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Review on Optimum Scheduling and Planning of Frame Work

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Abstract – Development ventures are one-off endeavor with numerous special highlights, for example, long span, convoluted procedures utilized for it, evil condition in which task must be finished, budgetary power of the undertaking and dynamic association structures and such hierarchical and mechanical multifaceted nature produce different dangers. In the event that it is watched plans are basic to the fruitful execution of ventures. In any case, plan regularly contain noteworthy vulnerability since hazard and vulnerability are imbued in all development exercises. It is broadly acknowledged that development venture plan assumes significant job in venture the board because of its impact on accomplishment of undertaking. The vulnerability and dependability related issues are getting more basic in building structure and examination, legitimate appraisal of the probabilistic conduct of a designing framework is significant in this worldwide rivalry with the constrained assets time and cost in venture the executives is given expanding consideration for any task, plan is fundamental to the effective execution of the undertaking , so the administration of calendar is exceptionally basic, it is seen that significant hazard about the development plan is span chance length of the hazard implies the chance and loss of inadequacy in the specified term limit. so it require to investigation the likelihood of each work in PERT examination beta appropriation it recreates the venture term and examination the danger of development plan by reproduction strategy the general task to precisely decide likelihood of the undertaking under considering of the variability and arbitrariness of length of every action. Monetary request amount of everything delivered to discover the provisions they show autonomous state. Use of this model will assist the relationship with determining the ideal number of things of the request inside one year and when to put the new solicitation for everything with the beginning of High Rise Buildings in metropolitan urban areas, arranging and booking has become a significant idea to be considered for a smooth execution of development works. Prophet's Primavera P6 is a compelling apparatus for deciding a perfect calendar for development exercises. This task fills in as an ideal reference outline for booking diverse High Rise Buildings. All the significant advances like making an EPS, making a WBS, connecting of exercises as indicated by their relationship and accessibility of assets, decrease of buoy esteems, and assurance of Critical Path are obviously shown in this report.

Keywords: Planning, Scheduling, High Rise Buildings, Primavera, Critical Path, Gantt Charts.

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I. INTRODUCTION

Planning issues exist in many assembling and creation frameworks, in transportation and conveyance of individuals and merchandise, and in different kinds of ventures. Tall structures all through the world are turning out to be famous step by step. With the appearance of current development innovation and PCs, the fundamental point has been to develop more secure structures keeping in see the general financial matters of the undertaking. An elevated structure, loft tower, office tower, condo square, or square of pads, is a tall structure or structure utilized as a private as well as office use. Indian Standards characterizes an elevated structure as "A multi-story structure between 35–100 meters tall, or a structure of obscure range from 12–39 stories." According to the construction law of Hyderabad, India, a tall structure is unified with four stories or more or one 15 meters or more in tallness. In certain zones they might be alluded to as "Multi Dwelling Unit" or "Vertical urban areas". They can possibly decongest the endless suburbia on the ground level, and increment the urban thickness, lodging higher number of families in lesser space. In India, a structure more prominent

than 75ft (23 m), by and large 7 to 10 stories, is considered as tall building. Additionally a structure is viewed as skyscraper when it broadens higher than the most extreme arrive at accessible to firemen. As per the construction regulation of India, a tall structure is unified with four story or more or an elevated structure is one 15 meters or more in tallness. The Mumbai Municipal Corporation (BMC) suggested that any structure with a tallness of 30m (nine stories) be classified as an elevated structure. This is an expansion of 6m from the current definition (24m or seven stories). Because of an inexorably serious condition, development organizations are compelled to be more productive and accomplish serious operational favorable position. Organizations are continually searching for enhancements in hardware highlights, specialized apparatuses, proficient administration procedures, and preparing HR. Development organizations are likewise narrowing their center, turning out to be authorities in specific kinds of development ventures. This specialization requires more engaged task arranging and controlling methods that end up being better for specific sort of ventures while giving particular development administrations. The advantages of compelling arranging, planning and control of development ventures are: decreased development time, diminished cost invades. Arranging is the way toward recognizing all the exercises important to effectively finish the task.

1.1 Background and Motivation

The three components which should be delineated are time, assignments and assets: The time at which the errands must be performed should be improved thinking about the accessibility and limitations on the necessary assets. To comprehend the booking and arranging of a High Rise structures and timetable the rundown of the arranged exercises utilizing PC applications. Indian urban areas are seeing enormous segment development because of movement from encompassing towns, prompting endless suburbia, lodging request, ascend in cost of land. Numerous residents all over India move to the urban areas for better occupations and instruction. Businesses, exchange and trade exercises and number of instructive focuses in urban areas draw in drifting populace from all their encompassing towns and regions. This has extended the urban areas every which way and all parts of improvement. With a never-ending suburbia of kilometers, these face the issues of clog, contamination, ordinary driving to work place, rivalry, deforestation and so on. In this manner there is a need that for a youthful country like India, its Civil Engineers must be well furnished with the information on tall structures, since their capability in such structures is straightforwardly considered the general foundation of the nation.

II. LITERATURE REVIEW

Paper 1

Abramovitz and Modigliani et al. (1957) they featured the association between ability usage just as stock speculation. Existing stock of inventories was probably going to change to the ideal amounts. Consequently the flexible, existing stock of inventories, was important to be seriously connected with the favored stock. The final product was that there's acceptable connection of all the proportion of stock to item deals just as stock venture. High proportion of stocks to item deals in the past shows need of higher measures of inventories previously and promising exorbitant purchase of inventories in the here and now as well. (1)

Paper 2

Krishna Murthy et al. (1964) Study was aggregative and furthermore oversaw inventories of the private division of Indian monetary atmosphere like a whole for the period 1948 61. This specific examination utilized item deals to speak to requirement for the thing and furthermore recommended the advantages of quickening agent. Momentary pace of intrigue had been found to be extensive. (2)

Paper 3

R.S. Chadda et al. (1964) Study was made on stock administration strategies for Indian organizations. The investigation suggested program of contemporary logical stock administration techniques as exercises research. These contemporary clinical strategies outfit opportunities for all the organizations, Companies can decrease the speculation of theirs in stock however there's consistent progression of yield. He contended that mechanically propelled countries, USA, as, were keen on building very progressed scientific forms just as techniques for modernizing just as reclassifying the current assets of stock speculation. (3)

Paper 4

National Council of Applied Economic Research (NCAER) et al. (1966) Conducted a report in 1966 about working capital administration of 3 businesses explicitly concrete, sugar and manure. This specific investigation for the most part devoted to proportion examination of structure, financing and use of working capital for the hour of 1959 to 1963. The examination uncovers that stock established a huge part of working capital for example 74.06 per dollar in the high sugar industry followed by concrete market (63.1 %) just as manure advertise (59.58 %). It was seen that posting had not taken care of appropriately. Up to now as the usage of working capital was manure,

concrete, and concerned business would be wise to execution of working capital. The sugar business had generous develop of stocks so we had insufficient usage of working capital incredibly. (4)

Paper 5

Krishnamurty and Sastry et al. (1970) It's presumably the most intensive examination on producers' inventories. They used the CMI data and furthermore the combined asset report data of open confined organizations posted by the RBI, to examine all of the primary components, for example, the crude materials, completed and merchandise in-process nourishments, for twenty one ventures with the time running from 1946 62. The investigation was a period succession 1 despite the fact that there was a few bury industry cross segment examinations that have been helped through in the assessment. The Accelerator spoke to by change of item deals, transient premium and bank fund rate was found to turn into a significant determinant. The usage of prosperous ability just as cost expectations had additionally been found to be material in the exploration. (5)

Paper 6

George et al. (1972) It was the investigation on cross area examination of monetary record data of fifty two open confined organizations in view of the hour of 1967 seventy. Quickening agent, outside and inner fund factors have been seen in the plan of equations for crude materials, for example, merchandise in-process inventories. In any case, recipes for done items inventories imagine simply yield movable. Thought was given on outer account factors and quickening agent. (6)

Paper 7

Mishra et. al. (1975) It's the examination of 6 primary open circle endeavors. He understood that (I) stock comprises the most pivotal component of working capital of open endeavors (ii) execution of working capital cash utilized inside receivables is terribly lower in the chose organizations and furthermore (iii) In many gadgets both the present resources just as the quick proportions are higher contrasted with the guidelines of theirs. Undertakings require suitable order on receivables. (7)

Paper 8

Lambrix and Singhvi et al. (1979) Adopted working capital cycle strategy in working capital administration, moreover suggested that interest in working capital could be upgraded and cash streams could be raised by diminishing time period of real stream starting from the receipt of crude material to the shipment of completed items, for example stock administration, and furthermore by upgrading the conditions just as conditions where firm offers things notwithstanding receipt of cash. (8)

Paper 9

Lal et. al. (1981) He learned Modi Steels Limited as a contextual investigation, his examination focused on stock control. He started a unit which will incorporate cost changing in stock administration; past cost variable in list wasn't considered in that association. The assessment proposed stable approaches , that will deal with outer and inside elements, at last it'd help in winning viable working capital control. (9)

Paper 10

Farzaneh et al. (1997) Presented a numerical model, to help the organizations in the choice of theirs to change from EOQ to JIT buying strategy. He characterizes JIT as "to create and give done nourishments just soon enough being accessible, sub-gatherings just so as to be amassed in items and purchased substance just so as to be changed over into manufactured parts". He features the EOQ configuration focuses on lessening the stock charges as opposed to diminishing the stock. Under the ideal issue wherein the entirety of the conditions fulfill, it's financially happier to choose the JIT with the EOQ since it prompts price tag, purchasing cost. (10)

Paper 11

Rich Lavely et al. (1998) Asserts that stock signifies "Heaps of Money" on the benefit and the rack for the tight. All things considered, he sees that thirty % of the posting of about all retail locations is old. In this way, he contends the inventory the board is encourage the seller exercises by diminishing rack time and hence supports benefit. Additionally, he explains the 2 sorts of stock counts which make sense of the stock sum essential for income. The 2 counts are "cost to arrange" just as "cost to keep". Ultimately, he proposes 7 stages to stock administration. (11)

Paper 12

Dave Piasecki et al. (2001) He fixated on posting type for figuring the ideal request amount which used the Economic Order Quantity strategy. He features that bunches of organizations aren't using EOQ type because of awful outcomes came about because of wrong subtleties input. He asserts EOQ is a bookkeeping definition which sets up the point at what the blend of request costs just as posting costs would be the extremely least. He features that EOQ technique wouldn't conflict with the JIT strategy. He further expounds the EOQ strategy which contains the boundaries, for example, for example yearly use for gadget, conveying cost and request cost. Ultimately, he proposes numerous measures to pass by in utilizing the EOQ plan. The

constraint of this specific writing is it doesn't detailed relationship that is further between JIT. furthermore, EOQ It doesn't interface the posting turns with the EOQ equation and also neglects to call attention to the advantage gain with all the sum is assessed. (12)

III. METHODOLOGY

Name of the organization	S P CONSTRUCTION PUNE
Year of Establishment	2015
Location	Karve Nagar SM tower near Jigamata chowk pune.
Structural Engineer	Mr.Rahul Kumar
Project Manager	Mr.Vivek Mangude
Elevation and Concept	Mr.Rohit Yadav
Architect Engineer	Mrs. Rishita Lunawat
Name of Contractor	Mr. Shailesh Jagtap
Type of Work	2 BHK Residential Project
No. of Floors	G+9

IV. DATA COLLECTION

Collection of data – A detailed analysis of the materials, man power, machinery, other resources used, and the sequence of activities (dependent or independent) executed from the beginning of the construction to its completion.

The methodology adopted to attain the project objective is as below:

a. Inception of ideas.

b. Literature study, for this the following sources are explored:

c. Review of past study.

d. Study of published books, technical and research papers, reports, etc.

Site visit.

a. Collection of raw data from visiting various sites.

b. Studied the data. On the basis of it, prepared the plan and scheduled manually.

c. Learnt the project management software- Primavera.

d. Prepared the plan and scheduled by using various modules of software.

e. Finally, understood the ease, sufficiency & flexibility that the project management software offers us.

The scheduling techniques include:

- Bar Chart
- CPM

Networking scheduling techniques

Primavera programming has been widely utilized for Planning and Scheduling of our venture. The arrangement with a region of 576 m2 has been separated into two stages for RCC works. The calendar has been developed to the point that the exercises which are reliant of one other beginning together, henceforth sparing a praiseworthy measure of time in the development procedure. It has been cared for that exercises like Brickwork, Plastering, Painting, Tiling, Sanitation and Electrical works are connected to the point that there is no impressive buoy or wastage of time. The accompanying Plan has been considered by us for Planning and Scheduling of Project by means of Primavera.

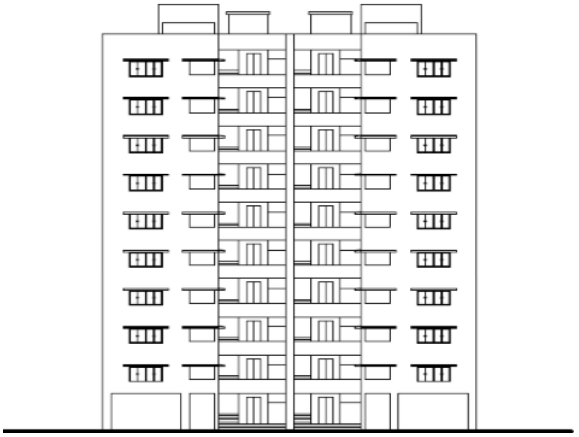


Fig.1. Plan of Project

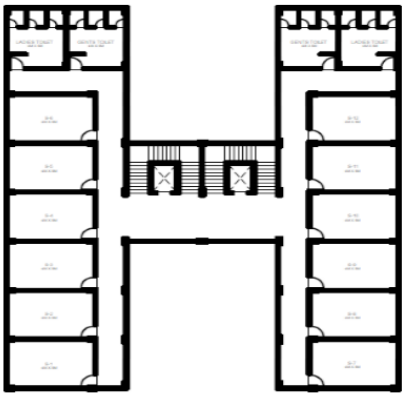


Fig.2 Elevation of Project

The following steps are included in the process of scheduling via Primavera:

Economic Order Quantity (E-O-Q):

The meaning of the EOQ is the order of quantity that optimizes the overall cost and cost of ordering. Determining how much to order in a continuous system is the Economic Order Quantity (EOQ) model. The function of the EOQ model is to

determine the optimal order size that reduces total inventory costs.

The Basic EOQ Model:

The basic EOQ model is a formula for finding the optimum order size that reduces the sum of carrying costs and cost of the ordering. The model formula is based under a set of simplifying assumptions, as follows:

- Demand is known with certainty and is constant over time.
- No shortages are allowable.
- Lead time for the receipt of orders is constant.
- Order quantity is received all at once

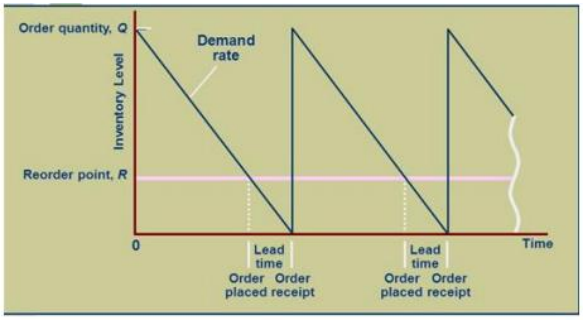


Fig No. 3 EOQ Model

Inventory Order Cycle

These fundamental model presumptions are reflected in Fig.4 which characterizes the ceaseless stock request cycle framework basic in the EOQ model. A request amount, Q, is gotten and is spent after some time at a steady rate. At the point when the stock level declines to the reorder point, R, another request is put; a timeframe, alluded to as the lead time, is required for conveyance. The request is gotten at the same time exactly right when request decreases the whole load of stock Q the stock level arrives at O so there will be no deficiencies. This cycle is continually rehashed for the comparable request amount, reorder point, and lead time. The financial request amount is the request size that decreases the whole of conveying expenses and cost of requesting. These two expenses respond conversely to one another. As the request size increments, less requests are required; causing the requesting cost to decay, however the normal measure of stock close by will increment, bringing about an expansion the conveying costs. In this way, in actuality, the ideal request amount portrays a trade-off between these two contrarily related expenses.

EOQ: THEORY AND FORMULA:

The most well-known results in the inventory control area may be the classical Economic Order Quantity (EOQ) formula. This simple rule has had and still enormous no of practical applications. The EOQ is essentially an accounting formula that determines the point at which the combination of cost of order and holding costs as least. The result is the most cost-effective quantity to order.

The basic Economic Order Quantity (EOQ) formula is as follows:

$$EOQ = \sqrt{\frac{2(\text{Annual usage in units})(\text{Order cost})}{(\text{Annual carring cost per unit})}}$$

Assumptions of the Model:

a. Demand rate is known and is constant with linear reduction of stock level.

b. Prime time is known and constant.

c. Entire lot of size Q arrives at one go (instantaneous replenishment or infinite replenishment rate). 4. Shortages are not allowed.

d. The cost of carrying inventory and ordering costs are known and are time invariant.

e. Unit purchase price is constant and is independent of order size. (No quantity discounts are available.)

f. Ordering cost is independent of the order quantity. 8. Inventory cost is linear function of the inventory level.

ORDER COST

This is the entirety of the fixed costs that are acquired each time a thing is requested. These expenses are not related with the amount requested, yet for the most part with physical exercises required to process the request. For buys things these would involve the expense to enter the Purchase Order or potentially Requisition, any endorsement steps, the expense to process the receipt, approaching examination, receipt dealing with and merchant instalment, and now and again a bit of the inbound cargo may likewise be remembered for request cost. Understand that these are costs related with the recurrence of the requests and not the amounts requested.

CARRYING COST (INVENTORY HOLDING COSTS):

Likewise called Holding cost, conveying cost is the expense related with having stock available. It is principally comprised of the costs related with the stock speculation and cost of capacity. With the end goal of the EOQ count, if the expense doesn't change dependent on the amount of stock close by it ought not be remembered for conveying cost. In the EOQ recipe, conveying cost is signified as the yearly expense per normal close by stock unit. The following are the essential parts of conveying cost.

BEHAVIOR OF EOQ SYSTEM

a. The amount ordered every time an order is placed is fixed.

b. A function of this type system is the two bin system.

c. As demand of the inventoried item occurs, the inventory level drops.

d. When ordered quantity is received, inventory level growths.

e. A continual inventory accounting system is usually related with this type of method.

LIMITATION OF EOQ:

a. Rate of usage varies maximum in many cases.

b. Cost analysis on the basis of which the formula is developed is merely notional rather than actually is some cases.

c. With practice unit cost of procurements of an item varies, lead times are inexact and also requirement or demands of inventory items are not perfectly predictable in advance.

ANALYSIS WORK AND DATA COLLECTION:

Analysis of work shall be carried out within the scope of the study and between the selected respondents of the material. This data will be divided into respondents and data will be collected through these residential building projects. By these analyses the perceptions of respondents with respect to Material management and reducing the average inventory will be fixed.

S-CURVE ANALYSIS:

S-Curves are a significant venture the board device. The advancement of neutralize time is all around demonstrated by S-Curve. S-Curve model demonstrates progress of amounts of neutralize time that tosses a great deal of light on the condition of the undertaking. They permit the advancement of a venture to be followed outwardly after some time, and structure a verifiable record of what has happened to date. It is additionally a cost to illuminate us with comprehension of the undertaking and its encouraging. The thinking over the S molded diagram created by the aggregate use of boundaries (material expense) against time and it speaks to the undertaking way. This investigation is conveyed for correlation of arranged and genuine expense for material things. S-bend gives initially perspective on venture execution as far as cost and time. Investigations of S-bends permit venture supervisory group to rapidly distinguish venture development, slippage, and potential issues that could antagonistically affect the task if no medicinal move is made.

STEPS:

a. From the Enterprise column select EPS.

b. Create a new EPS by giving proper name and ID.

c. Go in project select the created EPS and add new project.

d. From the file command select New.

e. There will a dialogue box of select an EPS, select the created EPS.

f. Give a name and an ID to the project.

g. Specify start and must finish date of the project.

h. Select a responsible manager for the project.

i. Assign the rate type of the items.

j. It will ask for project architect, Yes or No if we are only planning then select No option.

In this way the project has been successfully created.

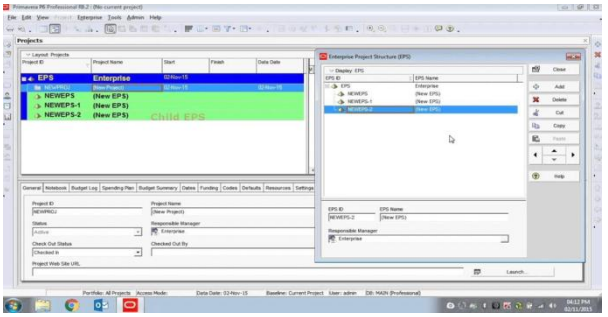


Fig. 4 EPS diagram (Source Google)

V. RESULT AND DISCUSSION

The Report Wizard in Primavera P6 takes into consideration the incorporation of point by point data about the calendar. This information can be composed in segments, which may then be additionally arranged and sifted. Both basic and complex channels might be made to show the exercises of intrigue, for example, Completed or In Progress exercises. In this part, we have produced rationale report of our task. Its shows a portion of the reports produced in the venture including the beginning and finish dates of the exercises.

Table No.5.1 Sample of Logic Report

ME PROJECT					Project Start 09-Apr
Report Date 27-Apr-2020 15:04					Project Finish 12-Jun
LG-01 Logic Report, By Project					Data Date 09Apr
User's Notes:					Late Finish
Activity ID Activity Name Early Start Early Finish Late Start					
Activity ID	Activity Name	Early State	Early Finish	Late Start	Late Finish
ME Project					
A13940	Layout marking	09-Apr-16	18- Apr -16	05- Apr -16	12- Apr -16
A13953	Laying of reinforcement	18- Apr -16	18- Apr -16	12- Apr -16	12 Apr -16
A13970	Shuttering of raft foundation	17- Apr -16	18- Apr -16	13- Apr -16	14- Apr -16
A13980	Pouring of concrete brickwork. beam and column joints	19- Apr -16	19- Apr -16	15- Apr -16	15- Apr 16
A13990	Desuttering	20- Apr -16	27- Apr -16	18- Apr -16	23- Apr -16
A1400	Marking of column	24- Apr -16	24- Apr -16	24- Apr-16	24- Apr -16
A14010	Laying of reinforcement	27- Apr -16	27- Apr -16	23- Apr -16	23- Apr -16
A14020	Shuttering of column	28- Apr -16	29- Apr -16	24- Apr -16	25- Apr -16
A14030	Pouring of concrete	30-May-16	30- May -16	28-May-16	28- May -16
A14040	stuttering	01- May -16	08- May -16	27-May-16	03- May -16
A14050	Setting up level for plinth	08- May -16	08- May -16	03- May -16	03- May -16
A14070	Plinth beam bottom stuttering	09- May -16	10- May 16	04- May -16	05- May -16
A14080	Laying of reinforcement	11-Jun.16	11- Jun -16	05-Jun-16	08-Jun-16
A14090	Laying of service line	12- Jun -16	19- Jun -16	07- Jun -16	14-Jun-16
A1410	Side stuttering for beam	25- Jun -16	29- Jun -16	25- Jun -16	29- Jun -16
A14110	Curing of wan before one day of plaster	19- Jun -16	19- Jun -16	14-Jun-16	14-Jun-16
A14120	Level nark for plaster	20- Jun -16	21- Jun -16	15-Jun-16	18-Jun-16
A14130	Applying for chicken mesh for brickwork, beam and column joins	22- Jun -16	22- Jun -16	17-Jun-16	17-Jun-16
A14140	Plastering of wall	23- Jun -16	30- Jun -16	18- Jun -16	25-Jun-16
A14180	Pouring of concrete	30- Jun -16	30- Jun -16	25-Jun-16	25-Jun-16
A14170	Desuttering	31- Jun -16	01- Jun -16	28-Jun-16	27-Jun-16
A14180	backfilling	02- Jun -16	02- Jun -16	28-Jun-16	28-Jun-16
A14190	Plastering of wan	03-Jun-16	1O-Jun-16	29-Jun-16	08-Jun-16

VI. COSTING ANALYSIS

List of Material for Calculation:

The various list of material for carrying out qualitative analysis technique using the qualitative approach EOQ (Economic Order Quantity) for calculation is as follows

Table 6.1 List of Materials

Bulk Materials
1. Cement
2. Sand
3. Aggregate
4. Steel
5. Binding Wire
6. Wood
7. Cement

Table 6.2: Bulk Materials for Residential Building

Sr. No.	Material Description	Unit	Total Receipt Qty.	Rate (INR)
1	Cement opc	BAG	23000	270
2	Cement ppc	BAG	22200	250
3	TMT Bar 8 mm Dia-Fe 415	KG	10500	28.00
4	TMT Bar 10 mm Dia-Fe 415	KG	8400	28.30
5	TMT Bar 12 mm Dia-Fe 415	KG	2800	29.30
6	TMT Bar 16 mm Dia-Fe 415	KG	10500	31.20
7	TMT Bar 20 mm Dia-Fe 415	KG	22400	32.00
8	River sand	TON	340700	900
9	Fine sand	TON	2505.6	660
10	Cement cube	M3	598.202	3000
11	Binding wire	KG	23000	60
12	Wood	KG	72000	42
13	Aggregate	TON	5629.7	500

The number shown in Table .9.2, which data collection of Tiles for ABC Analysis in our Project

Data Collection of Economic Order Quantity (EOQ)

In this Economic Order Quantity (EOQ) Analysis deals with the various material data collection for the current running project In this table 5.23 shows a list out Bulk material and how much Annual Demand per year in material items conducted for residential project.

VII. MATERIAL DESCRIPTION FOR ECONOMIC ORDER QUANTITY (EOQ)

Data Analysis By Economic Order Quantity (EOQ) : The number shown in Table 9.3, which major bulk material data analysis by Economic Order Quantity (EOQ) in the residential project.

Table No.7.1 Data Analysis by Economic Order Quantity (EOQ)

Sr. No.	Material Description	Unit	Rate (INR)	Annual Demand (Per year}	Annual Order Cost (INR)	Annual Holding Cost	Annual Holding Cost Per Unit (INR)
1.	Cement OPC	BAG	270	6210000	130	15%	40.50
2.	Cement PPC	BAG	250	5550000	130	15%	37.50
3.	TMT Bar 16mm	KG	31.20	327600	100	15%	4.68
4.	River Sand	TON	750	3066300	130	15%	135
5.	Cement Block	M3	3000	17946060	60	10%	300
6.	Coarse Aggregate	TON	500	2814850	120	15%	75

Total material annual demand per year order cycle by economic order quantity (EOQ) the number shown in

Table No.7.2 Data Analysis by Economic Order Quantity (EOQ)

Sr. No	Material Description	Unit	Rate(INR)	Annual Demand (Per year}	Annual Order Cost (INR)	Annual Holding Cost	Annual Holding Cost Per Unit (INR)	EOQ	No of Order	Order Cycle
1.	Cement OPC	BAG	270	6210000	130	15%	40.50	122	19	20
2.	Cement PPC	BAG	250	5550000	130	15%	37.50	124	18	21
3.	TMT Bar 16mm	KG	31.20	327600	100	15%	4.68	212	5	74
4.	River Sand	TON	750	3066300	130	15%	135	29	12	31
5.	Cement Block	M3	3000	17946060	60	10%	300	16	38	10
6.	Coarse Aggregate	TON	500	2814850	120	15%	75	43	14	28

Table 9.5 which cement material Annual Order Cycle in year with or without the use of Economic Order Quantity Approach.

Table No.7.3

Cement OPC Order Cycle			
	No of Total Order	Demand (Per 1 Order)	Order Cycle (Days)
Without Use EOQ	7	329	52
With Use EOQ	19	122	20

CEMENT OPC ORDER CYCLE WITHOUT EOQ

As per Table 9.5 shown that in cement OPC Order cycle without the use of EOQ No. of total order per year 7, per 1 order demand 329 bags and 52 day interval order in Cement per year and with the use of economic order quantity calculation No.of total order per year 19, and demand per 1 order 122 bags, every 20 day interval order in cement per year The number shown in Table 5.22, which Cement PPC material Annual Order Cycle in year with Or without the use of Economic Order Quantity Approach.

Table 7.4 Cement PPC Order Cycle in EOQ

Cement PPC Order Cycle			
	No of Total Order	Demand (Per 1 Order)	Order Cycle (Days)
Without Use EOQ	6	370	60
With Use EOQ	18	124	21

As per Table. 9.6 shown that in cement PPC Order cycle without the use of EOQ No. of total order per year 6, per 1 order demand 370 bags and 60 day interval order in Cement per year and with the use of economic order quantity calculation No.of total order per Year 18, and demand per 1 order 124 bags, every 21 day interval order in cement per year. The number shown in Table 5.23, which TMT Bar 16mm DIA- Fe 500 material Annual Order Cycle in year with or without the use of Economic Order Quantity Approach.

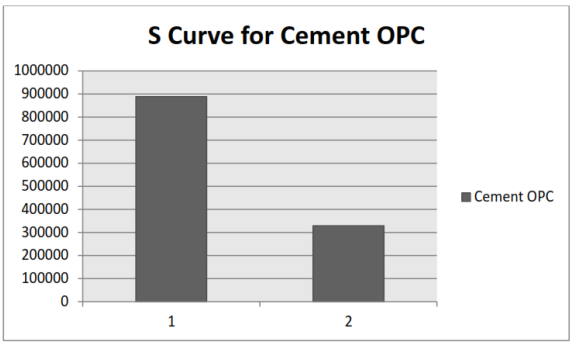
Table 7.5 TMT bar 16 mm Order Cycle in EOQ

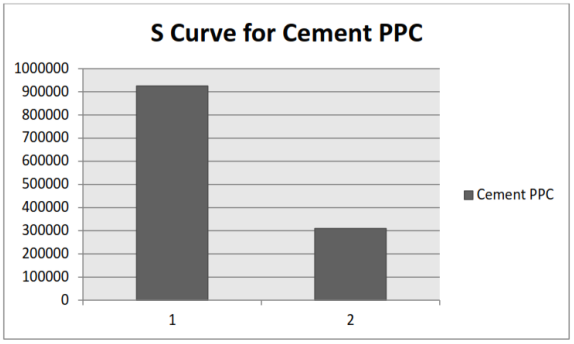
TMT Bar 16 mm Order Cycle			
	No of Total Order	Demand (Per 1 Order)	Order Cycle (Days)
Without Use EOQ	1	1050	365
With Use EOQ	5	212	74

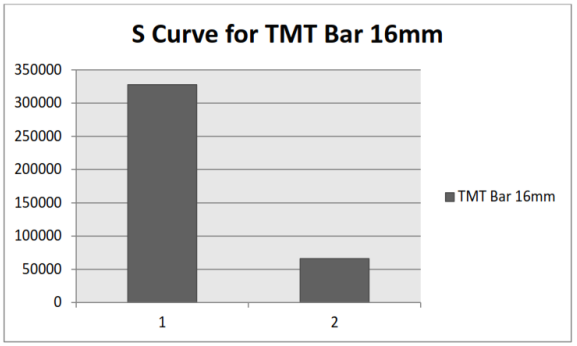
As per Table. 9.7 shown that TMT Bar 16mm Dia- Fe 500 order cycle without The use of EOQ no of total order per year 1, per 1 order demand 1050 KG and 365 day interval order In TMT Bar 16mm Dia- Fe 500as per year and with the use of economic order quantity calculation No. of total order per year 5, and demand per 1 order 212 KG, every 74 day interval order in Cement per year.

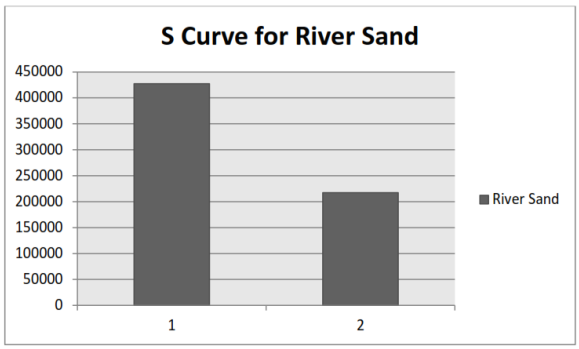
The number shown in Table 5.8, which River Sand material Annual Order Cycle in year with or without the use of Economic Order Quantity Approach. In this study we use the planned cost from EOQ analysis and Actual cost for each floor of a G+8 floor is considered for analysis of each inventory, and troubleshoot is done to reduce the cost and time. For this analysis we choose the top 5 inventory item, and rest can be calculated using the same way.

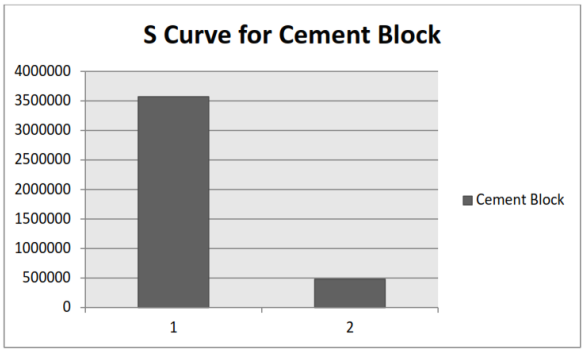
Fig No. 7.6 Total Investment Cost with Use EOQ Vs. Without Use EOQ Chart

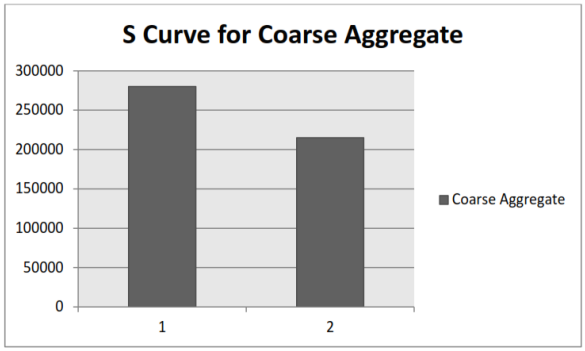


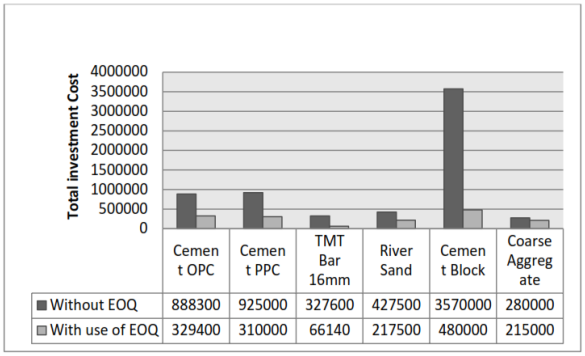












CONCLUSION

Primavera serves as an effective tool for generating Gantt chart for the schedule of a High Rise construction. With the help of Primavera a scheduler can:

1. Effectively link all the activities involved in the construction of the project.
2. Determine the total duration required for the construction of the different phases involved.
3. Determine the Critical Path of the schedule of the project.
4. Determine the total float generated due to interdependence of activities.
5. Keep a track of the scheduled and the on-site construction.
6. Assign the resources in a manner that expenses and time duration and shortened and the project proves economical.

From the site examination by applying EOQ in SP CONSTRUCTION PUNE following end are drawn EOQ investigation is somewhat technique, which gives the way to ordering those things that make the biggest impact on an organization's general stock cost execution. EOQ characterization to recognize and characterize the security stocks, which is an insurance so that doesn't absence of material just as stocks normal, most extreme and least, to evaluate the sum important to keep away from an absence of crude material and with no collection in stock. All out venture cost of the material which generally utilized in SP CONSTRUCTION in Case study 1 without utilization of EOQ is Rs. 7381170 and with utilization of EOQ is Rs. 2285250 additionally with utilizing of EOQ cost sparing in material is 70 %. The primavera programming by embracing legitimate material administration framework huge measure of cost can be diminished in huge undertakings and that spared cost can be utilized in some little venture as our nation previously running short cash. In the material administration the primary significant elements are arranging, evaluating the prerequisite, sourcing, buying, moving, putting away, and controlling of materials, limiting the wastage and improving the benefit by lessening cost of material. Disappointment in overseeing site stock will bring about cost invade, delays in venture fruition and lessen generally speaking undertaking execution. In the material administration additionally watch the main considerations of helpless control are inappropriate administration of time, cost and labor. Primavera programming is the significant piece of their 25% expense of absolute creation there is a requirement

for stock control by method of diminishing expense and ideal use of materials stock is elevated level.

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