



**EFFECTIVE PRODUCTION PLANNING AND FORMING OF MASTER
PRODUCTION SCHEDULE IN DECCAN INDUSTRIES, COIMBATORE**

by

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A PROJECT REPORT
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In partial fulfillment of the requirements
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of

MASTER OF BUSINESS ADMINISTRATION

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BONAFIDE CERTIFICATE

Certified that this project report titled “**EFFECTIVE PRODUCTION PLANNING AND FORMING OF MASTER PRODUCTION SCHEDULE IN DECCAN INDUSTRIES, COIMBATORE**” is the bonafide work of **Mr.K.Vigneshwaran, Reg no: 1120400102** who carried out the project under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any other project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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I affirm that the project work titled “**EFFECTIVE PRODUCTION PLANNING AND FORMING OF MASTER PRODUCTION SCHEDULE IN DECCAN INDUSTRIES, COIMBATORE**” being submitted in partial fulfillment for the award of Master of Business Administration is the original work carried out by me. It has not found the party other project work submitted for award of any degree or diploma, either in this or any other university.

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION TO THE STUDY:

Everything has a price; nothing in this world is for free. These statements talk about the goods and services available to consumers and customers alike throughout the globe. The pump industry is no way an exception to this statement, rather fact.

PRODUCTION PLANNING:

Production planning means to fix the production goals and to estimate the resources which are required to achieve these goals. It prepares a detailed plan for achieving the production goals economically, efficiently and in time.

“Production Planning is concerned with the determination, acquisition and arrangement of all facilities necessary for future operations”

OBJECTIVES:

The need, main functions or objectives of production planning are as follows:

1. Effective utilization of resources.
2. Steady flow of production.
3. Estimate the resources.
4. Ensure optimum inventory.
5. Co-ordinates activities of departments.
6. Minimize wastage of raw material.
7. Improves the labour productivity.
8. helps to capture the market.
9. Provides a better work environment.

10. Facilities quality improvement.

11. Results in consumer satisfaction.

12. Reduces the production costs.

Material requirements planning (MRP) is a production planning and inventory control system used to manage manufacturing processes.

An MRP system is intended to simultaneously meet three objectives:

- Ensure materials are available for production and products are available for delivery to customers.
- Maintain the lowest possible material and product levels in store
- Plan manufacturing activities, delivery schedules and purchasing activities.

The basic function of MRP system includes inventory control, bill of material processing and elementary scheduling. MRP helps organizations to maintain low inventory levels. It is used to plan manufacturing, purchasing and delivering activities.

"Manufacturing organizations, whatever their products, face the same daily practical problem - that customers want products to be available in a shorter time than it takes to make them. This means that some level of planning is required."

Companies need to control the types and quantities of materials they purchase, plan which products are to be produced and in what quantities and ensure that they are able to meet current and future customer demand, all at the lowest possible cost. Making a bad decision in any of these areas will make the company lose money. A few examples are given below:

- If company purchases insufficient quantities of an item used in manufacturing (or the wrong item) it may be unable to meet contract obligations to supply products on time.
- If a company purchases excessive quantities of an item, money is wasted - the excess quantity ties up cash while it remains as stock and may never even be used at all.

- Beginning production of an order at the wrong time can cause customer deadlines to be missed.

MRP is a tool to deal with these problems. It provides answers for several questions:

- *What* items are required?
- How many are required?
- *When* are they required?

MRP can be applied both to items that are purchased from outside suppliers and to sub-assemblies, produced internally, that are components of more complex items.

The data that must be considered include:

- The *end item* (or items) being created. This is sometimes called Independent Demand, or Level "0" on BOM (Bill of materials).
- How much is required at a time.
- When the quantities are required to meet demand.
- Shelf life of stored materials.
- Inventory status records. Records of *net materials available* for use already in stock (on hand) and materials on order from suppliers.
- Bills of materials. Details of the materials, components and sub-assemblies required to make each product.

MASTER PRODUCTION SCHEDULE:

A **master production schedule** (MPS) is a plan for individual commodities to produce in each time period such as production, staffing, inventory, etc. It is usually linked to manufacturing where the plan indicates when and how much of each product will be demanded. This plan quantifies significant processes, parts,

and other resources in order to optimize production, to identify bottlenecks, and to anticipate needs and completed goods.

The MPS translates the business plan, including forecast demand, into a production plan using planned orders in a true multi-level optional component scheduling environment. Using MPS helps avoid shortages, costly expediting, last minute scheduling, and inefficient allocation of resources. Working with MPS allows businesses to consolidate planned parts, produce master schedules and forecasts for any level of the Bill of Material (BOM) for any type of part.

1.2 ABOUT THE INDUSTRY:

Growth of Pump Industry

Although some pumps were used in 19th century, the real growth of pump industry took place in 20th century:

1905: Multistage centrifugal pumps were developed.

1929: Considerable light was thrown on the vexing problem of pressure pulsation in large hydraulic turbines & pumps.

1932: proper understanding of the origin and nature of pressure pulsation in large hydraulic turbines & pumps.

1932: proper understanding of the origin and nature of pressure pulsation & the accompanying, vibratory, structural, mechanical response.

1955: Dependence of cavitation erosion on liquid was established. This led to an understanding of why high-energy pumps are more likely to suffer from this damaging phenomenon.

1956: How the thermodynamic vaporization properties of the pump liquid could lead to reduction of cavitation activity at high temperatures at the same NPSH (Net Suction Head) (Liquid pressure head in excess of vapour pressure head).

1994: How cavitation can cause profound instabilities in pump & inducer operation.

1990-2000: It is found that sometimes obscure fluid phenomena can produce mechanical instability in rotodynamic pumps.

Drivers of pump development

1. **Industrial Revolution:** Pump industry has been fuelled by the massive demands of the industrial revolution that built our modern society.
2. **Post World War II Expansion:** In order to satisfy the pent-up demand that had gone unfulfilled in war years. Here the emphasis was on large,

multistage electric utility boiler feed water pumps & oil-field injection & pipeline pumps.

3. **Energy Crisis:** Energy crisis all over world lead to lot of research and development work for developing energy efficient pumps & systems.
4. **Environmental changes:** Curbing emissions was the paramount concern. This influence has led to better sealing of pumps including seal less, magnetically coupled chemical pumps. The ultimate product in this regard could be 'integral motor pump'.
5. **GLOBALIZATION:** The fluid engineering & other technical challenges are assumed to be solvable by the MNC who emphasize quality, productivity & faster delivery of the product in order to battle global market share. The apparently mature pump product has a lot of room for improvement. The technical improvements will continue to be necessary to maintain global competitiveness.

THE APPLICATIONS OF PUMPS:

Transportation: It is a prime function.

- **CIRCULATION:** For homogenizing the temperature and/or composition of fluid.
- **MIXING:** Two or more streams can be connected at the suction of pump & mixing can be achieved.
- **INJECTING:** High pressure can be developed by using pump and fluid can be injected in pipe or tank.
- **METERING:** Pumps can be used as metering device.
- **PRESSURE REDUCING DEVICE:** Rotary pumps can be used for reducing the pressure in polymers.
- **AGITATOR PUMPS:** Submersible pump keep the solids in suspension & prevent setting.
- **VACCUM GENERATION:** Liquid ring vacuum pumps are well known. Dry vacuum pumps are also developed.
- **REACTOR:** When two liquids are to be reacted with very small residence time then pump can be used .
- **CAVITATION REACTOR:** When one liquid and another in vapour form are to be reacted, the principle of cavitation can be used.

Indian pump industry at present met the pump requirements of 95% of applications.

SOME RECENT DEVELOPMENTS IN PUMPS

- One supplier has developed dry industrial vacuum pump. They use claw technology with a built in roots mechanism & facilitate high speed evacuation down to an ultimate vacuum of 0.05 mbar. Peak pump capacity is 560 cubic m/hr. Despite high pumping capacity, manufacturer claims less energy consumption.
- Another has developed vertical dual-screw dry running vacuum pump. It has an electric drive control integral with pump unit & can also remotely controlled. It meets the stringent electrical , mechanical & instrumental safety standards of legislation. (Received award in 40th International Mech. Engineering Exhibition at BRNO in Czech Republic).
- One foreign supplier has developed ultra high pressure plunger pumps(Pressure : 2500 bar & flow 15 to 20 lit/min., Temp.:50°C) can be used for
 1. Sensitive paint stripping from metal and concrete surfaces.
 2. Surface preparation prior to painting & coating.
 3. Cutting of metal, concrete, reinforced material.
- Computational Fluid Dynamic studies are carried out by Cranfield university for :
 1. Flow prediction in pumps
 2. Three dimensional transonic flow simulations using a time marching scheme.
 3. Erosion studies during cavitation.
- **“SMART PUMPS”**: Depending on the changes in suction conditions and/or changes in the discharge requirement the pump should act accordingly by using “SMART SENSORS” which will be based on optical fibres.
- **High Efficiency Small Circulation Pumps**: The conventional efficiency of small pumps is of the order of 5 to 10%. When these pumps are used as part of solar auxiliary system, the efficiency of pump plays a vital role. The

efficiencies of the pump have improved dramatically (+80%) using permanent magnet motors & hydraulic optimized impellers.

- One supplier has developed mechanical seal (for oil service at 660°F & water at 320°F) where cooling is achieved by using extended surfaces (fins), thus cooling water requirements is eliminated.
- Enterprise Asset Management (EAM) software applications reduce energy consumption & improve pump reliability by automatic monitoring of process pumps.
- Abroad, favourable experience of variable speed drive for power conservation I high HP equipment has led to development of micro drives.

The challenges ahead:

- Stabilizing the head characteristics of large, high specific-speed mixed flow pumps by using CFD (Computational Fluid Dynamics) techniques.
- Predicting the performance curves of pump using CFD.
- Eliminating vibrations & off-design pressure & flow fluctuations.
- Finding solutions to both rotor & structure related vibrations using FEA (Finite Element Analysis).
- Performance & life of pump is drastically affected due to a cavitation. An improved blade shape reduces/eliminates cavitation damage.
- Develop highly reliable pump such that no standby pump is required.

Role of Pump user:

- Now a days pumps are purchased based on life cycle cost analysis. Hence, user will have to keep a track record of all the pumps for expenditure on utility consumption, spare part consumption, maintenance etc. And give feedback to consultants and manufacturers.
- For any technical problem, the user should contact consultant if they do not get satisfactory services from manufacturer and also address the problem to Pump Manufacturer's Association.
- The user should replace old inefficient pumps with efficient pumps. This will

save national energy to a great extent. Use of variable speed drives wherever possible can be implemented.

- Wherever possible use 50% spare capacity instead of 100% spare capacity,. For example instead of 200m³/hr. capacity (1 working + 1 stand by) use 100m³/hr. Capacity (2 working + 1 stand by) pumps.
- Ensure preventive maintenance of all pumps.

Role of Technical Consultant:

- A technical consultant is a very important link between pump user and manufacturer. He is responsible for selecting suitable pump for the given application.
- Consultant should ensure that material for construction of all fluid-contact parts are suitable for given application.
- Consultant should ensure proper equipment layout, upstream and downstream line sizing, strainers etc.
- Consultant should participate in seminar/ workshops and share their experiences with user and manufacturers.

The role of Pump Manufacturers:

- Manufacturers to ensure that maximum possible indigenous pumps are locally available and thus avoid import of pumps. Thus save on foreign exchange. Depending on feasibility study import substitute as well as export market can be explored. For example, Ceramic pumps, High performance alloys, High precision gear pump for spinning m/c. in manmade fibre industry, peristaltic pumps, magnetic drive pumps, etc.
- Pumps consume about 30% total power. Pump is an item which will consume more energy throughout its life if it is not energy efficient. Hence, it is necessary to improve on energy efficiency of the pump. Even for small Kw rating it is essential to have high energy efficiency because in future, we will likely to use solar energy where pump efficiency plays vital role.
- In Germany, 20 % increase in energy efficiency by 2005 is made mandatory.

In Netherlands, 33% improvement in energy efficiency compared to 1995 to be achieved by 2020.

- In European industry 15-20% of energy saving potential is widely accepted through implementation of new technologies which are commonly available but not widely applied at present. What about India?
- In India, in 15% of the cases, motor selection is by consultant whereas more than 45% of the cases motor selection is by manufacturer. Hence by selecting energy efficient motors and variable speed drive, pump manufacturers can contribute to energy saving.
- There is demand from user that manufacturer should take the responsibility for optimization of material selection. Here manufacturers should focus on application of new materials of construction. Eg. Ceramic coating.
- Manufacturers should arrange training programs for user and consulting engineers.
- Manufacturers to ensure "PASS" (Prompt After Sales Service).
- IPMA (Indian Pump Manufacturers Association) should
 1. arrange more national/international seminars/exhibitions for further business developments.
 2. submit their recommendations about export/import policies, excise, custom duties policies etc. To Govt. of India at least once in a year.
 3. Take a lead role in setting up of laboratory facility required for pump manufacturers.

1.3 ABOUT THE COMPANY

For more than three decades now, the name Deccan has been synonymous with revolutionizing india's traditional pump manufacturing industry. In this time, they have dedicated their mission to making water, the earth's most precious resource, easily accessible to millions of farmers across the country.

Then unique product innovation improvisations such as vertical- open well submersible pump sets mini submersible pump sets(Sub Sevak) have been silent contributors to the green revolution that reinvented

India's story of prosperity. Today, their capabilities have taken them beyond India's shore, to over 37 countries worldwide.

With a steady year on year growth rate of 23% and facilities to manufacture more than 100,000 pump sets a year , they are today among Asia's leading pump companies.

Deccan Industries was started in the year 1981 with the first exclusive production for submersible pump sets in the country bore well submersible pumps, open well submersible pumps, jet pumps an centrifugal pumps are the major product groups .With an annual production of 100 thousand units. Deccan is one India's leading pump manufacturers. Deccan innovative pumps have been widely recognized in the market and the company is the largest producer of vertical open well pumps in the country .

The group with 3 manufacturing units and 1 technology centre with 140 thousand square feet of built up area and 220 thousand square feet of open space aims to consolidate and expand the continued development of pumping solutions .strategically positioned at Coimbatore , the pump city of Asia. Deccan pump sets cater to the needs of Indian market besides being exported to many Middle East countries with NIEMA/DIN standards.

Later Sri.K.K. Veluchamy born in an agricultural family, at his age of 13 dreamt of finding a better way to bring water to fields, than having farmers depend on hard manual and annual labour. His dream led him to pursue engineering and delve into the finer aspects of design and manufacture of submersible motors. In 1981, he realized that dream and founded Deccan Industries, an exclusive production line for submersible pumps along with his cousin P.Arumugam. Today, the Deccan group has grown to encompass many entities, from a dedicated research institute to education institutions.

MANAGEMENT

Many minds have worked alongside the founder to create that solid foundation on which the Deccan group of industries exists. They bring with them diverse skill sets that have helped them grow, sustain that growth and constantly reinvent ourselves to meet growing market needs. MR.P.Arumugam, a graduate of mathematics is the fellow founder of Deccan group and is the key driving force behind their operations strategy. He heads the finance, purchase, production planning and development divisions and is involved in devising the roadmap for Deccan. His management skills have helped us build a core team that works to deliver his strategic plans. He is committed to ensuring that the group sustains its benchmarks of quality.

MR.K.V.Karthik following an engineering degree from MIT (Pune) pursued higher education at Sheffield University, (U.K) joined his father and uncle and has since been working at all levels of the group. He was able to hone his engineering skills and also develop an understanding of rapidly evolving technologies from around the world. MR.K.V.Karthik spearheaded research initiatives works in close coordination with the research team in areas of new product developments and has been responsible for several product improvisations. His global exposure has helped him gain several insights into global marketing strategies. He currently heads the sales and marketing and research divisions at group. His enthusiasm and high energy levels are a constant source of inspiration for the team Deccan.

The core management team is ably supported by a group of professionals, each responsible for a particular area of operation. Along with an able team, they work

to constantly to elevate their standards in pump and allied light engineering manufacture.

QUALITY POLICY

AS A LEADING PUMP MANUFACTURER and a company known for its unique product innovation and improvisation, Deccan combines the best technology with fresh ways of thinking and continues to develop better pump sets, systems, services and standards for the future .

For Deccan, being number one means “being the best in terms of quality and reliability “ .the strategy is that if quality and performance continue to improve , volume and revenues will automatically follow and that is what it has always been in the past and will also be in the future .

At Deccan, they constantly strive to improvise on the nuances of production and when 30 years of small improvements accumulate , they have become a revolution .they see them as creators of a highly specialized industry . With more challenges taking place in the fluid management industry, they are on path to reinvent their capabilities in terms of increasing their product range and innovating customized products for specific purposes. They see themselves playing an increasing and responsible role in water conservation and recyclability.

The Deccan group of companies is renowned for its several enterprising efforts in diverse ventures. But like a true corporate citizen, it has responsibly discharged its duties beyond business as well . The group companies include:

Deccan Industries (Unit 1)

Deccan Industries (Unit 1) is the flagship company of the group and is engaged in the manufacture of 3",4",6",8",10" and 12" submersible pumps for bore holes

Deccan Industries (Unit 2)

The unit II of Deccan Industries is reputed to be among the largest of its kind in India. It is Primarily involved in the manufacture of Vertical and Horizontal type

open well submersible pump sets.

Deccan Industries (Unit 3)

This unit is equipped with infrastructure to manufacture a variety of pump sets, such as Centrifugal Agri Monobloc Pump sets, Domestic Monobloc Pump sets, regenerative and self-priming pump sets.

Deccan Pumps Private Limited is equipped with infrastructure to manufacture a variety of pump sets, such as Mini submersible (sub sevak) and tiny submersible pump sets.

Deccan Service Unit

This is a fully functional service center that operates within the company with the facility to repair any pump set within 24 hrs.

Research and Technology Centre

The Info Institute of Engineering function as an in-house arm and technical center for Deccan group of companies and has helped the group make giant strides in terms of innovation and improvisation. A dedicated team of qualified professionals and research analyst work to understand market dynamics and accordingly work on product enhancements.

Deccan Enterprises

Deccan Enterprises is one of the largest distributors for Finolex Cables and wires in India. It is also a well-known distributor of BCH Electric Limited, one of the largest manufacturers of low voltage electrical and electronic controls in India.

Agri Business

In keeping with the Group's commitment to a greener planet, farm has been instituted at Vedasandur. Deploying modern organic farming methods, the farms are spread over 120 acres and include coconut, mango, tamarind plantations, etc.

Real Estate and Property Development

Coimbatore, an established industrial city and an emerging Tier-II IT hub offers immense scope for Real Estate and Property Development. Being an astute business group, Deccan has taken active interest and involvement in the acquisition of prime lands and properties in and around Coimbatore. Under its fold are Apartments, Commercial and office complexes, etc.

MANUFACTURING FACILITIES

The strength of their infrastructure has been a key factor in delivering quality products on time, every time. The company is installed with all modern and precise machineries required to manufacture the pumps in high calibre. Their stainless steel sheet metal unit has excellent state-of-the-art manufacturing facilities for producing stainless steel components.

The company has 3 manufacturing units with a total built up area of about 80000 sq.ft mostly roofed by concrete and another 12000 sq.ft is used for stocking. Their testing facility is the country's largest and all products are routed through exhaustive testing processes before they reach the market.

Apart from this a land measuring about 2.5 hectares is available in the vicinity of the company for future expansion and diversification. Modern methods are used

for stocking and handling and even the raw materials stored in the stock yard are through pallets. Internal and external training programs on productivity, inspection and quality management systems and housekeeping are conducted regularly.

RESEARCH AND TECHNOLOGY

At Deccan, improvisation and innovation go hand in hand. While product improvisation is a constant process, innovations take place depending on market needs and demands. We have a strong R&D set up at the Info Institute of Engineering. The institute functions as an In-house arm and technical centre for Deccan group of companies and have helped the group make giant strides in terms of innovation and improvisation.

A dedicated team of qualified professionals and research analysts work to understand market dynamics and accordingly work on product enhancements. The R&D personnel are highly qualified with doctorates and Ph.Ds in their own field and include specialists in the material/mechanical/electrical segments. More than 1/4th of their turnover is spent on new product development and research every year.

1.4 STATEMENT OF THE PROBLEM

Production Planning is the Key Function of an organization. Improper production planning may lead to either production run problems or over-investment in inventory. Hence, forming a master production schedule is considered as a problem for the study.

1.5 OBJECTIVES OF THE STUDY

Primary objective:

To form a Master Production Schedule and to create an effective Material Requirement Planning for the monthly production in Deccan Pump Sets, Coimbatore.

Secondary objectives:

- To classify the inventory into A,B&C categories based on their cost.
- To find the re-order level

SCOPE OF THE STUDY

The study focuses on the formation of master production schedule with effective material requirement planning for the pumps manufactured by Deccan pumps, Coimbatore.

CHAPTER 2: REVIEW OF LITERATURE:

David Zalkind, observed that system analyzed in this paper is the scheduling-period-order-level, tz , system where every t units of time an order is placed for an amount equal to the different between a predetermined order-level Z and the sum of what is currently on hand and already on order. Shortages are backordered. Separate orders have independent identically distributed lead-time distributions. Orders are thus not restricted to arrive in the same sequence in which they were placed.

BALA RAM, observed that the in the conventional Material Requirement Planning, a Bills-of-Materials for products is fixed. If time or quantity as stated in the master production schedule is not flexible for the final product, flexible BOM may be introduced to compensate for the inflexibility in the MPS. This paper addresses situations where a flexible BOM could be used to deal with unexpected shortages when using MRP to plan for requirements of dependent demand items. The requirements stated in the MPS are met in timely manner by allowing the substitution of items for one another in the case of a shortage.

Blackburn et al. (1986), Murthy and Ma (1991), Ho et al. (1995), and Yeung et al. (1998). Plenert (1999), observed that Safety stock and safety lead time are two widely used, inventory-oriented approaches to cope with system uncertainty. Safety stock generates net requirements to ensure a minimum level of inventory at all times. It absorbs changes at the top level, thus reducing the amount of nervousness transmitted to lower levels (Kadipasaoglu and Sridharan 1995). Safety lead times inflate production lead times at the component level. They are used to cope with time uncertainty such as delivery delays (Koh et al. 2002).

Whybark and Williams (1976) study both safety stock and safety lead time and conclude that safety stock should be used to address product demand uncertainty and safety lead time should be used to deal with completion time uncertainty.

P. Cyplik*, L. Hadas and M. Fertsch, observed that production planning model has been based on the classical stock management theory and material requirement planning methods. It results in merging production management and stock management in a one coherent material flow management system. The evaluation of the proposed model was made based on its empirical verification in the environment of the machine industry plant mentioned above. The results turned out to be very promising – the value of spare parts stock was reduced by nearly 50%.

A. SEGERSTEDT*, it is observed that For a company's long-term profitability, the most important processes are the way it starts parts of the manufacturing process before the customer order arrives and the way it determines and promises delivery quantities and times for customer orders. In practical computer applications Material Requirement Planning (MRP) and/or Reorder point systems are the base techniques mostly used. This paper presents Cover-Time Planning (CTP), a variant of a reorder point system, which is developed with a forward-looking forecasted demand rate and the decision variable is 'time', instead of 'quantity' for an ordinary reorder-point system. MRP and CTP are introduced and compared through a numerical example. MRP and CTP must treat a practical 'make-to-order'; therefore, this paper discusses available-to-promise, planning bills and other help systems for practical applications of Master Production Scheduling. The paper presents how and why, in practice, a Master Production Scheduling system with an available-to-promise function should be used and how this system should be designed. It is also argued that a fully Enterprise Resource Planning (ERP) system cannot only be created by MRP, but also by CTP.

CHAPTER 3: RESEARCH METHODOLOGY:

Research methodology is a way to systematically solve the research problem it may be understood as a science of new research is done scientifically.

3.1 Type of the research

A careful investigation or inquiry especially through search for new facts in any branch of knowledge

Case Study research

A detailed intensive study of a unit, such as a corporation or a corporate division that stresses factor contributing to its success or failure, the present study uses case study research design.

3.2 DATA COLLECTION METHOD

The data can be classified as;

1. Primary data
2. Secondary data

Primary data

The primary data are those which are collected a fresh and for the first time and thus happen. It is original in character.

Secondary data

The secondary data are those which have already been collected by someone else and which already have been passed through the statistical process. Information for this study has been collected from the secondary data sources, like,

- Monthly production schedule report.
- Bill of material.

3.3 LMITATION OF STUDY

1. The study focuses on only the A Class items of the pump components.

3.4 A SAMPLING TECNIQUE:

The study analyses of DR model pumps produced by Deccan Pumps Limited.

3.5 TOOLS USED FOR ANALYZING DATA

The following tools used for this study

- ABC analysis
- MRP (Material Requirement Planning)
- Reorder level

ABC Analysis

ABC analysis is a business term used to define an inventory categorized technique often used in materials management. ABC analysis provides a mechanism for identifying items which will have a significant impact on overall inventory cost whilst also providing a mechanism for identifying different categories of stock that will require different management and controls

When carrying out an ABC analysis, inventory items are valued (item cost multiplied by quantity issued/consumed in period) with the results then ranked. The results are then grouped typically into three bands. These bands are called codes.

ABC codes

1. "A class" inventory will typically contain items that account for 75% of total value
2. "B class" inventory will have around 20% of total value
3. "C class" inventory will account for the remaining 5%.

MATERIAL REQUIREMENT PLANNING

MRP system includes inventory control, bill of material processing and elementary scheduling. MRP helps organizations to maintain low inventory levels. It is used to plan manufacturing, purchasing and delivering activities. From the observed lead time, the planned order release is made when the stock level replenished from the required level.

REORDER LEVEL

The reorder level of a stock is the point at which stock on a particular item has diminished to a point where it needs to be replenished

There is typically a lag time between the point at which stock is ordered and the time in which it is delivered. The reorder level of stock is often set at a figure higher than zero to take this time period into account. Therefore, the reorder level is set so that the stock level will which at or around zero about the time the next shipment of stock is anticipated to arrive.

Reorder point = lead time × Demand per day + Safety level of stock

CHAPTER 4: ANALYSIS AND INTERPRETATION 4.1 ABC ANALYSIS:

4.1.1 ABC classification for the pump model of -DR 61/15 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VALUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	300	233	69900	5.00%	31.74%
2	IMPELLER	LTB-2/SS-410	300	148	44400	10.00%	51.91%
3	PUMP SHAFT	SS-410	20	715	14300	15.00%	58.40%
4	NECK RING	SS-304	300	42	12600	20.00%	64.12%
5	CASING RUBBER BUSH	NITRILE RUBBER	300	42	12600	25.00%	69.85%
6	STAGE SLEEVE	SS-410	300	42	12600	30.00%	75.57%
7	CASING BUSH	LTB-4	300	42	12600	35.00%	81.29%
8	NRV	CI-FG-200	20	590	11800	40.00%	86.60%
9	PATTA	MS	80	120	9600	45.00%	91.01%
10	INTERMEDIATE PIECE	CI-FG-200	20	356	7120	50.00%	94.25%
11	DOL	CI-FG-200	20	233	4660	55.00%	96.36%
12	STRAINER	SS-304	20	106	2120	60.00%	97.32%
13	TOP SLEEVE	SS-410	20	85	1700	65.00%	98.10%
14	DOL BUSH	LTB-4	20	85	1700	70.00%	98.87%
15	KEY (6*4*24mm)	SS-410	300	4	1200	75.00%	99.41%
16	PATTA NUT	SS-304	80	8.5	680	80.00%	99.72%
17	TOP BOLT (M10*20mm)	SS-304	20	21	420	85.00%	99.91%
18	DUMMY	PLASTIC	20	6	120	90.00%	99.97%
19	LOCK WASHER	SS-304	20	1.5	30	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	20	1.5	30	100.00%	100.00%

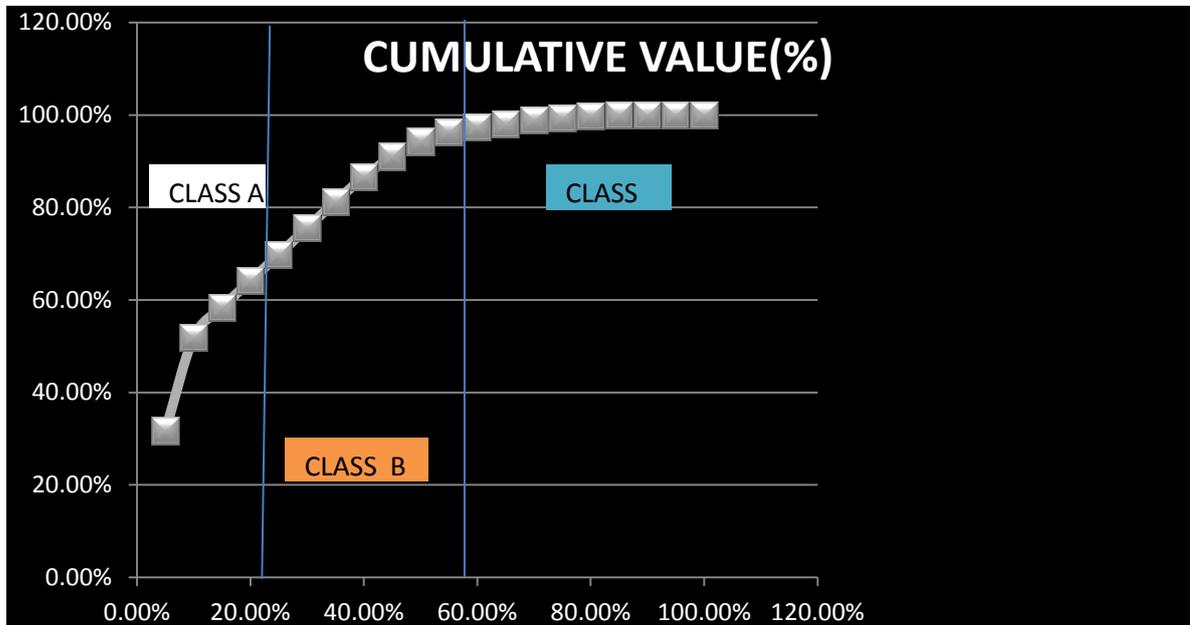
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.1- ABC classification for the pump model of -DR 61/15 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-4

Number of components that comes under B class item are-7

Number of components that comes under C class item are-9

The above graph distinguishes the A class item, B class item and C class item.

A CLASS ITEMS
CASING
IMPELLER
PUMP SHAFT
NECK RING

4.1.2 ABC classification for the pump model of -DR 61/16 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	320	233	74560	5.00%	31.15%
2	IMPELLER	LTB-2/SS-410	320	148	47360	10.00%	50.94%
3	PATTA	MS	80	200	16000	15.00%	57.62%
4	PUMP SHAFT	SS-410	20	799	15980	20.00%	64.30%
5	NECK RING	SS-304	320	42	13440	25.00%	69.92%
6	CASING RUBBER	NITRILE RUBBER	320	42	13440	30.00%	75.53%
7	STAGE SLEEVE	SS-410	320	42	13440	35.00%	81.15%
8	CASING BUSH	LTB-4	320	42	13440	40.00%	86.77%
9	NRV	CI-FG-200	20	590	11800	45.00%	91.70%
10	INTERMEDIATE PIECE	CI-FG-200	20	356	7120	50.00%	94.37%
11	DOL	CI-FG-200	20	233	4660	55.00%	96.62%
12	STRAINER	SS-304	20	106	2120	60.00%	97.50%
13	TOP SLEEVE	SS-410	20	85	1700	65.00%	98.21%
14	DOL BUSH	LTB-4	20	85	1700	70.00%	98.93%
15	KEY (6*4*24mm)	SS-410	320	4	1280	75.00%	99.46%
16	PATTA NUT	SS-304	80	8.5	680	80.00%	99.74%
17	TOP BOLT (M10*20mm)	SS-304	20	21	420	85.00%	99.92%
18	DUMMY	PLASTIC	20	6	120	90.00%	99.92%
19	LOCK WASHER	SS-304	20	1.5	30	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	20	1.5	30	100.00%	100.00%

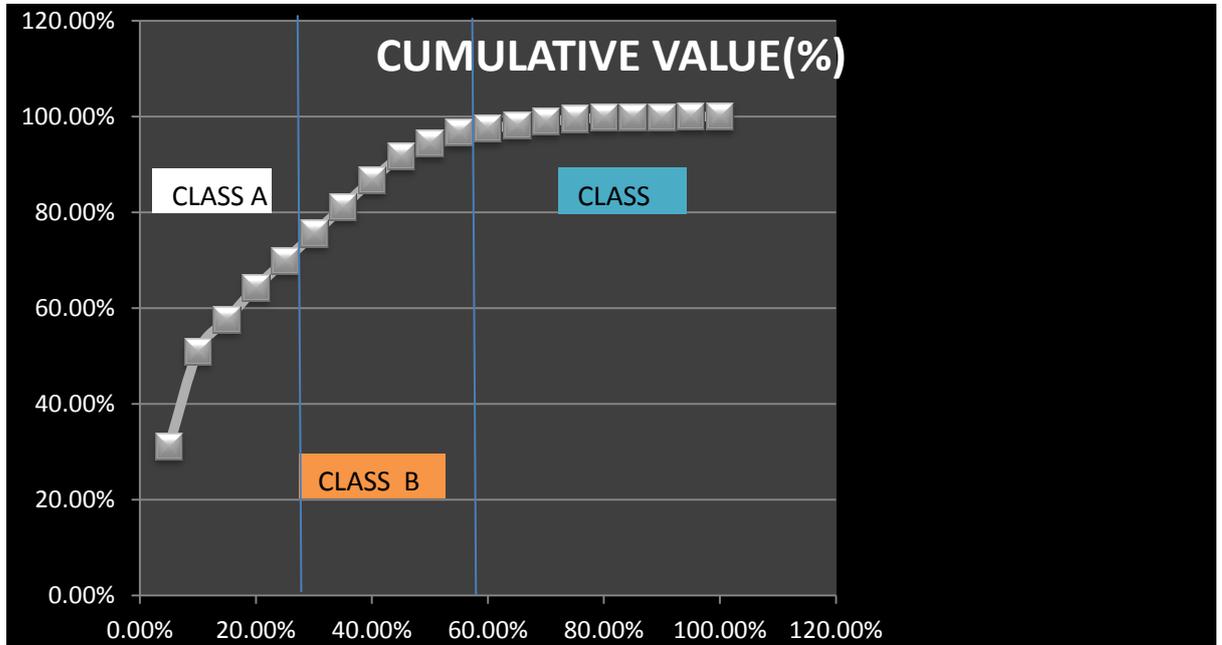
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.2 ABC classification for the pump model of -DR 61/16 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-6

Number of components that comes under C class item are-9

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.3 ABC classification for the pump model of - DR 62/16 5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	160	233	37280	5.00%	31.15%
2	IMPELLER	LTB-2/SS-410	160	148	23680	10.00%	50.94%
3	PATTA	MS	40	200	8000	15.00%	57.62%
4	PUMP SHAFT	SS-410	10	799	7990	20.00%	64.30%
5	NECK RING	SS-304	160	42	6720	25.00%	69.92%
6	CASING RUBBER BUSH	NITRILE RUBBER	160	42	6720	30.00%	75.53%
7	STAGE SLEEVE	SS-410	160	42	6720	35.00%	81.15%
8	CASING BUSH	LTB-4	160	42	6720	40.00%	86.77%
9	NRV	CI-FG-200	10	590	5900	45.00%	91.70%
10	INTERMEDIATE PIECE	CI-FG-200	10	356	3560	50.00%	94.67%
11	DOL	CI-FG-200	10	233	2330	55.00%	96.62%
12	STRAINER	SS-304	10	106	1060	60.00%	97.50%
13	TOP SLEEVE	SS-410	10	85	850	65.00%	98.21%
14	DOL BUSH	LTB-4	10	85	850	70.00%	98.93%
15	KEY (6*4*24mm)	SS-410	160	4	640	75.00%	99.46%
16	PATTA NUT	SS-304	40	8.5	340	80.00%	99.74%
17	TOP BOLT (M10*20mm)	SS-304	10	21	210	85.00%	99.92%
18	DUMMY	PLASTIC	10	6	60	90.00%	99.97%
19	LOCK WASHER	SS-304	10	1.5	15	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	10	1.5	15	100.00%	100.00%

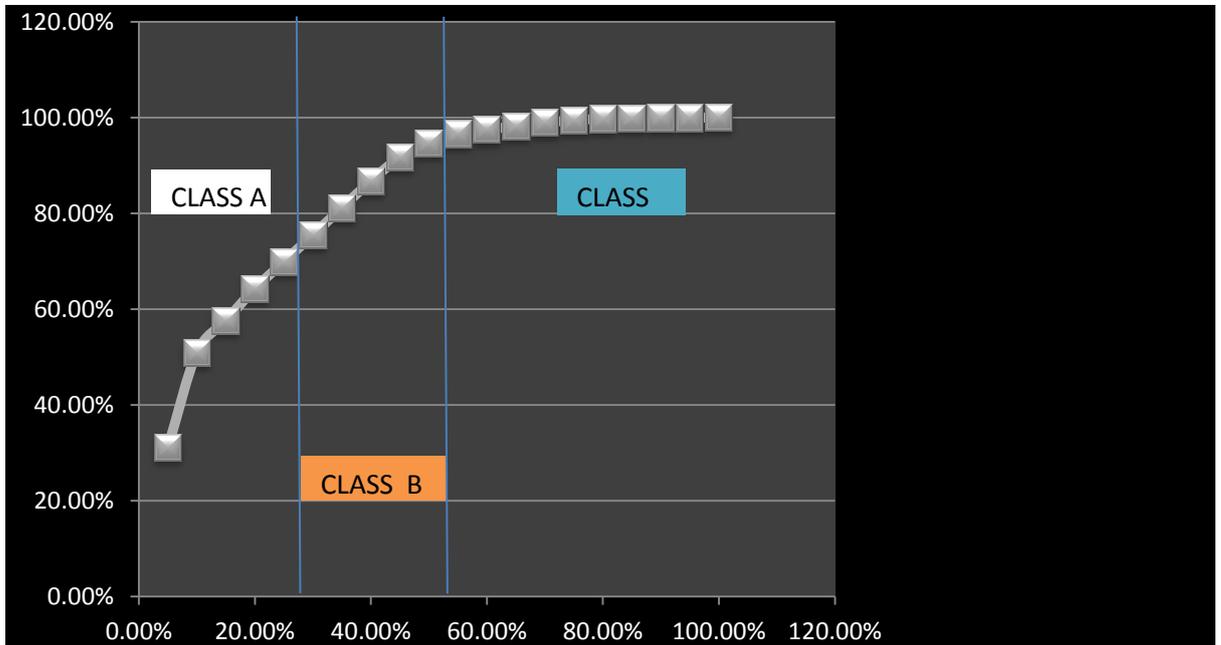
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.3 ABC classification for the pump model of - DR 62/16 5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.4 ABC classification for the pump model of - DR 60/25 5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	125	233	29125	5.00%	31.92%
2	IMPELLER	LTB-2/SS-410	125	128	16000	10.00%	49.46%
3	PUMP SHAFT	SS-410	5	2125	10625	15.00%	61.11%
4	PATTA	MS	20	319	6380	20.00%	68.10%
5	NECK RING	SS-304	125	42	5250	25.00%	73.86%
6	CASING RUBBER BUSH	NITRILE RUBBER	125	42	5250	30.00%	79.61%
7	STAGE SLEEVE	SS-410	125	42	5250	35.00%	85.37%
8	CASING BUSH	LTB-4	125	42	5250	40.00%	91.12%
9	NRV	CI-FG-200	5	590	2950	45.00%	94.36%
10	INTERMEDIATE PIECE	CI-FG-200	5	356	1780	50.00%	96.31%
11	DOL	CI-FG-200	5	233	1165	55.00%	97.58%
12	STRAINER	SS-304	5	106	530	60.00%	98.16%
13	KEY (6*4*24mm)	SS-410	125	4	500	65.00%	98.71%
14	TOP SLEEVE	SS-410	5	85	425	70.00%	99.18%
15	DOL BUSH	LTB-4	5	85	425	75.00%	99.64%
16	PATTA NUT	SS-304	20	8.5	170	80.00%	99.83%
17	TOP BOLT (M10*20mm)	SS-304	5	21	105	85.00%	99.95%
18	DUMMY	PLASTIC	5	6	30	90.00%	99.98%
19	LOCK WASHER	SS-304	5	1.5	7.5	95.00%	99.99%
20	SPRING WASHER FOR TOP BOLT	MS	5	1.5	7.5	100.00%	100.00%

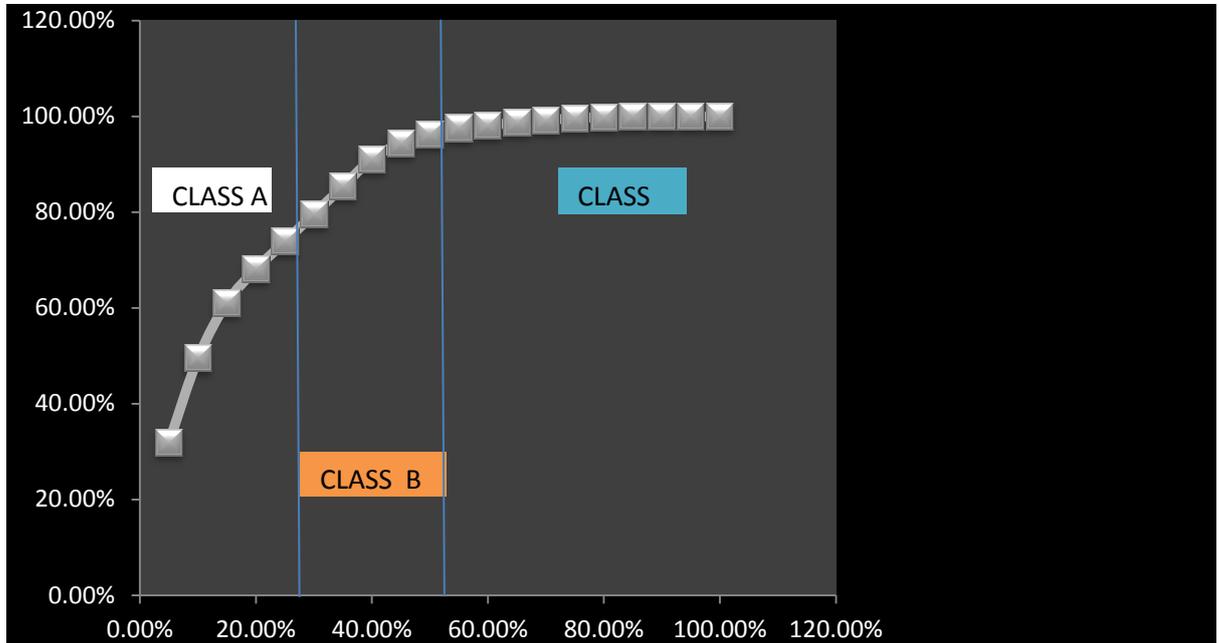
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.4 ABC classification for the pump model of - DR 60/25 5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.5 ABC classification for the pump model of - DR 60/29 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	87	233	20271	5.00%	32.29%
2	IMPELLER	LTB-2/SS-410	87	128	11136	10.00%	50.04%
3	PUMP SHAFT	SS-410	3	2465	7395	15.00%	61.82%
4	PATTA	MS	12	370	4440	20.00%	68.89%
5	NECK RING	SS-304	87	42	3654	25.00%	74.71%
6	CASING RUBBER BUSH	NITRILE RUBBER	87	42	3654	30.00%	80.54%
7	STAGE SLEEVE	SS-410	87	42	3654	35.00%	86.36%
8	CASING BUSH	LTB-4	87	42	3654	40.00%	92.18%
9	NRV	CI-FG-200	3	590	1770	45.00%	95.00%
10	INTERMEDIATE PIECE	CI-FG-200	3	356	1068	50.00%	96.70%
11	DOL	CI-FG-200	3	233	699	55.00%	97.82%
12	KEY (6*4*24mm)	SS-410	87	4	348	60.00%	98.37%
13	STRAINER	SS-304	3	106	318	65.00%	98.88%
14	TOP SLEEVE	SS-410	3	85	255	70.00%	99.28%
15	DOL BUSH	LTB-4	3	85	255	75.00%	99.69%
16	PATTA NUT	SS-304	12	8.5	102	80.00%	99.85%
17	TOP BOLT (M10*20mm)	SS-304	3	21	63	85.00%	99.95%
18	DUMMY	PLASTIC	3	6	18	90.00%	99.98%
19	LOCK WASHER	SS-304	3	1.5	4.5	95.00%	99.99%
20	SPRING WASHER FOR TOP BOLT	MS	3	1.5	4.5	100.00%	100.00%

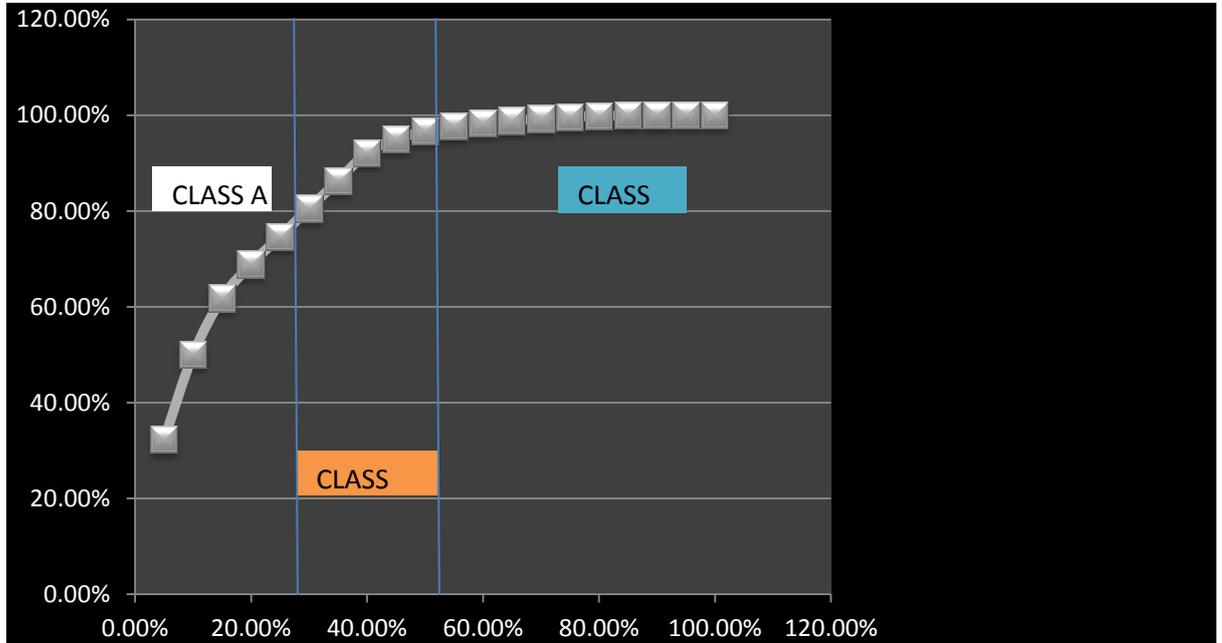
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.5 ABC classification for the pump model of - DR 60/29 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.6 ABC classification for the pump model of - DR 62/18 7.5HP 3PH

ITEM NO	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	90	233	20970	5.00%	31.58%
2	IMPELLER	LTB-2/SS-410	90	148	13320	10.00%	51.65%
3	PATTA	MS	20	230	4600	15.00%	58.58%
4	PUMP SHAFT	SS-410	5	884	4420	20.00%	65.24%
5	NECK RING	SS-304	90	42	3780	25.00%	70.93%
6	CASING RUBBER BUSH	NITRILE RUBBER	90	42	3780	30.00%	76.62%
7	STAGE SLEEVE	SS-410	90	42	3780	35.00%	82.32%
8	CASING BUSH	LTB-4	90	42	3780	40.00%	88.01%
9	NRV	CI-FG-200	5	590	2950	45.00%	92.46%
10	INTERMEDIATE PIECE	CI-FG-200	5	356	1780	50.00%	95.14%
11	DOL	CI-FG-200	5	233	1165	55.00%	96.89%
12	STRAINER	SS-304	5	106	530	60.00%	97.69%
13	TOP SLEEVE	SS-410	5	85	425	65.00%	98.33%
14	DOL BUSH	LTB-4	5	85	425	70.00%	98.97%
15	KEY (6*4*24mm)	SS-410	90	4	360	75.00%	99.51%
16	PATTA NUT	SS-304	20	8.5	170	80.00%	99.77%
17	TOP BOLT (M10*20mm)	SS-304	5	21	105	85.00%	99.93%
18	DUMMY	PLASTIC	5	6	30	90.00%	99.97%
19	LOCK WASHER	SS-304	5	1.5	7.5	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	5	1.5	7.5	100.00%	100.00%

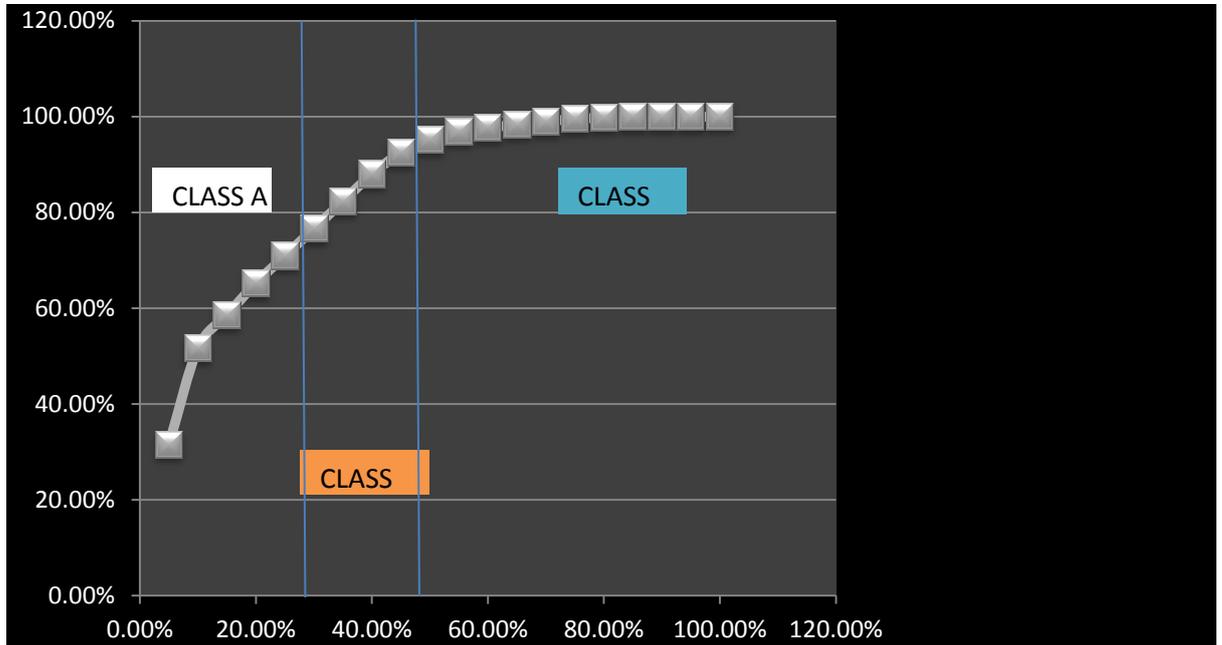
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.6 ABC classification for the pump model of - DR 62/18 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.7 ABC classification for the pump model of - DR 62/20 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	90	233	20970	5.00%	31.15%
2	IMPELLER	LTB-2/SS-410	90	148	13320	10.00%	50.94%
3	PATTA	MS	20	255	5100	15.00%	58.52%
4	PUMP SHAFT	SS-410	5	969	4845	20.00%	65.71%
5	NECK RING	SS-304	90	42	3780	25.00%	71.33%
6	CASING RUBBER BUSH	NITRILE RUBBER	90	42	3780	30.00%	76.94%
7	STAGE SLEEVE	SS-410	90	42	3780	35.00%	82.56%
8	CASING BUSH	LTB-4	90	42	3780	40.00%	88.18%
9	NRV	CI-FG-200	5	590	2950	45.00%	92.56%
10	INTERMEDIATE PIECE	CI-FG-200	5	356	1780	50.00%	95.20%
11	DOL	CI-FG-200	5	233	1165	55.00%	96.93%
12	STRAINER	SS-304	5	106	530	60.00%	97.72%
13	TOP SLEEVE	SS-410	5	85	425	65.00%	98.35%
14	DOL BUSH	LTB-4	5	85	425	70.00%	98.98%
15	KEY (6*4*24mm)	SS-410	90	4	360	75.00%	99.52%
16	PATTA NUT	SS-304	20	8.5	170	80.00%	99.77%
17	TOP BOLT (M10*20mm)	SS-304	5	21	105	85.00%	99.93%
18	DUMMY	PLASTIC	5	6	30	90.00%	99.97%
19	LOCK WASHER	SS-304	5	1.5	7.5	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	5	1.5	7.5	100.00%	100.00%

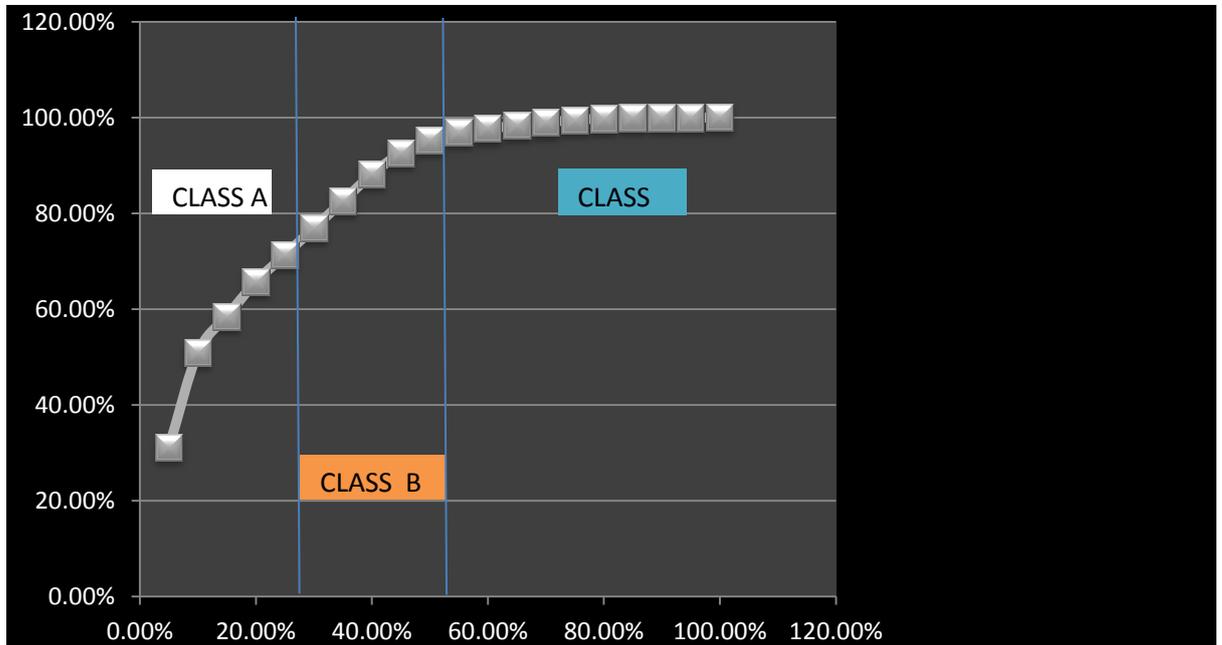
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.7 ABC classification for the pump model of - DR 62/20 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.8 ABC classification for the pump model of - DR 61/20 10HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	40	233	9320	5.00%	32.40%
2	IMPELLER	LTB-2/SS-410	40	148	5920	10.00%	52.99%
3	PUMP SHAFT	SS-410	2	969	1938	15.00%	59.72%
4	NECK RING	SS-304	40	42	1680	20.00%	65.57%
5	CASING RUBBER BUSH	NITRILE RUBBER	40	42	1680	25.00%	71.41%
6	STAGE SLEEVE	SS-410	40	42	1680	30.00%	77.25%
7	CASING BUSH	LTB-4	40	42	1680	35.00%	83.41%
8	PATTA	MS	8	208	1664	40.00%	88.88%
9	NRV	CI-FG-200	2	590	1180	45.00%	92.98%
10	INTERMEDIATE PIECE	CI-FG-200	2	356	712	50.00%	95.45%
11	DOL	CI-FG-200	2	233	466	55.00%	97.07%
12	STRAINER	SS-304	2	106	212	60.00%	97.81%
13	TOP SLEEVE	SS-410	2	85	170	65.00%	98.40%
14	DOL BUSH	LTB-4	2	85	170	70.00%	98.99%
15	KEY (6*4*24mm)	SS-410	40	4	160	75.00%	99.55%
16	PATTA NUT	SS-304	8	8.5	68	80.00%	99.93%
17	TOP BOLT (M10*20mm)	SS-304	2	21	42	85.00%	99.94%
18	DUMMY	PLASTIC	2	6	12	90.00%	99.97%
19	LOCK WASHER	SS-304	2	1.5	3	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	2	1.5	3	100.00%	100.00%

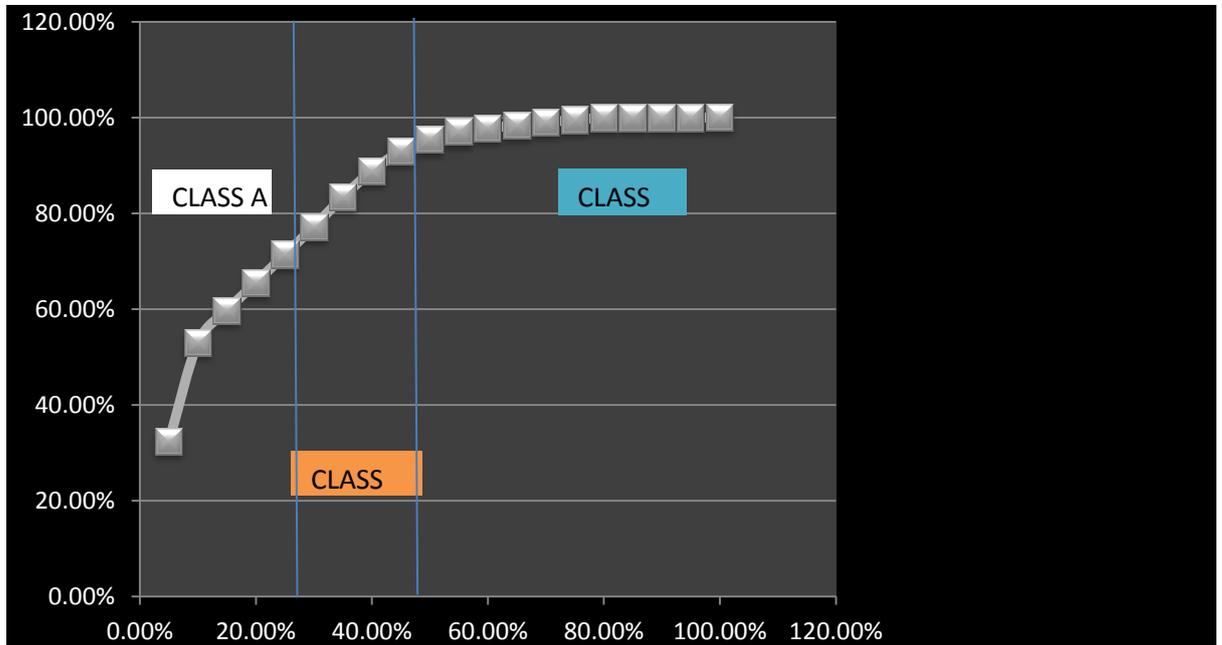
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.8 ABC classification for the pump model of - DR 61/20 10HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PUMP SHAFT
NECK RING
CASING RUBBER
BUSH(27*36*14mm)

4.1.9 ABC classification for the pump model of - DR 63/8 5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	80	255	20400	5.00%	27.81%
2	IMPELLER	LTB-2/SS-410	80	148	11840	10.00%	43.95%
3	PATTA	MS	40	153	6120	15.00%	52.30%
4	NRV	CI-FG-200	10	590	5900	20.00%	60.34%
5	STAGE SLEEVE	SS-410	80	60	4800	25.00%	66.89%
6	PUMP SHAFT	SS-410	10	459	4590	30.00%	73.15%
7	INTERMEDIATE PIECE	CI-FG-200	10	356	3560	35.00%	78.00%
8	NECK RING	SS-304	80	42	3360	40.00%	82.58%
9	CASING RUBBER BUSH	NITRILE RUBBER	80	42	3360	45.00%	87.16%
10	CASING BUSH	LTB-4	80	42	3360	50.00%	94.92%
11	DOL	CI-FG-200	10	233	2330	55.00%	94.92%
12	STRAINER	SS-304	10	106	1060	60.00%	96.37%
13	TOP SLEEVE	SS-410	10	85	850	65.00%	97.53%
14	DOL BUSH	LTB-4	10	85	850	70.00%	98.69%
15	PATTA NUT	SS-304	40	8.5	340	75.00%	99.15%
16	KEY (6*4*24mm)	SS-410	80	4	320	80.00%	99.59%
17	TOP BOLT (M10*20mm)	SS-304	10	21	210	85.00%	99.87%
18	DUMMY	PLASTIC	10	6	60	90.00%	99.95%
19	LOCK WASHER	SS-304	10	1.5	15	95.00%	99.97%
20	SPRING WASHER FOR TOP BOLT	MS	10	1.5	15	100.00%	100.00%

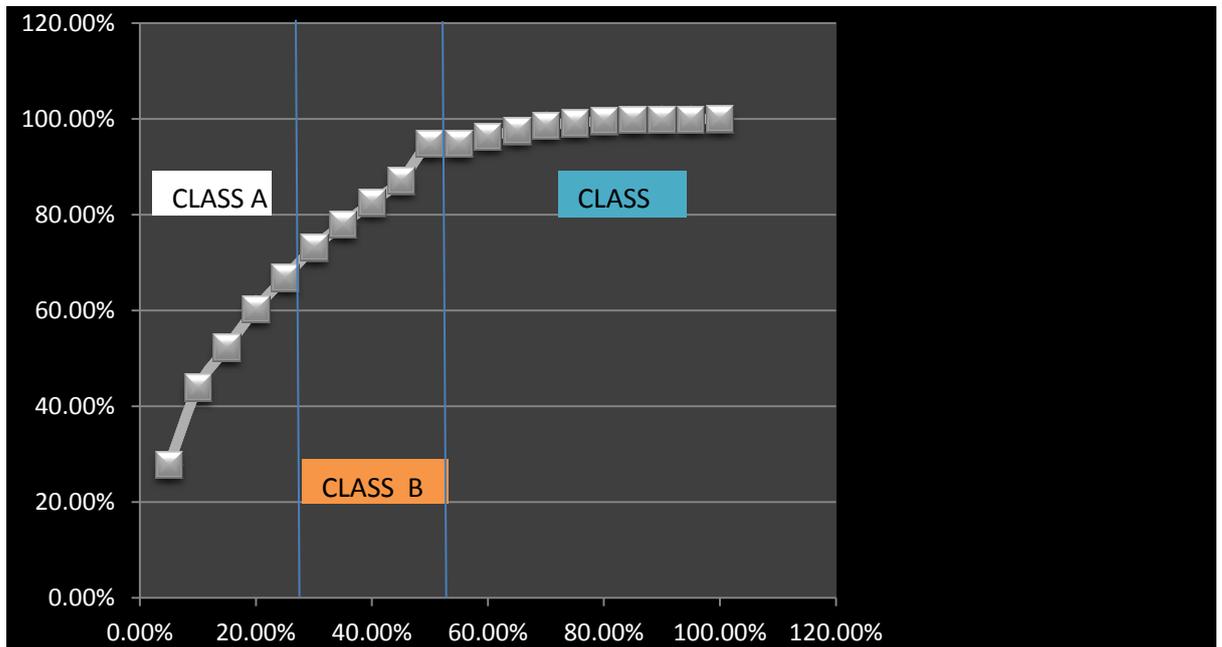
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.9 ABC classification for the pump model of - DR 63/8 5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
NRV
STAGE SLEEVE

4.1.10 ABC classification for the pump model of - DR 63/12 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	120	255	30600	5.00%	30.66%
2	IMPELLER	LTB-2/SS-410	120	148	17760	10.00%	48.45%
3	STAGE SLEEVE	SS-410	120	60	7200	15.00%	55.67%
4	PATTA	MS	40	179	7160	20.00%	62.84%
5	PUMP SHAFT	SS-410	10	629	6290	25.00%	69.14%
6	NRV	CI-FG-200	10	590	5900	30.00%	75.06%
7	NECK RING	SS-304	120	42	5040	35.00%	80.11%
8	CASING RUBBER BUSH	NITRILE RUBBER	120	42	5040	40.00%	85.16%
9	CASING BUSH	LTB-4	120	42	5040	45.00%	90.21%
10	INTERMEDIATE PIECE	CI-FG-200	10	356	3560	50.00%	93.77%
11	DOL	CI-FG-200	10	233	2330	55.00%	96.11%
12	STRAINER	SS-304	10	106	1060	60.00%	97.17%
13	TOP SLEEVE	SS-410	10	85	850	65.00%	98.02%
14	DOL BUSH	LTB-4	10	85	850	70.00%	98.87%
15	KEY (6*4*24mm)	SS-410	120	4	480	75.00%	99.35%
16	PATTA NUT	SS-304	40	8.5	340	80.00%	99.69%
17	TOP BOLT (M10*20mm)	SS-304	10	21	210	85.00%	99.90%
18	DUMMY	PLASTIC	10	6	60	90.00%	99.96%
19	LOCK WASHER	SS-304	10	1.5	15	95.00%	99.96%
20	SPRING WASHER FOR TOP BOLT	MS	10	1.5	15	100.00%	100.00%

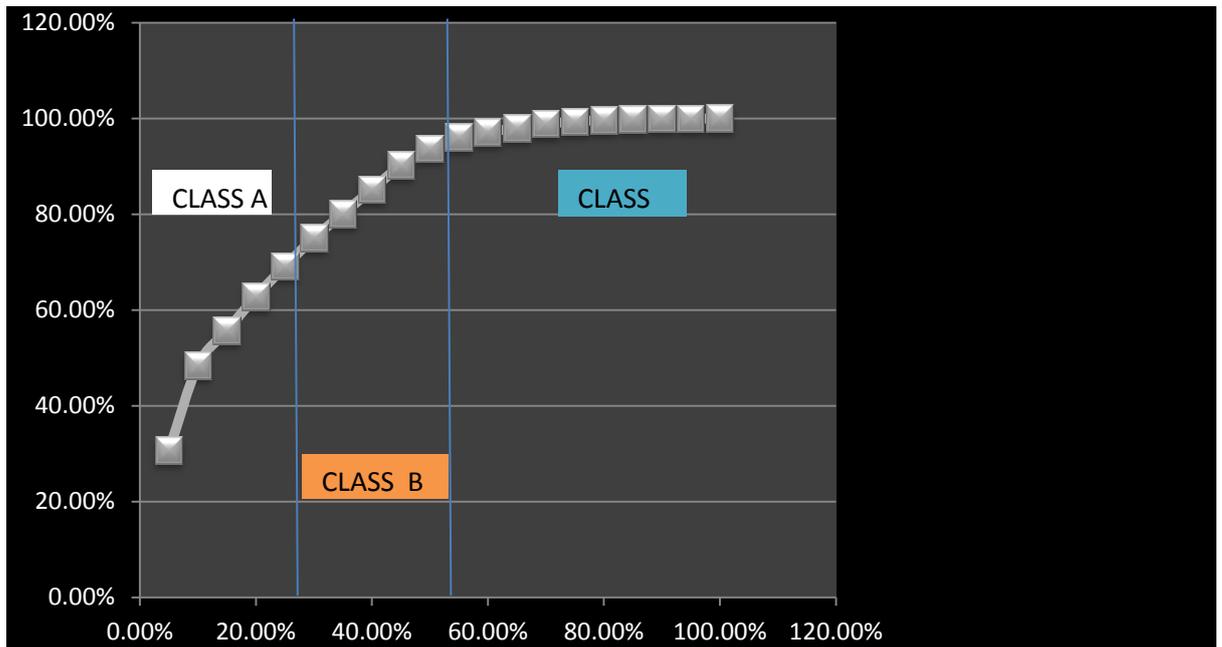
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.10 ABC classification for the pump model of - DR 63/12 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
STAGE SLEEVE
PATTA
PUMP SHAFT

4.1.11 ABC classification for the pump model of - DR 64/8 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	87	255	22185	5.00%	37.35%
2	IMPELLER	LTB-2/SS-410	87	148	12876	10.00%	59.02%
3	STAGE SLEEVE	SS-410	87	60	5220	15.00%	67.81%
4	NECK RING	SS-304	87	42	3654	20.00%	73.96%
5	CASING RUBBER BUSH	NITRILE RUBBER	87	42	3654	25.00%	80.12%
6	CASING BUSH	LTB-4	87	42	3654	30.00%	86.27%
7	PATTA	MS	12	153	1836	35.00%	89.36%
8	NRV	CI-FG-200	3	590	1770	40.00%	92.34%
9	PUMP SHAFT	SS-410	3	459	1377	45.00%	94.66%
10	INTERMEDIATE PIECE	CI-FG-200	3	356	1068	50.00%	96.45%
11	DOL	CI-FG-200	3	233	699	55.00%	97.63%
12	KEY (6*4*24mm)	SS-410	87	4	348	60.00%	98.28%
13	STRAINER	SS-304	3	106	318	65.00%	98.81%
14	TOP SLEEVE	SS-410	3	85	255	70.00%	99.24%
15	DOL BUSH	LTB-4	3	85	255	75.00%	99.67%
16	PATTA NUT	SS-304	12	8.5	102	80.00%	99.84%
17	TOP BOLT (M10*20mm)	SS-304	3	21	63	85.00%	99.95%
18	DUMMY	PLASTIC	3	6	18	90.00%	99.98%
19	LOCK WASHER	SS-304	3	1.5	4.5	95.00%	99.99%
20	SPRING WASHER FOR TOP BOLT	MS	3	1.5	4.5	100.00%	100.00%

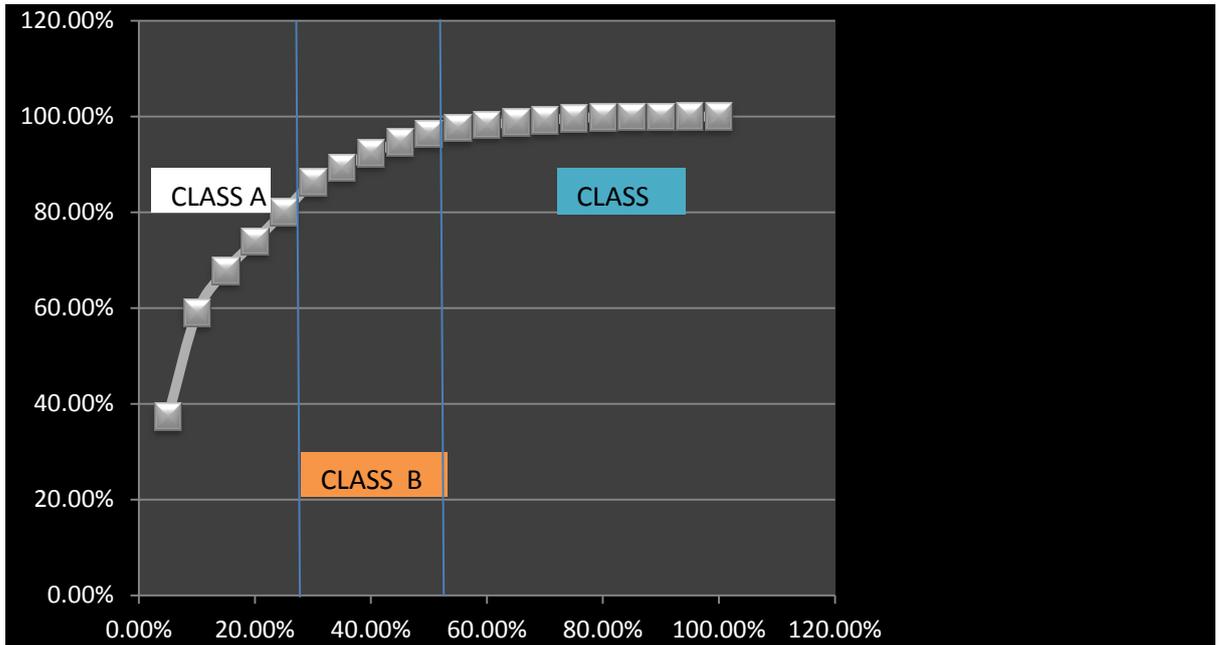
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.11 ABC classification for the pump model of - DR 64/8 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
STAGE SLEEVE
NECK RING
CASING RUBBER
BUSH(27*36*14mm)

4.1.12 ABC classification for the pump model of - DR 60H/20 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	300	234	70200	5.00%	33.42%
2	IMPELLER	LTB-2/SS-410	300	128	38400	10.00%	51.71%
3	PUMP SHAFT	SS-410	15	969	14535	15.00%	58.63%
4	NECK RING	SS-304	300	42	12600	20.00%	64.63%
5	CASING RUBBER BUSH	NITRILE RUBBER	300	42	12600	25.00%	70.63%
6	STAGE SLEEVE	SS-410	300	42	12600	30.00%	76.63%
7	CASING BUSH	LTB-4	300	42	12600	35.00%	82.63%
8	PATTA	MS	60	208	12480	40.00%	88.57%
9	NRV	CI-FG-200	15	590	8850	45.00%	92.79%
10	INTERMEDIATE PIECE	CI-FG-200	15	356	5340	50.00%	95.33%
11	DOL	CI-FG-200	15	233	3495	55.00%	97.00%
12	STRAINER	SS-304	15	106	1590	60.00%	97.75%
13	TOP SLEEVE	SS-410	15	85	1275	65.00%	98.36%
14	DOL BUSH	LTB-4	15	85	1275	70.00%	98.97%
15	KEY (6*4*24mm)	SS-410	300	4	1200	75.00%	99.54%
16	PATTA NUT	SS-304	60	8.5	510	80.00%	99.78%
17	TOP BOLT (M10*20mm)	SS-304	15	21	315	85.00%	99.93%
18	DUMMY	PLASTIC	15	6	90	90.00%	99.97%
19	LOCK WASHER	SS-304	15	1.5	22.5	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	15	1.5	22.5	100.00%	100.00%

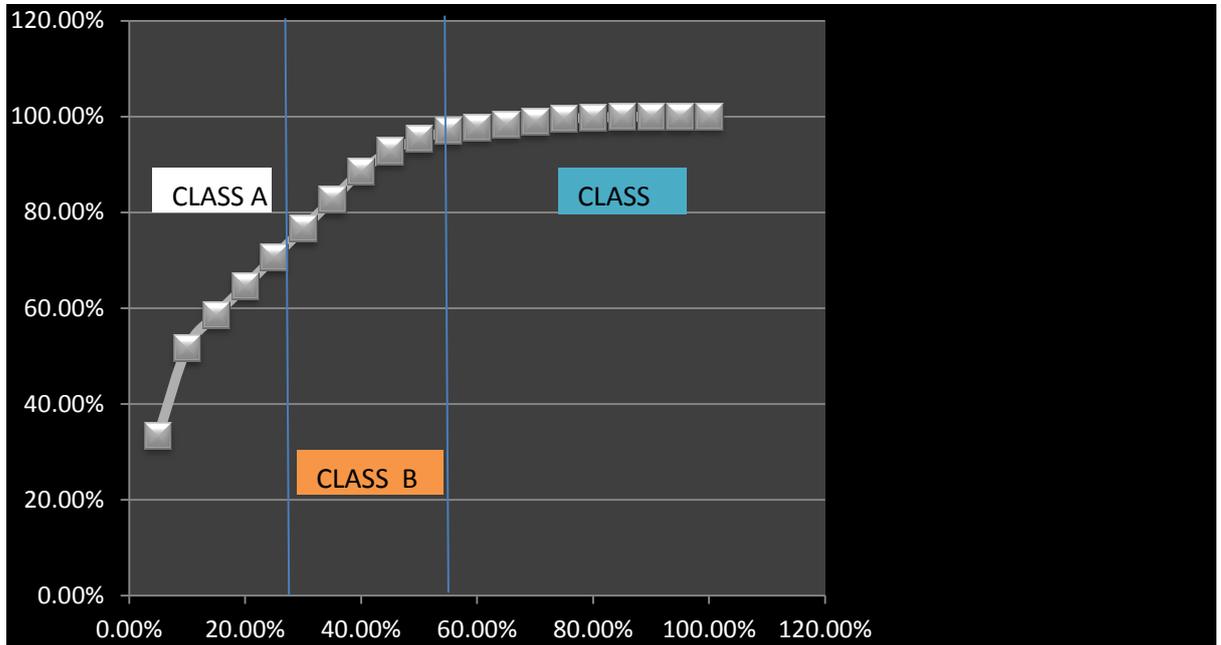
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.12 ABC classification for the pump model of - DR 60H/20 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PUMP SHAFT
NECK RING
CASING RUBBER
BUSH(27*36*14mm)

4.1.13 ABC classification for the pump model of - DR 60/20 5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	400	233	93200	5.00%	33.33%
2	IMPELLER	LTB-2/SS-410	400	128	51200	10.00%	51.64%
3	PUMP SHAFT	SS-410	20	969	19380	15.00%	58.57%
4	NECK RING	SS-304	400	42	16800	20.00%	64.58%
5	CASING RUBBER BUSH	NITRILE RUBBER	400	42	16800	25.00%	70.59%
6	STAGE SLEEVE	SS-410	400	42	16800	30.00%	76.60%
7	CASING BUSH	LTB-4	400	42	16800	35.00%	82.61%
8	PATTA	MS	80	208	16640	40.00%	88.56%
9	NRV	CI-FG-200	20	590	11800	45.00%	92.78%
10	INTERMEDIATE PIECE	CI-FG-200	20	356	7120	50.00%	95.32%
11	DOL	CI-FG-200	20	233	4660	55.00%	96.99%
12	STRAINER	SS-304	20	106	2120	60.00%	97.75%
13	TOP SLEEVE	SS-410	20	85	1700	65.00%	98.36%
14	DOL BUSH	LTB-4	20	85	1700	70.00%	98.96%
15	KEY (6*4*24mm)	SS-410	400	4	1600	75.00%	99.54%
16	PATTA NUT	SS-304	80	8.5	680	80.00%	99.78%
17	TOP BOLT (M10*20mm)	SS-304	20	21	420	85.00%	99.93%
18	DUMMY	PLASTIC	20	6	120	90.00%	99.97%
19	LOCK WASHER	SS-304	20	1.5	30	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	20	1.5	30	100.00%	100.00%

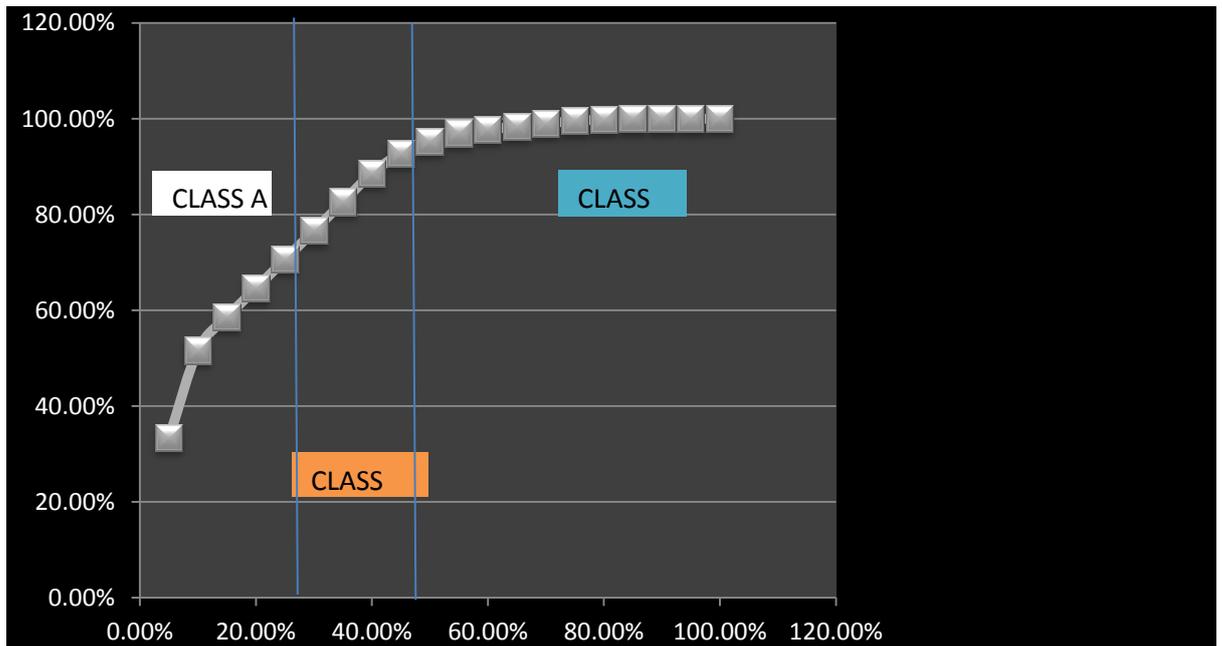
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.13 ABC classification for the pump model of - DR 60/20 5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PUMP SHAFT
NECK RING
CASING RUBBER
BUSH(27*36*14mm)

4.1.14 ABC classification for the pump model of - DR 62H/15 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	150	234	35100	5.00%	31.78%
2	IMPELLER	LTB-2/SS-410	150	128	19200	10.00%	49.17%
3	PATTA	MS	40	200	8000	15.00%	56.41%
4	PUMP SHAFT	SS-410	10	714	7140	20.00%	62.88%
5	NECK RING	SS-304	150	42	6300	25.00%	68.58%
6	CASING RUBBER BUSH	NITRILE RUBBER	150	42	6300	30.00%	74.29%
7	STAGE SLEEVE	SS-410	150	42	6300	35.00%	79.99%
8	CASING BUSH	LTB-4	150	42	6300	40.00%	85.70%
9	NRV	CI-FG-200	10	590	5900	45.00%	91.40%
10	INTERMEDIATE PIECE	CI-FG-200	10	356	3560	50.00%	94.26%
11	DOL	CI-FG-200	10	233	2330	55.00%	96.37%
12	STRAINER	SS-304	10	106	1060	60.00%	97.33%
13	TOP SLEEVE	SS-410	10	85	850	65.00%	98.10%
14	DOL BUSH	LTB-4	10	85	850	70.00%	98.87%
15	KEY (6*4*24mm)	SS-410	150	4	600	75.00%	99.42%
16	PATTA NUT	SS-304	40	8.5	340	80.00%	99.72%
17	TOP BOLT (M10*20mm)	SS-304	10	21	210	85.00%	99.91%
18	DUMMY	PLASTIC	10	6	60	90.00%	99.97%
19	LOCK WASHER	SS-304	10	1.5	15	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	10	1.5	15	100.00%	100.00%

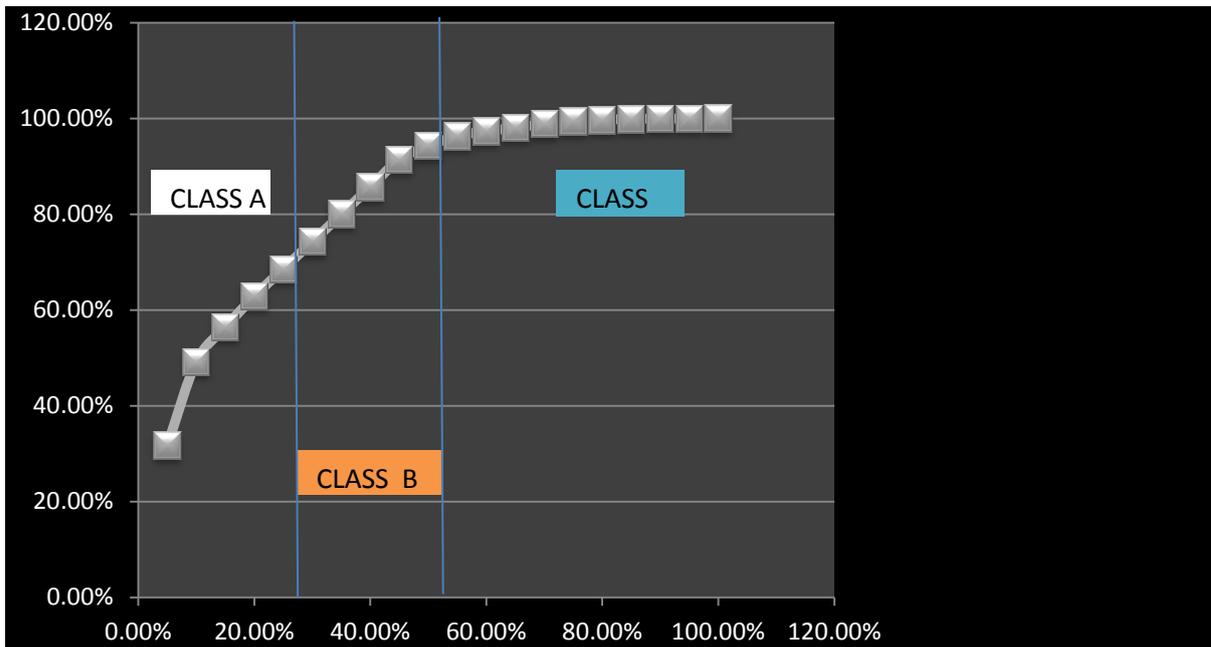
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.14 ABC classification for the pump model of - DR 62H/15 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
PUMP SHAFT
NECK RING

4.1.15 ABC classification for the pump model of - DR 61/10 5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	150	233	34950	5.00%	25.00%
2	IMPELLER	LTB-2/SS-410	150	148	22200	10.00%	46.14%
3	PATTA	MS	60	166	9960	15.00%	54.18%
4	NRV	CI-FG-200	15	590	8850	20.00%	61.32%
5	PUMP SHAFT	SS-410	15	544	8160	25.00%	67.91%
6	NECK RING	SS-304	150	42	6300	30.00%	73.00%
7	CASING RUBBER BUSH	NITRILE RUBBER	150	42	6300	35.00%	78.09%
8	STAGE SLEEVE	SS-410	150	42	6300	40.00%	83.17%
9	CASING BUSH	LTB-4	150	42	6300	45.00%	88.26%
10	INTERMEDIATE PIECE	CI-FG-200	15	356	5340	50.00%	92.57%
11	DOL	CI-FG-200	15	233	3495	55.00%	95.39%
12	STRAINER	SS-304	15	106	1590	60.00%	96.68%
13	TOP SLEEVE	SS-410	15	85	1275	65.00%	97.71%
14	DOL BUSH	LTB-4	15	85	1275	70.00%	98.74%
15	KEY (6*4*24mm)	SS-410	150	4	600	75.00%	99.22%
16	PATTA NUT	SS-304	60	8.5	510	80.00%	99.63%
17	TOP BOLT (M10*20mm)	SS-304	15	21	315	85.00%	99.89%
18	DUMMY	PLASTIC	15	6	90	90.00%	99.96%
19	LOCK WASHER	SS-304	15	1.5	22.5	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	15	1.5	22.5	100.00%	100.00%

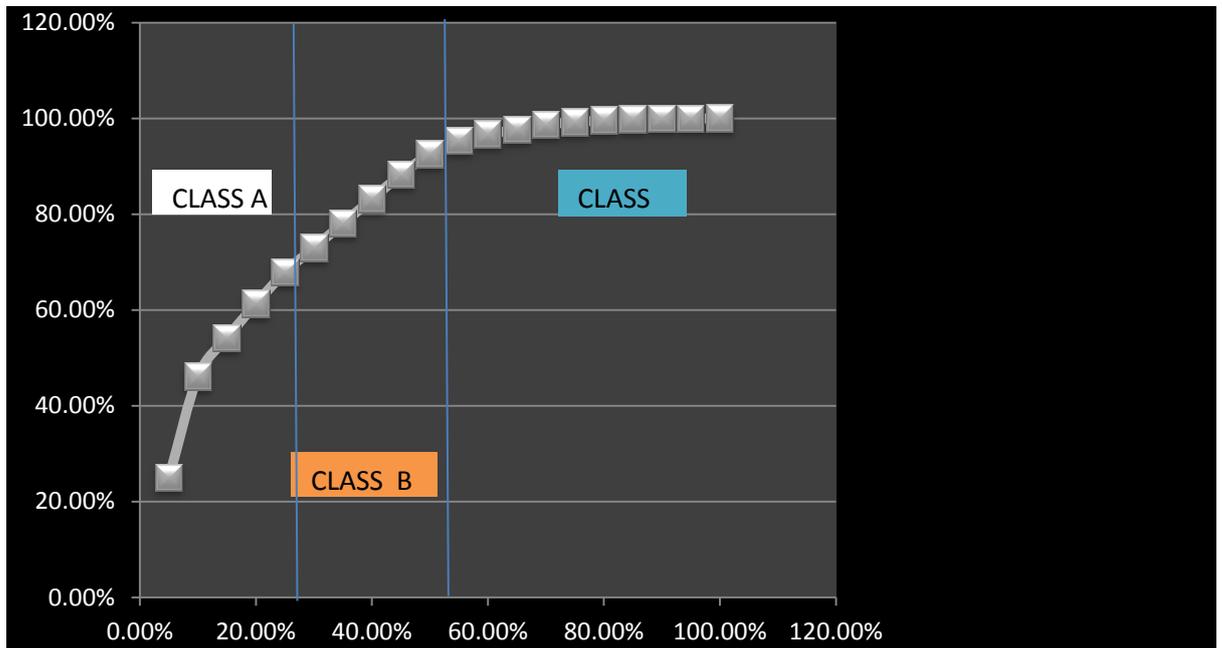
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.15 ABC classification for the pump model of - DR 61/10 5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
NRV
PUMP SHAFT

4.1.16 ABC classification for the pump model of - DR 63/10 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	CASING	CI-FG-200	50	255	12750	5.00%	29.45%
2	IMPELLER	LTB-2/SS-410	50	148	7400	10.00%	46.55%
3	PATTA	MS	20	166	3320	15.00%	54.22%
4	STAGE SLEEVE	SS-410	50	60	3000	20.00%	61.15%
5	NRV	CI-FG-200	5	590	2950	25.00%	67.96%
6	PUMP SHAFT	SS-410	5	544	2720	30.00%	74.25%
7	NECK RING	SS-304	50	42	2100	35.00%	79.10%
8	CASING RUBBER BUSH	NITRILE RUBBER	50	42	2100	40.00%	83.95%
9	CASING BUSH	LTB-4	50	42	2100	45.00%	88.80%
10	INTERMEDIATE PIECE	CI-FG-200	5	356	1780	50.00%	92.91%
11	DOL	CI-FG-200	5	233	1165	55.00%	95.61%
12	STRAINER	SS-304	5	106	530	60.00%	96.83%
13	TOP SLEEVE	SS-410	5	85	425	65.00%	97.81%
14	DOL BUSH	LTB-4	5	85	425	70.00%	98.79%
15	KEY (6*4*24mm)	SS-410	50	4	200	75.00%	99.26%
16	PATTA NUT	SS-304	20	8.5	170	80.00%	99.65%
17	TOP BOLT (M10*20mm)	SS-304	5	21	105	85.00%	99.89%
18	DUMMY	PLASTIC	5	6	30	90.00%	99.96%
19	LOCK WASHER	SS-304	5	1.5	7.5	95.00%	99.98%
20	SPRING WASHER FOR TOP BOLT	MS	5	1.5	7.5	100.00%	100.00%

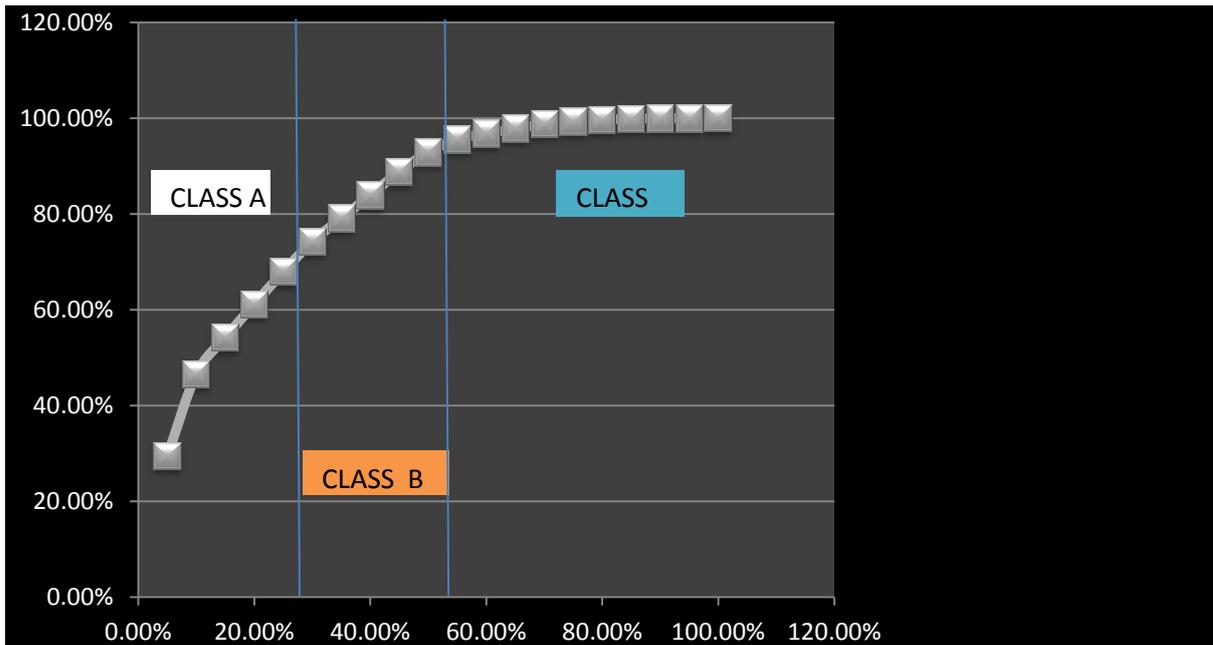
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.16 ABC classification for the pump model of - DR 63/10 7.5HP 3PH



INTERPRETATION:

The total number of pump components-20

Number of components that comes under A class item are-5

Number of components that comes under B class item are-5

Number of components that comes under C class item are-10

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
CASING
IMPELLER
PATTA
STAGE SLEEVE
NRV

4.1.17 ABC classification for the pump model of - DM 60/8 7.5HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	BOWL	CI-FG-200	80	340	27200	6%	38.20%
2	IMPELLER	LTB-2/SS-410	80	148	11840	13%	54.83%
3	RUBBER BUSH FOR BOWL	CI-FG-200	80	77	6160	20%	63.48%
4	NRV	CI-FG-200	10	595	5950	25%	71.84%
5	PUMP SHAFT	SS-410	10	574	5740	31%	79.90%
6	STAGE SLEEVE	SS-410	80	51	4080	38%	85.63%
7	INTERMEDIATE PIECE	CI-FG-200	10	361	3610	44%	90.70%
8	CASING NECK RING	SS-304	80	42	3360	50%	95.42%
9	STRAINER	SS-304	10	85	850	56%	96.61%
10	STUD FOR BOWL	SS-304	64	13	832	63%	97.79%
11	TOP SLEEVE	SS-410	10	77	770	69%	98.86%
12	KEY(6*4*24mm)	SS-304	80	4	320	75%	99.31%
13	NUT FOR BOWL	SS-304	64	4	256	81%	99.67%
14	TOP BOLT (M10*20mm)	SS-304	10	13	130	88%	99.85%
15	DUMMY	PLASTIC	10	6	60	94%	99.94%
16	LOCK WASHER	SS-304	10	4	40	100%	100.00%

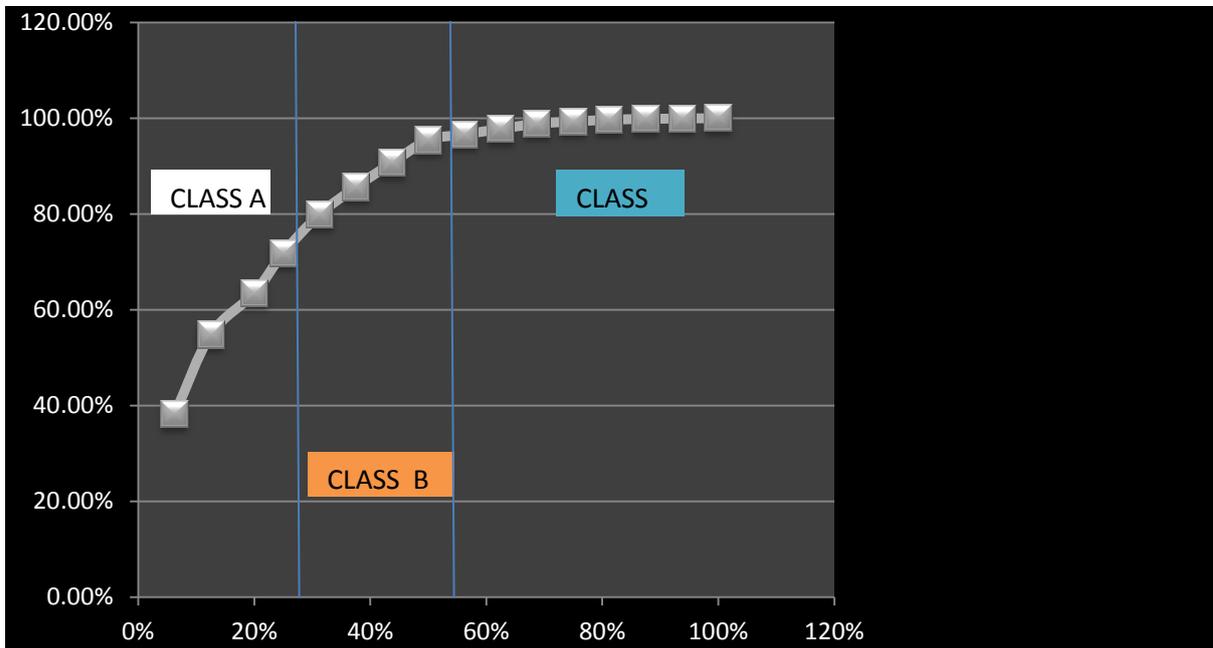
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.17 ABC classification for the pump model of - DM 60/8 7.5HP 3PH



INTERPRETATION:

The total number of pump components-16

Number of components that comes under A class item are-4

Number of components that comes under B class item are-4

Number of components that comes under C class item are-8

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
BOWL
IMPELLER
RUBBER BUSH FOR BOWL
NRV

4.1.18 ABC classification for the pump model of -DM 60/10 10HP 3PH

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	BOWL	CI-FG-200	30	340	10200	6%	39.83%
2	IMPELLER	LTB-2/SS-410	30	148	4440	13%	57.17%
3	RUBBER BUSH FOR BOWL	CI-FG-200	30	77	2310	20%	66.19%
4	PUMP SHAFT	SS-410	3	638	1914	25%	73.67%
5	NRV	CI-FG-200	3	595	1785	31%	80.64%
6	STAGE SLEEVE	SS-410	30	51	1530	38%	86.61%
7	CASING NECK RING	SS-304	30	42	1260	44%	91.54%
8	INTERMEDIATE PIECE	CI-FG-200	3	361	1083	50%	95.77%
9	STUD FOR BOWL	SS-304	24	13	312	56%	96.98%
10	STRAINER	SS-304	3	85	255	63%	97.98%
11	TOP SLEEVE	SS-410	3	77	231	69%	98.88%
12	KEY(6*4*24mm)	SS-304	30	4	120	75%	99.35%
13	NUT FOR BOWL(M8*8mm)	SS-304	24	4	96	81%	99.73%
14	TOP BOLT (M10*20mm)	SS-304	3	13	39	88%	99.88%
15	DUMMY	PLASTIC	3	6	18	94%	99.95%
16	LOCK WASHER	SS-304	3	4	12	100%	100.00%

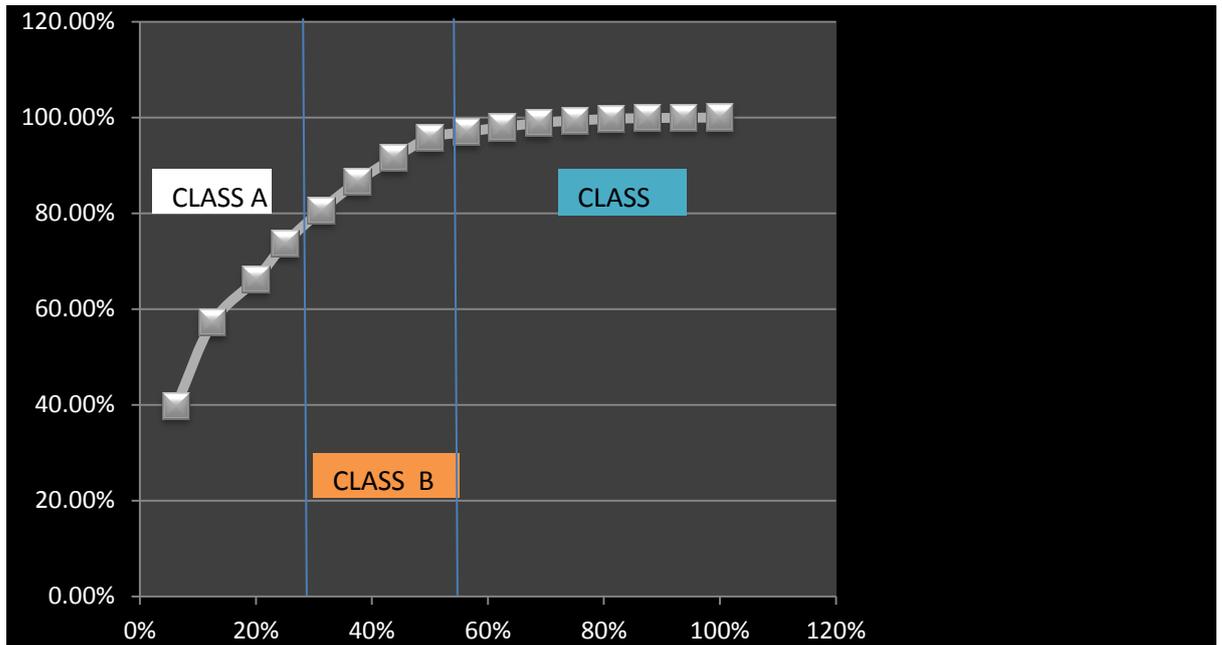
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.18 ABC classification for the pump model of -DM 60/10 10HP 3PH



INTERPRETATION:

The total number of pump components-16

Number of components that comes under A class item are-4

Number of components that comes under B class item are-4

Number of components that comes under C class item are-8

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
BOWL
IMPELLER
RUBBER BUSH FOR BOWL
PUMP SHAFT

4.1.19 ABC classification for the 5HP MOTOR

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	MOTOR BODY	SS FABRICATED	60	4590	275400	2.94%	35.61%
2	ROTOR WITH SHAFT	COPPER ROTOR WITH STAINLESS STEEL SHAFT	60	3740	224400	5.88%	64.63%
3	WINDING	INSULATED COPPER	60	800	48000	8.82%	70.84%
4	THRUST BEARING	SS-420	60	510	30600	11.76%	74.80%
5	MOTOR BASE	CI-FG-200	60	425	25500	14.70%	78.10%
6	UPPER HOUSING	CI-FG-200	60	425	25500	17.64%	81.39%
7	BUSH FOR LOWER FLANGE	LTB-4	120	191	22920	20.58%	84.36%
8	BUSH FOR UPPER HOUSING	LTB-4	120	191	22920	23.52%	87.32%
9	CARBON DISC PAD	CI-CARBON LINED	60	255	15300	26.47%	89.30%
10	LOWER HOUSING	CI-FG-200	60	234	14040	29.41%	91.12%
11	SUBMERSIBLE CABLE	PVC- INSULATED	180	51	9180	32.35%	92.31%
12	STUD FOR LOWER FLANGE(M8*125MM)	SS-304	240	34	8160	35.29%	93.36%
13	LOWER FLANGE	PLATED STEEL	60	106	6360	38.23%	94.18%
14	SAND GUARD	BRASS	60	77	4620	41.17%	94.78%
15	STUD FOR COUPLE(M10*48MM)	SS-304	240	17	4080	44.11%	95.31%
16	OIL SEAL(35*47*7MM)	NITRILE RUBBER	120	34	4080	47.05%	95.84%
17	DIAPHARAM	NITRILE RUBBER	60	64	3840	50.00%	96.33%
18	BOLT FOR BASE PLATE(M8*15MM)	SS-304	240	13	3120	52.94%	96.74%
19	NUT FOR COUPLE(M10*10MM)	SS-304	240	13	3120	55.88%	97.14%
20	STUD FOR UPPER FLANGE(M8*52MM)	SS-304	240	13	3120	58.82%	97.54%
21	DRAIN PLUG-1/4"BSP	BRASS	180	17	3060	61.76%	97.34%
22	ROCKER	SS-410	60	43	2580	64.70%	98.27%
23	BASE PLATE	CI-FG-200	60	34	2040	67.64%	98.50%
24	NUT-M8*8MM	SS-304	480	4	1920	70.58%	98.78%
25	GROMMET FLANGE	SS	60	31	1860	73.52%	99.03%
26	UPPER FLANGE	PLATED	60	26	1560	76.47%	99.23%

STEEL							
27	SNAPRING FOR LOWER FLANGE	STEEL	60	21	1260	79.41%	99.39%
28	COUPLING KEY(8*7*85MM)	SS-410	60	21	1260	82.35%	99.55%
29	SNAPRING FOR UPPER FLANGE	STEEL	60	21	1260	85.29%	99.72%
30	RUBBER WASHER	NITRILE RUBBER	480	2	960	88.23%	99.84%
31	PLATE WASHER	SS	480	1	480	91.17%	99.90%
32	CIRCLIP	SS	60	4	240	94.11%	99.93%
33	GROMMET	NITRILE RUBBER	60	4	240	97.05%	99.96%
34	KEY FOR CARBON	SS-410	60	4	240	100.00%	100.00%

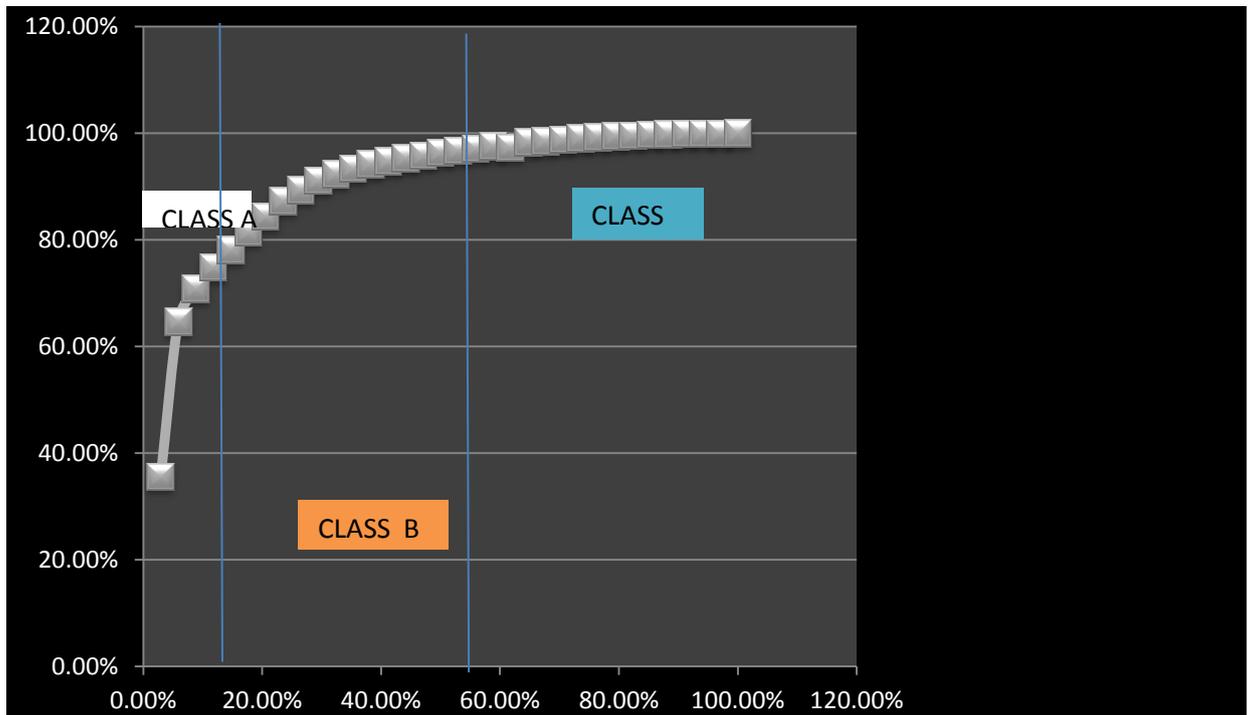
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.19 ABC classification for the 5HP MOTOR



INTERPRETATION:

The total number of pump components-34

Number of components that comes under A class item are-4

Number of components that comes under B class item are-12

Number of components that comes under C class item are-18

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
MOTOR BODY
ROTOR WITH SHAFT
WINDING
THRUST BEARING ASSEMBLY

4.1.20 ABC classification for the 7.5HP MOTOR

ITEM NO.	DESCRIPTION	MATERIAL	WEEKLY CONSUMPTION	UNIT VAUE	TOTAL VALUE	CUMULATIVE NUMBER OF ITEMS(%)	CUMULATIVE VALUE(%)
1	MOTOR BODY	SS FABRICATED	60	4590	275400	2.94%	35.61%
2	ROTOR WITH SHAFT	COPPER ROTOR WITH STAINLESS STEEL SHAFT	60	3995	239700	5.88%	64.63%
3	WINDING	INSULATED COPPER	60	800	48000	8.82%	70.84%
4	THRUST BEARING ASSEMBLY	SS-420	60	510	30600	11.76%	74.80%
5	UPPER HOUSING	CI-FG-200	60	468	28080	14.70%	78.10%
6	MOTOR BASE	CI-FG-200	60	425	25500	17.64%	81.39%
7	BUSH FOR LOWER FLANGE	LTB-4	120	191	22920	20.58%	84.36%
8	BUSH FOR UPPER HOUSING	LTB-4	120	191	22920	23.52%	87.32%
9	LOWER HOUSING	CI-FG-200	60	255	15300	26.47%	89.30%
10	CARBON DISC PAD	CI-CARBON LINED	60	255	15300	29.41%	91.12%
11	3 CORE FLATE SUBMERSIBLE CABLE	PVC- INSULATED	180	51	9180	32.35%	92.31%
12	STUD FOR LOWER FLANGE(M8*125MM)	SS-304	240	34	8160	35.29%	93.36%
13	LOWER FLANGE	PLATED STEEL	60	106	6360	38.23%	94.18%
14	SAND GUARD	BRASS	60	77	4620	41.17%	94.78%
15	STUD FOR COUPLE(M10*48MM)	SS-304	240	17	4080	44.11%	95.31%
16	OIL SEAL(35*47*7MM)	NITRILE RUBBER	120	34	4080	47.05%	95.84%
17	DIAPHARAM	NITRILE RUBBER	60	64	3840	50.00%	96.33%
18	BOLT FOR BASE PLATE	SS-304	240	13	3120	52.94%	96.74%
19	NUT FOR COUPLE(M10*10MM)	SS-304	240	13	3120	55.88%	97.14%
20	STUD FORUPPER FLANGE	SS-304	240	13	3120	58.82%	97.54%
21	DRAIN PLUG-1/4"BSP	BRASS	180	17	3060	61.76%	97.34%
22	ROCKER	SS-410	60	43	2580	64.70%	98.27%
23	BASE PLATE	CI-FG-200	60	34	2040	67.64%	98.50%
24	NUT-M8*8MM	SS-304	480	4	1920	70.58%	98.78%
25	GROMMET FLANGE	SS	60	31	1860	73.52%	99.03%

26	UPPER FLANGE	PLATED STEEL	60	26	1560	76.47%	99.23%
27	SNAPRING FOR LOWER	STEEL	60	21	1260	79.41%	99.39%
28	COUPLING KEY	SS-410	60	21	1260	82.35%	99.55%
29	SNAPRING FOR UPPER	STEEL	60	21	1260	85.29%	99.72%
30	RUBBER WASHER	NITRILE RUBBER	480	2	960	88.23%	99.84%
31	PLATE WASHER	SS	480	1	480	91.17%	99.90%
32	CIRCLIP	SS	60	4	240	94.11%	99.93%
33	GROMMET	NITRILE RUBBER	60	4	240	97.05%	99.96%
34	KEY FOR CARBON DISC	SS-410	60	4	240	100.00%	100.00%

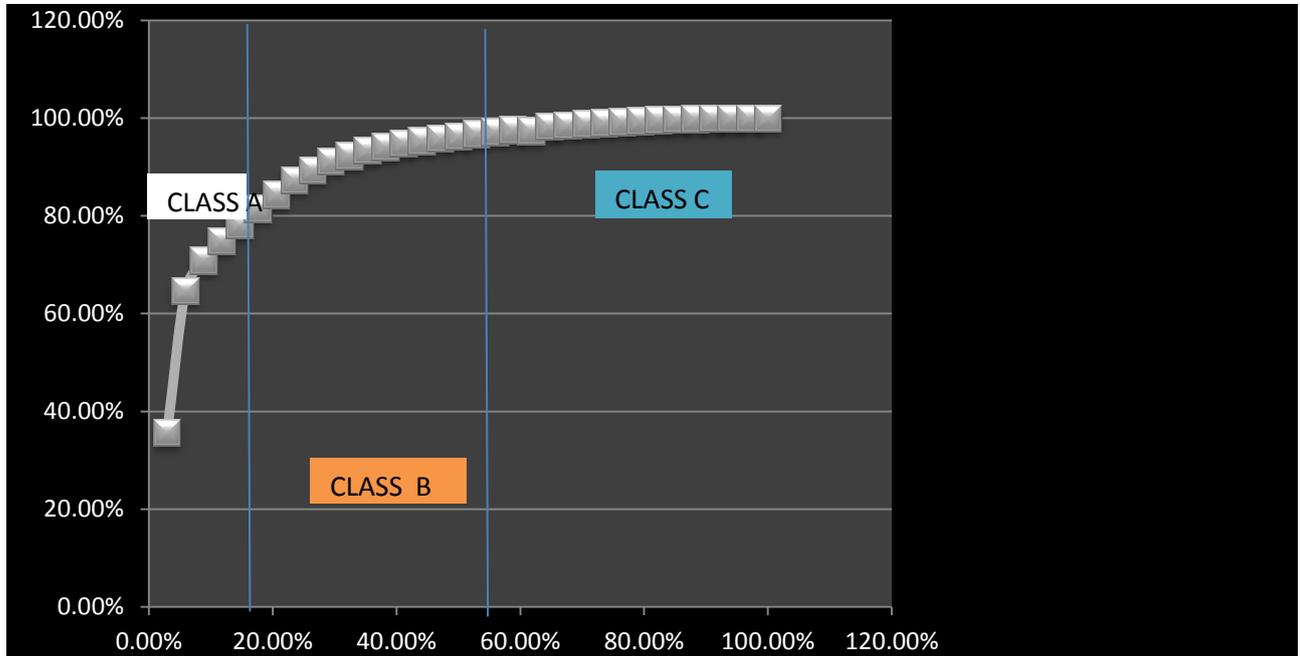
From the above table the items are classified as,

“A class” item that account for 75% of total value.

“B class” item that have around 20% of total value.

“C class” item account for the remaining 5%.

4.1.20 ABC classification for the 7.5HP MOTOR



INTERPRETATION:

The total number of pump components-34

Number of components that comes under A class item are-4

Number of components that comes under B class item are-12

Number of components that comes under C class item are-18

The above graph distinguishes the A class item, B class item and C class item.

CLASS A ITEMS
MOTOR BODY
ROTOR WITH SHAFT
WINDING
THRUST BEARING ASSEMBLY

4.2 MATERIAL REQUIREMENT PLANNING:

4.2.1 MRP for the PUMP SHAFT(DR60)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		28	30	26	32
RECEIPTS				150	
STOCK ON HAND	80	52	22	146	114
PLANNED ORDER RELEASE			150		

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR60 model is calculated. The lead time is 1 week, stock on hand is 80, and the planned order release is 150.

INFERENCE:

The order should be made on the 2nd week; hence the receipt will be on 3rd week.

4.2.2 MRP for the PUMP SHAFT(DR61)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		57	60	56	62
RECEIPTS				200	
STOCK ON HAND	120	63	3	147	85
PLANNED ORDER RELEASE			200		

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR61 model is calculated. The lead time is 1 week, stock on hand is 120, and the planned order release is 200.

INFERENCE:

The order should be made on the 2nd week; hence the receipt will be on 3rd week.

4.2.3 MRP for the PUMP SHAFT(DR62)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		20	22	24	20
RECEIPTS					100
STOCK ON HAND	80	60	38	6	86
PLANNED ORDER RELEASE				100	

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR62 model is calculated. The lead time is 1 week, stock on hand is 80, and the planned order release is 100.

INFERENCE:

The order should be made on the 3rd week; hence the receipt will be on 4th week.

4.2.4 MRP FOR THE PUMP SHAFT(DR63)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		25	28	26	32
RECEIPTS					100
STOCK ON HAND	80	55	27	1	69
PLANNED ORDER RELEASE				100	

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR63 model is calculated. The lead time is 1 week, stock on hand is 100, and the planned order release is 100.

INFERENCE:

The order should be made on the 3rd week; hence the receipt will be on 4th week

4.2.5 MRP for the PUMP SHAFT(DR64)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		3	5	4	4
RECEIPTS					
STOCK ON HAND	80	77	72	68	64
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR64 model is calculated. The Stock on hand is 80.

INFERENCE:

The order should be made on the next month.

4.2.6 MRP for the PUMP SHAFT(DR62H)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		10	12	15	14
RECEIPTS					
STOCK ON HAND	80	70	58	43	29
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR62H model is calculated. The Stock on hand is 80.

INFERENCE:

The order should be made on the next month.

4.2.7 MRP for the PUMP SHAFT(DR60H)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		15	20	16	14
RECEIPTS					
STOCK ON HAND	80	65	45	29	15
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DR60H model is calculated. The Stock on hand is 80.

INFERENCE:

The order should be made on the next month.

2.4.8 MRP for the PUMP SHAFT(DM60)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		13	15	15	14
RECEIPTS					
STOCK ON HAND	80	67	52	37	23
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (pump shaft) of DM60 model is calculated. The Stock on hand is 80.

INFERENCE:

The order should be made on next month.

2.4.9 MRP for the CASING RUBBER BUSH-DR

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		2559	2622	2544	2558
RECEIPTS				5000	
STOCK ON HAND	6000	3441	819	3275	717
PLANNED ORDER RELEASE			5000		

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (casing rubber bush) of DR model is calculated. The lead time is 1 week, stock on hand is 6000, and the planned order release is 5000.

INFERENCE:

The order should be made on the 2nd week and receipt is made on 3rd week.

4.2.10 MRP for the STAGE SLEEVE-DR

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		2559	2622	2544	2558
RECEIPTS					
STOCK ON HAND	20000	17441	14819	12275	9717
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (stage sleeve) of DR model is calculated. The stock on hand is 20000.

INFERENCE:

The order should be made on the next month.

4.2.11 MRP for the STAGE SLEEVE-DM

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		110	94	122	125
RECEIPTS					
STOCK ON HAND	2000	1890	1796	1674	1549
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (stage sleeve) of DM model is calculated. The stock on hand is 2000.

INFERENCE:

The order should be made on the next week.

2.4.12 MRP for the PATTA-DR60

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		92	120	104	128
RECEIPTS			400		
STOCK ON HAND	200	108	388	284	156
PLANNED ORDER RELEASE		400			

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR60 model is calculated. The lead time is 1 week, stock on hand is 200, and the planned order release is 400.

INFERENCE:

The order should be made on the 1st week; hence the receipt will be on 2nd week

2.4.13 MRP for the PATTA-DR61

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		228	240	224	248
RECEIPTS			460		460
STOCK ON HAND	280	52	272	48	260
PLANNED ORDER RELEASE		460		460	

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR61 model is calculated. The lead time is 1 week, stock on hand is 280, and the planned order release is 460.

INFERENCE:

The order should be made on the 1st week; hence the receipt will be on 2nd week. For the demand on the 4th week order should be made on 3rd week.

2.4.14 MRP for the PATTA-DR62

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		80	88	96	80
RECEIPTS				400	
STOCK ON HAND	200	120	32	336	256
PLANNED ORDER RELEASE			400		

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR62 model is calculated. The lead time is 1 week, stock on hand is 80, and the planned order release is 400.

INFERENCE:

The order should be made on the 2nd week; hence the receipt will be on 3rd week

2.4.15 PATTA-DR63

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		100	112	104	128
RECEIPTS			400		
STOCK ON HAND	200	100	388	284	156
PLANNED ORDER RELEASE		400			

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR63 model is calculated. The lead time is 1 week, stock on hand is 200, and the planned order release is 400.

INFERENCE:

The order should be made on the 1st week; hence the receipt will be on 2nd week.

2.4.16 PATTA-DR64

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		12	20	16	16
RECEIPTS					
STOCK ON HAND	200	188	168	152	136
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR64 model is calculated. The stock on hand is 200.

INFERENCE:

The order should be made on the next month

2.4.17 MRP for the PATTA-DR62H

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		40	48	60	56
RECEIPTS					400
STOCK ON HAND	200	160	112	52	396
PLANNED ORDER RELEASE				400	

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR62H model is calculated. The lead time is 1 week, stock on hand is 200, and the planned order release is 400.

INFERENCE:

The order should be made on the 3rd week; hence the receipt will be on 4th week.

2.4.18 MRP for the PATTA-DR60H

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		60	80	64	56
RECEIPTS				400	
STOCK ON HAND	200	140	60	396	340
PLANNED ORDER RELEASE			400		

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (patta) of DR60H model is calculated. The lead time is 1 week, stock on hand is 200, and the planned order release is 400.

INFERENCE:

The order should be made on the 2nd week; hence the receipt will be on 3rd week.

2.4.19 MRP for the CASING (1)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		2222	2340	2130	2016
RECEIPTS					
STOCK ON HAND	15000	12778	10438	8308	6292
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (casing 1) is calculated. The stock on hand is 15000.

INFERENCE:

The order should be made on the next month.

2.4.20 MRP for the CASING (2)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		337	342	348	325
RECEIPTS					
STOCK ON HAND	3000	2663	2321	1973	1648
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (casing 2) is calculated. The lead time is 1 week, stock on hand is 80, and the planned order release is 150.

INFERENCE:

The order should be made on the next month.

2.4.21 IMPELLER (DR 60)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		612	632	640	611
RECEIPTS				2000	
STOCK ON HAND	1500	888	256	1616	1005
PLANNED ORDER RELEASE		2000			

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR60 model is calculated. The lead time is 2 week, stock on hand is 1500, and the planned order release is 2000.

INFERENCE:

The order should be made on the 1st week; hence the receipt will be on 3rd week.

2.4.22 MRP for the IMPELLER (DR 61)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		810	745	780	760
RECEIPTS				3000	
STOCK ON HAND	2000	1190	445	2665	1905
PLANNED ORDER RELEASE		3000			

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR61 model is calculated. The lead time is 2 week, stock on hand is 2000, and the planned order release is 3000.

INFERENCE:

The order should be made on the 1st week; hence the receipt will be on 3rd week.

2.4.23 IMPELLER (DR 62)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		350	340	375	402
RECEIPTS					
STOCK ON HAND	1500	1150	810	435	33
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR62 model is calculated. The stock on hand is 1500.

INFERENCE:

The order should be made on the next month.

2.4.24 IMPELLER (DR 63)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		250	270	245	262
RECEIPTS					
STOCK ON HAND	1500	1250	980	735	473
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR63 model is calculated. The stock on hand is 1500.

INFERENCE:

The order should be made on the next month

2.4.25 MRP for the IMPELLER (DR 64)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		87	95	82	102
RECEIPTS					
STOCK ON HAND	1500	1413	1318	1236	1134
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR64 model is calculated. The stock on hand is 1500.

INFERENCE:

The order should be made on the next month.

2.4.26 MRP for the IMPELLER (DR 60H)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		300	250	280	312
RECEIPTS					
STOCK ON HAND	1500	1200	950	670	358
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR60H model is calculated. The stock on hand is 1500.

INFERENCE:

The order should be made on the next month.

2.4.27 IMPELLER (DR 62H)

PERIOD	WEEK 0	WEEK 1	WEEK 2	WEEK 3	WEEK 4
PROJECTED REQUIREMENTS		150	162	156	171
RECEIPTS					
STOCK ON HAND	1500	1350	1188	1032	861
PLANNED ORDER RELEASE					

INTERPRETATION:

From the above table, the Material Requirement planning for the A Class item (impeller) of DR62H model is calculated. The stock on hand is 1500.

INFERENCE:

The order should be made on the next month.

4.3 REORDER LEVEL:

4.3.1 ROL for the PUMP SHAFT

ITEM NO.	MODEL	ROL
1	DR60	60
2	DR61	75
3	DR62	28
4	DR63	35
5	DR64	7
6	DR60H	20
7	DR62H	15

4.3.2 ROL for the CASING

ITEM NO.	MODEL	ROL
1	CASING 1(DR60,DR61,DR62,DR60H,DR62H)	315
2	CASING 2(DR63,DR64)	280

4.3.3 ROL for the PATTA

ITEM NO.	MODEL	ROL
1	DR60	70
2	DR61	165
3	DR62	62
4	DR63	75
5	DR64	12
6	DR60H	30
7	DR62H	20

4.3.4 ROL for the STAGE SLEEVE

ITEM NO.	MODEL	ROL
1	DR	1400
2	DM	55

4.3.5 ROL for the IMPELLER

ITEM NO.	MODEL	ROL
1	DR60	810
2	DR61	880
3	DR62	360
4	DR63	190
5	DR64	55
6	DR60H	170
7	DR62H	66

INTERPRETATION:

The above tables shows the reorder level for all the A class items. The lead time for all the items varies from 1-2 weeks. Five days' stock is maintained as safety stock. When each item reaches the level given in the above table it will be ordered.

4.4 MASTER PRODUCTION SCHEDULE:

4.4.1 MASTER PRODUCTION SCHEDULE

			DR60		DR61		DR62	
S:NO	COMPONENTS	TOTAL REQUIRED QUANTITY	REQUIRED QTY	AVAILABLE QTY	REQUIRED QTY	AVAILABLE QTY	REQUIRED QTY	AVAILABLE QTY
1	PUMP SHAFT	686	116	80	235	120	86	80
2	PATTA	2700	444	200	940	280	344	200
3	IMPELLER	10231	2495	1500	3095	2000	1467	1500
4	CASING (1)	7628	2448	3000	3240	3000	140	3000
5	CASING (2)	1348	-----		-----		-----	
6	CASING RUBBER BUSH-DR	8976	2448	850	3240	960	140	800
7	STAGE SLEEVE-DR	8976	2448	2800	3240	3500	140	2800

		DR63		DR64		DR60H	
S:NO	COMPONENTS	REQUIRED QTY	AVAILABLE QTY	REQUIRED QTY	AVAILABLE QTY	REQUIRED QTY	AVAILABLE QTY
1	PUMP SHAFT	111	80	16	80	65	80
2	PATTA	444	200	64	200	260	200
3	IMPELLER	1027	1500	366	1500	1142	1500
4	CASING (1)	-----		-----		1200	3000
5	CASING (2)	1000	1500	348	1500	-----	
6	CASING RUBBER BUSH-DR	1000	860	348	850	1200	880
7	STAGE SLEEVE- DR	1000	2500	348	2800	1200	2800

		DR62H	
S:NO	COMPONENTS	REQUIRED QTY	AVAILABLE QTY
1	PUMP SHAFT	57	80
2	PATTA	204	200
3	IMPELLER	639	1500
4	CASING (1)	600	3000
5	CASING (2)	-----	
6	CASING RUBBER BUSH-DR	600	800
7	STAGE SLEEVE-DR	600	2800

INTERPRETATION: The availability of the each component of A class item is framed, according to which the order can be placed.

CHAPTER 5 : FINDINGS, SUGGESTION & CONCLUSION:

5.1 FINDINGS:

From the ABC analysis it is inferred that A class items should be kept under rigorous control as the investment in the inventory constitute more than 75% value of the total investment made in the raw material inventory. Although the number of items which constitute “B” & “C” category is not fairly large investment in these categories are less than 25% and needs minimum attention.

For each A class item, the Material Requirement Planning is made, and the Planned Order Release is calculated, by which the components can be received at right time without any delay in the production activity.

Reorder level for each A class component is calculated, and when it reaches the given range it will be reordered.

5.2 SUGGESTIONS:

The following suggestions can help to reduce the gap between the supply-demand:

Material Requirement Planning for the each component has to be calculated, and a Master Production Schedule should be framed, to ensure availability of component and active production process. Developing new sources of supply so that the lead time can be minimised so that it will minimize the inventory cost.

5.3 CONCLUSION:

The importance of production planning in a manufacturing company where large number of items dealt with had been well understood on observing systems followed in the company .The observations at the shop floor stores have enabled clear understanding of the system and fulfilment of aim of this project. The study on Production Planning in Deccan Pumps Limited, Coimbatore is concluded that the present system could be improvised by implementing the ABC system of material control proposed in this study. The material requirement planning could be used for effective purchase of materials. The follow-up of reorder level could be ensured for hassle-free production flow.

CHAPTER 6: BIBLIOGRAPHY

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