

INDAS – 2 INVENTORY

(TOTAL NO. OF QUESTIONS – 11)

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RTPs QUESTIONS

Q1 (May 18)

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 Rs 10 million and based on retail prices at 31 March 20X1, the expected selling price of the spare parts is Rs 12 million. On 15 April 20X1, due to market fluctuations, expected selling price of the spare parts in stock reduced to Rs 8 million. The estimated selling expense required to make the sales would be Rs 0.5 million. Financial statements were authorized 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, the estimated selling price of inventory is Rs 11 million and estimated selling expenses are the same Rs. 0.5 million.

What will be the value inventory at the following dates?

(a) 31st March 20X1

(b) 31st March 20X2

SOLUTION

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 Rs. 10 million and net realisable value would be Rs. 7.5 million (i.e. Expected selling price Rs. 8 million-

estimated selling expenses Rs. 0.5 million). Accordingly, inventory shall be measured at Rs. 7.5 million i.e. lower of cost and net realisable value. Therefore, inventory write down of Rs. 2.5 million would be recorded in the income statement of that year.

(b) As per Ind AS 2, a new assessment is made of net realizable value in each subsequent period. It Inter alia states that if there is increase in net realizable 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 realizable 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 Rs. 1 million and net realisable value would be Rs. 10.5 million (i.e. expected selling price Rs11 million – estimated selling expense Rs0.5 million). Accordingly, inventory would be recorded at Rs10 million and inventory write down carried out in previous year for Rs. 2.5 million shall be reversed.

Q2 (May 20)

The following is relevant information for 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 the current period are 6,500 hours.
- Total fixed production overhead is Rs 1,500.
- Total variable production overhead is Rs 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.

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

SOLUTION

Hours taken to produce 1 unit = $6,500 \text{ hours} / 6,500 \text{ units} = 1 \text{ hour per unit}$.

Fixed production overhead absorption rate:

= Fixed production overhead / labour hours for normal capacity

= Rs 1,500 / 7,500

= Rs 0.2 per hour

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

Therefore, fixed production overhead allocated to 6,500 units produced during the year (one unit per hour) =

$6,500 \text{ units} \times 1 \text{ hour} \times \text{Rs } 0.2 = \text{Rs } 1,300$.

The remaining fixed overhead incurred during the year of Rs 200 (Rs 1500 – Rs 1300) that remains unallocated is recognised 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

= Rs 2,600 / 6,500 hours = Rs 0.4 per hour

Management should allocate variable overhead costs to units produced at a rate of Rs 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 recognised 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 1hour x (Rs 0.2 + Rs 0.4) = Rs. 1,380

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

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

Q3 (Nov. 20)

A company normally produced 1,00,000 units of high precision equipment each year over the past several years. In the current year, due to lack of demand and competition, it produced only 50,000 units. Further information is as follows:

- Material = Rs. 200 per unit;
- Labour = Rs. 100 per unit;
- Variable manufacturing overhead = Rs. 100 per unit;
- Fixed factory production overhead = Rs. 1,00,00,000;



Fixed factory selling overhead = Rs. 50,00,000;
 Variable factory selling overhead = Rs. 150 per unit.

Calculate the value of inventory per unit in accordance with Ind AS 2. What will be the treatment of fixed manufacturing overhead?

SOLUTION

Calculation of Inventory value per unit as per Ind AS 2:

Particulars	Value per unit (Rs.)
Raw material	200
Labour	100
Variable manufacturing overhead	100
Fixed production overhead (1,00,00,000/1,00,000)	100
	500

Fixed overheads are absorbed based on normal capacity level, i.e.; 1,00,000 units, rather than on the basis of actual production, i.e.; 50,000 units. Therefore, fixed manufacturing overhead on 50,000 units, will be absorbed as inventory value. The remaining fixed manufacturing overhead Rs. 50,00,000 (1,00,00,000 - 50,00,000) will be charged to P&L.

Note: Selling costs are excluded from the cost of inventories and recognised as expenses in the period in which they are incurred.

Q4 (May. 21 & Also Added in New ICAI Module for May 22 Onwards)

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 Rs. 5,50,000, including Rs. 50,000 refundable purchase taxes. The purchase price was funded by raising a loan of Rs. 5,55,000 (including Rs. 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 = Rs.7,000; and
- labour = Rs. 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 Rs. 3,000 recovered from the sale of the scrapped output = Rs.21,000;
- labour = Rs. 11,000; and
- depreciation of plant used to perform the modifications = Rs.5,000.

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

- consumable stores = Rs. 55,000;

- labour = Rs. 65,000; and
- depreciation of plant used to manufacture the customized corporate gifts = Rs. 15,000.

The customized corporate gifts were ready for sale on 1 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.

SOLUTION

Statement showing computation of inventory cost

Particulars	Amount (Rs.)	Remarks
Cost of purchases	5,00,000	Purchase price of raw material [purchase price (Rs.5,50,000) less refundable purchase taxes (Rs.50,000)]
Loan - raising fee	-	Included in the measurement of the liability.
Costs of purchase	55,000	Purchase price of consumable stores
Cost 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	37,00	Refer working note
Borrowing costs	-	Recognised as an expense in profit or loss
Total costs of inventories	6,82,000	

Working Note:

Costs of testing product designed for specific customer:

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

Q5 (Nov. 21)

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

- Costs of completion of work-in-progress;
- Trade discounts expected to be allowed on sale; and
- 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.

MTPs QUESTIONS

Q6 (Oct. 18)

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

Item	Unit	Amount	Output	Closing Stock 31-3-2018
Raw material	14,500	1,50,000	MP I-5,000 units	250 units
Wages	-	90,000	MP II - 4,000 units	100 units
Fixed overhead	-	65,000	BP- 2,000 units	
Variable overhead	-	50,000		

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

Calculate the value of closing stock of MP 1 and MP 2 as on 31-03-2018.

SOLUTION

As per Ind 2 '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.

(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 realizable value of by-product BP		30,000

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

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

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

<u>Particulars</u>	<u>MP 1</u>	<u>MP 2</u>
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 Rs. 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 1	MP 2
Closing stock in units	250 units	100 units
Cost per unit	38.4	32
Value of closing stock	9,600	3,200

Q7 (April. 19)

On 5th April, 20X2, fire damaged a consignment of inventory at one of the Jupiter's Ltd.'s warehouse. This inventory had been manufactured prior to 31st March 20X2 costing Rs. 8 lakhs. The net realisable value of the inventory prior to the damage was estimated at Rs. 9.60 lakhs. Because of the damage caused to the consignment of inventory, the company was required to spend an additional amount of Rs. 2 lakhs on repairing and re-packaging of the inventory. The inventory was sold on 15th May, 20X2 for proceeds of Rs. 9 lakhs. The accountant of Jupiter Ltd. treats this event as an adjusting event and adjusts this event of causing the damage to the inventory in its financial statement and accordingly re-measures the inventories as follows: Rs. Lakhs

Cost	8.00
Net realisable value (9.6 - 2)	7.60
Inventories (lower of cost and net realisable value)	7.60

Analyse whether the above accounting treatment made by the accountant in regard to the financial year ending on 31.0.20X2 is in compliance with the Ind AS. If not, advise the correct treatment along with working for the same.

SOLUTION

The above treatment needs to be examined in the light of the provisions given in Ind AS 10 'Events after the Reporting Period' and Ind AS 2 'Inventories'.

Ind AS 10 'Events after the Reporting Period' defines "Events after the reporting period are those events, favourable and unfavourable, that occur between the end of the reporting period and the date when the financial statements are approved by the Board of Directors in case of a company, and, by the corresponding approving authority in case of any other entity for issue. Two types of events can be identified:

- those that provide evidence of conditions that existed at the end of the reporting period (adjusting events after the reporting period); and
- those that are indicative of conditions that arose after the reporting period (non-adjusting events after the reporting period).

Further, Ind AS 10 states that:

"An entity shall not adjust the amounts recognised in its financial statements to reflect non-adjusting events after the reporting period".

Further, Ind AS 2 defines:

“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”.

Further, Ind AS 2 states that:

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

Accountant of Jupiter Ltd. has re-measured the inventories after adjusting the event in its financial statement which is not correct and nor in accordance with provision of Ind AS 2 and Ind AS 10.

Accordingly, the event causing the damage to the inventory occurred after the reporting date and as per the principles laid down under Ind AS 10 ‘Events After the Reporting Date’ is a non-adjusting event as it does not affect conditions at the reporting date. Non-adjusting events are not recognised in the financial statements, but are disclosed where their effect is material.

Therefore, as per the provisions of Ind AS 2 and Ind AS 10, the consignment of inventories shall be recorded in the Balance Sheet at a value of Rs. 8 lakhs calculated below:

Rs.’ Lakhs	
Cost	8.00
Net realisable value	9.60
Inventories (lower of cost and net realisable value)	8.00

Q8 (April. 21)

State the major changes in Ind AS 2 vis-a-vis AS 2 in respect of the following namely:

- (i) Machinery Spares
- (ii) Subsequent assessment of Net Realisable value
- (iii) Cost Formulae

SOLUTION

The major changes in Ind AS 2 vis-à-vis AS 2 with respect to following are as follows:

- (i) **Machinery Spares:** AS 2 explains that inventories do not include spare parts, servicing equipment and standby equipment which meet the definition of property, plant and equipment as per AS 10, Property, Plant and Equipment. Such items are accounted for in accordance with AS 10. Ind AS 2 does not contain specific explanation in respect of such spares as this aspect is covered under Ind AS 16.
- (ii) **Subsequent Assessment of Net Realisable Value (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 disclosure thereof in the financial statements. AS 2 does not deal with such reversal.
- (iii) **Cost Formulae:** 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 whereas Ind AS 2 does not specifically state so and requires the use of consistent cost formulas for all inventories having a similar nature and use to the entity.

QUESTIONS FROM PAST EXAM PAPERS

Q9 (May 18 – 4 Marks)

XYZ Limited has a plant with the normal capacity to produce 10,00,000 units of a product per annum and the expected fixed overhead is Rs. 30,00,000, Fixed overhead, therefore based on normal capacity is Rs. 3 per unit. Determine Fixed overhead as per Ind AS 2 'Inventories' if (i) Actual production is 7,50,000 units. (ii) Actual production is 15,00,000 units.

SOLUTION

(i) Actual production is 7,50,000 units:

Fixed overhead is not going to change with the change in output and will remain constant at Rs. 30,00,000, therefore, overheads on actual basis is Rs. 4 per unit ($30,00,000 / 7,50,000$).

Hence, by valuing inventory at Rs. 4 each for fixed overhead purpose, it will be overvalued and the losses of Rs. 7,50,000 will also be included in closing inventory leading to a higher gross profit than actually earned.

Therefore, it is advisable to include fixed overhead per unit on normal capacity to actual production ($7,50,000 \times 3$) Rs. 22,50,000 and balance Rs. 7,50,000 shall be transferred to Profit & Loss Account.

(ii) Actual production is 15,00,000 units:

Fixed overhead is not going to change with the change in output and will remain constant at Rs. 30,00,000, therefore, overheads on actual basis is 2 ($30,00,000 / 15,00,000$).

Hence by valuing inventory at Rs. 3 each for fixed overhead purpose, we will be adding the element of cost to inventory which actually has not been incurred. At Rs. 3 per unit, total fixed overhead comes to Rs. 45,00,000 whereas, actual fixed overhead expense is only Rs. 30,00,000. Therefore, it is advisable to include fixed overhead on actual basis ($15,00,000 \times 2$) Rs. 30,00,000.

Q10. (Nov. 20 – 4 Marks)

Sophia Ltd. has fabricated special equipment (Inverter panel) during 4 the financial year 2018-19 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 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 March 31st, 2020 are as follows:

Inverter panel (WIP)	₹ 255 lakhs
Inverter panel (finished goods)	₹ 165 lakhs
Sundry Debtor (Inverter panel)	₹ 195 lakhs

The petition for winding up against the customer has been filed during the financial year 2019 – 20 by Sophia Ltd.

You are required to Comment with explanation on provision to be made for ₹ 615 lakh included in Sundry Debtors, Finished goods and Work-in-Progress in the financial statement for the Financial year 2019 – 20.

SOLUTION

Sophia Ltd. is a manufacturer of inverter panels. 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, the inverter 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 inverter panels which were to be supplied has been shown in Inventory. The inverter panels are in the possession of the Company which can be sold in the market. Hence 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 the buyer, the Company should determine the NRV of these goods in the market and value the goods accordingly. Change in value of such inverter 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 at Rs 420 lakhs [i.e. inverter panel (WIP) Rs 255 lakhs + inverter panel (finished products) Rs 165 lakhs].

Alternatively, if it is assumed that there is no buyer for such fabricated inverter panels, 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 balance of Sundry Debtors, since the Company has filed a petition for winding up against the customer in 2019-2020, it is probable that amount is not recoverable from the party. Hence, the provision for doubtful debts for 195 lakhs shall be made in the books against the amount of debtors.

Q11 (December 21 – 5 Marks) (Similar to Q6)

In a manufacturing process of Saturn Ltd, one by-product BP emerges besides two main products MPI and MP2 apart from scrap. Details of cost of production process for FY 202021 are here under:

Item	Amount (Rs)	Output (units)	Closing Stock 31.03.2021
Raw material	6,00,000	MP I-20,000 units	1,000
Wages	3,60,000	MP II - 16,000 units	400
Fixed overhead	2,60,000	BP- 8,000 units	
Variable overhead	2,00,000		

Average market price of MPI and MP2 is Rs 45 per unit and Rs 37.50 per unit respectively, by-product is sold @ Rs 10 per unit. All units of buy-product BP are sold after incurring separate processing charges of Rs 32,000 and packing charges of Rs 8,000, Rs 20,000 was realised from sale of scrap. Calculate the value of closing stock of MPI and MP2 as on 31.3.2020.21. Allocate joint cost based on the relative sales value of each product.

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 realizable 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	8,000 units x 10 per unit	80,000
Less: Separate processing charges of by-product BP		(32,000)
Packing charges		(8,000)
Net realizable value of by-product BP		40,000

2. Calculation of cost of conversion for allocation between joint products MPI and MP2

Raw material		6,00,000
Wages		3,60,000
Fixed overhead		2,60,000
Variable overhead		2,00,000
Less: NRV of by-product BP (See calculation 1)	40,000	
Sale value of scrap	20,000	(60,000)
		13,60,000

3. Determination of "basis for allocation" and allocation of joint cost to MPI and MP2

	MP 1	MP 2
Output in units (a)	20,000	16,000
Sales price per unit (b)	45	37.50
Sales value (a x b)	9,00,000	6,00,000
Ratio of allocation	3	2
Joint cost of Rs 13,60,000 allocated in the ratio of 3:2 (c)	8,16,000	5,44,000
Cost per unit [c/a]	40.80	34

4. Determination of value of the closing stock of MPI and MP2

Particulars	MP 1	MP 2
Closing stock in units	1,000	400
Cost per unit	40.80	34
Value of closing stock	40,800	13,600