CHAPTER 6

IND AS ON ASSETS OF THE FINANCIAL STATEMENTS

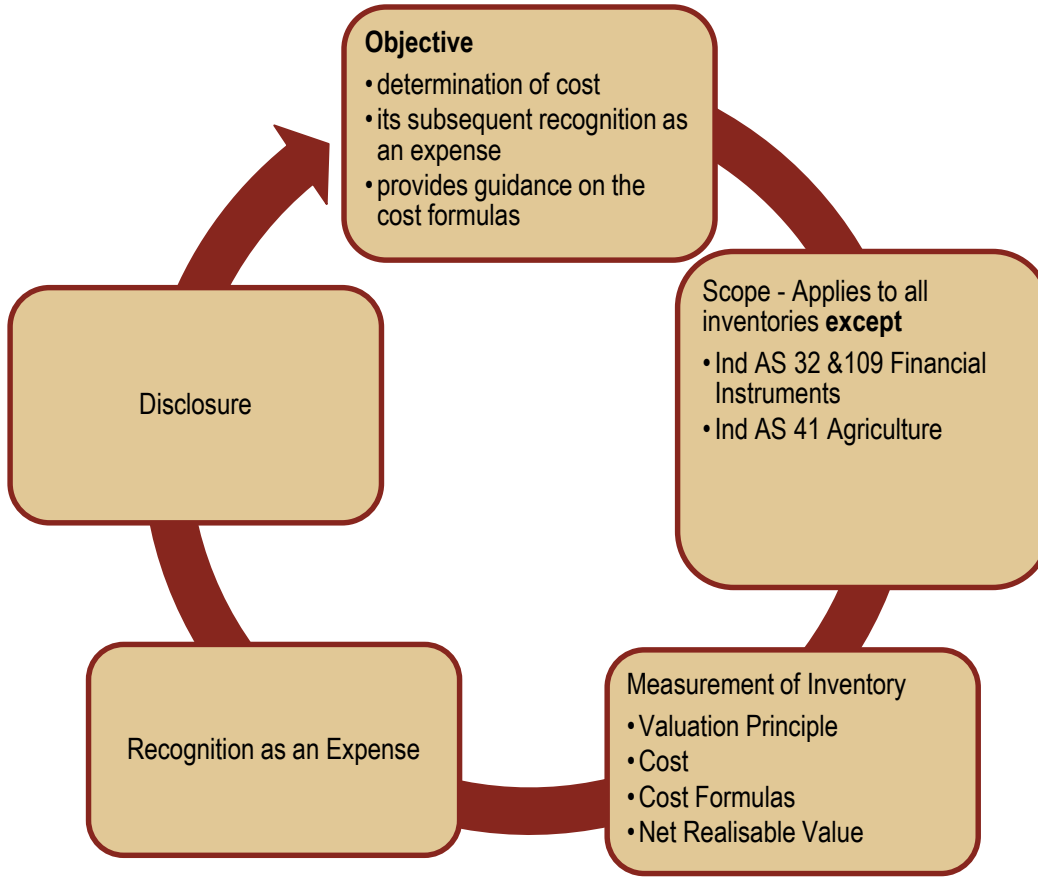
UNIT 1:
INDIAN ACCOUNTING STANDARD 2: INVENTORIES

LEARNING OUTCOMES

After studying this unit, you will be able to:

- Describe the objective and scope of the standard
- Define the terms inventories, net realisable value and fair value
- Determine the inventory cost
- Apply the cost formula for valuation of inventory
- Evaluate as to how and when to perform write-downs to net realisable value
- Recognize the write downs as an expense

UNIT OVERVIEW



1.1 OBJECTIVE

The objective of this Standard is to prescribe the accounting treatment for inventories. This Standard provides guidance for determining the cost of inventories and for subsequent recognition as an expense, including any write-down to net realisable value.

It provides guidance on the techniques for the measurement of cost, such as the standard cost method or retail method. It also outlines acceptable methods of determining cost, including specific identification, first-in-first-out and weighted average cost method.

1.2 SCOPE

This Standard is applicable to all inventories, except:

a) financial instruments (to be accounted under Ind AS 32, Financial Instruments: Presentation and Ind AS 109, Financial Instruments).

b) biological assets (i.e. living animals or plants) related to agricultural activity and agricultural produce at the point of harvest (to be accounted under Ind AS 41, Agriculture).

Note: In accordance with Ind AS 41 "Agriculture", inventories comprising agricultural produce that an entity has harvested from its biological assets are measured on initial recognition at their fair value less costs to sell at the point of harvest. This fair value less costs to sell as determined in accordance with Ind AS 41 will become the cost of the inventories at that date for application of Ind AS 2 "Inventories".

- **This Standard does not apply to the measurement of inventories held by:**

a) producers of agricultural and forest products, agricultural produce after harvest, and minerals and mineral products, to the extent that they are measured at net realisable value in accordance with well-established practices in those industries.

When such inventories are measured at net realisable value, changes in that value are recognized in profit or loss in the period of the change.

b) commodity broker-traders who measure their inventories at fair value less costs to sell.

When such inventories are measured at net realisable value / fair value less costs to sell, changes in those values are to be recognized in profit or loss in the period of the change.

Broker-traders are those who buy or sell commodities for others or on their own account. They acquire inventories principally with the purpose of selling in the near future and generating a profit from fluctuations in price or broker-traders' margin. When these inventories are measured at fair value less costs to sell, they are excluded from only **the measurement requirements** of this Standard.

1.3 RELEVANT DEFINITIONS

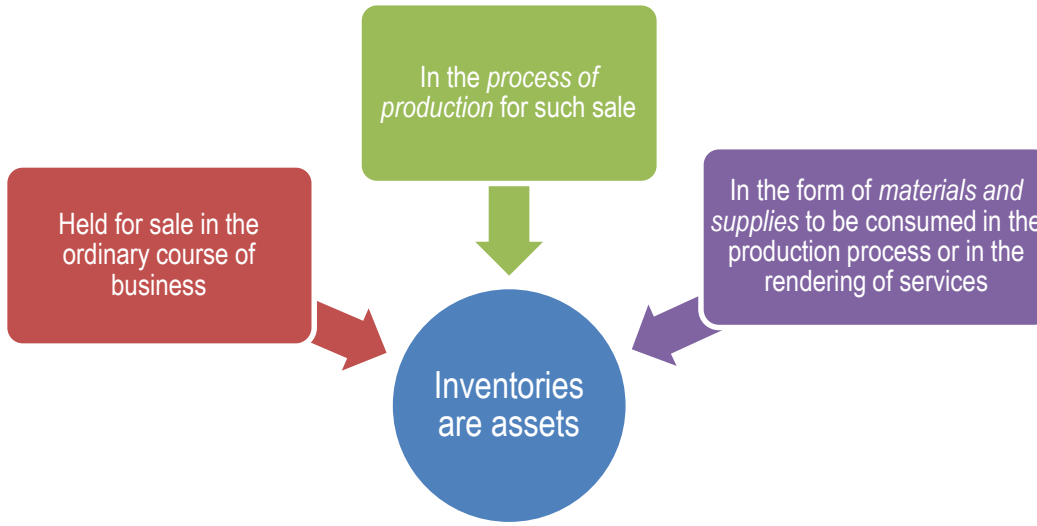
The following are the key terms used in this standard:

1) **Inventories** are assets:

   a) held for sale in the ordinary course of business; (Finished Goods)

   b) in the process of production for such sale; or (Work in progress)

   c) in the form of materials or supplies to be consumed in the production process or in the rendering of services. (Raw material)



2) **Inventories encompass of:**

   a) goods purchased and held for resale (e.g. merchandise purchased by a retailer and held for resale, or land and other property held for resale);

   b) finished goods produced, or work in progress being produced, by the entity; and includes

   c) materials and supplies awaiting use in the production process.

Costs incurred to fulfill a contract with a customer that do not give rise to inventories are accounted as per Ind AS 115.

Illustration 1

As per Ind AS 2, inventories include 'materials and supplies awaiting use in the production process'. Examine whether the packing material and publicity material are covered by the term 'materials and supplies awaiting use in the production process'.

Solution

While the primary packing material may be included within the scope of the term 'materials and supplies awaiting use in the production process' but the secondary packing material and publicity material cannot be so included, as these are selling costs which are required to be excluded as per Ind AS 2. For this purpose, the primary packing material is one which is essential to bring an item of inventory to its saleable condition, for example, bottles, cans etc., in case of food and beverages industry. Other packing material required for transporting and forwarding the material will normally be in the nature of secondary packing material.

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3) **Net realisable value** 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.

Net realisable value refers to the net amount that an entity expects to realise from the sale of inventory in the ordinary course of business. Fair value reflects the price at which an orderly transaction to sell the same inventory in the principal (or most advantageous) market for that inventory would take place between market participants at the measurement date. The former is an entity-specific value; the latter is not. Net realisable value for inventories may not equal fair value less costs to sell.

4) **Fair value** is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. (Ind AS 113, *Fair Value Measurement*.)

Note: Net realisable value for inventories may not equal fair value less costs to sell.

Example 1

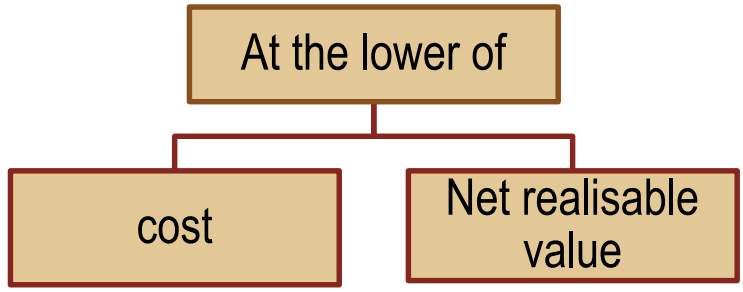
An entity holds inventories of 10,000 units and it could sell the same in the market @ ₹ 10 each. The entity has an order in hand to sell the inventories @ ₹ 11. The incremental selling cost per unit is ₹ 0.50 per unit. In this situation, fair value is ₹ 10 each, but net realisable value is ₹ 10.5 each.

Difference between Net Realisable Value (NRV) and Fair Value (FV)

Basis	NRV	FV
Meaning	NRV refers to the net amount that an entity expects to realise from the sale of inventory in the ordinary course of business.	FV reflects the price at which an orderly transaction to sell the same inventory in the principal (or most advantageous) market for that inventory would take place between market participants at the measurement date
Measurement base	Entity-specific value i.e. the amount that the entity actually expects to make from selling the particular inventory	Market based measurement

1.4 MEASUREMENT OF INVENTORIES

Inventories shall be measured at the lower of cost and net realisable value.



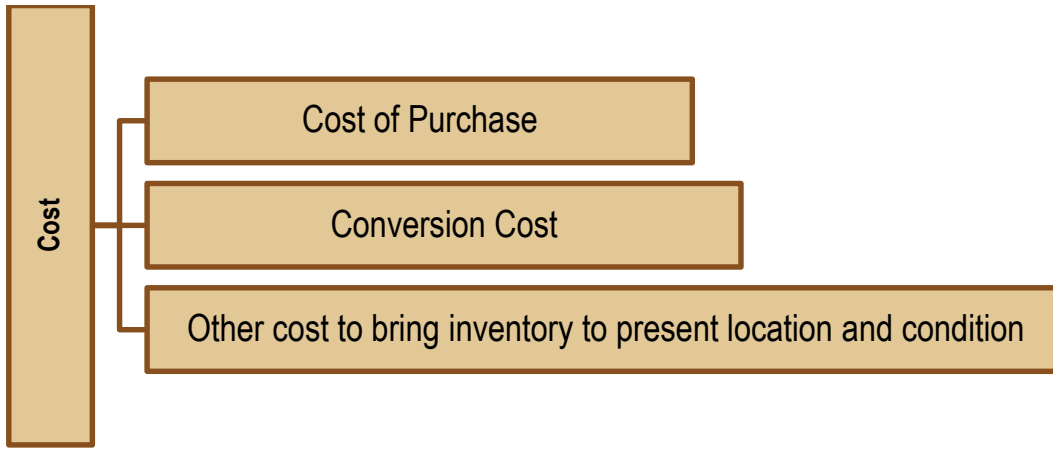
1) Cost of Inventories

Cost of Inventories comprises:

a) all costs of purchase;

b) costs of conversion; and

c) other costs incurred in bringing the inventories to their present location and condition.



2) Cost of purchase

The costs of purchase of inventories include:

a) the purchase price,

b) import duties and other taxes (other than those subsequently recoverable by the entity from the taxing authorities),

c) transport, handling and

d) other costs directly attributable to the acquisition of finished goods, materials and services.

Any trade discounts, rebates and other similar items are deducted in determining the costs of purchase of inventory.

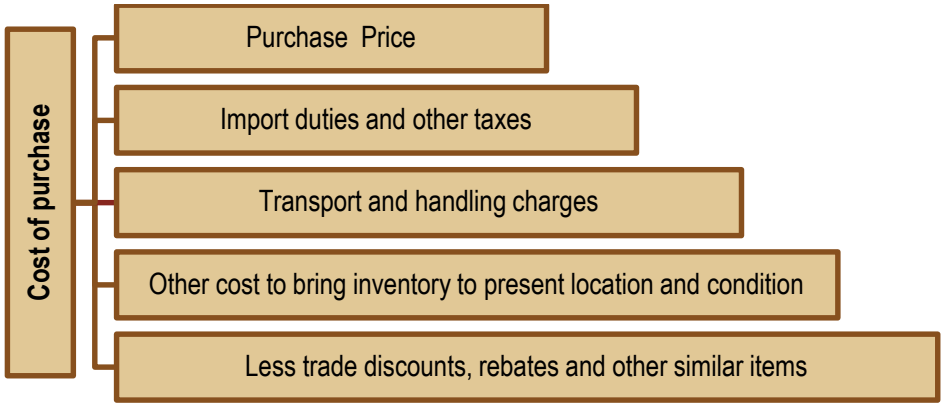


Illustration 2

ABC Ltd. buys goods from an overseas supplier. It has recently taken delivery of 1,000 units of component X. The quoted price of component X was ₹ 1,200 per unit but ABC Ltd. has negotiated a trade discount of 5% due to the size of the order.

The supplier offers an early settlement discount of 2% for payment within 30 days and ABC Ltd. intends to achieve this.

Import duties (basic custom duties) of ₹ 60 per unit must be paid before the goods are released through custom. Once the goods are released through customs, ABC Ltd. must pay a delivery cost of ₹ 5,000 to have the components taken to its warehouse.

Calculate the cost of inventory.

Solution

	₹
Purchase price (1,000 x 1,200 x 95%)	11,40,000
Import duties (1,000 x 60)	60,000
Delivery cost	5,000
Cost of inventory	12,05,000

Note: The intention to take settlement discount is irrelevant.

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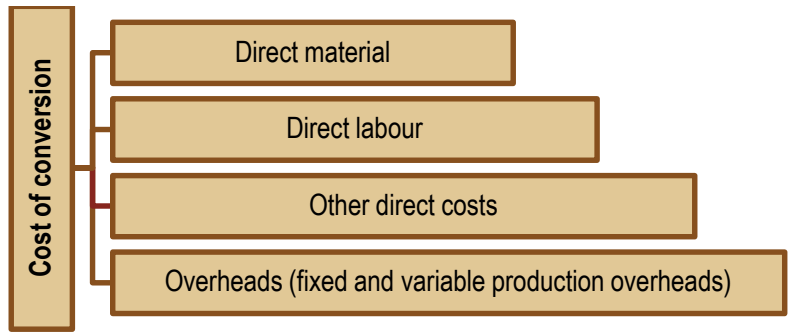
3) Cost of conversion

- The costs of conversion of inventories include costs directly related to the units of production, such as:

  a) direct material, direct labour and other direct costs; and

  b) a systematic allocation of fixed and variable production overheads that are incurred in converting materials into finished goods.



- Fixed production overheads are those indirect costs of production that remain relatively constant regardless of the volume of production, such as depreciation and maintenance of factory buildings, equipment and right-of-use assets used in the production process, and equipment, and the cost of factory management and administration.
- Allocation of fixed production overheads to the costs of conversion is based on the normal capacity of the production facilities. Normal capacity is the production expected to be achieved on an average over a number of periods or seasons under normal circumstances, taking into account the loss of capacity resulting from planned maintenance. The actual level of production may be used if it approximates normal capacity.
- When production levels are abnormally low, unallocated overheads are recognized as an expense in the period in which they are incurred. In periods of abnormally high production, the amount of fixed overhead allocated to each unit of production is decreased so that inventories are not measured above cost.
- Variable production overheads are those indirect costs of production that vary directly, or nearly directly, with the volume of production, such as indirect materials and indirect labour. Variable production overheads are allocated to each unit of production on the basis of the actual use of the production facilities.

  Note: Production overheads must be absorbed based on normal production capacity even if this is not achieved in a period. If production capacity is unusual in a particular period the overheads might be under or over absorbed. Interruptions in production may occur while costs still are being incurred.

Note: The process of allocating costs to units of production is usually called absorption. This is usually done by linking the total production overheads to some production variable, for example, time, wages, materials or simply the number of units expected to be manufactured.

Example 2

Pluto Ltd. has a plant with the normal capacity to produce 5,00,000 unit of a product per annum and the expected fixed overheads is ₹ 15,00,000. Fixed overheads on the basis of normal capacity is ₹ 3 per unit (15,00,000/5,00,000).

Case 1:

Actual production is 5,00,000 units. Fixed overhead on the basis of normal capacity and actual overheads will lead to same figure of ₹ 15,00,000. Therefore, it is advisable to include this on normal capacity.

Case 2:

Actual production is 3,75,000 units. Fixed overhead is not going to change with the change in output and will remain constant at ₹ 15,00,000, therefore, overheads on actual basis is ₹ 4 p/u (15,00,000 / 3,75,000).

Hence by valuing inventory at ₹ 4 each for fixed overheads purpose, it will be overvalued and the losses of ₹ 3,75,000 will also be included in closing inventory leading to a higher gross profit than actually earned.

Therefore, it is advisable to include fixed overheads per unit on normal capacity to actual production (3,75,000 x 3) ₹ 11,25,000 and balance ₹ 3,75,000 (3,75,000 x 1) shall be transferred to Profit & Loss Account as an expense.

Case 3:

Actual production is 7,50,000 units. Fixed overheads is not going to change with the change in output and will remain constant at ₹ 15,00,000, therefore, overheads on actual basis is ₹ 2 (15,00,000/ 7,50,000).

Hence by valuing inventory at ₹ 3 each for fixed overheads purpose, we will be adding the element of cost to inventory which actually has not been incurred. At ₹ 3 per unit, total fixed overhead comes to ₹ 22,50,000 whereas, actual fixed overhead expense is only ₹ 15,00,000. Therefore, it is advisable to include fixed overhead on actual basis (7,50,000 x 2) ₹ 15,00,000.

Illustration 3: Normal production capacity

A business plans for production overheads of ₹ 10,00,000 per annum.

The normal level of production is 1,00,000 units per annum.

Due to supply difficulties the business was only able to make 75,000 units in the current year. Other costs per unit were ₹ 126.

Calculate the per unit cost and amount of overheads to be expensed during the year.

Solution

Calculation of cost per unit:	**₹**
Other costs	126
Production overhead (10,00,000/1,00,000 units)	10
Unit cost	136

Overhead to be expensed:	**₹**
Total production overhead	10,00,000
The amount absorbed into inventory is (75,000 x 10)	(7,50,000)
The amount not absorbed into inventory	2,50,000

₹ 2,50,000 that has not been included in inventory is expensed during the year i.e. recognized in the statement of profit and loss.

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Illustration 4: Conversion costs

ABC Ltd. manufactures control units for air conditioning systems.

Each control unit requires the following:

1 component X at a cost of ₹ 1,205 each

1 component Y at a cost of ₹ 800 each

Sundry raw materials at a cost of ₹ 150 each

The company incurs the following monthly expenses:

Factory rent ₹ 16,500

Energy cost ₹ 7,500

Selling and administrative costs ₹ 10,000

Each unit takes two hours to assemble. Production workers are paid ₹ 300 per hour.

Production overheads are absorbed into units of production using an hourly rate. The normal level of production per month is 1,000 hours.

Calculate the cost of inventory.

Solution

The cost of a single control unit:	₹
Materials:	
Component X	1,205
Component Y	800
Sundry raw materials	150
	2,155
Labour (2 hours x 300)	600
Production overhead [(16,500 + 7,500/1,000 hours) x 2 hours]	48
	2,803

Note: The selling and administrative costs are not part of the cost of inventory.

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4) Other costs

- Other costs are included in the cost of inventories only to the extent that they are incurred in bringing the inventories to their present location and condition.
- Cost to be **excluded** from the cost of inventories and recognized as expenses in the period in which they are incurred are:

  a) abnormal amounts of wasted materials, labour or other production costs;

  b) storage costs, unless those costs are necessary in the production process before a further production stage;

  Example 3

  The production of whiskey involves the distilling of aged whiskey in a cask prior to bottling should be capitalised, as aging is integral to making the finished product saleable.

  c) administrative overheads that do not contribute to bringing inventories to their present location and condition; and

  d) selling costs.

- The extent to which borrowing cost is included in the cost of inventories is determined on the basis of the requirement of Ind AS 23 Borrowing Costs.

Ind AS 23 "requires that the borrowing costs shall be capitalised on qualifying assets but scopes out inventories that are manufactured in large quantities on a repetitive basis. It also clarifies that inventories manufactured over a short period of time are not qualifying assets. However, any manufacturer that is producing small quantities over a long period of time has to capitalise borrowing costs into cost of inventories.

- An entity may acquire inventories on deferred settlement terms. When the arrangement effectively contains a financing element, that element, for example a difference between the purchase prices for normal credit terms and the amount paid, is recognized as interest expense over the period of the financing.

Illustration 5: Conversion costs

A dealer has purchased 1,000 cars costing ₹ 2,80,000 each on deferred payment basis as ₹ 25,000 per month per car to be paid in 12 equal instalments.

At year end 31 March 20X1, twenty cars are in stock. Compute the cost of inventory, finance cost and cost of goods sold.

Solution

	₹
Deferred payment price (25,000 x 12)	3,00,000
Less: Cash price	2,80,000
Interest expense	20,000

		₹
Cost of inventory	20 cars x 2,80,000	56,00,000
Finance cost	1,000 cars x 20,000	2,00,00,000
Cost of goods sold	980 cars x 2,80,000	27,44,00,000

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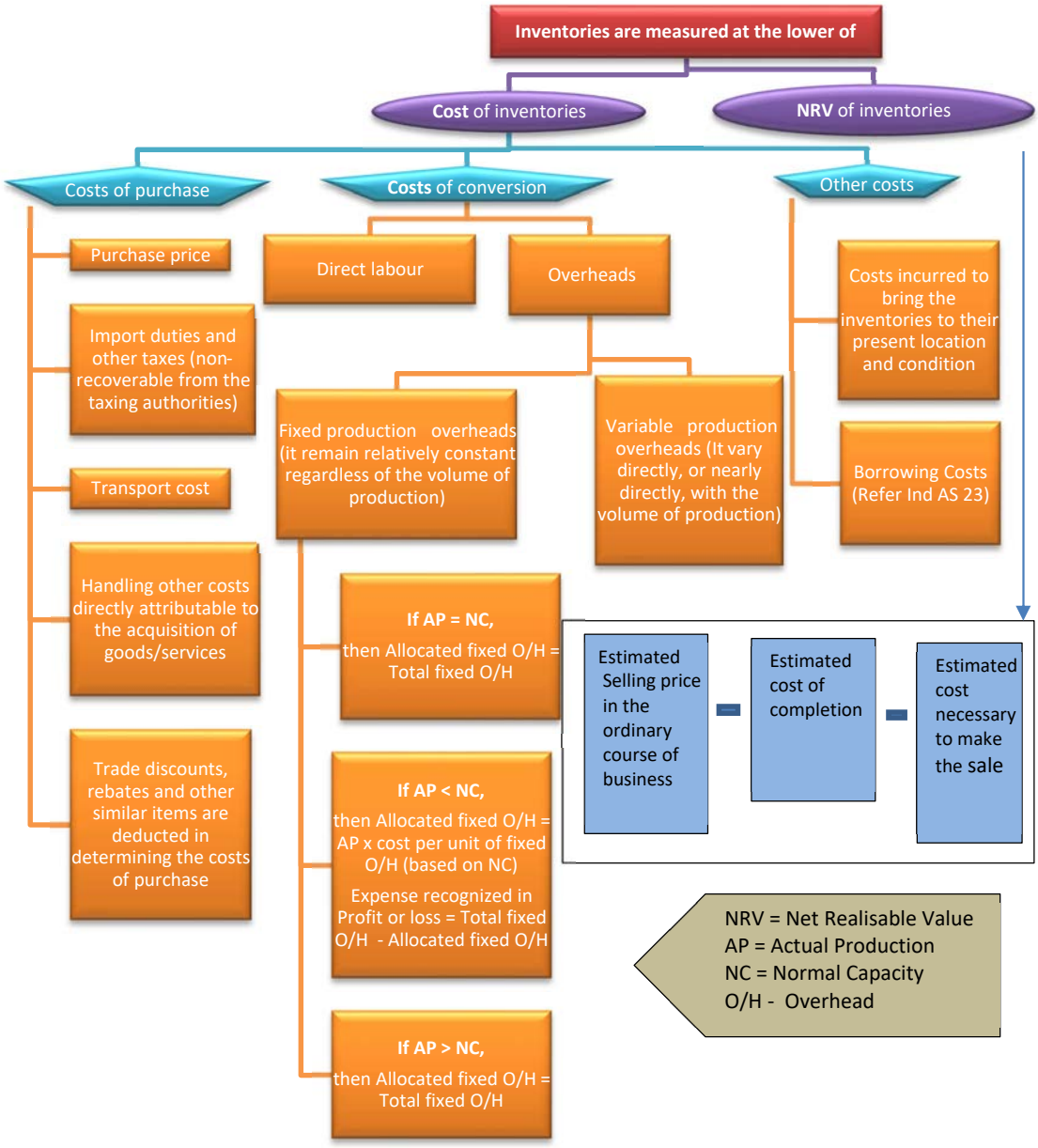

Illustration 6: Cost of Inventory

Venus Trading Company purchases cars from several countries and sells them to Asian countries. During the current year, this company has incurred following expenses:

1. *Trade discounts on purchase*

2. *Handling costs relating to imports*
3. *Salaries of accounting department*
4. *Sales commission paid to sales agents*
5. *After sales warranty costs*
6. *Import duties*
7. *Costs of purchases (based on supplier's invoices)*
8. *Freight expense*
9. *Insurance of purchases*
10. *Brokerage commission paid to indenting agents*

Evaluate which costs are allowed by Ind AS 2 for inclusion in the cost of inventory in the books of Venus.

Solution

Items number 1, 2, 6, 7, 8, 9, 10 are allowed by Ind AS 2 for the calculation of cost of inventories. Salaries of accounts department, sales commission, and after sale warranty costs are not considered to be the cost of inventory. Therefore, they are not allowed by Ind AS 2 for inclusion in cost of inventory and are expensed off in the profit and loss account.

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Illustration 7

As per Ind AS 2, selling costs are excluded from the cost of inventories and are required to be recognized as an expense in the period in which these are incurred. Advise whether the distribution costs would now be included in the cost of inventories under Ind AS 2.

Solution

Selling and distribution costs are generally used as single term because both are related, as selling costs are incurred to effect the sale and the distribution costs are incurred by the seller to complete a sale transaction by making the goods available to the buyer from the point of sale to the point at which the buyer takes possession. Since these costs are not related to bringing the goods to their present location and condition, the same are not included in the cost of inventories. Accordingly, though the word 'distribution costs' is not specifically mentioned in Ind AS 2, these costs would continue to be excluded from the cost of inventories.

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5) Allocation of cost to joint products and by-products

- A production process may result in more than one product being produced simultaneously. This is the case, for example, when joint products are produced or when there is a main product and a by-product.
- When the costs of conversion of each product are not separately identifiable, they are allocated between the products on a rational and consistent basis. The allocation may be based, for example, on the relative sales value of each product either at the stage in the production process when the products become separately identifiable, or at the completion of production.
- Most by-products, by their nature, are immaterial. When this is the case, they are often measured at net realisable value and this value is deducted from the cost of the main product. As a result, the carrying amount of the main product is not materially different from its cost.

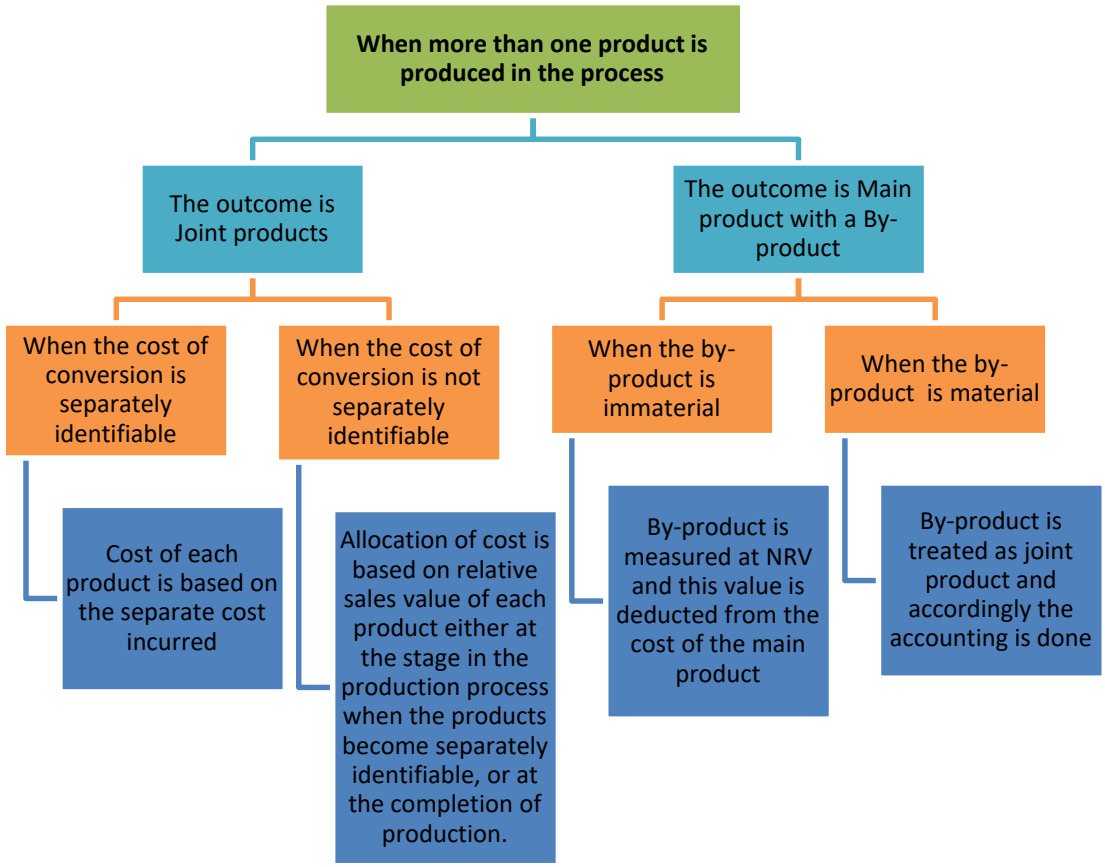

Illustration 8

In a manufacturing process of Mars Ltd, 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	Closing Stock 31.3.20X1
Raw material	14,500	1,50,000	MP1 - 5,000 units	250
Wages	-	90,000	MP2 - 4,000 units	100
Fixed overhead	-	65,000	BP- 2,000 units	
Variable overhead	-	50,000		

Average market price of MP1 and MP2 is ₹ 60 per unit and ₹ 50 per unit respectively, by-product is sold @ ₹ 20 per unit. There is a profit of ₹ 5,000 on sale of by-product after incurring separate processing charges of ₹ 8,000 and packing charges of ₹ 2,000, ₹ 5,000 was realised from sale of scrap.

Calculate the value of closing stock of MP1 and MP2 as on 31.3.20X1.

Solution

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

1) Calculation of NRV of By-product BP

Selling price of by-product	2,000 units x 20 per unit	40,000
Less: Separate processing charges of by- product BP		(8,000)
Packing charges		(2,000)
Net realisable value of by-product BP		30,000

2) Calculation of cost of conversion for allocation between joint products MP1 and MP2

Raw material		1,50,000
Wages		90,000
Fixed overhead		65,000
Variable overhead		50,000
Less: NRV of by-product BP (See calculation 1)	30,000	
Sale value of scrap	5,000	(35,000)
Joint cost to be allocated between MP1 and MP2		3,20,000

3) Determination of "basis for allocation" and allocation of joint cost to MP1 and MP2

	MP I	MP 2
Output in units (a)	5,000	4,000
Sales price per unit (b)	60	50
Sales value (a x b)	3,00,000	2,00,000
Ratio of allocation	3	2
Joint cost of ₹ 3,20,000 allocated in the ratio of 3:2 (c)	1,92,000	1,28,000
Cost per unit [c/a]	**38.4**	**32**

4) Determination of value of closing stock of MP1 and MP2

Particulars	MP I	MP 2
Closing stock in units	250 units	100 units
Cost per unit	38.4	32
Value of closing stock	9,600	3,200

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6) Cost of agricultural produce harvested from biological assets

In accordance with Ind AS 41, *Agriculture*, inventories comprising agricultural produce that an entity has harvested from its biological assets are measured on initial recognition at their fair value less costs to sell at the point of harvest. This is the cost of the inventories at that date for application of this Standard.

7) Techniques for the measurement of cost

- Techniques for the measurement of the cost of inventories, such as the standard cost method or the retail method, may be used for convenience if the results approximate to actual cost.
- Standard Cost Method: Cost is based on normal levels of materials and supplies, labour efficiency and capacity utilisation. They are regularly reviewed and revised where necessary.

- Retail Method: Cost is determined by reducing the sales value of the inventory by the appropriate percentage gross margin. The percentage used takes into consideration inventory that has been marked down to below its original selling price. This method is

often used in the retail industry for measuring inventories of rapidly changing items that have similar margins.

- The percentage used takes into consideration inventory that has been marked down to below its original selling price. An average percentage for each retail department is often used.
- The percentage has to be carefully determined to ensure that it takes into consideration the circumstances in which inventory has been marked down to below its original selling price. Adjustments have to be made to eliminate the effect of these markdowns so as to prevent any item of inventory being valued at less than both its cost and its net realisable value. An average percentage for each retail department is often used. Judgement is applied in the retail method in determining the margin to be removed from the selling price of inventory in order to convert it back to cost.

Illustration 9: Measurement techniques of Cost

Mars Fashions is a new luxury retail company located in Lajpat Nagar, New Delhi. Kindly advise the accountant of the company on the necessary accounting treatment for the following items:

(a) One of Company's product lines is beauty products, particularly cosmetics such as lipsticks, moisturizers and compact make-up kits. The company sells hundreds of different brands of these products. Each product is quite similar, is purchased at similar prices and has a short lifecycle before a new similar product is introduced. The point of sale and inventory system is not yet fully functioning in this department. The sales manager of the cosmetic department is unsure of the cost of each product but is confident of the selling price and has reliably informed you that the Company, on average, make a gross margin of 65% on each line.

(b) Mars Fashions also sells handbags. The Company manufactures their own handbags as they wish to be assured of the quality and craftsmanship which goes into each handbag. The handbags are manufactured in India in the factory which has made handbags for the last fifty years. Normally, Mars manufactures 100,000 handbags a year in their handbag division which uses 15% of the space and overheads of the head office factory. The division employs ten people and is seen as being an efficient division within the overall company.

In accordance with Ind AS 2, explain how the items referred to in a) and b) should be measured.

Solution

(a) The retail method can be used for measuring inventories of the beauty products. The cost of the inventory is determined by taking the selling price of the cosmetics and reducing it by the gross margin of 65% to arrive at the cost.

(b) The handbags can be measured using standard cost especially if the results approximate cost. Given that the company has the information reliably on hand in

relation to direct materials, direct labour, direct expenses and overheads, it would be the best method to use to arrive at the cost of inventories.

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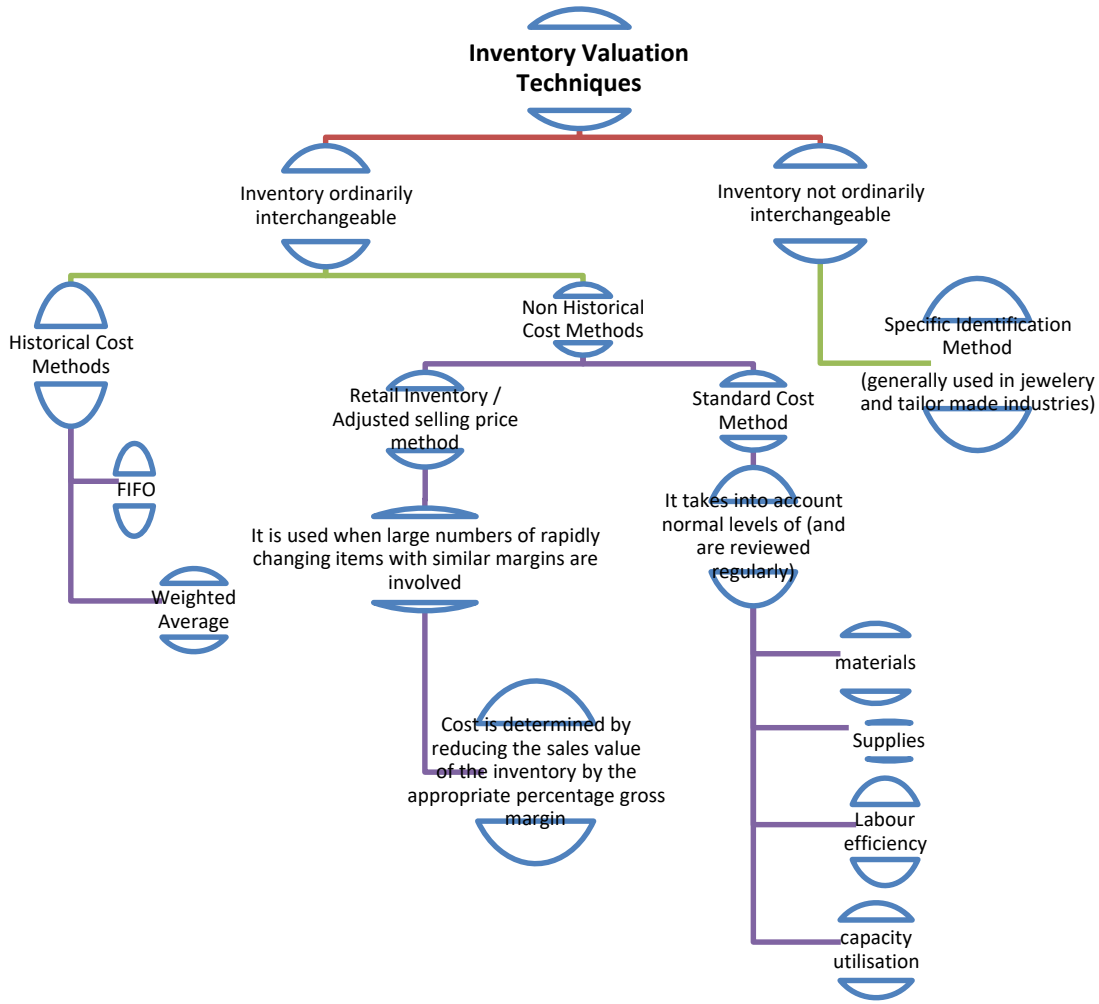
8) Cost Formulas

An entity shall use the same cost formula for all inventories having a similar nature and use to the entity. For inventories with a different nature or use, different cost formulas may be justified. For example, inventories used in one operating segment may have a use to the entity different from the same type of inventories used in another operating segment. However, a difference in geographical location of inventories (or in the respective tax rules), by itself, is not sufficient to justify the use of different cost formulas.



9) Inventory not ordinarily interchangeable

The cost of inventories of items that are not ordinarily interchangeable and goods or services produced and segregated for specific projects shall be assigned by using specific identification of their individual costs. Specific identification of cost means that specific costs are attributed to identified items of inventory.

10) Inventory ordinarily interchangeable

- The costs of inventories, other than that are not ordinarily interchangeable and goods or services produced and segregated for specific projects, shall be assigned by using the first-in, first-out (FIFO) or weighted average cost formula.

  First-in, First-out Cost Formula (FIFO) assumes that the items of inventory that were purchased or produced first are sold first. Hence in such a case, the items remaining in inventory at the end of the period are those which were most recently purchased or produced.

  For example, in case of a perishable goods business ie food retailers will first sell the goods he had purchased at the earliest.

  The FIFO method, by allocating the earliest costs incurred against revenue, matches actual cost flows with the physical flow of goods reasonably accurately. In case of other businesses as well which do not deal in perishable goods, this would reflect what would probably be a sound management policy. In practice, the FIFO method is generally used where it is not possible to value inventory on an actual cost basis.

  Weighted Average Cost Formula is suitable where inventory units are identical or nearly identical. It involves the computation of an average unit cost by dividing the total cost of units by the number of units. The average unit cost then has to be revised with every receipt of inventory, or alternatively at the end of predetermined periods. In practice, weighted average systems are widely used in packaged inventory systems that are computer controlled, although its results are not very different from FIFO in times of relatively low inflation, or where inventory turnover is relatively fast.

  Formula: Calculation of new weighted average after each purchase

  $$\text{New weighted average} = \frac{\text{Cost of inventory currently in store + Cost of new items received}}{\text{Number of units currently in store + Number of new units received}}$$

  LIFO (last-in, first-out), as its name suggests, is the opposite of FIFO and assumes that the most recent purchases or production are used first. In certain cases, this could represent the physical flow of inventory (e.g. if a store is filled and emptied from the top). **However, it is not an acceptable cost formula under Ind AS 2.**

  LIFO is an attempt to match current costs with current revenues so that profit or loss excludes the effects of holding gains or losses. Therefore, LIFO is an attempt to achieve something closer to replacement cost accounting for the statement of profit or loss,

whilst disregarding the statement of financial position. The period-end balance of inventory on hand represents the earliest purchases of the item, resulting in inventories being stated in the statement of financial position at amounts which may bear little relationship to recent cost levels.

Example 4: FIFO and Weighted Average method

Particulars	Units available	Units sold	Actual Cost/unit (₹)	Actual Total Cost (₹)
Opening inventory	100	-	2.10	210
Sale	-	75	-	-
Purchases	150	-	2.80	420
Sale	-	100	-	-
Purchase	50	-	3.00	150
Total	300	175	-	780

Solution:

FIFO Method:

Cost of Goods Sold: 100 units x ₹ 2.10 + 75 units x ₹ 2.80 = ₹ 420

Closing Inventory: 50 units x ₹ 3.00 + 75 units x ₹ 2.80 = ₹ 360

Weighted Average Method:

Weighted average cost / units: `780 / 300 units = ₹ 2.60

Cost of Goods Sold: 175 units x ₹ 2.60 = ₹ 455

Closing Inventory: 125 units x ₹ 2.60 = ₹ 325

Note: Weighted average method in practice is a moving average so computed after each purchase made and so sales are cost at most recent averages.

Cost of Goods Sold:

75 units @ ₹ 2.10 and 100 units @ ₹ 2.70 i.e. total cost = ₹ 427.50

Closing Inventory: 125 units x ₹ 2.82 = ₹ 352.50

- An entity shall use the same cost formula for all inventories having a similar nature and use to the entity. For inventories with a different nature or use, different cost formulas may be justified.

Illustration 10

State whether an entity can use different cost formulae for inventories held at different geographical locations having similar nature and use to it.

Solution

Paragraph 25 of Ind AS 2 prescribes that the cost of inventories, other than the items of inventories which are not ordinarily interchangeable as dealt with in paragraph 23, shall be assigned by using the first-in, first-out (FIFO) or weighted average cost formula. An entity shall use the same cost formula for all inventories having similar nature and use to it. In this case, since the inventories held at different geographical location are of similar nature and use to the entity, different cost formula cannot be used for inventory valuation purposes.

*****

- **FIFO formula** assumes that the items of inventory that were purchased or produced first are sold first, and consequently the items remaining in inventory at the end of the period are those most recently purchased or produced.
- Under the **weighted average** cost formula, the cost of each item is determined from the weighted average of the cost of similar items at the beginning of a period and the cost of similar items purchased or produced during the period. The average may be calculated on a periodic basis, or as each additional shipment is received, depending upon the circumstances of the entity.

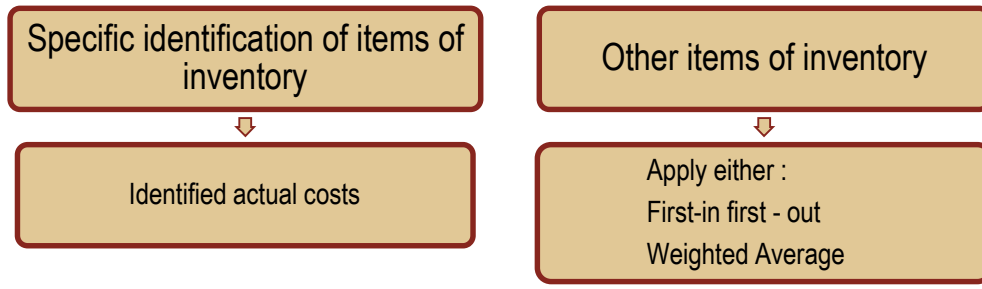


Illustration 11

Mercury Ltd. uses a periodic inventory system. The following information relates to 20X1-20X2.

Date	*Particular*	*Unit*	*Cost p.u.*	*Total Cost*
April	*Inventory*	*200*	*10*	*2,000*
May	*Purchases*	*50*	*11*	*550*
September	*Purchases*	*400*	*12*	*4,800*
February	*Purchases*	*350*	*14*	*4,900*
	Total	*1,000*		*12,250*

Physical inventory at 31.3.20X2 400 units.

Calculate ending inventory value and cost of sales using:

(a) FIFO

(b) Weighted Average

Solution

FIFO inventory 31.3.20X2	350 @14 = 50 @ 12 =	4,900 600 5,500
Cost of Sales	12,250-5,500 =	6,750
Weighted average cost per item	12,250/1000 =	12.25
Weighted average inventory at 31.3.20X2	400 x 12.25 =	4,900
Cost of sales 20X1-20X2	12,250-4,900 =	7,350

*****

11) Net realisable value

Measurement of net realisable value

- Net realisable value 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. The cost of inventories may not be recoverable if those inventories are damaged, if they have become wholly or partially obsolete, or if their selling prices have declined.

Illustration 12

Recommend whether the following costs should be considered while determining the Net Realisable Value (NRV) of the inventories?

(a) Costs of completion of work-in-progress;

(b) Trade discounts expected to be allowed on sale; and

(c) Cash discounts expected to be allowed for prompt payment

Solution

Ind AS 2 defines Net Realisable Value as 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."

Costs of completion of work-in-progress are incurred to convert the work-in progress into finished goods. Since these costs are in the nature of completion costs, in accordance with the above definition, the same should be deducted from the estimated selling price to determine the NRV of work-in- progress.

Trade discount is a reduction granted by a supplier from the list price of goods or services on business considerations other than for prompt payment.

Trade discount is allowed either expressly through an agreement or through prevalent commercial practices in the terms of the trade and the same is adjusted in arriving at the selling price. Accordingly, the trade discount expected to be allowed should be deducted to determine the estimated selling price.

Cash discount is a reduction granted by a supplier from the invoiced price in consideration of immediate payment or payment within a stipulated period.

These types of costs are incurred to recover the sale proceeds immediately or before the end of the specified period or credit period allowed to the customer. In other words, these costs are not incurred to make the sale, therefore, the same should not be considered while determining NRV.

*****

- Estimates of net realisable value are based on the most reliable evidence available at the time the estimates are made, of the amount the inventories are expected to realise. **These estimates take into consideration fluctuations of price or cost directly relating to events occurring after the end of the period to the extent that such events confirm conditions existing at the end of the period.**

Example 5

A loss realised on a sale of a product after the end of the period may well provide evidence of the net realisable value of that product at the end of the period. However, if this product is, for example, an exchange traded commodity, and the loss realised can be attributed to a fall in prices on the exchange after the period end date, then this loss would not, in itself, provide evidence of the net realisable value at the period end date.

Illustration 13

ABC Ltd. manufactures and sells paper envelopes. The stock of envelopes was included in the closing inventory as of 31st March, 20X1, at a cost of ₹ 50 per pack. During the final audit, the auditors noted that the subsequent sale price for the inventory at 15th April, 20X1, was ₹ 40 per pack. Furthermore, enquiry reveals that during the physical stock take, a water leakage has created damages to the paper and the glue. Accordingly, in the following week, ABC Ltd. has spent a total of ₹ 15 per pack for repairing and reapplying glue to the envelopes.

Calculate the net realisable value and inventory write-down (loss) amount.

Solution

The net realisable value is the expected sale price ₹ 40, less cost incurred to bring the goods to its saleble condition ie ₹ 15.

Thus, NRV of envelopes pack = ₹ 40 – ₹ 15 = ₹ 25 per pack.

The loss (inventory write-down) per pack is the difference between cost and net realisable value = ₹ 50 – ₹ 25= ₹ 25 per pack.

*****

- Estimates of net realisable value also take into consideration the purpose for which the inventory is held. For example, the net realisable value of the quantity of inventory held to satisfy firm sales or service contracts is based on the contract price. If the sales contracts are for less than the inventory quantities held, the net realisable value of the excess quantity is based on general selling prices. If there is a firm contract to sell quantities in excess of inventory quantities that the entity holds or is able to obtain under a firm purchase contract, this may give rise to an onerous contract liability that should be provided for in accordance with Ind AS 37 "Provisions, Contingent Liabilities and Contingent Assets".

Illustration 14

At the end of its financial year, Company P has 100 units of inventory on hand recorded at a carrying amount of ₹ 10 per unit. The current market price is ₹ 8 per unit at which these units can be sold. Company P has a firm sales contract with Company Q to sell 60 units at ₹ 11 per unit, which cannot be settled net. Estimated incremental selling cost is ₹ 1 per unit.

Compute Net Realisable Value (NRV) of the inventory of Company P.

Solution

While performing NRV test, the NRV of 60 units that will be sold to Company Q is ₹ 10 per unit (i.e. 11-1).

NRV of the remaining 40 units is ₹ 7 per unit (i.e. 8-1).

Therefore, Company P will write down those remaining 40 units by ₹ 120 (i.e. 40 x 3).

Total cost of inventory would be

Goods to be sold to Company Q	60 units x ₹ 10 +	₹ 600
Remaining goods	40 unit x ₹ 7	₹ 280
		₹ 880

*****

- Inventories are usually written down to net realisable value item by item. It is not appropriate to write inventories down on the basis of a classification of inventory, for example, finished goods, or all the inventories in a particular operating segment. The cost and net realisable value should be compared for each separately identifiable item of inventory, or group of similar inventories, rather than for inventory in total.

Illustration 15

A business has four items of inventory. A count of the inventory has established that the amounts of inventory currently held, at cost, are as follows:

			₹
	Cost	*Estimated Sales price*	*Selling costs*
Inventory item A1	*8,000*	*7,800*	*500*
Inventory item A2	*14,000*	*18,000*	*200*
Inventory item B1	*16,000*	*17,000*	*200*
Inventory item C1	*6,000*	*7,500*	*150*

Calculate the value of closing inventory in the financial statements of a business.

Solution

The value of closing inventory in the financial statements:

Item of inventory	Cost	NRV (Estimated Sales price- Selling costs)	Measurement base (lower of cost or NRV)	Value
A1	8,000	(7,800 – 500) 7,300	NRV	7,300
A2	14,000	(18,000 – 200) 17,800	Cost	14,000
B1	16,000	(17,000 – 200) 16,800	Cost	16,000
C1	6,000	(7,500 – 150) 7,350	Cost	6,000
Value of Inventory				**43,300**

*****

Writing inventories down to net realisable value

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 used are expected to be sold at or above cost. This is the case even if these materials in their present condition have a net realisable value that is below cost and would therefore otherwise require write down.

Example 6

A whisky distiller would not write down an inventory of grain because of a fall in the grain price, so long as it expects to sell the whisky at a price which is sufficient to recover cost.

However, when a decline in the price of materials indicates that the cost of the finished products exceeds net realisable value, the materials are written down to net realisable value. In such circumstances, the replacement cost of the materials may be the best available measure of their net realisable value. In other words, if an entity writes down any of its finished goods, the carrying value of any related raw materials should also be reviewed to see if they too need to be written down.

Often raw materials are used to make a number of different products. In these cases, it is normally not possible to arrive at a particular net realisable value for each item of raw material based on the selling price of any one type of finished item. If the current replacement cost of those raw materials is less than their historical cost, a provision is only required to be made if the finished goods into which they will be made are expected to be sold at a loss. **No provision should be made just because the anticipated profit will be less than normal.**

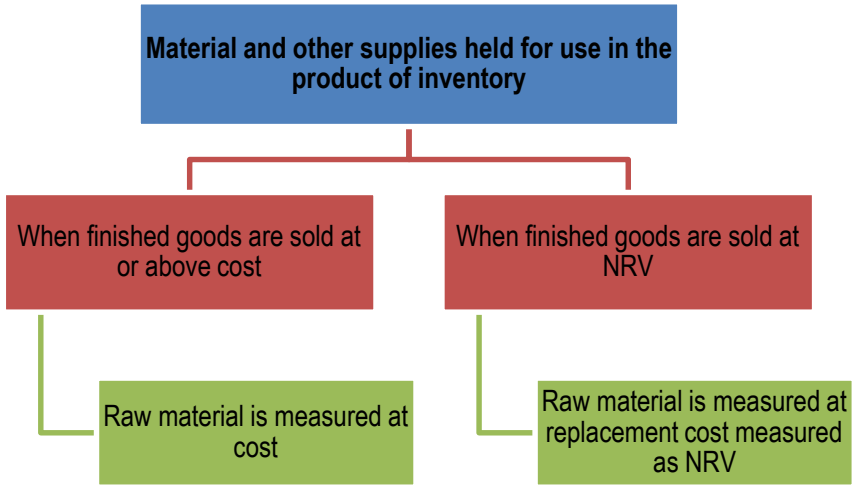


Illustration 16

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*
Overheads (Fixed)			*75,000*

Sales		*10,000*	*2,80,000*
Closing Inventory:	*Raw Materials*	*900*	
	Finished Goods	*1200*	

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. Calculate the closing inventory as on that date.

Solution

Calculation of cost for closing inventory

Particulars	***₹***
Cost of Purchase (10,200 x 10)	1,02,000
Direct Labour	76,500
Fixed Overhead $\frac{75,000 \times 10,200}{15,000}$	51,000
Cost of Production	2,29,500
Cost of closing inventory per unit (2,29,500/10,200)	₹ 22.50
Net Realisable Value per unit	₹ 20.00

Since net realisable 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 i.e. ₹ 9.50.

Therefore, value of closing inventory: Finished Goods (1,200 x 20)	₹ 24,000
Raw Materials (900 x 9.50)	₹ 8,550
	₹ 32,550

*****

Reversals of write-downs

- A new assessment is made of net realisable value in each subsequent period. When the circumstances that previously caused inventories to be written down below cost no longer exist or when there is clear evidence of an increase in net realisable value because of changed economic circumstances, the amount of the write-down is reversed (ie the reversal is limited to the amount of the original write-down) so that the new carrying amount is the lower of the cost and the revised net realisable value.

- This occurs, for example, when an item of inventory that is carried at net realisable value, because its selling price has declined, is still on hand in a subsequent period and its selling price has increased.

Illustration 17

Sun Pharma Limited, a renowned company in the field of pharmaceuticals has the following four items in inventory: The cost and net realisable value is given as follows:

Item	*Cost*	*Net Realisable Value*
A	*2,000*	*1,900*
B	*5,000*	*5,100*
C	*4,400*	*4,550*
D	*3,200*	*2,990*
Total	***14,600***	***14,540***

Calculate the value of Inventories:

a. On an item by item basis

b. On a group basis

Solution

Inventories shall be measured at the lower of cost and net realisable value.

Item by item basis:	
A	1,900
B	5,000
C	4,400
D	2,990
	14,290
Group basis	**14,540**

*****

1.5 RECOGNITION AS AN EXPENSE

1) The amount of inventories recognized as an expense in the period will generally be:

a) carrying amount of the inventories sold in the period in which related revenue is recognized; and

b) the amount of any write-down of inventories to net realisable value and all losses of inventories shall be recognized as an expense in the period the write-down or loss occurs;

reduced by

the amount of any reversal in the period of any write-down of inventories, arising from an increase in net realisable value shall be recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

2) Some inventories may be allocated to other asset accounts, for example, inventory used as a component of self-constructed property, plant or equipment. Inventories allocated to another asset in this way are recognized as an expense during the useful life of that asset through charging of depreciation on that asset.

Example 7

An item of inventory costing ₹ 20,000 as covered under Ind AS 2 is consumed in the construction of self-constructed property to be accounted as Property, plant and equipment under Ind AS 16. The cost of such property, plant and equipment other than inventories is ₹ 80,000. Such Inventory needs to be capitalised in the cost of Property, plant and equipment. The useful life of the property is 5 years. The depreciation on such property charged to profit and loss account is ₹ 20,000 per annum (i.e. 1,00,000 / 5)

1.6 DISCLOSURE

The financial statements shall disclose:

1) Accounting policies

The accounting policies adopted in measuring inventories, including the cost formula used.

2) Analysis of carrying amount

The total carrying amount of inventories and the carrying amount in classifications appropriate to the entity.

Common classifications of inventories are as follows:

a) Merchandise;

b) Production supplies;

c) Materials;

d) Work in progress; and

e) Finished goods.

The inventories of a service provider may be described as work in progress

3) Inventories carried at fair value less costs to sell

The carrying amount of inventories carried at fair value less costs to sell.

4) Amounts recognized in profit or loss

a) the amount of inventories recognized as an expense during the period;

b) the amount of any write-down of inventories recognized as an expense in the period; and

c) the amount of any reversal of any write-down that is recognized as a reduction in the amount of inventories recognized as expense in the period.

In addition, disclosure is required of the circumstances or events that led to the reversal of a write-down of inventories.

5) Inventories pledged as security

The carrying amount of inventories pledged as security for liabilities.

An entity adopts a format for profit or loss that results in amounts being disclosed other than the cost of inventories recognized as an expense during the period. Under this format, the entity presents an analysis of expenses using a classification based on the nature of expenses. In this case, the entity discloses the costs recognized as an expense for raw materials and consumables, labour costs and other costs together with the amount of the net change in inventories for the period.

1.7 EXTRACTS OF FINANCIAL STATEMENTS OF LISTED ENTITIES

Following are the extracts from the financial statements of the listed entity 'Titan Company Limited' for the financial year 2021-2022 with respect to 'Inventories' and its accounting policy thereon.

Standalone Balance Sheet

as at 31st March 2022

₹ in crore

Particulars	Note	As at 31st March 2022	As at 31st March 2021
ASSETS			
(1) Non-current assets			
(2) Current assets			
(a) Inventories	10	12,787	7,984
(b) Financial assets			
(i) Investments	11.1	15	2,753
(ii) Trade receivables	11.2	495	291
(iii) Cash and cash equivalents	11.3	117	147

10 Inventories

₹ in crore

Particulars	As at 31st March 2022	As at 31st March 2021
Raw materials	2,105	1,770
Work-in-progress {refer (a) below}	311	330
Finished goods	8,123	4,433
Stock-in-trade	2,227	1,430
Stores and spares	16	16
Loose tools	5	5
	12,787	**7,984**
Included above, goods-in-transit		
Raw materials	14	5
Stock-in-trade	9	1
	23	**6**
a) Details of inventory of work-in-progress		
Watches	154	134
Jewellery	153	194
Others	4	2
	311	**330**

(i) The cost of inventories recognised as an expense during the year is ₹ 20,658 crore (Previous year: ₹ 15,769 crore).

(ii) The cost of inventories recognised as an expense includes ₹ 1 crore (Previous year: ₹ 0.38 crore) in respect of write down of inventory to net-realisable value.

(iii) The inventory includes Gold purchased on loan from banks amounting to ₹ 5,212 crore (Previous year: ₹ 4,094 crore).

(iv) Refer note (xvii) under significant accounting policies for mode of valuation.

Standalone Statement of Profit and Loss

for the year ended 31st March 2022

₹ in crore

Particulars	Note	For the year ended 31st March 2022	For the year ended 31st March 2021
I. Revenue from operations	19	27,210	20,602
II. Other income	20	246	181
III. Total income (I +II)		**27,456**	**20,783**
IV. Expenses:			
Cost of raw materials and components consumed		20,939	13,143
Purchase of stock-in-trade		4,187	2,462
Changes in inventories of finished goods, stock-in-trade and work-in-progress	21	(4,468)	164

21 Changes in inventories of finished goods, stock-in-trade and work-in-progress

₹ in crore

Particulars	For the year ended 31st March 2022	For the year ended 31st March 2021
Closing stock		
Finished goods	8,123	4,433
Work-in-progress	311	330
Stock-in-trade	2,227	1,430
	10,661	**6,193**
Opening stock		
Finished goods	4,433	4,514
Work-in-progress	330	308
Stock-in-trade	1,430	1,535
	6,193	**6,357**
(Increase)/decrease in inventory	**(4,468)**	**164**

ACCOUNTING POLICY

Inventories

Inventories [other than quantities of gold for which the price is yet to be determined with the suppliers (Unfixed gold) or where hedge contracts have been entered into for quantities of gold and accounted for as fair value hedge] are stated at the lower of cost and net realisable value determined on an item-by-item basis. Cost is determined as follows:

a) Gold is valued on first-in-first-out basis.

b) Stores and spares, loose tools and raw materials are valued on a moving weighted average rate.

c) Work-in-progress and finished goods (other than gold) are valued on full absorption cost method based on the moving average cost of production.

d) Traded goods are valued on a moving weighted average rate/cost of purchases.

Cost comprises all costs of purchase including duties and taxes (other than those subsequently recoverable by the Company), freight inwards and other expenditure

directly attributable to acquisition. Work-in-progress and finished goods include appropriate proportion of overheads and, where applicable, other taxes.

Unfixed gold and quantities of gold covered under fair value hedge have been entered into is valued at gold prices prevailing on the period closing date.

Net realisable value represents the estimated selling price for inventories less estimated costs of completion and costs necessary to make the sale.

(Source: Annual Report 2021-2022 – Titan Company Limited)

1.8 SIGNIFICANT DIFFERENCES IN IND AS 2 *VIS-À-VIS* AS 2

S. No.	Particular	Ind AS 2	AS 2
1.	*Subsequent Recognition*	Ind AS 2 deals with the subsequent recognition of cost / carrying amount of inventories as an expense.	AS 2 does not provide the same.
2.	*Inventory held by Commodity Broker-traders*	Ind AS 2 does not apply to measurement of inventories held by commodity broker-traders, who measure their inventories at fair value less costs to sell.	This aspect is not there in the AS 2.
3.	*Definition of Fair Value and Distinction Between NRV and Fair Value*	Ind AS 2 defines fair value and provides an explanation in respect of distinction between 'net realisable value' and 'fair value'.	AS 2 does not contain the definition of fair value and such explanation.
4.	*Subsequent Assessment of NRV*	Ind AS 2 provides detailed guidance in case of subsequent assessment of net realisable value. It also deals with the reversal of the write-down of inventories to net realisable value to the extent of the amount of original write-down, and the recognition and	AS 2 does not deal with such reversal.

		disclosure thereof in the financial statements.	
5.	*Exclusion from its Scope but Guidance given*	Ind AS 2 excludes from its scope only the measurement of inventories held by producers of agricultural and forest products, agricultural produce after harvest, and minerals and mineral products though it provides guidance on measurement of such inventories.	AS 2 excludes from its scope such types of inventories.
6.	*Cost Formulae*	Ind AS 2 requires the use of consistent cost formulas for all inventories having a similar nature and use to the entity.	AS 2 specifically provides that the formula used in determining the cost of an item of inventory should reflect the fairest possible approximation to the cost incurred in bringing the items of inventory to their present location and condition.

FOR SHORTCUT TO IND AS WISDOM: SCAN ME!

TEST YOUR KNOWLEDGE

Questions

1. UA Ltd. purchased raw material @ ₹ 400 per kg. Company does not sell raw material but uses 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 inventory. As the company never sells the raw material, it does not know the selling price of raw material and hence cannot calculate the realisable 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. Compute the value of inventory of raw material?

2. Sun Ltd. has fabricated special equipment (solar power panel) during 20X1-20X2 as per drawing and design supplied by the customer. However, due to a liquidity crunch, the customer has requested the company for postponement in delivery schedule and requested the company to withhold the delivery of finished goods products and discontinue the production of balance items.

   As a result of the above, the details of customer balance and the goods held by the company as work-in-progress and finished goods as on 31.3.20X3 are as follows:

Solar power panel (WIP)	₹ 85 lakhs
Solar power panel (finished products)	₹ 55 lakhs
Sundry Debtor (solar power panel)	₹ 65 lakhs

   The petition for winding up against the customer has been filed during 20X2-20X3 by Sun Ltd. Advise on provision to be made of ₹ 205 lakh included in Sundry Debtors, Finished goods and work-in-progress in the financial statement of 20X2-20X3.

3. On 31 March 20X1, the inventory of ABC includes spare parts which it had been supplying to a number of different customers for some years. The cost of the spare parts was ₹ 10 million and based on retail prices at 31 March 20X1, the expected selling price of the spare parts is ₹ 12 million. On 15 April 20X1, due to market fluctuations, expected selling price of the spare parts in stock is reduced to ₹ 8 million. The estimated selling expense required to make the sales would ₹ 0.5 million. Financial statements were approved by the Board of Directors on 20th April 20X1.

   As at 31st March 20X2, Directors noted that such inventory is still unsold and lying in the warehouse of the company. Directors believe that inventory is in a saleable condition and active marketing would result in an immediate sale. Since the market conditions have improved, estimated selling price of inventory is ₹ 11 million and estimated selling expenses are same ₹ 0.5 million.

   Determine the value inventory at the following dates:

   (a) 31st March 20X1

   (b) 31st March 20X2

4. The following information is gathered from an entity:

   - Full capacity is 10,000 labour hours in a year.
   - Normal capacity is 7,500 labour hours in a year.
   - Actual labour hours for current period are 6,500 hours.
   - Total fixed production overhead is ₹ 1,500.
   - Total variable production overhead is ₹ 2,600.
   - Total opening inventory is 2,500 units.
   - Total units produced in a year are 6,500 units.
   - Total units sold in a year are 6,700 units.
   - The cost of inventories is assigned by using FIFO cost formula.

   Determine the overhead costs to be allocated to cost of goods sold and closing inventory?

5. Sharp Trading Inc. purchases motorcycles from various countries and exports them to Europe. Sharp Trading has incurred these expenses during 20X1:

   (a) Cost of purchases (based on vendors' invoices) ₹ 5,00,000

   (b) Trade discounts on purchases ₹ 10,000

   (c) Import duties ₹ 200

   (d) Freight and insurance on purchases ₹ 250

(e) Other handling costs relating to imports ₹ 100

(f) Salaries of accounting department ₹ 15,000

(g) Brokerage commission payable to indenting agents for arranging imports ₹ 300

(h) Sales commission payable to sales agents ₹ 150

(i) After-sales warranty costs ₹ 600

Advise as if which of the above item is to be included in the cost of inventory and wants you to calculate cost of inventory as per Ind AS 2.

6. On 1 January 20X1 an entity accepted an order for 7,000 custom-made corporate gifts.

On 3 January 20X1 the entity purchased raw materials to be consumed in the production process for ₹ 5,50,000, including ₹ 50,000 refundable purchase taxes. The purchase price was funded by raising a loan of ₹ 5,55,000 (including ₹ 5,000 loan-raising fees). The loan is secured by the inventories.

During January 20X1 the entity designed the corporate gifts for the customer.

Design costs included:

- cost of external designer = ₹ 7,000; and
- labour = ₹ 3,000.

During February 20X1 the entity's production team developed the manufacturing technique and made further modifications necessary to bring the inventories to the conditions specified in the agreement. The following costs were incurred in the testing phase:

- materials, net of ₹ 3,000 recovered from the sale of the scrapped output = ₹ 21,000
- labour = ₹ 11,000
- depreciation of plant used to perform the modifications = ₹ 5,000

During February 20X1 the entity incurred the following additional costs in manufacturing the customised corporate gifts:

- consumable stores =₹ 55,000
- labour = ₹ 65,000
- depreciation of plant used to manufacture the customised corporate gifts =₹ 15,000

The customised corporate gifts were ready for sale on 1st March 20X1. No abnormal wastage occurred in the development and manufacture of the corporate gifts.

Compute the cost of the inventory? Substantiate your answer with appropriate reasons and calculations, wherever required.

Answers

1. As per Ind AS 2 "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 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 realisable value, the materials are written down to net realisable value. In such circumstances, the replacement cost of the materials may be the best available measure of their net realisable value. Therefore, in this case, UA Ltd. will value the inventory of raw material at ₹ 30,00,000 (10,000 kg. @ ₹ 300 per kg.).

2. From the facts given in the question it is obvious that Sun Ltd. is a manufacturer of solar power panel. As per Ind AS 2 'Inventories', inventories are assets (a) held for sale in the ordinary course of business; (b) in the process of production for such sale; or (c) in the form of materials or supplies to be consumed in the production process or in the rendering of services. Therefore, solar power panel held in its stock will be considered as its inventory. Further, as per the standard, inventory at the end of the year is to be valued at lower of cost or NRV.

   As the customer has postponed the delivery schedule due to liquidity crunch the entire cost incurred for solar power panel which were to be supplied has been shown in Inventory. The solar power panel are in the possession of the Company which can be sold in the market. Hence, the company should value such inventory as per principle laid down in Ind AS 2 i.e. lower of Cost or NRV. Though, the goods were produced as per specifications of buyer the Company should determine the NRV of these goods in the market and value the goods accordingly. Change in value of such solar power panel should be provided for in the books. In the absence of the NRV of WIP and Finished product given in the question, assuming that cost is lower, the company shall value its inventory as per Ind AS 2 for ₹ 140 lakhs [i.e solar power panel (WIP) ₹ 85 lakhs + solar power panel (finished products) ₹ 55 lakhs].

   Alternatively, if it is assumed that there is no buyer for such fabricated solar power panel, then the NRV will be Nil. In such a case, full value of finished goods and WIP will be provided for in the books.

   As regards Sundry Debtors balance, since the Company has filed a petition for winding up against the customer in 20X2-20X3, it is probable that amount is not recoverable from the party. Hence, the provision for doubtful debts for ₹ 65 lakhs shall be made in the books against the debtor's amount.

3. As per Ind AS 2 'Inventories', inventory is measured at lower of 'cost' or 'net realisable value'. Further, as per Ind AS 10: 'Events after Balance Sheet Date', decline in net realisable value below cost provides additional evidence of events occurring at the balance sheet date and hence shall be considered as 'adjusting events'.

(a) In the given case, for valuation of inventory as on 31 March 20X1, cost of inventory would be ₹ 10 million and net realisable value would be ₹ 7.5 million (i.e. Expected selling price ₹ 8 million - estimated selling expenses ₹ 0.5 million). Accordingly, inventory shall be measured at ₹ 7.5 million i.e. lower of cost and net realisable value. Therefore, inventory write down of ₹ 2.5 million would be recorded in income statement of that year.

(b) As per para 33 of Ind AS 2, a new assessment is made of net realisable value in each subsequent period. It *inter alia* states that if there is increase in net realisable value because of changed economic circumstances, the amount of write down is reversed so that new carrying amount is the lower of the cost and the revised net realisable value. Accordingly, as at 31 March 20X2, again inventory would be valued at cost or net realisable value whichever is lower. In the present case, cost is ₹ 10 million and net realisable value would be ₹ 10.5 million (i.e. expected selling price ₹ 11 million – estimated selling expense ₹ 0.5 million). Accordingly, inventory would be recorded at ₹ 10 million and inventory write down carried out in previous year for ₹ 2.5 million shall be reversed.

4. **Hours taken to produce 1 unit** = 6,500 hours / 6,500 units = 1 hour per unit.

Fixed production overhead absorption rate:

= Fixed production overhead / labour hours for normal capacity

= ₹ 1,500 / 7,500

= ₹ 0.2 per hour

Management should allocate fixed overhead costs to units produced at a rate of ₹ 0.2 per hour.

Therefore, fixed production overhead allocated to 6,500 units produced during the year (one unit per hour) = 6,500 units x1 hour x ₹ 0.2 = ₹ 1,300.

The remaining fixed overhead incurred during the year of ₹ 200 (₹ 1500 – ₹ 1300) that remains unallocated is recognized as an expense.

The amount of fixed overhead allocated to inventory is not increased as a result of low production by using normal capacity to allocate fixed overhead.

Variable production overhead absorption rate:

= Variable production overhead/actual hours for current period

= ₹ 2,600 / 6,500 hours

= ₹ 0.4 per hour

Management should allocate variable overhead costs to units produced at a rate of ₹ 0.4 per hour.

The above rate results in the allocation of all variable overheads to units produced during the year.

Closing inventory = Opening inventory + Units produced during year – Units sold during year

= 2,500 + 6,500 – 6,700 = 2,300 units

As each unit has taken one hour to produce (6,500 hours / 6,500 units produced), total fixed and variable production overhead recognized as part of cost of inventory:

= Number of units of closing inventory x Number of hours to produce each unit x (Fixed production overhead absorption rate + Variable production overhead absorption rate)

= 2,300 units x 1 hour x (₹ 0.2 + ₹ 0.4)

= ₹ 1,380

The remaining ₹ 2,720 [(₹ 1,500 + ₹ 2,600) – ₹ 1,380] is recognized as an expense in the income statement as follows:

	₹
Absorbed in cost of goods sold (FIFO basis) (6,500 – 2,300) = 4,200 x ₹ 0.6	2,520
Unabsorbed fixed overheads, not included in the cost of goods sold	200
Total	**2,720**

5. Items (a), (b), (c), (d), (e), and (g) are permitted to be included in the cost of inventory since these elements contribute to cost of purchase, cost of conversion and other costs incurred in bringing the inventories to their present location and condition, as per Ind AS 2

Statement showing cost of inventory

	₹
Cost of purchases (based on vendors' invoices)	5,00,000
Trade discounts on purchases	(10,000)
Import duties	200
Freight and insurance on purchases	250
Other handling costs relating to imports	100
Brokerage commission payable to indenting agents for arranging imports	300
Cost of inventory under Ind AS 2	4,90,850

Note: Salaries of accounting department, sales commission, and after-sales warranty costs are not considered as part of cost of inventory under Ind AS 2.

6. Statement showing computation of inventory cost

Particulars	Amount (₹)	Remarks
Costs of purchase	5,00,000	Purchase price of raw material [purchase price (₹ 5,50,000) less refundable purchase taxes (₹ 50,000)]
Loan-raising fee	–	Included in the measurement of the liability
Costs of purchase	55,000	Purchase price of consumable stores
Costs of conversion	65,000	Direct costs—labour
Production overheads	15,000	Fixed costs—depreciation
Production overheads	10,000	Product design costs and labour cost for specific customer
Other costs	37,000	Refer working note
Borrowing costs	_____	Recognized as an expense in profit or loss
Total cost of inventories	**6,82,000**	

Working Note:

Costs of testing product designed for specific customer:

₹ 21,000 material (ie net of the ₹ 3,000 recovered from the sale of the scrapped output) + ₹ 11,000 labour + ₹ 5,000 depreciation.