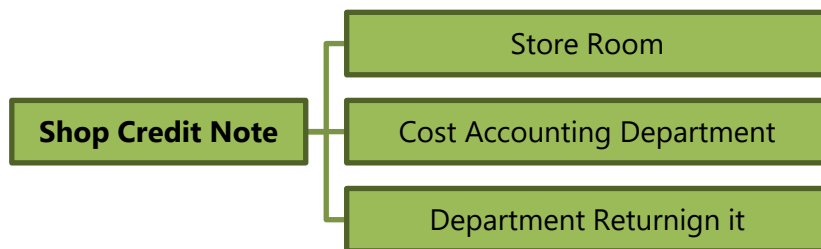


(iii) Return of Material: Sometimes, it is not possible before hand to make any precise estimate of the material requirements or units of production. Besides, at times due to some technical or other difficulty, it is not practicable to measure exactly the quantity of material required by a department. In either case, material may have to be issued from stores in bulk, often in excess of the actual quantity required. Where such a condition exists, it is of the utmost importance from the point of view of materials control that **any surplus material left over on the completion of a job should be promptly hand over to the storekeeper for safe and proper custody.**

Unless this is done, the surplus material may be misappropriated or misapplied to some purpose, other than that for which it was intended. The material cost of the job against which the excess material was originally drawn in that case, would be overstated unless the job is given credit for the surplus arising thereon.

The surplus material, when it is returned to the storeroom, should be accompanied by a document known either as a **Shop Credit Note or alternatively as a Stores Debit Note.** This document should be made out, by the department returning the surplus material and it should be in triplicate to be used as follows:



Format of a shop credit note may vary on the basis of industrial peculiarities, management information system (MIS) and accounting system in place.

2.8 VALUATION OF MATERIAL ISSUES

Materials issued from stores should be priced at the value at which they are carried in stock. But there can be a situation where the material may have been purchased at different times and at different prices with varying discounts, taxes etc. Because of this the problem arises as to how the material issues to production are to be valued. There are several methods for tackling this situation. The cost accountant should select the proper method based on following factors:

1. The frequency of purchases, price fluctuations and its range.

2. The frequency of issue of materials, relative quantity etc.
3. Nature of cost accounting system.
4. The nature of business and type of production process.
5. Management policy relating to valuation of closing stock.

Several methods of pricing material issues have been evolved in an attempt to satisfactorily answer the problem. These methods may be grouped and explained as follows:

2.8.1 Cost Price Methods

(i) Specific Price Method: This method is useful, specially when **materials are purchased for a specific job or work order**, and as such these materials are **issued** subsequently to that specific job or work order **at the price at which they were purchased**.

To use this method, it is necessary to store each lot of material separately and maintain its separate account.

Advantages and Disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> • The cost of materials issued for production purposes to specific jobs represent actual and correct costs. 	<ul style="list-style-type: none"> • This method is difficult to operate, specially when purchases and issues are numerous.
<ul style="list-style-type: none"> • This method is best suited for non-standard and specific products. 	

(ii) First-in First-out (FIFO) method: It is a **method of pricing the issues of materials, in the order in which they are purchased**. In other words, the materials are issued in the order in which they arrive in the store or the items longest in stock are issued first. Thus each issue of material only recovers the purchase price which does not reflect the current market price.

This method is considered **suitable in times of falling price** because the material cost charged to production will be high while the replacement cost of materials will be low. But, in the case of rising prices, if this method is adopted, the charge to production will be low as compared to the replacement cost of materials. Consequently, it would be difficult to purchase the same volume of material (as in the current period) in future without having additional capital resources.

Advantages and disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> It is simple to understand and easy to operate. 	<ul style="list-style-type: none"> If the prices fluctuate frequently, this method may lead to clerical error.
<ul style="list-style-type: none"> Material cost charged to production represents actual cost with which the cost of production should have been charged. 	<ul style="list-style-type: none"> Since each issue of material to production is related to a specific purchase price, the costs charged to the same job are likely to show a variation from period to period.
<ul style="list-style-type: none"> In the case of falling prices, the use of this method gives better results. 	<ul style="list-style-type: none"> In the case of rising prices, the real profits of the concern being low, may not be adequate to meet the materials purchase demand at the current market price.
<ul style="list-style-type: none"> Closing stock of material will be represented very closely at current market price. 	

The application of FIFO method is illustrated below:

Material Received and Issued

Lot No.	Date	Quantity Kg.	Lot No.	Rate (₹)	Amount (₹)
1.	July 3	600		1.00	600.00
2.	July 13	800		1.20	960.00
3.	July 23	600		0.90	540.00
4.	August 5	400		1.10	440.00
5.	August 6	1200		0.80	960.00
	July 8		400 Kgs. out of (1)	1.00	400.00
	July 12		200 Kgs. out of (1)	1.00	200.00
	July 22		600 Kgs. out of (2)	1.20	720.00
	July 25		200 Kgs. out of (2)	1.20	240.00
			200 Kgs. out of (3)	0.90	180.00
	August 8		400 Kgs. out of (3)	0.90	360.00
			400 Kgs. out of (4)	1.10	440.00
			200 Kgs. out of (5)	0.80	160.00

The stock in hand after 8th August will be 1,000 Kgs. This will be out of lot number (5) and its value will be ₹ 800, i.e., @ ₹ 0.80 per Kg.

(iii) Last-in-First-out (LIFO) method: It is a method of pricing the issues of materials. This method is based on the assumption that the **items of the last batch (lot) purchased are the first to be issued**. Therefore, under this method the prices of the last batch (lot) are used for pricing the issues, until it is exhausted, and so on. If however, the quantity of issue is more than the quantity of the latest lot than earlier (lot) and its price will also be taken into consideration.

During inflationary period or period of rising prices, the use of LIFO would help to ensure that the cost of production determined on the above basis is approximately the current one. This method is also useful specially when there is a feeling that due to the use of FIFO or average methods, the profits shown and tax paid are too high.

Advantages and Disadvantages

Advantages	Disadvantages
<ul style="list-style-type: none"> The cost of materials issued will be either nearer to and or will reflect the current market price. Thus, the cost of goods produced will be related to the trend of the market price of materials. Such a trend in price of materials enables the matching of cost of production with current sales revenues. 	<ul style="list-style-type: none"> Calculation under LIFO system becomes complicated and cumbersome when frequent purchases are made at highly fluctuating rates.
<ul style="list-style-type: none"> The use of the method during the period of rising prices does not reflect undue high profit in the income statement as it was under the first-in-first-out or average method. In fact, the profit shown here is relatively lower because the cost of production takes into account the rising trend of material prices. 	<ul style="list-style-type: none"> Costs of different similar batches of production carried on at the same time may differ a great deal.
<ul style="list-style-type: none"> In the case of falling prices profit tends to rise due to lower material cost, yet the finished products appear 	<ul style="list-style-type: none"> In time of falling prices, there will be need for writing off stock value considerably to stick to

to be more competitive and are at market price.	the principle of stock valuation, i.e., the cost or the market price whichever is lower.
<ul style="list-style-type: none"> Over a period, the use of LIFO helps to iron out the fluctuations in profits. 	<ul style="list-style-type: none"> This method of valuation of material is not acceptable to the income tax authorities.
<ul style="list-style-type: none"> In the period of inflation LIFO will tend to show the correct profit and thus avoid paying undue taxes to some extent. 	

It may be noted that Last in First out (LIFO) is not permitted under Accounting Standard (AS)-2: Valuation of Inventories and Ind AS- 2: Inventories. However, for the purpose of academic knowledge LIFO method is included in this Study Material

ILLUSTRATION 12

The following transactions in respect of material Y occurred during the six months ended 30th June, 20X8:

Month	Purchase (units)	Price per unit (₹)	Issued Units
January	200	25	Nil
February	300	24	250
March	425	26	300
April	475	23	550
May	500	25	800
June	600	20	400

Required:

- The Chief Accountant argues that the value of closing stock remains the same no matter which method of pricing of material issues is used. Do you agree? Why or why not? EXPLAIN. Detailed stores ledgers are not required.
- STATE when and why would you recommend the LIFO method of pricing material issues?

SOLUTION

(a) The Closing Stock at the end of six months' period *i.e.*, on 30th June, 20X8 will be 200 units, whereas up to the end of May 20X8, total purchases coincide with the total issues *i.e.*, 1,900 units. It means that at the end of May 20X8, there was no closing stock. In the month of June 20X8, 600 units were purchased out of which 400 units were issued. Since there was only one purchase and one issue in the month of June, 20X8 and there was no opening stock on 1st June 20X8, the Closing Stock of 200 units is to be valued at ₹ 20 per unit.

In view of this, the argument of the Chief Accountant appears to be correct. Where there is only one purchase and one issue in a month with no opening stock, the method of pricing of material issues becomes irrelevant. Therefore, in the given case one should agree with the argument of the Chief Accountant that the value of Closing Stock remains the same no matter which method of pricing the issue is used.

It may, however, be noted that the argument of Chief Accountant would not stand if one finds the value of the Closing Stock at the end of each month.

(b) LIFO method has an edge over FIFO or any other method of pricing material issues due to the following advantages:

- (i) The cost of the materials issued will be either nearer or will reflect the current market price. Thus, the cost of goods produced will be related to the trend of the market price of materials. Such a trend in price of materials enables the matching of cost of production with current sales revenues.
- (ii) The use of the method during the period of rising prices does not reflect undue high profit in the income statement, as it was under the first-in-first-out or average method. In fact, the profit shown here is relatively lower because the cost of production takes into account the rising trend of material prices.
- (iii) In the case of falling prices, profit tends to rise due to lower material cost, yet the finished products appear to be more competitive and are at market price.
- (iv) During the period of inflation, LIFO will tend to show the correct profit and thus, avoid paying undue taxes to some extent.

ILLUSTRATION 13

The following information is provided by Sunrise Industries for the fortnight of April, 20X9:

Material Exe:

Stock on 1-4-20X9 100 units at ₹ 5 per unit.

Purchases

5-4-20X9, 300 units at ₹ 6

8-4-20X9, 500 units at ₹ 7

12-4-20X9, 600 units at ₹ 8

Issues

6-4-20X9, 250 units

10-4-20X9, 400 units

14-4-20X9, 500 units

Required:

- (A) CALCULATE using FIFO and LIFO methods of pricing issues:
- the value of materials consumed during the period
 - the value of stock of materials on 15-4-20X9.
- (B) EXPLAIN why the figures in (a) and (b) in part A of this question are different under the two methods of pricing of material issues used. You need not draw up the Stores Ledgers.

SOLUTION

- (A) (a) Value of Material Exe consumed during the period
1-4-20X9 to 15-4-20X9 by using FIFO method.

Date	Description Units	Qty. (Units)	Rate (₹)	Amount (₹)
1-4-20X9	Opening balance	100	5	500
5-4-20X9	Purchased	300	6	1,800
6-4-20X9	Issued	100	5	} 1,400
		150	6	

8-4-20X9	Purchased	500	7	3,500
10-4-20X9	Issued	150	6	} 2,650
		250	7	
12-4-20X9	Purchased	600	8	4,800
14-4-20X9	Issued	250	7	} 3,750
		250	8	
15-4-20X9	Balance	350	8	2,800

Total value of material Exe consumed during the period under FIFO method comes to (₹ 1,400 + ₹ 2,650 + ₹ 3,750) ₹ 7,800 and balance on 15-4-20X9 is of ₹ 2,800.

Value of material Exe consumed during the period 01-4-20X9 to 15-4-20X9 by using LIFO method

Date	Description	Qty. (Units)	Rate (₹)	Amount (₹)
1-4-20X9	Opening balance	100	5	500
5-4-20X9	Purchased	300	6	1,800
6-4-20X9	Issued	250	6	1,500
8-4-20X9	Purchased	500	7	3,500
10-4-20X9	Issued	400	7	2,800
12-4-20X9	Purchased	600	8	4,800
14-4-20X9	Issued	500	8	4,000
15-4-20X9	Balance	350	—	2,300*

Total value of material Exe issued under LIFO method comes to (₹ 1,500 + ₹ 2,800 + ₹ 4,000) ₹ 8,300.

*The balance 350 units on 15-4-20X9 of ₹ 2,300, relates to opening balance on 1-4-20X9 and purchases made on 5-4-20X9, 8-4-20X9 and 12-4-20X9. (100 units @ ₹ 5, 50 units @ ₹ 6, 100 units @ ₹ 7 and 100 units @ ₹ 8).

- (b) As shown in (a) above, the value of stock of materials on 15-4-20X9:
 Under FIFO method ₹ 2,800
 Under LIFO method ₹ 2,300

- (B) Total value of material Exe issued to production under FIFO and LIFO methods comes to ₹ 7,800 and ₹ 8,300 respectively. The value of closing stock of material Exe on 15-4-20X9 under FIFO and LIFO methods comes to ₹ 2,800 and ₹ 2,300 respectively.

The reasons for the difference of ₹ 500 (₹ 8,300 – ₹ 7,800) as shown by the following table in the value of material Exe, issued to production under FIFO and LIFO are as follows:

Date	Quantity Issued	Value	Total	Value	Total
		FIFO		LIFO	
	(Units)	(₹)	(₹)	(₹)	(₹)
6 - 4-20X9	250	1,400		1,500	
10-4-20X9	400	2,650		2,800	
14-4-20X9	500	3,750	7,800	4,000	8,300

- On 6-4-20X9, 250 units were issued to production. Under FIFO their value comes to ₹ 1,400 (100 units × ₹ 5 + 150 units × ₹ 6) and under LIFO ₹ 1,500 (250 × ₹ 6). Hence, ₹ 100 was more charged to production under LIFO.
- On 10-4-20X9, 400 units were issued to production. Under FIFO their value comes to ₹ 2,650 (150 × ₹ 6 + 250 × ₹ 7) and under LIFO ₹ 2,800 (400 × ₹ 7). Hence, ₹ 150 was more charged to production under LIFO.
- On 14-4-20X9, 500 units were issued to production. Under FIFO their value comes to ₹ 3,750 (250 × ₹ 7 + 250 × ₹ 8) and under LIFO ₹ 4,000 (500 × ₹ 8). Hence, ₹ 250 was more charged to production under LIFO.

Thus the total excess amount charged to production under LIFO comes to ₹ 500.

The reasons for the difference of ₹ 500 (₹ 2,800 – ₹ 2,300) in the value of 350 units of Closing Stock of material Exe under FIFO and LIFO are as follows:

- In the case of FIFO, all the 350 units of the closing stock belongs to the purchase of material made on 12-4-20X9, whereas under LIFO these units were from opening balance and purchases made on 5-4-20X9, 8-4-20X9 and 12-4-20X9.

2. Due to different purchase price paid by the concern on different days of purchase, the value of closing stock differed under FIFO and LIFO. Under FIFO 350 units of closing stock were valued @ ₹ 8 p.u. Whereas under LIFO first 100 units were valued @ ₹ 5 p.u., next 50 units @ ₹ 6 p.u., next 100 units @ ₹ 7 p.u. and last 100 units @ ₹ 8 p.u.

Thus under FIFO, the value of closing stock increased by ₹ 500.

(iv) Base Stock Method: Minimum quantity of stock under this method is **always held at a fixed price as reserve in the stock, to meet a state of emergency**, if it arises. This minimum stock is known as base stock and is valued at a price at which the first lot of materials is received and remains unaffected by subsequent price fluctuations.

This method of valuing inventory is different from other methods of valuing issues, as the base stock of materials are valued at the original cost, whereas, materials other than the base are valued using other methods like FIFO, LIFO etc. This method is not an independent method as it uses FIFO or LIFO.

Advantages and disadvantages of this method depend upon the use of the other method viz., FIFO or LIFO.

2.8.2 Average Price Methods

(i) **Simple Average Price Method:** Under this method, materials issued are valued at average price, which is calculated by dividing the total of rates at which different lot of materials are purchased by total number of lots. In this method quantity purchased in each lot is ignored.

Example: During the month of April, a company has made five purchases as follows:

1st April, 200 units @ ₹10 each;

5th April, 150 units @ ₹12 each;

14th April, 210 units @ ₹12 each;

21st April, 50 units @ ₹15 each and

28th April, 140 units @ ₹11 each.

The issue price under Simple Average Price Method would be calculated as below:

$$\frac{\text{₹}10 + \text{₹}12 + \text{₹}12 + \text{₹}15 + \text{₹}11}{5 \text{ lots}} = \text{₹} 12 \text{ each}$$

This method is suitable when the materials are received in uniform lots of similar quantity, and prices do not fluctuate considerably.

Advantages and Disadvantages:

Advantages	Disadvantages
<ul style="list-style-type: none"> • This method is simple to use for an entity which orders materials in a lot of standard quantity, as only price per lot is taken to calculate average price 	<ul style="list-style-type: none"> • This method does not provide right stock valuation when standard quantity for purchase in a lot is not specified.
<ul style="list-style-type: none"> • In a stable price environment, this method gives a price which approximates to the current market price. 	<ul style="list-style-type: none"> • When price of materials fluctuates and the entity chooses to customise the order quantity, in this situation price under this method may differ substantially from current market price.

(ii) Weighted Average Price Method: Unlike Simple Average Price method, this method gives due weightage to quantities also. Under this method, issue price is calculated dividing sum of products of price and quantity by total number quantities.

Example: During the month of April, a company has made five purchases as follows:

1st April, 200 units @ ₹10 each;

5th April, 150 units @ ₹12 each;

14th April, 210 units @ ₹12 each;

21st April, 50 units @ ₹15 each and

28th April, 140 units @ ₹11 each.

The issue price under Weightage Average Price Method would be calculated as below:

$$\frac{\{(\text{₹}10 \times 200 \text{ units}) + (\text{₹}12 \times 150 \text{ units}) + (\text{₹}12 \times 210 \text{ units}) + (\text{₹}15 \times 50 \text{ units}) + (\text{₹}11 \times 140 \text{ units})\}}{(200 + 150 + 210 + 50 + 140) \text{ units}}$$

$$= \frac{₹ 8,610}{750 \text{ units}} ₹ 11.48 \text{ each}$$

This method is useful in case when quantity purchased under each lot is different and price fluctuates frequently.

Advantages and Disadvantages:

Advantages	Disadvantages
<ul style="list-style-type: none"> It smoothens the price fluctuations if at all it is there due to material purchases. 	<ul style="list-style-type: none"> Material cost does not represent actual cost price and therefore, a profit or loss will arise out of such a pricing method.
<ul style="list-style-type: none"> Issue prices need not be calculated for each issue unless new lot of materials is received. 	<ul style="list-style-type: none"> It may be difficult to compute since every time lot received would require re-computation of issue prices.

2.8.3 Market Price Methods

(i) Replacement Price Method: Replacement price is defined as **the price at which it is possible to purchase an item, identical to that which is being replaced or revalued.** Under this method, materials issued are valued at the replacement cost of the items. This method pre-supposes the determination of the replacement cost of materials at the time of each issue; viz., the cost at which identical materials could be currently purchased. The **product cost under this method is at current market price**, which is the main objective of the replacement price method.

This method is useful to determine true cost of production and to value material issues in periods of rising prices, because the cost of material considered in cost of production would be able to replace the materials at the increased price.

(ii) Realisable Price Method: Realisable price means a **price at which the material to be issued can be sold in the market.** This price may be more or may be less than the cost price at which it was originally purchased. Like replacement price method, the stores ledger would show profit or loss in this method too.

2.8.4 Notional Price Methods

(i) Standard Price Method: Under this method, **materials are priced at some predetermined rate or standard price** irrespective of the actual purchase cost of the materials. Standard cost is usually fixed after taking into consideration the

following factors:

- (i) Current prices,
- (ii) Anticipated market trends, and
- (iii) Discount available and transport charges etc.

Standard prices are fixed for each material and the requisitions are priced at the standard price. This method is useful for controlling material cost and determining the efficiency of purchase department. In the case of highly fluctuating prices of materials, it is difficult to fix their standard cost on long-term basis.

Advantages	Disadvantages
<ul style="list-style-type: none"> • The use of the standard price method simplifies the task of valuing issues of materials. 	<ul style="list-style-type: none"> • The use of standard price does not reflect the market price and thus results in a profit or loss.
<ul style="list-style-type: none"> • It facilitates the control of material cost and the task of judging the efficiency of purchase department. 	<ul style="list-style-type: none"> • The fixation of standard price becomes difficult when prices fluctuate frequently
<ul style="list-style-type: none"> • It reduces the clerical work. 	

(ii) Inflated Price Method: In case material suffers loss in weight due to natural or climatic factors, *e.g.*, evaporation, the issue price of the material is inflated to cover up the losses.

(iii) Re-use Price Method: When materials are rejected and returned to the stores or a processed material is put to some other use, then for the purpose it is meant, then such materials are priced at a rate quite different from the price paid for them originally. There is no final procedure for valuing use of material.

2.9 VALUATION OF RETURNS & SHORTAGES

2.9.1 Valuation of Materials Returned to the Vendor

Materials which do not meet quality and other specifications and are considered to be unfit for production and are usually returned to the vendor. These materials can be returned to the vendor before they are sent to the stores. In case materials reach store and then are noticed of a sub-standard quality, then also they can be returned to vendor.