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MATERIAL COST**Q.NO.1: What is Economic Order Quantity? How is it calculated? What are its assumptions?****Ans:-****Meaning**

- Economic Ordering quantity is the most **economical quantity** of material order at which total inventory cost is minimum.
- Two types of costs, **ordering cost** and **carrying cost** are associated with Procurement and stocking of Raw Material..
- **Ordering costs** include costs like **handling** and **transportation costs**, stationery costs, costs incurred for inviting quotations and tenders etc. The more is the frequency of order, the more are these costs.
- **Carrying cost** includes **warehouse charges**, **insurance**, **lighting**, **losses** due to handling, **spoilage**, **breakage** etc, and another important component of carrying cost is the amount of interest lost due to the investment in the inventory.
- Carrying costs will go on **increasing** if the quantity of material in **inventory** goes on **increasing**.
- If orders are more **frequent**, **ordering costs** will go on **increasing** but as the material ordered will be in less quantity, the **carrying costs** will **decrease**.
- If number of **orders** are **reduced**, the quantity per order will increase and the **carrying cost** will **increase**. The **ordering cost** will come **down** due to reduction of number of orders.
- The most desirable quantity to be ordered (**Economic Ordering quantity**) is that quantity at which both, the ordering costs and carrying **costs** will be **minimum**

Formula	Assumptions:
Economic Order Quantity = $\sqrt{\frac{2AO}{C}}$ A = Annual demand / annual consumption in units O = Cost of placing and receiving an order C = Carrying cost per unit per annum Note:- In case quantity discounts Economic Ordering Quantity has to be calculated using Tabular method.	1. Annual demand can be estimated and uniform throughout the year. 2. The concerned material will be available all the time without any difficulty. 3. The price of the material will remain constant. 4. Ordering cost and carrying costs are variable and constant. 5. Impact of quantity discounts on the prices is negligible. 6. Lead time is zero. 7. Safety stock is zero. 8. Production schedule is uniform throughout the year

Q.NO.2:- What is the relationship between EOQ and ROQ? Are they one and the same? List some circumstances when EOQ and ROQ are not same?**Ans:-**

Relationship of EOQ and ROQ: The purpose of finding EOQ is to use it as the quantity to be ordered every time in order to minimize cost. Hence ROQ=EOQ.

EOQ not Equals ROQ - Circumstances

- i. **Seasonal** availability of Raw materials
- ii. **Peak** Production season
- iii. Substantial **lead** time is involved
- iv. Availing quantity base **discount**
- v. When suppliers **minimum supply quantity** exceeds EOQ.

Q.NO.3 :-Explain different types of inventory levels.**Ans:**

This is very important aspect of material procurement. Material should not be purchased too much or too little. Similarly the timing of the purchase is also important. Fixation of levels of materials is done precisely with these objectives in mind

Maximum Level :

This is the highest level of material beyond which the inventory of material is **not allowed** to **rise**. this level is fixed with the objective of avoiding overstocking.

This level is fixed after taking into consideration the consumption of material and the re-order period.

Maximum Level = Re-order Level + Re-order Quantity – [Minimum Consumption x Minimum Reorder period]

Minimum Level (safety stock)

This level is fixed with the objective of avoiding shortage of material. If **production is held up** due to **shortage of material**, there will be **huge loss** to the company. In order to avoid this, the minimum level is fixed. Care is taken that the stock do not fall below this level. The minimum level is fixed in the following manner.

Minimum Level = Re-Ordering Level – [Average rate of consumption x Average Re-order period]

Re-order Level :

This level is fixed for deciding the time of **placing an order**.

If the stock of materials reaches this level, fresh order is placed so that by the time the material is procured, the level of material may fall up to minimum level but not below that. This level is fixed in the following manner.

Re-order Level = Maximum Usage per Period x Maximum Re-order Period

or

Re-order level = Min level +(average consumption x average lead time)

Average Level :

This level is the average of the maximum and minimum level and computed in the following manner.

Average Level = (Maximum Level + Minimum Level) / 2

or

Average level : Min level + 1/2 of ROQ

Danger Level :

Generally the danger level of stock is indicated **below** the **safety** or minimum stock level.

Sometimes, depending on the practices of the firm and circumstances prevailing, the danger level is determined between the re-order level and minimum level.

Q.NO.4:- Explain different types of pricing issue of material.

Ans:

One of the important aspects of issue control is of pricing of the issues. Material is issued to production and it is necessary to find out the consumption value of the material. However the question is that at **what price the issue** is to be **charged**. Obviously the answer is that the issues should be priced at the same price at which they are purchased. But it is **not practical** as it is virtually impossible to **identify** the **material issued**. Hence it is necessary to price the issues by using certain methods. The various methods of pricing of issues are given below.

First In First Out:-

- Thus the material in **stock** at the **beginning** of a period is **issued firstly** and then the issues are made according to the dates of purchases made.
- However the consumption value will be as per the purchases made earlier and hence the **latest price** may **not** be **charged** to the **consumption**.
- In case of **rising prices** it will result in **charging lower prices** while in case of **falling price** it will result in **charging higher prices** to the material consumption.
- The **closing stock** will be shown at the **latest prices** as the material purchased towards the end of the period will remain the stock.

Last In First Out [LIFO]:

- Material **purchased last** is **issued first** to the production. Therefore the issue should be charged at the latest prices.
- The **issues** are **priced** at the **latest prices** and hence **consumption** value is also the **latest**.
- This will make the **product cost** more **realistic**.
- However, the **inventory valuation** will be at the **older price** as material in balance will be from the earlier batches of purchases.
- **Valuation** of inventory according to this method is **not accepted** for inventory valuation in the preparation of financial statements.
- In case of **rising prices** it will result in **charging higher prices** while in case of falling price it will result in charging lower prices to the material consumption.

Highest In First Out [HIFO]:-

- ❖ Under this method, the materials with **highest prices** are **issued first**, irrespective of the date upon which they are purchased.
- ❖ The basic assumption is that in fluctuating and inflationary market, the cost of material are quickly absorbed into product cost to hedge against risk of inflation.
- ❖ As the issues are shown at highest prices, the **product costs** tend to be on the **higher side** and hence this method is not suitable in competitive environment.

Simple Average Cost Method:-

- Under this method, the issues are **charged** at the **average price** of the material purchased without taking into consideration the quantities involved in the same.
- This method is **not very popular** because it takes into consideration the prices of different batches but not the quantities purchased in different batches.
- In the periods of price fluctuations this method is useful but if fluctuations are too wide, the method may not be useful.

Weighted Average Method:

- This method takes into **consideration** the **prices** as well as the **quantities** of materials purchased. Thus **weighted average** is computed after **each receipt** by dividing the total amount by the total quantity.

Periodic Average Cost Method:-

- Under this method, instead of recalculating the simple or weighted average cost every time there is a receipt, **periodic average** is computed.
- The average may be calculated for the entire period.
- The **price** may be calculated as : $\text{Cost of Opening Stock} + \text{Total Cost of all receipts} / \text{Units in Opening Stock} + \text{Total Units received during the period}$.

Standard Cost Method:-

- Under this method, **material issues** are priced **at** a predetermined **standard issue price**.
- Any **difference** between the actual purchase price and the standard price is **written off** to the Costing Profit and Loss Account.
- Standard Cost is a predetermined cost and if it is set accurately, it can be very effective. However **revision** of standard cost at regular **intervals** is **required**.

Replacement Cost [Market Price]:-

- ❖ The replacement cost is the cost at which **material identical** to that is to be **replaced** could be purchased at the date of pricing of the issues as distinct from the actual cost price at the date of purchase.
- ❖ The replacement price is the price of replacing the material at the time of the issue of materials or on the date of valuation of closing stock.
- ❖ This method is **not acceptable** for standard accounting practices as it reflects the price, which has not been paid actually.

Next In First Method:-

- Under this method, the **price** quoted on the **latest purchase** order or contract is used for all issues until a new order is placed. Thus this method is a variation of the Replacement Cost Method.

Base Stock Method:-

- Under this method, a **certain quantity** of materials is **always held** in stock and any material **over** and above this quantity is priced according to any other pricing method like **First In First Out** or **Last In First Out** or any other method.
- this method is not popular and also **not accepted** under standard accounting practices as it would result in stock valuation totally unrealistic.

Q.NO.5:- Explain various Control Ratios relating to material.**Ans:-****Inventory turnover ratio**

It helps management to **avoid capital** being **blocked** up unnecessarily. This ratio reveals the efficiency of stock keeping.

Formula:- $\text{cost of material consumed} / \text{cost of average stock held during the period}$

Cost of average stock = (cost of opening stock + cost of closing stock)/2

Inventory turnover ratio (in days) = No. of days in a period/Inventory turnover ratio

Inventory turnover ratio (in days) = 365/ cost of material consumed * average stock in value.

Input – Output ratio

It is the ratio of the quantity of input of material to production. This ratio enables comparison of actual consumption and standard consumption, indicating whether the usage of material is favorable or adverse.

Q.NO.6:- Write short note on Purchase Requisition.

Ans:-

- A form known as 'Purchase Requisition' is commonly used as a format requesting the purchase department to purchase the required material.
- Normally the purchase requisition is issued by the Stores Department when the quantity of the concerned material reaches the minimum level.
- Only in the cases of materials, which is not kept in the stores on regular basis, the requisition is issued by the concerned department.
- Purchase requisition has information like the quantity required, the expected date of receipt, the department in which the material is required, description of material etc.
- Copies of the purchase requisition are sent to the Accounts department and the concerned department who is in need of the material

PURCHASES REQUISITION

Department: _____ Requisition No: _____
 Delivery Required: _____ Date: _____
 Item No. Quantity Particulars of Materials Grade or Quality Remarks

Requested By: Checked By:.....

Approved By:.....

Q.NO.7:- Write short note on Purchase Order.

Ans:-

- Purchase Order is a document sent by Purchase department to a supplier, offering to buy certain material at stated price and terms.
- However before issuing the purchase order, quotations may be invited from various suppliers for arriving at the best deal.
- The purchase department usually keeps a list of suppliers from whom the quotations are invited.
- The quotations received are examined on various parameters like price, delivery period, terms and conditions, quality of material etc.
- After this, purchase order is issued to the selected supplier.
- It should be remembered that a purchase order is a legal document and it results into a contract between the company and the supplier. Hence the terms and conditions in the purchase order should be drafted clearly without any ambiguity.

PURCHASE ORDER

Date: _____ Purchase Order No. _____ Supplier _____ Requisition No. _____
 Department _____

Please supply the following items on the terms and conditions mentioned herewith,

Item No. Quantity Particulars of Materials Rate per unit Total Amount Remarks

Purchase Manager _____

Terms and Conditions:

1.....

2.....
3.....
4.....

Q.NO.8: Write a short note on Material Requisition Note/Stores requisition slip**Ans:-**

- ❖ It is a requisition slip prepared by the **department** that is in **need** of the **material** and sent to the stores department. It is a **written request** made to the stores department for sending the material.
- ❖ In the Material Requisition Note, the details of the material required such as the quantity, quality, date by which it is required etc.
- ❖ It is signed by the **authorized signatory** of the concerned department.
- ❖ On the receipt of this requisition, the **stores department takes action** of **supplying** the required material to the department.

Q.NO.9: Write a short note on Material Return Note and Material transfer Note.**Ans:-****Material Return Note:**

- While issuing material care should be taken that exact quantity as per the requirement should be supplied.
- If there is surplus material remaining after satisfying the needs of the concerned department, it should be **returned to** the **stores** department.
- In such case, Material Return Note should be prepared and **sent along** with the **material**.

Material Transfer Note:

- If material is **transferred** from **one site to other site** without being returned to the store, it is necessary to prepare Material Transfer Note for recording the same.
- Proper documentation is extremely necessary for minimizing the chances of errors and frauds.

Q.NO.10: Write short note on Bin Card. Distinguish between bin cards and stores ledger.**Ans:-****Meaning**

- Bin Card is the most important record in the stores
- It is the **quantitative record** of all **receipt** of materials, **issue** of materials and the **balance** of materials on a particular day.
- This record is kept for each and **every material** and entries are made **daily** after **every receipt** and issue.
- Bin Card do **not record** the **amount** of receipt or issue, it records only the quantity.
- Care is to be taken to physically verify the material quantity and reconcile the same with the quantity shown in the Bin Card.
- This **periodic verification** will serve as a moral check on the staff and the chances of errors and frauds will be minimized.

Distinction:

Particulars	Bin Card	Stores Ledger
Maintained by	Store keeper	Cost accounting department
Nature	Stores recording document	Accounting record
Contents	Quantitative only	Quantitative cum financial record
Time of recording	At the time of transaction	After the transaction takes place
Source document	Recorded at source . No separate source document required	Posted from material requisition slips, goods received notes etc.
Manner of posting	Each transaction is recorded separately	Transactions are posted on summary basis

Q.NO.11:- What is meant by Inventory Control/material cost control ? What are its objectives?**Ans:-****Meaning:**

- One of the important aspects of the overall material management is the inventory control.
- Inventory control implies **acquisition** and **utilization** of **inventories** of **raw material**, **work in progress** and **finished goods** in most **economic** way and minimization of inventory losses.

- It is necessary to **avoid** the **overstocking** as well as **under stocking**.
- For ensuring this, maximum **level**, minimum level, re-order level are fixed.
- Besides this it is essential to take care of the material lying in the stock. There is huge investment made in the materials and if proper care is not taken, there will be **severe loss**. Even though records are maintained in the stores regarding the receipts and issues, they should be **periodically verified** with the physical stock so that chances of errors and frauds are minimized.

Objectives

- Material of desired quality should be available when needed for efficient and uninterrupted production.
- Material should be purchased only when it is needed and in most economic quantities.
- Investment in material is maintained at minimum level consistent with the operating requirement.
- Purchasing of material will be made at the most favorable prices under the best possible terms.
- Material is stored in such a way that the objective of protection is met fully and at the same time material is made available easily.
- Issues of materials are authorized properly and are accounted for properly.
- Materials are, at all the time, charged as the responsibility of some individual.

Q.NO. 12: State the various Techniques of Inventory Control.**Ans:-**

- Perpetual Inventory System.
- Level Fixation
- Economic Ordering Quantity
- ABC Analysis
- VED Analysis
- FSND Analysis
- Just in Time
- Control Ratio
- Review of Slow and Non moving item(dormant stock)

Q.NO.13. What are the steps involved in selecting a particular supplier?**Ans:-**

- Sources of supply:-** If the firm already has a panel of suppliers, the purchase department contacts them for current prices and terms. In case of fresh purchases, advertisements may be placed in newspapers, inviting sealed quotations from prospective suppliers.
- Receipt of quotations:-** Relevant information like current prices , lot size etc. are obtained from existing suppliers as well as prospective suppliers ,in the form of quotations.
- Analysis of Information:-** On receipt of quotations , a comparative statement showing various decision-making factors like price, quality , delivery schedule, sales tax formalities etc. is prepared.
- Decision on supplier:-** The choice of supplier is based on factors like price, quantity , quality offered, time of delivery , mode of transportation, terms of payment, reputation of supplier etc.

Q.NO.14: Write short note on Perpetual Inventory System. What are its advantages?**Ans:-****Meaning**

Perpetual Inventory system means continuous stock taking.

CIMA defines perpetual inventory system as 'the recording as they occur of receipts, issues and the resulting balances of individual items of stock in either quantity or quantity and value'.

Under this system, a continuous record of receipt and issue of materials is maintained by the stores department and the information about the stock of materials is always available.

Entries in the Bin Card and the Stores Ledger are made after every receipt and issue and the balance is reconciled on regular basis with the physical stock.

Advantages

- Physical stocks can be counted and book balances adjusted as and when desired without waiting for the entire stock –taking to be done.
- Interim Financial statements can be quickly prepared as stock figures are readily available.
- Discrepancies are easily located and corrective action can be promptly taken.
- A systematic review of the perpetual inventory reveals the existence of surplus, dormant, obsolete and

slow-moving materials, so that remedial measures are taken in time.

- v. The main advantage of this system is that it avoids disruptions in the production caused by periodic stock taking.

Q.NO.15:- Distinguish between periodic and Continuous Stock verification.

Ans:-

Particulars	Periodic Verification	Continuous Stock taking
Timing	Stock verification takes place at the end of a financial period, say a year	Stocks are verified at regular intervals during the year, since stock taking takes place regularly it is called continuous stock taking.
Coverage	All items of stocks are covered in a single stretch of verification, say over two or three days.	In each verification two or three items are covered on random basis. In the entire period, all items are covered on rotation basis.
Effect on work	Regular work may be stopped to facilitate stock taking.	There is no interference with regular work flow.
Control	Discrepancies in stock is known only at the end of the period.	Discrepancies are ascertained immediately in order to take corrective action.
Interim results	This does not facilitate or help the quick compilation of Interim or final financial results.	It provides stock figures on real time basis. Hence interim results can be prepared easily.

Q.NO.16:Distinguish between Perpetual Inventory system and Continuous stock taking.

Ans:

Basis	Perpetual Inventory system	Continuous Stock Taking
Meaning	It is a system of recording stores balances after every receipt and issue of materials.	It is a physical verification of a number of items daily or at frequent intervals.
Emphasis	Its emphasis is on recording book balances.	Its emphasis is on the physical verification of recorded book balances with actual physical balances.

Q.NO.17: Write a short note on ABC analysis

Ans

Nature	A-items having high consumption value	B-items having moderate consumption value	C-Items having low consumption value
1.Extent of control	Very strict control is implemented.	Moderate control is implemented.	Loose control is implemented.
2.Order frequency	Frequent ordering should be placed.	Order should be placed once in 3 months.	Order should be placed once in 6 months or in a year.
3.Lead time	Maximum efforts to reduce the lead time is undertaken.	Moderate efforts to reduce lead time is undertaken.	Minimum clerical efforts to reduce lead time is undertaken.
4.Level of management	Must be taken care of by senior officers.	Can be supervised by middle management.	Can be supervised by the clerical staff.
5.Review period	Reviewed after a month of every 15 days of waste, obsolete & surplus items.	Reviewed after every 3 months of waste, obsolete & surplus items.	Reviewed annually over obsolete & surplus items.
6.Supply sources	There may be supply of as many source as possible for each item.	There may be supply of three or more reliable sources.	Three reliable sources for each item may be supplied.
7.Follow up	Maximum follow up is required.	Periodic follow up is required.	Follow up is required only in exceptional cases.
8.Safety stock	Very low safety stock is needed.	Low safety stock is needed.	High safety stock is needed.
9.Centralization	Centralized purchasing is done.	Centralized & decentralized purchasing is done.	Decentralized purchasing is done.
10.Value analysis	Rigorous value analysis is	Moderate value analysis is	Minimum value analysis is

	made.	done.	made.
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Q.NO. 18:- What is Waste? What is its accounting treatment? How can it be controlled?**Ans:-****Meaning:-**

Waste is a **loss of material** either in stores or in production due to reasons like **evaporation, chemical reaction, shrinkage**, unrecoverable residue etc. Wastages may be visible or invisible.

Accounting treatment:-

- Normal Wastage:-** This wastage is such that it **cannot** be **avoided**. It is **inherent** in any production process. The normal wastage is normally estimated in advance and included in the material cost. In other words, the **good units** should bear the cost of normal wastage.
- Abnormal Wastage:-** Any wastage over and **above** the **normal wastage** is the abnormal wastage. In other words it is more than the standard wastage. The cost of the abnormal wastage is not charged to the production, but it is written off to the **Costing Profit and Loss Account**.

Control of Wastage:-

- Wastage can be controlled by adopting **strict quality control** measures.
- Normal allowance** of waste can be fixed with technical assessment and past experience as well as by identifying the special features of materials.
- The **causes** for abnormal wastages should be **studied** in detail and responsibility should be fixed for wastage. Better material handling system will also help in controlling the wastage.

Q.NO.19:- What is Scrap? What is its accounting treatment? How can it be controlled?**Ans:-****Meaning:-**

Scrap is a **residual** material resulting from a manufacturing process. It has a recovery value and is measurable.

Accounting Treatment:-

The treatment of scrap in cost accounts is normally as per the following details.

Case	Treatment of Scrap
If the value of scrap is negligible	Good units should bear the cost of scrap and any income collected will be treated as other income
If the value of scrap is considerable and identifiable with the process or job	the cost of job will be transferred to scrap account and any realization from sale of such scrap will be credited to the job or process account and any unrecovered balance in the scrap account will be transferred to the Costing Profit and Loss Account
If scrap value is quite substantial and it is not identifiable with a particular job or process	transferred to factory overhead account after deducting the selling price. This will reduce the cost of production to the extent of the scrap value.

Control of Scrap:-

For the control purpose, scrap may be divided into the following categories.

- Legitimate Scrap:-** This is predetermined or **anticipated in advance** due to experience in manufacturing operations.
- Administrative Scrap:-** This results from **administrative decisions**, e.g. change in design of a product or discontinuation of existing product lines.
- Defective Scrap:-** This results from **poor quality** of raw material, negligent handling of material etc.

Scrap can be controlled through selection of right type of material, selection of right type of manpower, determination of acceptable limits of scrap, and reporting the source of waste.

Q.NO.20:- What is Spoilage? What is its accounting treatment?**Ans:-****Meaning:-**

Spoilage is the production that **fails to meet quality** or dimensional requirements and so much damaged in

manufacturing operations that they are not capable of rectification and hence has to withdraw and sold off without further processing. Rectification can be done at a cost which may not be economic.

If the spoilage is **within limits**, it is called as '**normal**' spoilage and anything **exceeding** this limit is called as '**abnormal**' spoilage.

Accounting Treatment:-

- 1) **Cost of normal spoilage** is spread over to the **good production** by charging either to the specific production order or to the product overheads.
- 2) **Cost of abnormal spoilage** is charged to the **Costing Profit and Loss Account**.

Q.NO.21:- What is Defectives? What is its accounting treatment?

Ans:-

Meaning:

The defectives are part of production units which **do not confirm** to the **standards** of quality but can be rectified with additional application of materials, labor and/or processing and made it into saleable condition either as firsts or seconds depending upon the characteristics of the product.

Accounting Treatment

<u>Case</u>	<u>Treatment</u>
Cost of normal defectives	spread over the good units
Cost of additional processing	charged to a particular department/process if it is identifiable with the same
If it cannot be identified	charged to factory overheads
Cost of abnormal defectives	charged to the Costing Profit and Loss Account

Q.NO.22:- Write short note on Slow Moving and Non-Moving or Obsolete Materials:

Ans:-

- It is essential for any business unit to **detect slow moving** and **non-moving** or obsolete materials.
- **Obsolete** materials become **useless** or obsolete due to change in the product, process, design or method of production. Obsolete materials are different from slow moving materials and non-moving materials. Slow moving materials **move** at a slow rate.
- In the case of **slow moving** materials as well as non moving materials, **capital remains blocked** unnecessarily and also cost of storing continue to be incurred of these materials are kept in the store in excess of the requirements.
- Management should make **proper investigations** into slow moving and obsolete materials and try to minimize the capital investments in the same.
- It is necessary to have an efficient Management Information System which will enable to generate **regular reports** to examine the situations relating to these stocks so that the non-moving and obsolete stocks can be disposed off in time.

Q.NO.23:- Write a short note on Bill of Material.

Ans:-

Meaning

- Bill of Material is a **schedule** of **standard quantities** of materials required for any **job** or other unit of production. It is also known as 'Material Specification list' or just "Material list".
- It lays down the **exact description** and specifications of all materials and quantities **required** for a **job** or product.
- There are **5 copies** to be prepared and will be sent to the following departments. **Stores** department, **Purchase** department, **Cost Accounting** department, **Production** department, and **Engineering** or planning department.