

Maq Omwati Degree College

Hassanpur

Exam notes

Subject - Purchase and material management

Class - BBA 5<sup>th</sup> sem.

Session - 2020-21

External Marks: 80

Internal Marks: 20

Time: 3 hrs.

## **PURCHASE AND MATERIALS MANAGEMENT**

**PAPER CODE: BBA-501**

### **UNIT-I**

Purchasing: meaning, role, objectives and functions; organization of purchase management and its relationship with other departments; five R's of purchasing (right quality, right quantity, right source, right time and right price)

### **UNIT-II**

Determination and description of material quality; vendor rating, selection, development and relations; evaluating suppliers efficiency; price determination and negotiation; make or buy decisions; purchase: procedures and documentation

### **UNIT-III**

Materials Management: meaning, objectives, importance, functions and organization materials information system; standardization, simplification and variety reduction; value analysis and engineering

### **UNIT-IV**

Stores Management: meaning, objectives, importance and functions, stores layout; classification and codification; inventory control of spare parts; materials logistics-warehousing management, materials handling, traffic and transportation; disposal of scrap, surplus and obsolete materials



## Unit - I

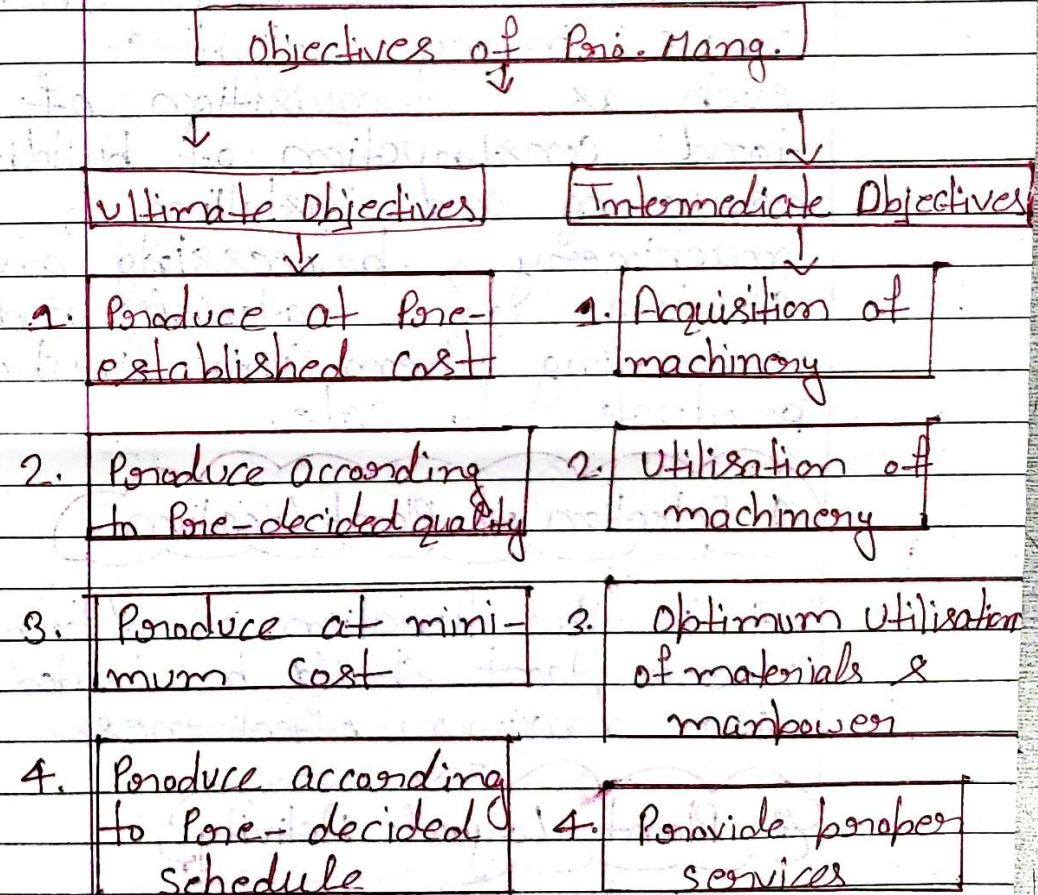
### Production Management

Production management is the process of planning, organizing, directing and controlling the activities of production function. Production function is the conversion of raw materials into finished goods. Thus, production management refers to be application of management of principles to the production function in a factory.

### Objectives of Production Management

Production is a organised activity of a manufacturing organisation. Each activity must tell its objective, so that its extense can be justified on the basis of

the degree the attainment of these objectives. The objectives of production function can be classified as under:-





## Activities / Scope of Production Management

The scope of production management is very vast. It commences with the selection of location and covers many activities such as acquisition of land, construction of building, procuring and installing machinery, processing and storing raw materials and converting them into finished products to sale.

### 1. Selection of Plant Location

It is the function of determining where plant should be located for maximum effectiveness.

### 2. Plant Layout Activity

After deciding the location of plant, production

management is to decide the internal arrangements for manufacturing a product.

### 3. Inventory Control

The term inventory includes raw-materials, finished goods, spares and others stocked in order to meet an unexpected demand or distribution in future.

### 4. Quality Control

The long run success of a business largely depends on its ability to maintain the quality by the management.

### 5. Work Study

It is closely related with the function of work measurement. It has contributed to the search for better methods.



## Importance

Following points highlight the importance of production management:

### 1. Higher Quality

The need for the quality is felt more in our country than anywhere. Production management is responsible to produce goods of better quality.

### 2. Reduce of Wastage

Waste here refers to waste of all kinds of resources, but especially the materials which is a significant portion.

### 3. Plant Utilities

Plant utilities refers to such services as lighting, sanitation and noise control etc.

### 4. Safety and Health

Safety, therefore assumes greater importance in industrial concerns. Health is wealth for employees as well as for employers.

### 5. Better Customer Service

Quick response to the complaints of customers, free replacement during guarantee period, repair and maintenance facility etc.

### 6. Use of Latest Technology

Selection of production technology is a significant part of production and operations management. Automation is being largely used in industrial establishment.



## Difference Between Products and Services

### Products

- 1) The end product is tangible.
- 2) These can be produced for stock.
- 3) There is little contact with ultimate consumer.
- 4) The production process is complex.
- 5) Here the markets served are regional, national and international.
- 6) There are large units to produce products.
- 7) Manufacturing industry may be regional, national.
- 8) Manufacturing is capital intensive.

### Services

- 1) Services are intangible in nature.
- 2) Services are non-inventoriable.
- 3) There is high contact with clients or customers.
- 4) There is a simple processing.
- 5) Market served by production system are usually local.
- 6) Relatively small units to serve local market.
- 7) Service quality is determined with difficulty.
- 8) It requires short lead times.



## Evolution of Production Management

A brief explanation of each stage follows :-

### 1. The Industrial Revolution

From 1770 to the early 1800s, series of events took place in England which together are called the industrial Revolution. The events are characterised by great inventions. These were Eight in number.

### 2. Scientific Management

Principles of Scientific Management

- 1) Developing a science for each element of a person's work.
- 2) It becomes a powerful element.

### 3. The Human Relations Movement

Before describing the human relations movement in detail, it would be useful to recollect the environment in which workers were operating.

### 4. Operations Research

Operation research has interesting history. Operation research specialists were called in to help the management come up with answers to these new problems.

### 5. The Service Revolution

The impact of explosion of service organisations on production management has been enormous. It is a challenge.



## Long Term Decisions

Followings are the major long-term decisions :-

### 1. Product Selection

What product or service one has to be offered constitute a crucial decision. Choosing the right product, keeping the mission and overall objectives in mind is key to success.

### 2. Process Selection

Selection of process involves taking decisions about technology, machines and also equipments. We have to optimize the output from a given process.

### 3. Process Planning

Process planning pertains to careful detailing of processes of resource conversion required and their sequence. Included in such decisions are the aspects of mechanism and automation.

### 4. Facility Location

It concerns decisions regarding location of production system.

A poor location may spell operating disadvantage for all times to come.

### 5. Facility Layout

Plant layout deals with the arrangement of machines and plant facilities.



## Short Term Decisions

### 1. Production planning

Planning is a pre-operation activity. It aims at anticipating the probable difficulties so that they can be eliminated before they arise.

### 2. Production Scheduling

In operation scheduling we wish to determine the optimal schedule and sequence of operations.

### 3. Production Control

Control is a management technique which aims to see that

activities are carried on in line with the predetermined standards.

### 4. Inventory Planning

This problem deals with determination of optimal inventory levels at raw-materials in process and finished goods stages of production system.

### 5. Cost Control

Cost reduction improves productivity for an on-going production system, the sole of cost reduction is paramount.



## Meaning of Production System

A system may be defined as "a purposeful collection of people, objects and procedures for operating within an environment."

Thus every organization can be represented as a system consisting of interacting sub-systems.

The features of a system are that there have inputs and outputs.

**Production System** can be defined as a system whose function is to convert a set of inputs into a set of desired outputs.

## Types of Production System

There are two main types of production :-

## Continuous or Flow Production

According to Buffa, "Continuous flow production situations are those where the facilities are standardised as to routing and flow since inputs are standardised. therefore, a standard set of processes and sequence of process can be adopted."

The processing is done through a sequence of operations which form a continuous movement or flow. The work flows through a series of interconnected operations in such a way that the materials passes from one stage to another without waiting or interruption.



## Intermittent Production

According to Buffa, "intermittent production situations are those where the facilities must be flexible enough to handle a variety of production and size, on where the basic nature of the activity imposes change of important characteristics of the input. In instance such as these, no single sequence pattern of operations is appropriate, so the relative location of the operation must be a compromise that is best for all inputs considered together".

## Production to Order System

When we produce - to - order, the production process starts after receiving the sales order in quantities dictated by each sales order. All custom-made products are produced to order since the exact specifications are known only after receipt of the order.

## Production to Stock System

Under this system production is produced and stocked in warehouses to be sold when the demand occurs. Here the whole production is looked as one job which is to be completed before going on to the next.



## Plant Location

Plant location decisions are strategic, long-term and non-competitive in nature. Plant location may be understood as the functions of determining where the plant should be located. The selection of place for locating a plant is one of the problems, perhaps the most important, which is faced by an entrepreneur while launching a new enterprise. A good plant location may arise when a new plant is to be established.

## Factors Affecting the Plant Location

Industry is an activity which converts raw materials and semi-finished goods into finished goods for sale. These are some following factors which affects the plant location: —

### 1. Supply of Raw Materials

The cost of raw materials are an important element of the total cost of production. If the supply of raw materials is not regular, it may lead to frequent stoppages and breakages in production.



## 2. Nearness to Market

Every producer wants to sell his product in the market. Nearness to market is an important factor from the point of view of his control over the market.

## 3. Transport Facilities

Speedy transport facilities are needed for the regular and timely supply of raw materials at low cost.

## 4. Supply of Labour

The supply of labour is very important at low cost. The importance of labour supply has not lessened

in spite of mechanisation. Labour costs are also important.

## 5. Power

Power is necessary for the process of production and for transporting and finishing goods and raw materials. Power may be electrically, diesel and atomic energy.

## 6. Supply of Capital

Industries require capital for initial promotion and expansion. Therefore, a capital market must be developed in industrial centres.



## 7. Natural Factors

An enterprising spirit, innovation, technical know-how and an industrious nature of population — all these factors taken together and a favourable government policy.

## Location ~~Models~~ Models

The most popular models are:

1. Factor Rating Method.
2. Point Rating Method.
3. Locational Break-even
4. Qualitative Factor Analysis.

## Meaning of Production System

Production planning involves the organisation of an overall manufacturing system to produce a product. It involves the management decisions on the resources that the firm require for the manufacturing operations and the selection of these resource to produce the designed goods at the appropriate time.

## Meaning of Production Control

Production control constantly keeps a watchful eyes on the production flow and use of resources alongwith the



location while the production planning tries to set the production targets and plans the availability of resources. Production control is a facilitating service to manufacturing. It co-ordinates all production operations.

### Objectives of Production Planning and Control

The basic objectives of production planning and control are as under:-

#### 1. To ensure maximum utilization of resources

The main objectives of production planning and control is to ensure maximum

utilization of all resources like, men, materials, machines, methods etc.

#### 2. To Maintain Optimum levels of inventory

Inventory could be raw materials, work-in-progress, finished products or the spare parts and other indirect materials. It is defined as a usable resources. A low level of inventory can lead to a stock out.

#### 3. To provide maximum customer satisfaction

Production planning and control ensures the delivery of quality goods in required



quantities to customers in the required delivery schedule and at minimum possible cost.

#### 4. To ensure production of quality product

Quality control involves following steps :-

- a) Control of purchased materials quality.
- b) Control of manufacturing
- c) Control of engineering quality - review of design.

#### 5. To minimise manufacturing cycle time

Manufacturing cycle time refers to period of time consumed in processing a product. It minimising

the machines setup time. It prompt repair and maintenances and machines and equipments.

#### 6. To ensure effective cost reduction

Production planning and control may achieves this objectives as under:-

- i). Reduction in scrap and re-work costs.
- ii) Reduction in inventory costs.
- iii) Reduction in set-up costs.
- iv) Reduction in indirect costs etc.

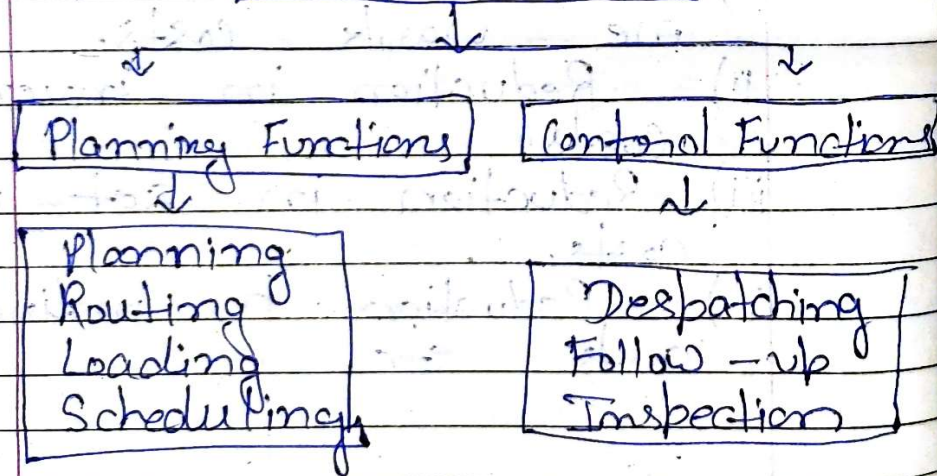


## Functions of PPC

Production planning and control lies in the statements, "first plan your work, then work your plan".

Production planning and control consists of the following steps :-

### Functions of PPC



## 1. Planning

Planning in advance is very necessary and if there is no planning then how shall we control? It is the planning department, which decides about each element of the job in anticipation that what work shall be done, where, how.

## 2. Routing

Routing may be defined as the selection of path which each part of the product will follow and which is being transformed from raw materials, to finished products. Path of the product will also give sequence.



### 3. Loading

Loading is the process of assigning specific jobs to men, machines, and work centres on the basis of their relative capacities.

### 4. Scheduling

Scheduling determines the programme for the operations. In scheduling order of sequence of each operation and their starting and finishing time is decided so the required materials, machines, as "the fixations of the time and date,

### Advantages of Production Planning and Control

Following are the benefits of production planning and control function:

#### 1. It ensures better utilization of resources

Production planning and control ensures better utilization of resources. These resources are men, materials, machines and methods.

#### 2. It minimises manufacturing time

Production planning and control department minimises the manufacturing cycle time.



### 3. Faster Delivery of Goods

Production planning and control department ensure scheduled delivery of goods to the customers.

### 4. Higher Customers Satisfaction

Delivery of goods at right time of right quality and at right place provides satisfaction to customers.

### 5. It ensures higher Productivity

Production planning and control department ensures efficient utilisation of all existing resources.

### Sequencing Problems

Several techniques for scheduling, loading and sequencing have been discussed so far. Many jobs in job shops are unique and they move through work centres as specified by the route sheets.

### Assignment Problems

The assignment model is a heuristic, which is used to assign jobs to various machines in such a way that the total processing time is minimum.



## Meaning of Quality Control

In the words of **Atford** and **Bently** quality control may be defined as,  
"Industrial management techniques by means of which products of uniform acceptable quality are manufactured."

## Importance of Quality Control

Following points highlight the importance of quality control —

### 1. Customer's Satisfaction

While purchasing a product, the customer expects that the quality of the product should be in accordance with the declared standards.

### 2. Economy

The quality control activities can achieve settings and adjustment of machinery in an economical way.

### 3. Reduction in Scrap

Quality control ensures the best utilization of material by location and rectifying process faults.

### 4. Goodwill Creation

Quality control ensures the availability of quality products.

### 5. Increase in Profit

A manufacturer of a quality product can certainly earn the expected profit and can hold a big share of the market.



## Inspection

- 1) Inspection is a part of quality control.
- 2) Inspection is an act of checking materials, parts, components or products at various stages in manufacturing and sorting out the faulty items from good items.
- 3) Inspection uses precision measuring instruments such as verniers.
- 4) Inspection is concerned with quality of past production.
- 5) Inspection is mainly the responsibility of the inspector.

## Control Charts for Variables

These charts are used when the quality of a product is capable of being measured quantitatively such as gauge of a steel atmishah, screw, steel pipe.

Types : —

- 1)  $\bar{X}$  - chart (mean chart)
- 2) R - Chart (Range chart)
- 3)  $\sigma$  - Chart (Standard deviation chart)

## Control Charts for Attributes

These charts are used when the product can not be measured in quantitative form such as oil.

Types : —

- 1) p - chart
- 2) np - chart
- 3) c - chart



## Meaning of Plant Layout

A plant layout refers to an optimum arrangement of different facilities including man, machine, equipment, materials etc. It is the overall arrangement of the production processes, storeroom, toolroom, materials handling equipment, cranes etc.

## Types of Layout

The following are the popular types of plant layout :-

### 1. Process Layout

It is called functional layout. All machines

performing similar types of operations are grouped at one location in the process layout, e.g., all lathes, milling machines, cutting machines etc.

### 2. Product Layout

In this type of layout, the machines are arranged in the sequence as required by the particular product.

### 3. Static Layout

The manufacturing operations requires the movements of men, machines and materials. Generally few inputs tend to be static while the others moving.



#### 4. Combined layout

Generally pure process or pure layout is not found in practice. Both are mutually exclusive. A proper compromise creating the benefits of both the layouts in possible to some extent.

#### 5. Cellular layout

Here an attempt is made to introduce some of the advantages of a line layout into a situation where pure line layout is not practicable.

### Materials Handling

In a manufacturing firm, the raw materials are obtained from the suppliers and are stored in the store room. They are issued to production departments and are moved inside the plant area from one process to another for the purpose of processing.

According to the American Materials Handling Society, "Material handling is an art and science involves the movement, packing and storing of substances in any form."



## Meaning of Material Management

The co-ordination is achieved by placing all functional areas involved with moving materials into the through the plant under one organisational head called the material manager. The material management concept is basically one of organisational realignment.

## Objectives of material management

The objectives of material management is classified into two categories : —

### 1. Primary Objectives

There are primary

objectives are nine.

These objectives are as following : —

- 1) Low Price.
- 2) High Inventory Turnover.
- 3) Low cost Acquisition and possession.
- 4) Continuity of Supply.
- 5) Consistency of quality.
- 6) Low Payroll costs.
- 7) Cordial Supplier Relations.
- 8) Department of Personnel.
- 9) Maintenance of Good Records.

### 2. Secondary Objectives

The secondary objectives of material management are not limited in number as in scope of primary objectives.



Science, they represent the materials management's contribution to the achievement of primary objectives of some other departments, they can vary widely from industry to industry.

- 1) Reciprocity.
- 2) New materials and products.
- 3) Economic Make-or-Buy.
- 4) Standardisation.
- 5) Product Improvement.
- 6) Inter-department relationship.
- 7) Economic Forecasts.

### Importance of Material Management

Following points highlight

the objectives of material management:-

- 1) Low price for materials and equipments.
- 2) Faster inventory turnover.
- 3) Continuity of supply.
- 4) Reduced lead time.
- 5) Reduced transportation costs.
- 6) Less duplications of efforts.
- 7) Elimination of buck-passing.
- 8) Reduced materials obsolescence.
- 9) Improved supplier relationship and better records and better information.
- 10) Better inter-department co-operation.
- 11) Personnel development.



## Functions of Material Management

Material management functions accomplish the main objectives of making available materials and services of right quality in the right quantity at the right time from the right resource at the right price.

The major functions of material management are: —

### 1. Material Planning and Budgeting

Materials planning enables the management to anticipate the future materials needs,

necessary capital requirement for meeting out such needs.

### 2. Procurement of Materials

The function of material management ensure the procurement of right materials in right quantity at right right price.

### 3. Storage of Materials

In almost all industries the materials represent a very large investment.

It is very important that strict guidelines.

### 4. Issue of Materials

The term 'Issue'



here means supply of materials from stores to the various workshops of the organisation.

### 5. Inventory Control

Because of high cost involved in inventories, their proper management and control is very important.

### 6. Vendor Development

A manufacturer might decide the purchase certain parts of a product rather than make them.

### 7. Material Handling

Material handling is very important part.

## Organization of materials Information System

An organization is primarily a system of people, method and means to attain some predetermined objectives. The final objective sought to be achieved by planned organizational change is a new stage of equilibrium for the proper functioning of the organizational system. All the significant components in the organizational system are in a state of adjustment. Built into the changed state, is a tendency towards movement.



## Standardisation

A standard is defined as a model or general agreement or rule established by authority, or custom, created and used by various levels of interest. Standardisation enables the material manager to achieve overall economy and ensure inter-changeability of parts. With standardisation more than one manufacture can supply and this will imply better availability, better price and of better quality of products.

## Purpose of Standardisation

- a) To achieve economy in term of cost, human effort and conservation of essential and scarce materials.
- b) To ensure maximum convenience by simplification, rationalisation, inter-changeability of parts, shortening of inventories.
- c) To adopt the best possible solution to recurring problems consistent with economy and convenience.
- d) To define requisite level of quality so that particular evaluation of quality.



## Simplification

Simplification is a corollary of standardisation. Simplification means reducing the number of standard items a firm has in its product design and carries in its inventory. Simplification is not synonymous with standardisation. Standardisation is creative but simplification is only selective and deliberate variety reduction. For instance, by reducing the variety of standardised products.

## Benefits of Simplification

Following points highlight the benefits of simplification:

- 1) Simplification reduces the number of standard items and thus leads to economy in manufacture.
- 2) Simplification reduces the deliberately.
- 3) Simplification brings the beneficial results to manufacturers, suppliers and consumers.
- 4) It minimises obsolescence.
- 5) It facilitates easy storage of items because of variety.



## Variety Reduction

Variety reduction has become an essential part of materials management activities.

Various purchases are made often to meet the urgent requirement for specific purposes and a good percentage of these materials thus obtained, very soon become 'Slow-moving' or even a totally dead - stock item within a very short period of time.

$$\text{Return on Capital} = \frac{\text{Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Capital}}$$

## Value Analysis

Value analysis involves systematised techniques for reducing costs and improving the performance of materials components and manufacturing processes. Value analysis is defined as, "An intensive appraisal of all the elements of the design, manufacture, construction, procurement, inspection, installation and maintenance of a product and its components including the applicable specifications and operational requirement in order to achieve the necessary performance."



## Concept of Inventory Control

Inventory control may be defined as a systematic location storage and recording of goods in such a way that a desired degree of the service can be made to the operating shops at minimum costs.

## Objectives of Inventory Control

Following are the major objectives of the inventory control :-

1. To ensure availability of materials

The first important objective of inventory control is to make all types of the materials at all times.

## 2. To minimise the wastage

Inventory control aims at minimising the wastage of inventory at all levels, during its storage.

## 3. To run the stores effectively

This includes storage layout, storing media, shelves, racks, almirah, utilization of storage space effectively.

## 4. To maintain optimum levels

The management can procure the inventory



in time in order to run the production plan efficiently.

### 5. To minimise investment in inventories

Inventory control management keeps down investment in inventories, inventory carrying costs and obsolescence losses.

### 6. To avoid improper materials handling

Inventory control protects the inventory from losses due to improper handling of goods. It removed wastage from stores.

## Advantages of Inventory Control

- 1) It ensures against delays in deliveries of goods.
- 2) It allows advantages of quality discounts.
- 3) It allows for possible increase in output.
- 4) It utilizes the benefits of price fluctuations.
- 5) It facilitates cost accounting activities by allocating materials costs to products.
- 6) It facilitates cost accounting activities by allocating material costs.



## Inventory Control Techniques

The techniques most common used are the followings:

- 1) Economic Order Quantity (EOQ) Model.
- 2) Always Better Control (ABC) Analysis.
- 3) High, Medium and Low (HML) Classification.
- 4) Vital Essential and Desirable (VED) Classification.
- 5) Scarce, Difficult and Easy to obtain (SDE)
- 6) Fast-moving, Slow-moving and ~~norm~~ moving (FSN)

7) Max - minimum System.

8) Material Requirement Planning (MRP)

9) Just - in - Time (JIT)

10) Two - Bin - System.



## Introduction of Stores Management

Receiving and storing are important functions and activities in the materials management chain.

In industries, materials have to be stocked to meet the consumption requirement during lead time or during extension of lead time due to delays by suppliers or due to unexpected increase in the consumption rate.

Storekeeping is primarily a service function in which storekeeper acts as a custodian.

## Objectives of Stores Management

- 1) To achieve efficient utilisation on storage space.
- 2) To reduce usage of material handling equipments.
- 3) To provide configuration of stored items for easy recognition.
- 4) To enable flexibility in production schedules.
- 5) To facilitate quality of the products.
- 6) To keep the accounts of all goods kept in stores.



7) To prevent theft, damage, wastages and deterioration of stored materials.

8) To maintain records of all incoming materials and issue of materials to user department.

9) To facilitate a balanced and smooth flow of raw materials, components, tool and any other items necessary to meet production requirements.

10) To maintain optimum stock of materials to compensate for irregular supplies by suppliers.

## Functions of Store Management

The major functions involved in stores management are :-

- 1) Receiving of materials.
- 2) Storing of materials.
- 3) Controlling of issue of materials.
- 4) Stock verification and valuation.

### 1. Receiving of Materials

Receiving is a clerical operation, it is important because at this stage the physical materials supplied are verified.



## 2. Storing of Materials,

Stores operation involves the physical aspects of materials handling and storage.

## 3. Controlling of Issue of materials

The materials issued out of stores can be

- (a) issues to internal consuming departments
- and (b) issues to outside suppliers.

## 4. Stock Verification and valuation

Two aspects of stores accounting or materials accounting are :

- a) Physical stock verification.
- b) Valuation of materials.

## Layout of Stores

Physical arrangement of storage facilities for efficient receiving, storing and issuing materials is referred to as stores layout. A properly laid out store will result in proper and orderly storing of materials, minimum handling of materials and optimum utilisation of storage space.

Factors to be considered while planning the layout of stores are as below :-

- 1.) Type of materials stored.
- 2.) Volume of materials stored.
- 3.) Availability of space.



## Classification

It is one of the pre-requisites for the personnel of the materials department to know about the principle materials being put to use in the organisation.

What are the natural sources, what is the process of manufacture, what are the methods of weighing and measuring, what is the common defect in one kind of material, are a few of the questions which the personnel department must be capable to be answered.

## Codification

One of the most important factors in dealing with the materials is human element which cannot be ignored or bypassed in devising any method of identifying or codifying the materials.

Accurate identification of an article, sometimes, demands lengthy description which may generally be complicated and add to the confusion.

A 'chain' if said as such as such is not the identification.

The whole story of the article is to be told if accurate.



## Meaning of Spare Parts

Spare part means a part or a sub-unit or a major assembly which is available in stock for substitution when needed. A spare part is kept ready to replace identical or similar part if the original part becomes faulty. Some spare parts are provided as spare tools which are needed to carry out repairs and replace the parts which have failed. Spare parts management has become a critical area of management.

## Concept of Logistics

Logistics is the management of the flow of materials, information and other resources between the point of origin and the point of consumption. Logistics involves the interrelations of information, transportation, inventory and warehousing.

## Meaning of Warehouse

Warehouses are the godowns which take the responsibility of keeping and storing goods and providing ancillary service in order to help the small-sized traders.



## Traffic And Transportation

Transportation and traffic mean same thing to many people. Transportation is given a broader interpretation in the sense that it means the management of the movement of goods and materials through space and time from their original source of the ultimate destination, whereas traffic considered only the techniques and is, therefore, narrower in scope.

## Scrap

The following are some of the categories of materials which come under the term "Scrap".

### Wastages

Piece cut out of raw materials during manufacturing process are called wastage. The wastage is normally included in the quantity issued and is therefore debited to the job.

### Spoilage

Items which are spoiled during the manufacturing are called spoilage. Spoilage in manufacture



involves loss of machines  
hours as well as  
man hours.

### Turnings, borings, etc.

When operations such as  
turnings, borings,  
drilling, etc., are  
carried out on  
metal bars, sheets  
a certain portion of  
such materials are  
removed by such operations.

### Scrap tools

Some tools wear out after  
a period and some  
break during usage.  
They are written  
off from stock  
by scrap note.

### Surplus Materials

Surpluses are good materials,  
which in excess of  
the present requirements.

"Surplus" is the  
state of an item when  
the stock is likely  
to last longer than  
a "reasonable"  
period on when it  
is no longer required  
for the job for  
which it was purchased.

Materials department  
should also receive  
information from the  
departments concerned  
when an item is  
no longer required, i.e.,  
surplused by another  
item or when  
an item is no longer  
required.



## Obsolete Items

Items which are out of date, mostly superseded by a later design, are known as obsolete items. Thus if a new type of grill has been designed for a motor car, the previous type is called obsolete type.

Obsolescence occurs mostly among components of a product, although in certain circumstances tools and equipment also become obsolete.

When a design is changed, it is likely to be made, the materials Department should be informed in advance.