

GOVERNMENT POLYTECHNIC BHUBNESWAR-2025



DEPARTMENT OF MODERN OFFICE MANAGEMENT LECTURER NOTES

SEMESTER-2nd

PAPER- COST ACCOUNTING

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STOCK LEVELS

1. Maximum level

The maximum level of stock is the level above which a business does not or cannot hold stock in its premises.

The maximum level of inventory could be described as the maximum capacity of a business to stock goods (inventory or raw material) in its store. It may be due to reasons like demand limitation of goods (in production or sales), the storage capacity of business, rationed funds etc. The 'maximum level of stock' is usually achieved when those goods arrive which were ordered at the 're-order level' of the stock.

$$\text{Maximum Level} = \text{Re-order level} + \text{Re-order quantity} - (\text{Minimum usage} \times \text{Minimum lead time})$$

Example 1

The Maha Cutlery Outlet sells dinner sets. It provides you the following information:

- Maximum demand: 200 per week
- Average demand: 160 per week
- Minimum demand: 145 per week
- Maximum lead time: 2 weeks
- Average lead time: 1.5 weeks
- Minimum lead time: 1.35 weeks
- Re-order quantity per order: 500 dinner sets
- Safety stock: 184 dinner sets

Required: Compute maximum level of stock of Maha Cutlery Outlet using above information.

Solution

$$\begin{aligned}\text{Maximum Level of Stock} &= \text{Reorder level} + \text{Reorder quantity} - (\text{Minimum usage} \times \text{Minimum lead time}) \\ &= \text{Reorder quantity} - (\text{Minimum usage} \times \text{Minimum lead time}) \\ &= *584 \text{ units} + 500 \text{ units} - (145 \text{ units} \times 1.35 \text{ days}) \\ &= 584 \text{ units} + 500 \text{ units} - 196 \text{ units} \\ &= 1,084 \text{ units} - 196 \text{ units} \\ &= 888 \text{ units}\end{aligned}$$

2. Reorder level of stock

It is also known as Reorder point or Ordering point. It is a preset level of stock or inventory at which the business places a new order with its suppliers to obtain the delivery of raw materials or finished goods inventory.

$$\text{Reorder level} = \text{Maximum weekly usage} \times \text{Maximum Lead time}$$

$$200 \text{ Units} \times 2 \text{ weeks} = 400 \text{ units}$$

3. Minimum Stock Level

A minimum stock level is the level of an item of material, below which the actual stock should not normally be allowed to fall. In other words, it refers to the minimum quantity of a particular item of material that must be kept in the stores at all times. The fixation of this level acts as a safety measure and hence, it is also known as 'Safety Stock' or 'Buffer Stock'.

Minimum Stock Level = Re-order Level – (Normal consumption per day/per week, etc. X Normal delivery time).

Example

Following example can be taken to understand the calculation of minimum stock level:

Normal consumption = 300 units per week

Normal delivery time = 7 weeks

Re-order level = 2,400 units.

The minimum stock level will be equal to:

= Re-order level – (Normal consumption per day/per week, etc. x Normal delivery time).

= 2,400 – (300 x 7)

= 2,400 – 2,100 = 300 units

4. Danger level

If for any reason, stock comes down below the minimum level, it is called danger level. When the stock reaches danger level, it is necessary to take urgent action on the part of the management for immediate replenishment of stock to prevent stock-out situation.

Average Consumption x Max. Re-order Period for Emergency Purchase

5. Average Stock level

The Average stock level is calculated such as:

Average Stock Level = Minimum stock Level + 1/2 of Reorder Quantity.

Lead Time:

A purchasing firm requires some time to process the order and time is also required by the supplier/vendor to execute the order. The time taken in processing the order and then executing it is known as lead time. It is essential to maintain some inventory during this period to meet production requirements.

VED Analysis:

VED stands for vital, essential and desirable. This analysis relates to the classification of maintenance spare parts and denotes the essentially of stocking spares.

The spares are split into three categories in order of importance:

1. From the view-points of functional utility, the effects of non-availability at the time of requirement or the operation, process, production, plant or equipment and the urgency of replacement in case of breakdown.
2. Some spares are so important that their non-availability renders the equipment or a number of equipment in a process line completely inoperative, or even causes extreme damage to plant, equipment or human life.
3. On the other hand some spares are non-functional, serving relatively unimportant purposes and their replacement can be postponed or alternative methods of repair found. All these factors will have direct effects on the stocks of spares to be maintained.

V:

Vital items which render the equipment or the whole line operation in a process totally and immediately inoperative or unsafe; and if these items go out of stock or are not readily available, there is loss of production for the whole period.

E:

Essential items which reduce the equipment's performance but do not render it inoperative or unsafe; non-availability of these items may result in temporary loss of production or dislocation of production work; replacement can be delayed without affecting the equipment's performance seriously; temporary repairs are sometimes possible.

D:

Desirable items which are mostly non-functional and do not affect the performance of the equipment.

Perpetual inventory system

A perpetual inventory system is a method of inventory management that records real-time transactions of received or sold stock through the use of technology – generally considered a more efficient method than a periodic inventory system.

IDLE TIME

It is paid time that an employee, or machine, is unproductive that is a result of factors that can either be controlled or uncontrolled by management.

Overtime

It is the amount of time someone works beyond normal [working hours](#).

Different methods of Wage Payment

1. Time Rate System
2. Piece Rate System
3. Incentive Wage System.

Time Rate System:

Under this method of wage payment, the workers are paid the wages on the basis of time. In this system of wage payment, the workers are paid the wages on the basis of time as, per hour, per day, per week, per fortnight or per month etc. This system does not consider the production of the employees during this time.

The amount of wages under this system is calculated as under:

Wages = Time spent by the worker × Rate of wages according to time.

Suitability of Time Rate System:

1. When it is not possible to measure the production in terms of units or in any other terms.
2. When the work is of high standard.
3. When it is not possible to divide the production into units.
4. When the production is of the nature that it requires efficiency more than the speed.
5. When the worker is under training.

Merits of Time Rate System:

1. Simplicity:

It is very easy to calculate the amount of wage under this system.

2. Certainty of the Amount of the Remuneration:

This system of wage payment provides certainty of the amount of wage payment to the employee. It develops the feeling of confidence and certainty among them.

3. High Quality of Production:

As this system of wage payment has no concern with quantity of production, quality of production produced by the workers under this system is very high.

4. Proper Utilization of the Factors of Production:

As this system is not related with speed, the workers perform their work in very confident manner. They make the best utilization of the factors of production.

5. Best System for Artistic Work:

This system of wage payment is most suitable for artistic work.

Demerits of Time Rate System:

1. Need of Intensive Supervision:

This system requires intensive supervision over workers. It increases the cost of supervision.

2. Lack of Incentive:

This system of wage payment makes equal payment to both the efficient and inefficient workers. Therefore, efficient workers do not get any incentive for more production.

3. Encouragement of Labour Unions:

This system encourages labour unions. Sometimes, these labour unions misuse their powers.

4. Misuse of Time by Workers:

Under this system of wage payment, the workers do not make proper Utilization by their time.

5. Fall in the Quantity of Production:

Under this system of wage payment, the quantity of production decreases because the workers do not get any incentive for increasing the production.

6. High Cost of Production:

As the production is low and the payment to the worker is more, this system increases the cost of production.

7. It Kills the Efficiency of Workers:

As this system does not make any difference between efficient and inefficient workers, it kills the efficiency of efficient workers.

8. Increase in Cost Per Unit:

This system increases the cost per unit of production. Under this system, the cost per unit of production is uncertain because the quantity of production differs from time to time.

9. Difficult to Measure the Efficiency:

Under this system of wage payment, it is very difficult to measure the efficiency of workers because all the workers of equal status are paid the wages at equal rate.

Piece Rate System:

Under this system of wage payment, the workers are paid the wages on the basis of quantity and quality of work performed by them. Under this system, the rates of wages are determined according to quantity and quality of work and the workers are paid according to these rates.

The amount of wages to be paid to a worker under this system is calculated as under:

Wages = Units of production × Rate per unit.

Suitability of Piece Rate System:

This system of wage payment is very suitable in the following conditions:

1. When the work is of standard nature.
2. When the work can be measured easily.
3. When there is a great need of increase in the production.

Merits of Piece Rate System:

1. Incentive to More Work:

This system encourages the workers to do more and more work because they get their wages according to their work.

2. Proper Utilization of Machines:

Under this system, the workers use their machines and equipment with proper care because they feel that if their machine is out of order, their work will be held up and their wages will be low.

3. Increase in the Quantity of Production:

The system of wage payment gets more production because all the workers make their best efforts to increase the production.

4. Best Utilization of Time:

As the workers are paid according to their work, they make the best possible utilization of their time. They do not want to waste their time.

5. Decrease in the Cost of Production:

This system decreases the cost of production because the maximum production is done by the workers in the minimum time. It decreases the cost per unit of production also.

6. Decrease in the Cost of Supervision and Administration:

This system of wage payment minimizes the needs of supervision. It reduces the cost of supervision.

7. Easy and Simple:

This system of wage payment is very easy to understand and very simple to calculate.

8. Improvement in the Standard of Living of Workers:

Workers get more wages because they produce more. It increases their efficiency and productivity. It increases their remuneration also which improves their standard of living.

10. Measurement of the Efficiency of the Workers:

This system provides an opportunity to measure the efficiency of the workers.

Demerits of Piece Rate System:

1. Lack of Unity among Workers:

This system lacks the unity and mutual co-operation among workers. They feel themselves competitor to each other.

2. Loss of Workers on the Failure of Machines etc.:

It because of any reason, the machines fail or the power fails, the work of workers is held up and they lose their wages.

3. Misuse of the Factors of Production:

The workers do not pay proper attention towards the factors of production. They only want to increase the speed of production.

4. Adverse Effect on the Health of Workers:

This system motivates the workers to do more and more work. It affects the health of workers adversely.

5. Low Quality of Production:

This system of wage payment does not pay any attention on the quality of production. As a result of it the quality of production falls down.

6. Unsuitable for Artistic Work:

This system is not suitable for artistic work because artistic work cannot be paid only on the basis of quantity of production.

7. Uncertainty of Wages:

As the amount of wages depends upon the quantity of production, the actual amount of wages to be paid is always uncertain. The workers also cannot estimate their remuneration in advance.

Incentive Wage System:

There are two basic systems of wage payment—Time rate system and Piece rate system.

Both the systems have their merits and demerits. No system can be considered suitable for all times and under all circumstances. To maintain the merits of both the systems and to overcome the demerits of these systems, some experts have developed the systems of incentives wage.

These systems are also known as incentive wage systems, progressive wage system and bonus schemes etc. Under these systems, both the time and speed are considered as the basis of wage payment.

These systems provide incentives to the workers to produce more and more maintaining the quality as well. The workers are paid bonus or premium for the additional work. It is important to

note that almost all the systems incentive wages provide for minimum guaranteed wages to the workers.

Characteristics of an Ideal Incentive Wage System:

Important characteristics of an Ideal Incentive Wage System are as under:

1. It must be easy to calculate and to understand.
2. The standards of work must be determined on scientific basis.
3. It must establish direct relationship between efforts and remuneration.
4. It must give a guarantee of minimum wage to all the workers.
5. It must be in the interests of both the employers and the employees.
6. It must be flexible but stable.
7. It must be framed in the manner so that it may be used widely for all the activities of the enterprise.
8. It must be helpful in increasing the production as well as productivity.

Advantages of Incentive Wage System:

- i. There is increase in the prospect of workers to earn more
- ii. The scientific work study which is done before introducing a wage incentive plan brings about improvements in methods, workflow, and man-machine relationship and so on.
- iii. There is effective reduction in the supervision costs. Closer supervision of employees becomes unnecessary because workers become more responsible.
- iv. Employees are encouraged to become “inventive”. They invent and adopt ways and means to achieve their production targets with lesser exertion and lesser expense of energy. They come forward with new ideas and suggestions.
- v. There is improvement in discipline and industrial relations.
- vi. There develops a feeling of mutual co-operation among the workers .

Effects of Incentive Wage System:

- i. There is tendency among the workers to sacrifice quality for the sake of quantity.

- ii. Employees very often ask for compensation whenever production flow is disrupted due to the fault of management.
- iii. Unless greater vigilance is exercised there is a danger of workers disregarding safety regulations.
- iv. Unless a maximum ceiling on incentive earning is fixed some workers tend to overwork and undermine their health.
- v. Jealousies may arise among workers because some are able to earn more than others.
- vi. The introduction of a system by results increases the amount and cost of clerical work since it involves considerably more bookkeeping. This is particularly true when the production is subdivided into many processes.