***B.COM 4th SEMESTER (NON-CBCS)***

***COST AND MANAGEMENT ACCOUNTING (MANAGEMENT MAJOR)***

***PAPER - 405***

***GROUP- A : COST ACCOUNTING***

***UNIT – II***

 ***ACCOUNTING FOR MATERIAL, LABOUR AND OVERHEAD***

**Importance and Classification of Overhead**

Overhead or overhead expense or overhead cost refers to an ongoing [expense](https://en.wikipedia.org/wiki/Expense) of operating a business. Overheads are the [expenditure](https://en.wikipedia.org/wiki/Expenditure) which cannot be conveniently traced to or identified with any particular cost unit. Therefore, overheads cannot be immediately associated with the products or services being offered, thus do not directly generate profits. However, overheads are still vital to business operations as they provide critical support for the business to carry out profit making activities. For example, overhead costs such as the rent for a factory allows workers to manufacture products which can then be sold for a profit. Such expenses are incurred for output generally and not for particular work order. Other examples of overheads are, wages paid to watch and ward staff, heating and lighting expenses of factory, etc. Overheads are also very important cost element along with direct materials and direct labour.

 According to ICMA, overheads are “The aggregate of indirect material cost, indirect wages and indirect expenses.”

 According to Blocker and Weltmer “Overhead costs are the operating costs of a business enterprise which cannot be traced directly to a particular unit of output.”

**Behavioural Classification of Overhead**

1. **Fixed Overhead Costs** –Fixed overhead costs are those costs which do not vary with the change in the volume of output, but remain fixed within certain limits. These overheads remain fixed or constant for all volumes of production within the installed capacity of the concern for a given period of time. Example- Rent for factory and office premises, factory and general manager’s salary, etc.
2. **Semi-Fixed Overheads/ Semi-Variable Overhead Costs** - Semi-Fixed Overheads/ Semi-Variable Overhead Costs are those overheads which remain fixed up to a certain level of production and tend to vary beyond that level. These overheads vary but not in direct proportion to the variation in the volume of output. Thus they are partly fixed and partly variable, so they are called semi-variable costs also. Example – Telephone charges, repairs and maintenance charges of transport vehicles, etc. Telephone charges remain fixed upto a certain number of calls and thereafter charges increase with the increase in number of call and so on.

 If the fixed part of an item of this of overhead is more than the variable part, it may be called semi-fixed overhead. On the other hand, if the variable part of this type of overhead is more than the fixed part, it is called semi-variable overhead.

1. **Variable Overhead** – variable overhead are those overheads which directly with variation in the volume of production. They increase when the volume of production increases and decreases when the volume o0f production decreases. Example- Indirect labour, indirect material, etc.

**Functional Classification of Overheads**

1. **Administrative overheads** –It is the indirect expenditure incurred in formulating policy, directing the organizing, operating the operations. They are expenses for policy formulation, direction, control and administration. Examples- office rent, light, salaries of staff and directors, etc.
2. **Factory overheads** - It is the indirect expenses of operating the manufacturing divisions of a concern. It covers all indirect expenditure incurred from the receipt of the order till its completion and dispatch to the customers or to the warehouse. Examples cost of small tools, power, wages for foreman, repairs to factory, factory rent, etc.
3. **Selling overhead** – It consists of those indirect costs which are associated with the marketing and selling excluding distributing activities. Generally it covers the expenses required for creating and stimulating demands, securing and retaining customers. In short, they are expenses required for sales promotion and customer’s retention. Examples are salesmen’s salaries and commission, show-room expenses, advertisement, etc.
4. **Distribution Overhead**- It comprises all expenditure incurred in handling the products from the time they are placed in the warehouse till they reach their destination. Examples are house rent and warehouse staff salaries, delivery van expenses, transport charges, etc.
5. **Research and Development Expenses** – Research cost is the cost of searching for new and improved products, new application of materials and new application of improved methods. Development cost is the cost incurred for the implementation of the decision to produce a new product or to introduce.

**Q1. What is ‘Bin Card’? Are Bin Cards necessary at all?**

**Answer**- Bin card is a record of receipt and issue of materials Quantity of store received is entered with receipt column and the quantity of store issued is recorded in the issue column of Bin Card. Balance of quantity of stores is ascertained after every receipt or issue. It shows the balance of the stock at any moment of time. Bin Card is maintained by the store-keeper. He is answerable for any difference between physical store and the balance shown by the Bin Card. Thus Bin Card does not only record the receipt an issue of the stores but also assist the store keeper for control of the stock. For each item of stores minimum level maximum level and ordering level are shown in the part of the Bin Card. By seeing the Bin Card the store keeper sends the material requisition for the purchase of materials from time to time.

 A bin card is also known as bin tag or stock card and is usually hung up or placed in shelf, rack or bin where the material has been kept. Bin cards can also be in the form of loose sheets which can be maintained in a ledger kept in the stores.

**Are Bin cards necessary at all?**

Some persons argue that where a store ledger is maintained, the bin card is a duplicate record and as such should not be maintained. This is wrong and is against the basic principles of stores accounting on account of the following reasons:

* The storekeeper is responsible for the maintenance of stores and as such he should have a stock record under him.
* The storekeeper is held responsible for the difference in the physical stock and the stock record. The responsibility for difference in stock will get divided if the stock records are not kept by the storekeeper.
* The store ledger is not kept up-to-date because posting of transactions is done periodically and as such the maintenance of bin cards is desired to have up-to-date balance of stock. In bin cards, posting is done before the transaction takes place.
* Keeping in view the above reasons it is said that storekeeper should himself keep the stores ledger. This is also wrong because a store ledger is a record of both quantity and value and figures for calculation of the cost of production are taken from this record. The calculation of cost is the responsibility of the cost accountant; so the store ledger should not be outside the control of the cost accountant. Further, it is not fair to burden the storekeeper with the responsibility of the valuation of the receipts, issues and balances; his recording should be restricted to quantity alone. It is, therefore, necessary that both stock records should be kept.
* The two records act as a cross check on each other because balance of stock disclosed by bin cards should agree with the balance shown by the stores ledger. Thus, the accuracy of both records is established.

**Q2. What is a Stores Ledger?**

**Answer** – The Stores Ledger is recorded and maintained by the costing department. This ledger is kept in the costing department and is identical with the bin card except that receipts, issues and balances are shown along with their money values. This contains an account for every item of stores and makes a record of the receipts, issues and balances, both in quantity and value. Thus, this ledger provides the information for the pricing of materials issued and the money value at any time of each item of stores.

**Q3. State the differences between Bin card and Stores Ledger.**

**Answer**-

|  |  |  |
| --- | --- | --- |
| **BASIS FOR COMPARISON** | **BIN CARD** | **STORES LEDGER** |
| Meaning | Bin Card implies a quantity record of the receipts, issue and balance of materials in stores. | Stores ledger refers to a subsidiary ledger, which keeps track of each and every transaction relating to materials in the stores. |
| What is it? | It is a recording document. | It is an accounting record. |
| Responsibility | Storekeeper | Cost accounting department |
| Location | Kept inside the stock room. | Kept outside the stock room. |
| Details | Contains quantitative details only. | Contains both quantitative and monetary details. |
| Entries | Entries are posted when transaction takes place. | Entries are posted after transaction took place. |
| Recording | Transactions are recorded individually. | Summarized transactions are recorded. |

**Q4. What is EOQ?**

**Answer** - EOQ is the acronym for economic order quantity. The economic order quantity is the optimum quantity of an item to be purchased at one time in order to minimize the combined annual costs of ordering and carrying the item in [inventory](https://www.accountingcoach.com/blog/what-is-inventory). EOQ is also referred to as the optimum lot size.

**KEY POINTS**

* EOQ is the acronym for economic order quantity. The economic order quantity is the optimum quantity of an item to be purchased at one time in order to minimize the combined annual costs of ordering and carrying the item in [inventory](https://www.accountingcoach.com/blog/what-is-inventory).
* EOQ is also referred to as the optimum lot size.

Formula and Calculation of Economic Order Quantity (EOQ)

The formula for EOQ is:

Q = 2AO

 C

Where**:** *Q*=EOQ units

A = Annual Demands

O = Ordering costs

C = Carrying costs

# Q5. What is ABC Analysis?

**Answer**- ABC analysis is a type of inventory categorization method in which inventory is divided into three categories, A, B, and C, in descending value. A has the highest value items, B is lower value than A, and C has the lowest value.

ABC analysis classifies inventory into 3 categories: Class A – forms 15% to 20% of the stock quantity but commands 80% to 85% of the value. Class B – forms 30% to 35% of the stock quantity but commands 10% to 15% of the value. Class C – forms 50% of the stock in terms of quantity but commands only 55 of the value.

### What benefits does the approach provide?

* Better control over high-value inventory improves availability, and reduces losses and costs.
* More efficient use of stock management resources. For example, during stock count more resources are dedicated to A class than B or C class holdings, or fewer counts are made of B or C a class holding – which saves time and money.
* Relatively low value of B or C class holdings can allow a business to hold bigger buffer stocks to reduce stock outs.
* Fewer stock outs resulting in improved production efficiency.
* Fewer stock outs and improved production efficiency resulting in more reliable cycle time and, therefore, improved customer satisfaction.

**Q6. What is VED Analysis?**

### Answer - **VED Analysis attempts to classify the items used into three broad categories, namely Vital, Essential, and Desirable. The analysis classifies items on the basis of their criticality for the industry or company. Vital: Vital category items are those items without which the production activities or any other activity of the company, would come to a halt, or at least be drastically affected. Essential: Essential items are those items whose stock – out cost is very high for the company. Desirable: Desirable items are those items whose stock-out or shortage causes only a minor disruption for a short duration in the production schedule. The cost incurred is very nominal. VED Analysis is very useful to categorize items of spare parts and components. In fact, in the inventory control of spare parts and components it is advisable, for the organization to use a combination of ABC and VED Analysis. Such control system would be found to be more effective and meaningful.**

**Q7. What do you understand by ‘Labour Turnover’? Enumerate the causes of labour turnover and suggest steps to be taken for reducing labour turnover.**

**Answer** – In all business organizations, it is a common feature that some workers leave the employment and new workers join in place of those leaving. This change in work force is known as labour turnover. Labour turnover is thus defined as “the rate of change in the composition of the labour force in an organisation.”

 The causes of Labour Turnover are:

**Personal Causes**

**Unavoidable Causes**

**Avoidable Causes**

**Personal Causes:** Workers may leave the organisation purely on personal reasons which may be –

* Domestic troubles and family responsibilities.
* Retirement and death
* Accidents which may make the workers permanently incapable to work.
* Women workers due to marriage.
* Dislike for job or the place of work.
* Workers finding better jobs in some other places
* Workers having roaming nature.

**Unavoidable Causes:** Following are the circumstances where the management has to ask the workers leave the organisation -

* Insubordination or inefficiency or irregularity
* Continued leave of absence
* Shortage of work
* Conviction in a criminal case.

**Avoidable Causes:** Following are the avoidable causes which the management can prevent –

* Low Wages
* Unsatisfactory working conditions
* Inadequate facilities such as accommodation, medical benefits, etc.
* Job dissatisfaction because of wrong placement.
* Lack of promotion opportunities.
* Unfair methods of promotion
* Lack of job satisfaction and training facilities.

**Steps/Measures to be taken for reducing labour turnover are –**

* Scientific recruitment, selection and training of workers i.e. suitable labour policy
* Provision of better working conditions
* Provision of better wages, allowances and other monetary benefits
* Provision of maximum non-monetary benefits
* Introduction of fair promotion policy
* Provision of social security measures
* Better motivation of workers
* Ensuring job satisfaction and job security
* Measures to reduce labour disputes
* Inviting suggestions from workers

**Q8. What do you understand by idle time and** **overtime?**

**Answer -**

**IDLE TIME** -Idle time is the time for which employees are paid, but for which they are not doing actual work. It's basically the unproductive time of employees, for which they're still compensated.

**OVERTIME** - Overtime is the amount of wages paid for working beyond normal working hours as specified by Factories Act or by a mutual agreement between the workers union and the management. There is a practice is to pay for overtime work at higher rates. Hence, payment of overtime consists of two elements, the normal wages e.g., the usual amount, and the extra payment i.e., the premium. This amount of extra payment paid to a worker under overtime is known as overtime premium.

**Q9. State the differences between Idle Time and Overtime.**

**Answer** – The differences between Idle Time and Overtime are as follows:

* Idle time may be defined as the time during which no production is obtained although wages are paid for that period. In other words, it means payment made to a worker for a period during which he remains idle and does not work. Overtime is the work done by a worker over and above the normal working hours in a day or a week.
* Idle time is unproductive time on the part of employees whereas overtime is productive time on the part of employees.
* Idle can be classified into two categories and they are Normal Idle Time and Abnormal Idle Time whereas there is no such classification in case of overtime.
* In case of idle time company pays but no production but in case of overtime company pays additional to complete the production targets.
* Idle time can be avoided by proper human resource allocation whereas overtime can be avoided only by employing additional labour which requires decision making.

**Q10. Discuss about the Incentive Wage Plan / Premium and Bonus Plan.**

**Answer** - The object of a premium plan is to increase the production by giving an inducement to the workers in the form of higher wages for less time worked.

 Two of the most important premium plans are discussed below:

**Halsey Premium Plan**: This plan was introduced by F. A. Halsey in 1891. Under this plan/scheme/method, standard time for doing a job is fixed and the worker is given wages for actual time he takes to complete the job at an agreed rate of wage per hour. In addition, a bonus equal to 50% of the wages of the time he saved is also given to the worker.

**Example**: Suppose the standard time for a job is fixed at 10 hours and hourly rate is Rs 5. If a worker completes the job in 8 hours, the worker will get wages for 8 hours i.e. Rs40. As he has saved 2 hours(10-8) of time he will get 50% of wages for the 2 hours he saved as bonus i.e. Rs 5 [50% of (2 hours x Rs 5)]. It means the worker will get in total Rs 45 i.e. wages 8hours x Rs 5 + Bonus Rs 5.

Thus the worker is not penalized for his inefficiency and he gets paid for the actual time worked. But if he takes less than the standard time he gets bonus usually at 50% of the time saved at time rate.

Total earnings under this plan will be calculated as:

 T X R +% (S-T) R

Where, T= Time Taken (actual time)

 S = Standard Time (Time Allowed)

 R= Rate per hour

The main **features** of Halsey premium plan are:

(i) Standard time is fixed in advance for performing a job.

(ii) Time rate is guaranteed and the worker gets the guaranteed irrespective of whether he completes the job within the time also takes more time to do it.

(iii) If the job is completed in less than pre-determined standard time worker is paid a bonus of 50% of the time saved at time rate in addition to his wages for the actual time spent on the job as a reward to his work.

The advantages and disadvantages of this premium plan are mentioned below:

**Advantages**

(i) The plan is simple to understand and easy to operate.

(ii) It creates a feeling of security among workers as the plan assures a minimum hourly rate or guaranteed wage.

(iii) The efficient workers are rewarded by way of payment of bonus, whereas the inefficient workers are not penalized.

(iv)Earnings of workers increase and productivity increases since the workers are motivated.

**Disadvantages**

(i)Under this system, inefficient workers are not punished because their time wages are guaranteed.

(ii) More wastage of raw materials may result due to over-speeding.

(iii) The quality of work may decline as the workers want to rush through the work.

**Rowan Premium Bonus Scheme:** Under **Rowan Plan**, the standard time for the completion of a job and the rate per hour is fixed and the worker is given wages for the actual time he takes to complete the job at an agreed rate of wage per hour. In case, the worker completes the work in less than the standard time; then he is entitled to a bonus along with the time wages. A bonus is the percentage of worker’s **time rate**. This means, the bonus/premium is calculated on the percentage of wages earned for working on a job and is not calculated for the time-saved, as in the case of Halsey Plan. This percentage is equivalent to the proportion of the time saved to the standard time.

Bonus under this system will be calculated as:

(T x R) x S - T

 S

Total earnings will be calculated as:

T x R + (T x R) x S - T

 S

Where, T= Time Taken (actual time)

 S = Standard Time (Time Allowed)

 R= Rate per hour

The main **features** of Rowan plan are:

(i) There is a guaranteed day-wage for actual time taken on the basis of time rate.

(ii) Bonus is paid for the time saved.

(iii) Bonus is based on that proportion of the time wages which the time saved bears to the standard time.

The advantages and disadvantages of Rowan plan are as follows:

**Advantages**

(i) The plan assures a minimum hourly rate.

(ii) It provides incentive to efficient workers and as such efficiency of the workers increases.

 (iii) Quality of work suffers less as in case of Halsey scheme because the workers are not induced to rush through the work.

**Disadvantages**

(i) The plan is not easily followed by most of the workers.

(ii) The rowan plan is criticized by workers on the ground that they do not get the full benefits of the time saved by them as they are paid bonus for a portion of the time saved.

(iii) Incentive is low to a very high efficient worker because a worker gets lesser bonus for greater saving of time.

**Points of Dissimilarity between Halsey and Rowan Bonus Plan:**

* If the time saved is less than ½ of the time allowed, better bonus is provided by the Rowan scheme than the Halsey scheme. On the other hand, if the time saved is more than ½ of the time allowed, the Halsey scheme provides better bonus than the Rowan Scheme.
* The bonus hours, under the Halsey scheme, are equal to 50% of the time saved by the workers, whereas, under the Rowan scheme, the bonus hours are that proportion of time taken as the time saved bears to the time allowed.
* Under the Halsey scheme, more the time saved more will be the bonus; which is not true, under the Rowan scheme, if more than ½ of the time allowed is saved by the worker.

**Q11. Write the short notes on the following:**

1. **FIFO (First In First Out ) Method of pricing issues of materials**
2. **LIFO (Last In First Out) Method of pricing issues of materials**
3. **Perpetual Inventory System**
4. **Cost Center**
5. **Allocation of Overhead Expenses**
6. **Apportionment of Overhead Expenses**
7. **FIFO (First In First Out ) Method of pricing issues of materials**

Answer – Under this method, the issues of materials are priced according to the chronological order of purchase rates of materials. In other words, materials received first are issued first at their cost price. The units in the opening stock of materials are treated as if they are issued first, the units from the first purchase issued next, and so on until the units left in the closing stock of materials are valued at the latest cost of purchases. The closing stock is valued at last purchased price.

 The following principles are followed:

* Materials are priced at the actual cost.
* Charge to production for materials cost is at the oldest prices of the materials in stock.
* Closing stock is valued at the latest price paid.

### LIFO (Last in First Out) Method of pricing issues of materials

**Answer** - As against the First in First Out method the issues under this method are priced in the reverse order of purchase i.e., the price of the latest available consignment is taken. This method is sometimes known as the replacement cost method because materials are issued at the current cost to jobs or work orders except when purchases were made long ago.

 This method is suitable in times of rising prices because material will be issued from the latest consignment at a price which is closely related to the current price levels. Valuing material issues at the price of the latest available consignment will help the management in fixing the competitive selling prices of the products. This method was first introduced in the U.S.A. during the Second World War to get the advantages of rising prices.

1. **Perpetual Inventory System**

**Answer** - The Chartered Institute of Management Accounting, London, defines the perpetual inventory system as “a system of records maintained by the controlling department, which reflects the physical movements of stocks and their current balance.”

 Bin cards and the stores ledger help the management in maintaining this system as they make a record of the physical movements of the stock on the receipts and issues of the materials and also reflect the balance in the stores. Thus, a perpetual inventory system is a method of tracking and recording inventory and costs of goods sold on a continual basis, so a current inventory balance can be calculated in real time. In other words, a perpetual inventory system records all inventory transaction in real time, so the accounting system can display the current inventory balance at any point in time.

1. **Cost Center**

**Answer** - A cost center is a business unit that is only responsible for the [costs](https://www.accountingtools.com/articles/2017/5/4/cost) that it incurs. The manager of a cost center is not responsible for [revenue](https://www.accountingtools.com/articles/2017/5/11/revenue) generation or [asset](https://www.accountingtools.com/articles/what-is-an-asset.html) usage. The performance of a cost center is usually evaluated through the comparison of budgeted to actual costs. The costs incurred by a cost center may be aggregated into a [cost pool](https://www.accountingtools.com/articles/2017/5/4/cost-pool) and [allocated](https://www.accountingtools.com/articles/2017/5/7/allocate) to other business units, if the cost center performs services for the other business units. Examples of cost centers are as follows:

Accounting Department

Human Resources Department

IT Department

Maintenance Department

Research & Development

1. **Allocation of Overhead Expenses**

**Answer** - Allocation is the process of identification of overheads with cost centres. An expense which is directly identifiable with a specific cost centre is allocated to that centre. So it is the allotment of whole item of cost to a cost centre or cost unit or refers to the charging of expenses which can be identified wholly with a particular department. For example, the whole of overtime wages paid to the workers relating to a particular department should be charged to that department.

 Similarly, the cost of repairs and maintenance of a particular machine should be charged to that particular department wherein the machine is located. Power, if separate meters are provided at each cost centre and fuel oil for boilers are other examples of allocation. So, the term allocation means the allotment of the whole item without division to a particular department or cost centre.

### Apportionment of Overhead Expenses

### Answer - Cost apportionment is the allotment of proportions of items to cost centers or cost units on an equitable basis. The term refers to the allotment of expenses which cannot identify wholly with a particular department. Such expenses require division and apportionment over two or more cost centers or units.

 So cost apportionment will arise in case of expenses common to more than one cost centre or unit. It is defined as the allotment to two or more cost centers of proportions of the common items of cost on the estimated basis of benefit received. Common items of overheads are rent and rates, depreciation, repairs and maintenance, lighting, works manager’s salary etc.

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