ordered 13,000 kg. of chemicals at ₹ 90 per kg. The purchase price includes GST of ₹ 5 per kg, in respect of which full credit is admissible. Freight incurred amounted to ₹ 30,000. Normal transit loss is 4%. The company actually received 12,400 kg and consumed 10,000 kg. The company has received trade discount in the form of cash amounting to ₹ 1 per kg. The chemicals were delivered in containers. The containers were not reusable, hence sold for ₹ 500. The administrative expenses incurred to bring the chemicals were ₹ 10,000.

Compute the value of inventory and allocate the material cost as per AS–2

Question 11 *Pg no.*_____

In a manufacturing process of Vijoy Limited, one by-product BP emerges besides two main products MP1 and MP2 apart from scrap. Details of cost of production process are here under:

Item	Unit	Amount (₹)	Output (Unit)	Closing inventory
Raw material	15,000	1,60,000	MP1- 6,250	800
Wages	-	82,000	MP2- 5,000	200
Fixed overhead	-	58,000	BP-1,600	-
Variable overhead	-	40,000	-	-

Average market price of MP1 and MP2 is ₹ 80 per unit and ₹ 50 per unit respectively, by-product is sold @ ₹ 25 per unit. On By-product separate processing charges of ₹ 4,000 and packing charges of ₹ 6,000 incurred and also ₹ 6,000 was realised from sale of scrap.
Calculate the value of closing inventory of MP1 and MP2.

Question 12 *(ICAI Study Material)* *Pg no.*_____

A trader purchased certain articles for ₹ 85,000. He sold some of articles for ₹ 1,05,000. The average percentage of gross markup is 25% on cost. Opening stock of inventory at cost was ₹ 15,000. Compute Closing Stock.

Question 13 *Pg no.*_____

Calculate the value of raw materials and closing stock based on the following information:

Raw material X	
Closing balance	500 units
	₹ per unit
Cost price including GST	200
GST (Credit is receivable on the GST paid)	10
Freight inward	20
Unloading charges	10
Replacement cost	150
Finished goods Y	
Closing Balance	1200 units
	₹ per unit
Material consumed	220
Direct labour	60
Direct overhead	40

Total Fixed overhead for the year was ₹ 2,00,000 on normal capacity of 20,000 units.
Calculate the value of the closing stock, when

(i) Net Realizable Value of the Finished Goods Y is ₹ 400.
(ii) Net Realizable Value of the Finished Goods Y is ₹ 300.

Question 14 *(ICAI Study Material)* *Pg no.*_____

Mr. Mehul gives the following information relating to items forming part of inventory as on 31-3-2022. His factory produces Product X using Raw material A.

a) 600 units of Raw material A (purchased @ ₹ 120). Replacement cost of raw material A as on 31-3-2022 is ₹ 90 per unit.
b) 500 units of partly finished goods in process of producing X & cost incurred till date ₹ 260 per unit. These units can be finished next year by incurring additional cost of ₹ 60 per unit.
c) 1500 units of finished Product X and total cost incurred ₹ 320 per unit.

Expected selling price of Product X is ₹ 300 per unit. Determine how each item of inventory will be valued as on 31-3-2022. Also calculate the value of total inventory as on 31-3-2022.

Question 15 *(RTP May 2020)* *Pg no.*_____

Calculate the closing inventory considering the following data:

Particulars		Kg	₹
Opening Inventory	Finished Goods	1,000	25,000
	Raw Materials	1,100	11,000
Purchases		10,000	1,00,000
Labour			76,500
Fixed Overheads			75,000
Sales		10,000	2,80,000
Closing Inventory	Raw Materials	900	
	Finished Goods	1,200	

The expected production for the year was 15,000 kg of the finished product. Due to fall in market demand the sales price for the finished goods was ₹ 20 per kg and the replacement cost for the raw material was ₹ 9.50 per kg on the closing day.

Solution

Calculation of cost of closing inventory

Particulars	₹
Purchase costs (10,200*10)	1,02,000
Direct Labour	76,500
Fixed Overheads (75,000/15,000*10,200)	51,000
Cost of Production	2,29,500
Cost of closing inventory per unit (2,29,500/10,200)	22.50
Net realizable value per unit	20.00

Since net realizable value is less than cost, closing inventory will be valued at ₹ 20.
As NRV of the finished goods is less than its cost, relevant raw materials will be valued at replacement cost ₹ 9.50.
Therefore, value of closing inventory

Finished Goods:	1,200*20	=	24,000
Raw Materials:	900*9.50	=	8,550
			32,550

Question 16 *Pg no.*_____

The company X Ltd, has to pay for delay in cotton clearing charges. The company up to 31.3.2021 has included such charges in the valuation of closing stock. This being in the nature of interest, X Ltd. decided to exclude such charges from closing stock for the year 2021-22. This would result in decrease in profit by ₹ 5 lakhs. Comment.

Solution

As per AS 2, interest and other borrowing costs are usually considered as not relating to bringing the inventories to their present location and condition and are therefore, usually not included in the cost of inventories. However, X Ltd. was in practice to charge the cost for delay in cotton clearing in the closing stock. As X Ltd. decided to change this valuation procedure of closing stock, this treatment will be considered as a change in accounting policy and such fact to be disclosed as per AS 1. Therefore, any change in amount mentioned in financial statement, which will affect the financial position of the company should be disclosed properly as per AS 1, AS 2 and AS 5.
Also a note should be given in the annual accounts that, due to change in system of valuation of closing stock, the profit before tax will decrease by ₹ 5 lakhs.

Question 17 *(RTP Nov 2023) / (ICAI Study Material)* *Pg no.*_____

Alpha Ltd. sells flavored milk to customers; some of the customers consume the milk in the shop run by Alpha Limited. While leaving the shop, the consumers leave the empty bottles in the shop and the company takes possession of these empty bottles. The company has laid down a detailed internal record procedure for accounting for these empty bottles which are sold by the company by calling for tenders. Keeping this in view:

a) Decide whether the inventory of empty bottles is an asset of the company;
b) If so, whether the inventory of empty bottles existing as on the date of Balance Sheet is to be considered as inventories of the company and valued as per AS 2 or to be treated as scrap and shown at realizable value with corresponding credit to 'Other Income'?

Solution

a) Tangible objects or intangible rights carrying probable future benefits, owned by an enterprise are called assets. Alpha Ltd. sells these empty bottles by calling tenders. It means further benefits are accrued on its sale. Therefore, empty bottles are assets for the company.
b) As per AS 2 "Valuation of Inventories", inventories are assets held for sale in the ordinary course of business. Inventory of empty bottles existing on the Balance Sheet date is the inventory and Alpha Ltd. has detailed controlled recording and accounting procedure which duly signify its materiality. Hence inventory of empty bottles cannot be considered as scrap and should be valued as inventory in accordance with AS 2.

Question 18 *(RTP May 2018)* *Pg no.*_____

A private limited company manufacturing fancy terry towels had valued its closing inventory of inventories of finished goods at the realisable value, inclusive of profit and the export cash incentives. Firm contracts had been received and goods were packed for export, but the ownership in these goods had not been transferred to the foreign buyers. Comment on the valuation of the inventories by the company

Solution

AS 2 "Valuation of Inventories" states that inventories should be valued at lower of historical cost and net realizable value. The standard states, "at certain stages in specific industries, such as when agricultural crops have been harvested or mineral ores have been extracted, performance may be substantially complete prior to the execution of the transaction generating revenue. In such cases, when sale is assured under forward contract or a government guarantee or when market exists and there is a negligible risk of failure to sell, the goods are often valued at net realisable value at certain stages of production."

Terry Towels do not fall in the category of agricultural crops or mineral ores. Accordingly, taking into account the facts stated, the closing inventory of finished goods (Fancy terry towel) should have been valued at lower of cost and net realisable value and not at net realisable value. Further, export incentives are recorded only in the year the export sale takes place. Therefore, the policy adopted by the company for valuing its closing inventory of inventories of finished goods is not correct.

Question 19 *(RTP May 2022)* *Pg no.*_____

Rohan Pvt. Ltd., wholesaler in agriculture products, has valued inventory on Net Realizable Value on the ground that AS 2 does not apply to inventory of agriculture products.

Solution

AS 2 does not apply to producers of agricultural products but applies to traders in agricultural products. Hence AS 2 will apply to Rohan Pvt. Ltd. and it will have to value inventory at lower of cost or net realizable value.

PRACTICE QUESTIONS

Question 1 *(ICAI Study Material)* *Pg no.____*

The company deals in three products, A, B and C, which are neither similar nor interchangeable. At the time of closing of its account for the year 2021-22, the Historical Cost and Net Realizable Value of the items of closing stock are determined as follows:

	Historical Cost (₹ In Lakhs)	Net Realisable Value (₹ In Lakhs)
A	40	28
B	32	32
C	16	24

What will be the value of Closing Stock?

Solution

As per para 5 of AS 2 on 'Valuation of Inventories', inventories should be valued at lower of cost and net realizable value. Inventories should be written down to net realizable value on an item-by-item basis in the given case.

	Historical Cost (₹ In Lakhs)	Net Realisable Value (₹ In Lakhs)	Valuation of closing stock (₹ in lakhs)
A	40	28	28
B	32	32	32
C	16	24	16
	88	**84**	**76**

Hence, closing stock will be valued at ₹ 76 lakhs.

Question 2 *(Inter May 2019) (1 Mark)* *Pg no.____*

State whether the following statements is 'True' or 'False'. Also give reason for your answer. As per provisions of AS-2, inventories should be valued at the lower of cost and selling price.

Solution

False: Inventories should be valued at the lower of cost and net realizable value (not selling price) as per AS 2.

Question 3 *(RTP May 2019) / (RTP Nov 2021) (Similar) / (ICAI Study Material)* *Pg no.____*

On 31st March 2021 a business firm finds that cost of a partly finished unit on that date is ₹ 530. The unit can be finished in 2021-22 by an additional expenditure of ₹ 310. The finished unit can be sold for ₹ 750 subject to payment of 4% brokerage on selling price.

The firm seeks your advice regarding the amount at which the unfinished unit should be valued as at 31st March, 2021 for preparation of final accounts.

Assume that partly finished goods cannot be sold in semi finished form and its NRV is zero without processing it further.

Solution

Valuation of unfinished unit

Net selling price	750
Less: Estimated cost of completion	(310)
Less: Brokerage (4% of 750)	(30)
Net Realisable Value	410
Cost of inventory	530
Value of inventory (Lower of cost and net realisable value)	410

Question 4 *(RTP Nov 2019) (Similar) / (ICAI Study Material)* *Pg no.*_____

X Co. Limited purchased goods at the cost of ₹ 40 lakhs in October,2021. Till the end of March 2022, 75% of the stocks were sold. The company wants to disclose closing stock at ₹ 10 lakhs. The expected sale value is ₹ 11 lakhs and a commission at 10% on sale is payable to the agent. Advise what is the correct closing stock to be disclosed as at 31.03.2022?

Solution

As per para 5 of AS 2 "Valuation of Inventories", the inventories are to be valued at lower of cost or net realizable value.
In this case, the cost of inventory is ₹ 10 lakhs.
The net realizable value is (11,00,000 – 11,00,000 × 10%) = ₹ 9,90,000.
So, the stock should be valued at ₹ 9,90,000.

Question 5 *Pg no.*_____

The closing inventory at cost of XYZ Ltd. amounted to ₹ 9,56,700. 350 Shirts, which had cost ₹ 380 each and normally sold for ₹ 750 each are included in this amount of ₹ 9,56,700. Owing to a defect in manufacture, they were all sold after the Balance Sheet date at 50% of their normal price. Selling expenses amounted to 5% of the proceeds. What should be the closing inventory value?

Solution

Calculation of value of closing inventory

Value of closing inventory (given)	9,56,700
Less: Adjustment to bring the stock of shirts at NRV (W.N 1)	(8,313)
Revised value of closing inventory as per AS 2	9,48,387

Working Notes 1: Valuation of Shirts as per AS 2

Cost price (per shirt)		380
NRV per shirt :		
Sale price (per shirt) ₹ 750 × 50%	= 375.00	
Less: Selling expenses (5% of ₹ 375)	= (18.75)	
NRV (per shirt)	= 356.25	356.25
As per AS 2, inventories are valued at cost or NRV whichever is less		356.25
Difference of cost and NRV		**23.75**
Therefore, value of inventory of shirts to be reduced by ₹ 8,313 (approx) (₹ 23.75 x 350 shirts)		

Question 6 *(RTP Nov 2022) (Similar)* *Pg no.*_____

The closing stock of finished goods at cost of a company amounted to ₹ 4,50,000. The following items were included at cost in the total:

(a) 100 coats, which had cost ₹ 2,200 each and normally sold for ₹ 4,000 each. Owing to a defect in manufacture, they were all sold after the balance sheet date at 50% of their normal selling price.

(b) 200 skirts, which had cost ₹ 50 each. These too were found to be defective. Remedial work in April cost ₹ 2 per skirt and selling expenses for the batch totaled ₹ 200. They were sold for ₹ 55 each.

(c) Shirts which had cost ₹ 50,000, their net realizable value at Balance sheet date was ₹ 55,000. Commission @ 10% on sales is payable to agents.

What should the inventory value be according to AS 2 after considering the above items?

Solution

Valuation of closing stock

Closing stock at cost	4,50,000
Less: Adjustment for 100 coats (Working Note 1)	(20,000)
Value of inventory	**4,30,000**

Working Notes:

1. Adjustment for Coats
   - Cost included in Closing Stock 2,20,000
   - NRV of Coats 2,00,000
   - Adjustment to be made as NRV is less than Cost 20,000
2. No adjustment required for skirts and shirts as their NRV is more than their cost which was included in value of inventory.
   a. For Skirts Cost = 50*200 = 10,000 NRV = 55-2-1 (200/200) = 52*200 = 10400
   b. For Shirts Cost = 50,000 NRV = 55,000 (word NRV is written so its after Commission)

Question 7 *(RTP May 2021)* *Pg no.*_____

The inventory of Rich Ltd. as on 31st March, 2022 comprises of Product – A: 200 units and Product – B: 800 units.

Details of cost for these products are:

Product – A: Material cost, wages cost and overhead cost of each unit are ₹ 40, ₹ 30 and ₹ 20 respectively, Each unit is sold at ₹ 110, selling expenses amounts to 10% of selling costs.

Product – B: Material cost and wages cost of each unit are ₹ 45 and ₹ 35 respectively and normal selling rate is ₹ 150 each, however due to defect in the manufacturing process 800 units of Product-B were expected to be sold at ₹ 70.

You are requested to value closing inventory according to AS 2 after considering the above.

Solution

According to AS 2 'Valuation of Inventories', inventories should be valued at the lower of cost and net realizable value.

Product – A

Material cost	40 * 200 = 8,000	
Wages cost	30 * 200 = 6,000	
Overhead	20 * 200 = 4,000	
Total cost		18,000
Realizable value [200 x (110-11)]		19,800
Hence inventory value of Product –A		18,000

Product – B

Material cost	45 * 800 = 36,000	
Wages cost	35 * 800 = 28,000	
Total cost		64,000
Realizable value [800 x 70]		56,000
Hence inventory value of Product –B		56,000

Total Value of closing inventory i.e. Product A + Product B (18,000+ 56,000) = 74,000

Question 8 *(RTP May 2023)* *Pg no.*_____

An enterprise ordered 20000 kg of certain material at ₹ 110 per unit. The purchase price includes GST at ₹ 12 per kg, in respect of which full input tax credit (ITC) is admissible. Freight incurred amounted to ₹ 1,17,600. Normal transit loss is 2%. The enterprise actually received 19,500 Kg and consumed 18,000 Kg. You are required to calculate cost of material per Kg & Allocation of material cost?

Solution

Purchase price (20,000 Kg. x ₹ 110)	22,00,000
Less: GST Credit (20,000 Kg. x ₹ 12)	(2,40,000)
	19,60,000
Add: Freight	1,17,600
Total material cost	**20,77,600**
Number of units normally received = 98% of 20,000 Kg.	19,600 kg
Normal cost per Kg. (20,77,600/19,600)	**106**

	Kg	₹ /Kg.	₹
Materials consumed	18,000	106	19,08,00
Cost of inventory	1,500	106	1,59,000
Abnormal loss	100	106	10,600
Total material cost	**19,600**		**20,77,600**

Note: Abnormal losses are recognised as separate expense

Question 9 *(ICAI Study Material)* *Pg no.*_____

Capital Cables Ltd., has a normal wastage of 4% in the production process. During the year 2021-22 the Company used 12,000 MT of raw material costing ₹ 150 per MT. At the end of the year 630 MT of wastage was in stock. The accountant wants to know how this wastage is to be treated in the books.

Explain in the context of AS 2 the treatment of normal loss and abnormal loss and also find out the amount of abnormal loss if any.

Solution

As per AS 2 'Valuation of Inventories', abnormal amounts of wasted materials, labour and other production costs are excluded from cost of inventories and such costs are recognized as expenses in the period in which they are incurred. The normal loss will be included in determining the cost of inventories (finished goods) at the year end.

Amount of Abnormal Loss:

Material used 12,000 MT @ ₹150	₹ 18,00,000
Normal Loss (4% of 12,000 MT)	480 MT
Net quantity of material	11,520 MT
Abnormal Loss in quantity	150 MT
Abnormal Loss [150 units @ ₹ 156.25 (₹ 18,00,000/11,520)]	₹ 23,437.50

Amount ₹ 23,437.50 will be charged to the Statement of Profit and Loss.

Question 10 *(Inter May 2019) (5 Marks)* *Pg no.*_____

Wooden Plywood Limited has a normal wastage of 5% in the production process. During the year 2021-22, the Company used 16,000 MT of Raw material costing ₹ 190 per MT. At the end of the year, 950 MT of wastage was in stock. The accountant wants to know how this wastage is to be treated in the books. You are required to:

(1) Calculate the amount of abnormal loss.

(2) Explain the treatment of normal loss and abnormal loss. [In the context of AS-2 (Revised)]

Solution

As per AS 2 (Revised) 'Valuation of Inventories', abnormal amounts of wasted materials, labour and other production costs are excluded from cost of inventories and such costs are recognised as expenses in the period in which they are incurred. The normal loss will be included in determining the cost of inventories (finished goods) at the year end.

Amount of Abnormal Loss:

Material used 16,000 MT @ ₹ 190 = ₹ 30,40,000
Normal Loss (5% of 16,000 MT) 800 MT (included in calculation of cost of inventories)
Net quantity of material 15,200 MT

Abnormal Loss in quantity (950 - 800) 150 MT
Abnormal Loss ₹ 30,000 [150 units @ ₹ 200 (₹ 30,40,000/15,200)]
Amount of ₹ 30,000 (Abnormal loss) will be charged to the Profit and Loss statement.

Question 11 *(RTP Nov 2018) / (RTP Nov 2020) (Similar)* *Pg no._____*

A Limited is engaged in manufacturing of Chemical Y for which Raw Material X is required. The company provides you following information for the year ended 31st March, 2022.

	₹ per unit
Raw material X	
Cost price	380
Unloading charges	20
Freight inward	40
Replacement cost	300
Chemical Y	
Material consumed	440
Direct labour	120
Variable overhead	80

Additional Information:
(i) Total fixed overhead for the year was ₹ 4,00,000 on normal capacity of 20,000 units.
(ii) Closing balance of Raw Material X was 1,000 units and Chemical Y was 2,400 units.

You are required to calculate the total value of closing stock of Raw Material X and Chemical Y according to AS 2, when
(a) Net realizable value of Chemical Y is ₹ 800 per unit
(b) Net realizable value of Chemical Y is ₹ 600 per unit

Solution

(a) When Net Realizable Value of the Chemical Y is ₹ 800 per unit
NRV is greater than the cost of Finished Goods Y i.e. ₹ 660 (Refer W.N.)
Hence, Raw Material and Finished Goods are to be valued at cost.
Value of Closing Stock:

	Qty.	Rate	Amount
Raw Material X	1,000	440	4,40,000
Finished Goods Y	2,400	660	15,84,000
Total Value of Closing Stock			**20,24,000**

(b) When Net Realizable Value of the Chemical Y is ₹ 600 per unit
NRV is less than the cost of Finished Goods Y i.e. ₹ 660.
Hence, Raw Material is to be valued at replacement cost and Finished Goods are to be valued at NRV since NRV is less than the cost.
Value of Closing Stock:

	Qty.	Rate	Amount
Raw Material X	1,000	300	3,00,000
Finished Goods Y	2,400	600	14,40,000
Total Value of Closing Stock			**17,40,000**

Working Note:

Statement showing cost calculation of Raw material X and Chemical Y

Raw material X	₹ per unit
Cost price	380
Add: Unloading charges	20
Add: Freight inward	40
Cost	**440**
Chemical Y	**₹ per unit**
Material consumed	440
Direct labour	120
Variable overhead	80
Fixed overheads (4,00,000/20,000)	20
Cost	**660**

Question 12

*Pg no.*_____

U.S.A Ltd. purchased raw material @ ₹ 400 per kg. Company does not sell raw material but uses it in production of finished goods. The finished goods in which raw material is used are expected to be sold at below cost. At the end of the accounting year, company is having 10,000 kg of raw material in stock.

As the company never sells the raw material, it does not know the selling price of raw material and hence cannot calculate the realizable value of the raw material for valuation of inventories at the end of the year. However replacement cost of raw material is ₹ 300 per kg. How will you value the inventory of raw material?

Solution

As per Para 24 of AS 2, materials and other supplies held for use in the production of inventories are not written down below cost if the finished products in which they will be incorporated are expected to be sold at or above cost.

However, when there has been a decline in the price of materials and it is estimated that the cost of the finished products will exceed net realizable value, the materials are written down to net realizable value. In such circumstances, the replacement cost of the materials may be the best available measure of their net realizable value. Therefore, in this case, USA Ltd. will value the stock of raw material at ₹ 30,00,000 (10,000 kg. @ ₹ 300 per kg.).

Question 13 *(Inter Nov 2019) (5 Marks)*

*Pg no.*_____

Mr. Rakshit gives the following information relating to items forming part of inventory as on 31st March, 2022. His factory produces product X using raw material A.

a) 800 units of raw material A (purchased @ ₹140 per unit). Replacement cost of raw material A as on 31st March, 2022 is ₹190 per unit.

b) 650 units of partly finished goods in the process of producing X and cost incurred till date ₹310 per unit. These units can be finished next year by incurring additional cost of ₹50 per unit.

c) 1,800 units of finished product X and total cost incurred ₹360 per unit.

Expected selling price of product X is ₹350 per unit.

In the context of AS-2, determine how each item of inventory will be valued as on 31st March, 2022. Also, calculate the value of total inventory as on 31st March, 2022.

Solution

As per AS 2 (Revised) "Valuation of Inventories", materials and other supplies held for use in the production of inventories are not written down below cost if the finished products in which they will be incorporated are expected to be sold at cost or above cost. However, when there has been a decline in the price of materials and it is estimated that the cost of the finished products will exceed net realizable value, the materials are written down to net realizable value. In such circumstances, the replacement cost of the materials may be the best available measure of their net realizable value. In the given case, selling price of product X is ₹350 and total cost per unit for production is ₹360.

Hence the valuation will be done as under:

a) 800 units of raw material will be valued at cost 140.

b) 650 units of partly finished goods will be valued at 300 per unit i.e. lower of cost (₹310) or Net realizable value ₹300 (Estimated selling price ₹ 350/unit less additional cost of ₹50).

c) 1,800 units of finished product X will be valued at NRV of ₹350 per unit since it is lower than cost ₹360 of product X.

Valuation of Total Inventory as on 31.03.2022:

Particulars	Units	Cost (₹)	NRV/ Replacement cost ₹	Value = units x cost or NRV whichever is less (₹)	₹
Raw material A	800	140	190	1,12,000	(800 x 140)
Partly finished goods	650	310	300	1,95,000	(650 x 300)
Finished goods X	1800	360	350	6,30,000	(1,8
Value of Inventory				**9,37,000**	

*Pg no.*_____

Question 14 *(Inter Jan 2021) (5 Marks)*

Mr. Jatin gives the following information relating to the items forming part of the inventory as on 31.03.2021. His enterprise produces product P using Raw Material X.

(i) 900 units of Raw Material X (purchases @ ₹ 100 per unit). Replacement cost of Raw Material X as on 31.03.2021 is ₹ 80 per unit

(ii) 400 units of partly finished goods in the process of producing P. Cost incurred till date is ₹ 245 per unit. These units can be finished next year by incurring additional cost of ₹ 50 per unit.

(iii) 800 units of Finished goods P and total cost incurred is ₹ 295 per unit.

Expected selling price of product P is ₹ 280 per unit, subject to a payment of 5% brokerage on selling price.

Determine how each item of inventory will be valued as on 31.03.2021. Also calculate the value of total Inventory as on 31.03.2021.

Solution

As per AS 2 (Revised) "Valuation of Inventories", materials and other supplies held for use in the production of inventories are not written down below cost if the finished products in which they will be incorporated are expected to be sold at cost or above cost. However, when there has been a decline in the price of materials and it is estimated that the cost of the finished products will exceed net realizable value, the materials are written down to net realizable value.

In such circumstances, the replacement cost of the materials may be the best available measure of their net realizable value. In the given case, selling price of product P is ₹ 266 and total cost per unit for production is ₹ 295.

Hence the valuation will be done as under:

(i) 900 units of raw material X will be written down to replacement cost as market value of finished product is less than its cost, hence valued at ₹ 80 per unit.
(ii) 400 units of partly finished goods will be valued at 216 per unit i.e., lower of cost (₹ 245) or Net realizable value ₹ 216 (Estimated selling price ₹ 266 per unit less additional cost of ₹ 50).
(iii) 800 units of finished product P will be valued at NRV of ₹ 266 per unit since it is lower than cost ₹ 295.

Particulars	Units	Cost (₹)	NRV/ Replacement cost ₹	Value = units x cost or NRV whichever is less (₹)
Raw material X	900	100	80	72,000
Partly finished goods	400	245	216	86,400
Finished goods P	800	295	266	2,12,800
Value of Inventory				**3,71,200**

Question 15 *Pg no._____*

CC Ltd., a Pharmaceutical Company, while valuing its finished stock at the year end wants to include interest on Bank Overdraft as an element of cost, for the reason that overdraft has been taken specifically for the purpose of financing current assets like inventory and for meeting day to day working expenses". State your comments on this treatment.

Solution

As per AS 2 "Valuation of Inventories", cost of inventories comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. However, it makes clear that interest and other borrowing costs are usually not included in the cost of inventories because generally such costs are not related in bringing the inventories to their present location and condition.
Therefore, the proposal of CC Ltd. to include interest on bank overdraft as an element of cost is not acceptable because it does not form part of cost of production

Question 16 *(RTP Sep 2024) (Similar)* *Pg no._____*

Hema Ltd. is in the business of manufacturing computers. During the year ended 31st March, 2022 the company manufactured 550 computers, it has the policy of valuing finished stock of goods at a standard cost of ₹ 1.8 lakhs per computer.
The details of the cost are as under:

	(₹ in lakhs)
Raw material consumed	400
Direct Labour	250
Variable production overheads	150
Fixed production overheads (including interest of ₹ 100 lakhs)	290

Compute the value of cost per computer for the purpose of closing stock and also comment on the policy of valuation of inventory adopted by Hema Ltd.

Solution

As per AS 2 'Valuation of Inventories', for inclusion in the cost of inventory, allocation of fixed production overheads is based on the normal capacity of the production facilities.
In this, case finished stock has been valued at a standard cost of ₹ 1.8 lakhs per computer which incidentally synchronizes with the value computed on the basis of absorption costing as under:

	(₹ in lakhs)
Raw material consumed	400
Direct Labour	250
Variable production overheads	150
Fixed production overheads (290 - 100)	190
Total cost	**990**

Number of computers produced = 550 computers (Assumed to be normal production)
Cost per computer ₹ 990 lakhs/550 computers = ₹ 1.80 lakhs
Policy of the company to value closing stock on the basis of standard costing is not as per AS 2. As per AS 2, the techniques of standard cost method may be used for convenience if the result approximates to the actual cost. However, standard cost should be regularly reviewed, if necessary, and be revised in the light of the current conditions. In the instant case, the cost of inventory can be conveniently calculated as per absorption costing. Therefore, there is no reason to adopt standard costing method.

Question 17 *(Inter July 2021) (5 Marks)* *Pg no.*_____

Joy Ltd. purchased 20,000 kilograms of Raw Material @ ₹ 20 per kilogram during the year 2020-21. They have furnished you with the following further information for the year ended 31st March, 2021:

Particulars	Units	Amount (₹)
Opening Inventory:		
Finished Goods	2,000	1,00,000
Raw Materials	2,200	44,000
Direct Labour		3,06,000
Fixed Overheads		3,00,000
Sales	20,000	11,20,000
Closing Inventory:		
Finished Goods	2,400	
Raw Materials	1,800	

The plant has a capacity to produce 30,000 Units of finished product per annum. However, the actual production of finished products during the year 2020-21 was 20,400 Units. Due to a fall in the market demand, the price of the finished goods in which the raw material has been utilized is expected to be sold @ ₹ 40 per unit. The replacement cost of the raw material was ₹ 19 per kilogram.
You are required to ascertain value of closing inventory as at 31st March, 2021 as per AS 2.

Solution

Statement Showing the Computation of Value of Closing Inventory

Value of Closing Finished Goods

Particulars	Amount (₹)
Cost of Raw Material consumed (20,400 units X ₹ 20 per kg)	4,08,000
Direct Labour	3,06,000
Fixed Overheads (3,00,000/30,000 x 20,400)	2,04,000
Cost of Production	**9,18,000**
Cost of Closing Inventory of Finished Goods per unit (9,18,000/20,400)	45
Net Realizable Value (NRV) per unit	40

Since net realizable value is less than cost, closing inventory of Finished Goods will be valued at ₹ 40 per unit

Value of Closing Raw Materials

As NRV of finished goods is less than its cost, the relevant raw material will be valued at its replacement cost, which is the best available measure of its NRV i.e. @ ₹ 19 per kg.

Therefore, value of closing inventory would be as under:

Finished Goods 2,400 units @ ₹ 40/- per unit	₹ 96,000
Raw Materials 1,800 kg @ ₹ 19/- per kg	₹ 34,200
Total	**₹ 1,30,200**

Working Note:

Calculation of raw material consumed during the year

Particulars	Unit (Kg)
Opening Inventory	2,200
Purchases	20,000
Less: Closing Inventory	(1,800)
Raw Material Consumed	20,400

Question 18 *(RTP May 2022) / (Inter Sep 2024) (4 Marks)* *Pg no.*_____

"In determining the cost of inventories, it is appropriate to exclude certain costs and recognize them as expenses in the period in which they are incurred". Provide examples of such costs as per AS 2 'Valuation of Inventories'.

Solution

As per AS 2 "Valuation of Inventories", certain costs are excluded from the cost of the inventories and are recognised as expenses in the period in which incurred. Examples of such costs are:

(a) abnormal amount of wasted materials, labour, or other production costs;
(b) storage costs, unless those costs are necessary in the production process prior to a further production stage;
(c) administrative overheads that do not contribute to bringing the inventories to their present location and condition; and
(d) selling and distribution costs

Question 19 *(Inter Nov 2022) (5 Marks)* *Pg no.*_____

Following information of Sarah Limited is given:

Sarah Limited uses Raw Material 'A' for production of production of Finished Goods 'B'

Closing balance of Raw Material 'A' in units on 31st March,2022	750
	Price Per Unit in ₹
Cost Price	150
Freight inward	10
Replacement Cost	152
Closing balance of Finished Good 'B' in units on 31st March,2022	1,600
	Price Per Unit in ₹
Material Consumed	225
Direct Labour	75
Direct variable overhead	60

Total Fixed Overheads amounts to ₹ 1,00,000 on normal capacity of 20,000 units.

You are required to calculate the value of Closing Stock of Raw materials and Closing Stock of Finished Goods, as on 31st March, 2022, as per AS 2, when selling price of Finished Goods 'B' is ₹ 360 per unit.

Solution

Raw Material A	₹
Cost Price	150
Add: Freight Inward	10
Cost per unit	160
Replacement cost per unit of raw material	152

As per AS 2 (Revised) "Valuation of Inventories", the inventories are to be valued at lower of cost or net realizable value. Materials and other supplies held for use in the production of inventories are written down below cost if the selling price of finished product containing the material does not exceed the cost of the finished product.
In the given case, net realizable value of the Product 'B' (Finished Goods) is ₹ 360 per unit which is less than its cost ₹ 365 per unit.
Raw Material is to be valued at replacement cost. Value of the closing stock of raw material on 31/03/2022 would be ₹ 1,14,000 (750 units X ₹152 per unit).

Finished Goods B	₹
Materials consumed	225
Direct Labour	75
Direct Variable overheads	60
Fixed overheads (₹ 1,00,000/20,000 units)	5
Cost per unit	365
Net realizable value per unit	360

As per AS 2 (Revised) "Valuation of Inventories", the inventories are to be valued at lower of cost or net realizable value. Hence, Finished Goods are to be valued at NRV since NRV is less than the cost.
Value of the closing stock of Finished goods as on 31/03/2022 would be ₹ 5,76,000 (1,600 units X ₹ 360 per unit).

Question 20 *(Inter Nov 2023) (5 Marks)* *Pg no.*_____

In the following cases, find the value of closing stock as per AS 2:

(i) Sonu is a retailer dealing in toys. During the year, he purchased items worth for ₹ 1,47,000 and made a total sale ₹ 1,54,000. The average percentage of gross margin is 10% on cost. Opening stock of toys at cost was ₹ 20,000.

(ii) On 21st March, 2023, Mohan purchased 250 chairs at ₹ 300 each. The selling price of the chair is ₹ 400 each. Owing to a manufacturing defect, net realisable value of the whole lot of chair was determined at 70% of their normal selling price. No chairs were sold during the year.

Solution

i. Cost of closing inventory is shown below:

	₹
Sale value of opening stock and purchases (₹ 20,000 + ₹1,47,000) x 1.10	1,83,700
Sales	(1,54,000)
Sale value of unsold stock	29,700
Less: Gross Margin (₹ 29,700 / 1.10) x 0.10	(2,700)
Cost of closing inventory	**27,000**

Alternative:

		₹
Opening Stock		20,000
Purchases		1,47,000
Less: Cost of Goods Sold		
Sales	1,54,000	
Gross Profit @10% on cost (1,54,000*10/110)	(14,000)	(1,40,000)
Cost of closing inventory		**27,000**

ii.

Closing stock at cost (250X ₹ 300) (i)	75,000
Net Realizable value of closing stock (₹ 280* × 250) (ii)	70,000
Value of closing stock [lower of (i) and (ii)]	70,000

*400*70% = 280

Question 21 *(Inter May 2024) (7 Marks)* *Pg no.*_____

Well Wear Limited is a Textile Manufacturing Company and engaged in the production of Polyester (P) and Nylon (N). While manufacturing the main products, a by-product Fiber (F) is also produced. Details of the cost of production are as under:

Purchase of Raw Material for manufacturing process of

30,000 units	₹ 3,50,000
Wages paid	₹ 1,60,000
Fixed overheads	₹ 1,20,000
Variable overheads	₹ 60,000
Output:	
Polyester (P)	12,500 Units
Nylon (N)	10,000 Units
Fiber (F)	3,200 Units
Closing Inventory:	
Polyester (P)	1,600 Units
Nylon(N)	400 Units

Average market price of Polyester and Nylon is ₹ 100 and ₹ 60 per unit respectively, by-product Fiber is sold@₹ 40 per unit. There is a profit of ₹ 8,000 on sale of by-product after incurring separate processing expenses of ₹ 10,000 and packing charges of ₹ 9,000. ₹ 5,000 was realized from sale of scrap.

On the basis of the above information, you are required to compute the value of closing inventory of Polyester and Nylon.

Solution

As per AS 2 'Valuation of Inventories', most by-products as well as scrap or waste materials by their nature, are immaterial. They are often measured at net realizable value and this value is deducted from the cost of the main product.

Determination of value of closing inventory of Polyester and Nylon

	Polyester	Nylon
Closing inventory in units	1,600 units	400 units
Cost per unit	₹ 31.14	₹ 18.68
Value of closing inventory	₹ 49,824	₹ 7,472

Working Notes

1. Calculation of net realizable value of by-product, Fiber

	₹
Selling price of by-product Fiber (3,200 units × ₹ 40 per unit)	1,28,000
Less: Separate processing charges of by-product Fiber	(10,000)
Packing charges	(9,000)
Net realizable value of by-product Fiber	**1,09,000**

2. Calculation of cost of conversion for allocation between joint products Polyester and Nylon

	₹	₹
Raw material		3,50,000
Wages		1,60,000
Fixed overhead		1,20,000
Variable overhead		60,000
		6,90,000
Less: NRV of by-product Fiber (W.N. 1)	(1,09,000)	
Sale value of scrap	(5,000)	(1,14,000)
Joint cost to be allocated between Polyester and Nylon		**5,76,000**

Determination of "basis for allocation" and allocation of joint cost to Polyester and Nylon

	Polyester	Nylon
Output in units (a)	12,500 units	10,000 units
Sales price per unit (b)	₹ 100	₹ 60
Sales value (a x b)	₹ 12,50,000	₹ 6,00,000
Total value (12,50,000 + 6,00,000) = 18,50,000		
Joint cost of ₹ 5,76,000 allocated in the ratio of 12,50,000: 6,00,000	₹ 3,89,189	₹ 1,86,811
Cost per unit [c/a]	₹ 31.14	₹ 18.68