



SHADAN COLLEGE OF ENGINEERING & TECHNOLOGY

Established by SHADAN EDUCATIONAL SOCIETY.
Approved by A.I.C.T.E and Affiliated to JNTUH, Hyderabad.
Website: www.scet.in E-Mail: scet_shadan@yahoo.co.uk

Date: 6-9-2021

DEPARTMENT OF CIVIL ENGINEERING

3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years (10)

HEI INPUT

2019-2020	2018-2019	2017-2018	2016-2017	2015-2016
12	18	17	Nil	Nil

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3.3.3 Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years (10)

Sl. No.	Name of the teacher	Title of the book/chapters published	Title of the paper	Title of the proceedings of the conference	Name of the conference	National / International	Year of publication	ISBN/ISSN number of the proceeding	Affiliating Institute at the time of publication	Name of the publisher
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2019-2020

1	M.A Qasbi		SEISMIC RESPONSE OF RCC BUILDING WITH AND WITHOUT DIAPHRAM USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM 2020)	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	Shadani college of engineering & technology	IRJGES
2	azem ul hassain		EFFECT OF FOUNDATION SYSTEM FOR DIFFERENT SUPPORTS CONDITIONS IN A R.C.C BUILDING USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM 2020)	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadani college of engineering & technology	IRJGES



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3	M.A Qadeer		DYNAMIC ANALYSIS OF MULTI STORED BUILDING (G+6) USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
4	Azeem Ul Hussain		ANALYSIS AND DESIGN OF BUILDING WITH SHEAR WALL USING STAAD.PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
5	Mohd riyaz uddin		SEISMIC RESPONSE OF RCC BUILDING WITH AND WITHOUT DIAPHRAM USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
6	ashed walheed		EFFECT OF FOUNDATION SYSTEM FOR DIFFERENT SUPPORTS CONDITIONS IN A R.C.C BUILDING USING STAAD.PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES



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7	Masrath Fadhila		SEISMIC RESPONSE OF RCC BUILDING WITH AND WITHOUT DIAPHRAM USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
8	Arshad Wahed		ANALYSIS AND DESIGN OF BUILDING WITH SHEAR WALL USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
9	Khalifa Arshaban		EFFECT OF FOUNDATION SYSTEM FOR DIFFERENT SUPPORTS CONDITIONS IN A R.C.C BUILDING USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
10	Mohd Ishiyauq Ahmes		DYNAMIC ANALYSIS OF MULTI STORED BUILDING (G+6) USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCE AND MANAGEMENT (ICTEESM20 20')	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES



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11	Shauk Ameer Hussain		ANALYSIS AND DESIGN OF BUILDING WITH SHEAR WALL USING STAAD.PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM20 2019)	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
12	Masrath Fatima		DYNAMIC ANALYSIS OF MULTI STORED BUILDING (G+6) USING STAAD PRO	INTERNATIONAL CONFERENCE ON TRANSFORMATIONAL EXCELLENCE IN ENGINEERING, SCIENCES AND MANAGEMENT (ICTEESM20 2019)	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2019-2020	2456-172X	shadan college of engineering & technology	IRJGES
2018-2019										
1	Mr Waqar Ali		ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS- ARTIFICIAL NEURAL NETWORK MODELING	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
2	Ma Qadeer		MIX DESIGN OF CONCRETE BY BIS METHOD	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
3	Tarveer Ali Khan		ESTIMATION OF RESIDENTIAL BUILDING USING LOW COST MATERIALS	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES



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4	Shah Ameer Hussain		CONSTRUCTION PLANNING AND MANAGEMENT OF RESIDENTIAL BUILDING USING PRIMAVERA	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
5	M.Aqaboe		CONSTRUCTION PLANNING & MANAGEMENT OF COMMERCIAL BUILDING USING PRIMAVERA	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
6	Azeemulhasan		SHEET PILE TECHNOLOGY	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
7	Mr Faqudin		ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS- ARTIFICIAL NEURAL NETWORK MODELING	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
8	Mr Arif		MIX DESIGN OF CONCRETE BY BIS METHOD	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
9	Mr akram khan		ESTIMATION OF RESIDENTIAL BUILDING USING LOW COST MATERIALS	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL GLOBAL ENGINEERING SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES



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10	Mohammed Abdul		CONSTRUCTION PLANNING AND MANAGEMENT OF RESIDENTIAL BUILDING USING PRIMAVERA	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
11	NAFEES AHMED		CONSTRUCTION PLANNING & MANAGEMENT OF COMMERCIAL BUILDING USING PRIMAVERA	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
12	Heemasidig		SHEET PILE TECHNOLOGY	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
13	Mr Veerabhadra Rao		ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS- ARTIFICIAL NEURAL NETWORK MODELING	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
14	Mid Abdul Raheem Wasey		MIX DESIGN OF CONCRETE BY BIS METHOD	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES
15	Mohd abdul malik		ESTIMATION OF RESIDENTIAL BUILDING USING LOW COST MATERIALS	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL ON GLOBAL ENGINEERING AND SCIENCES (IRJGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJGES



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16	MohdFahmy Ahmed		CONSTRUCTION PLANNING AND MANAGEMENT OF RESIDENTIAL BUILDING USING PRIMAVERA	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL LINGLOBALENGIN EERINGANDSCIE CES (IRJIGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJIGES
17	MasrathFahima		CONSTRUCTION PLANNING & MANAGEMENT OF COMMERCIAL BUILDING USING PRIMAVERA	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL LINGLOBALENGIN EERINGANDSCIE CES (IRJIGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJIGES
18	MohdFahmy Ahmed		SHEET PILE TECHNOLOGY	INTERNATIONAL CONFERENCE ON RECENT ISSUES IN ENGINEERING SCIENCES AND MANAGEMENT	INTERNATIONAL RESEARCH JOURNAL LINGLOBALENGIN EERINGANDSCIE CES (IRJIGES)	International	2018-2019	2456-172X	shadan college of engineering & technology	IRJIGES

2017-18

1	Md Saleem		ANALYSIS AND EXECUTION OF ROAD WORKS	INTERNATIONAL CONFERENCE ON CONTINGUORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URJIMAE
2	mohd akram Khan		TIME IMPACT ANALYSIS OF CONSTRUCTION PROJECTS USING PRIMAVERA	INTERNATIONAL CONFERENCE ON CONTINGUORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URJIMAE



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3	Mr. Wajid Ali		ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS: ARTIFICIAL NEURAL NETWORK MODELING	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
4	Ma Qader		MIX DESIGN OF CONCRETE BY BIS METHOD*	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
5	Nar Wajid Ali		Design & Analysis of Multi-Storeyed Building using Sap 2000	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
6	Poma Chetanya		ANALYSIS AND EXECUTION OF ROAD WORKS	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
7	mohd abdul malik		TIME IMPACT ANALYSIS OF CONSTRUCTION PROJECTS USING PRIMAVERA	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
8	Mr. Faquadin		ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS: ARTIFICIAL NEURAL NETWORK MODELING	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE



9	Ms ARU		MIX DESIGN OF CONCRETE BY BIS METHOD	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL, MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
10	Ms Saleem		STRUCTURAL ANALYSIS OF MULTISTORY BUILDING OF DIFFERENTSHEAR WALLS LOCATION AND HEIGHTS	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
11	Mr Faqirudin		Design & Analysis of Multi-Storeyed Building using Sap 2000	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
12	Ms Riyaz Uddin		ANALYSIS AND EXECUTION OF ROAD WORKS	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
13	Tanweer Khan		TIME IMPACT ANALYSIS OF CONSTRUCTION PROJECTS USING PRIMAVERA	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE
14	Ms Veerabhadra Rao		ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS: ARTIFICIAL NEURAL NETWORK MODELING	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMAE



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15	Nad Abdul Rabeem Wisany		MIX DESIGN OF CONCRETE BY BIS METHOD*	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL, MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMMAE
16	K Sridhar Reddy Poma Chasanya		STRUCTURAL ANALYSIS OF MULTISTORY BUILDING OF DIFFERENTSHEAR WALLS LOCATION AND HEIGHTS	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMMAE
17	Mr Venubadra Rao		Design & Analysis of Multi-Storeyed Building using Sap 2000	INTERNATIONAL CONFERENCE ON CONTEMPORARY ISSUES IN ENGINEERING AND MANAGEMENT	INTERNATIONAL JOURNALS OF RESEARCH IN MECHANICAL MECHATRONICS AND AUTOMOBILE ENGINEERING	International	2017-2018	2454-1435	Shadan College of Engineering and Technology	URMMMAE




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ANALYSIS AND DESIGN OF BUILDING WITH SHEAR WALL USING STAAD.PRO

¹Azeem UHussain, ²Arshad Waheed, ³Shaik Ameer Hussain

¹Assistant professor, Dept of Civil Shadan College of Engineering and Technology HYD.T.S,INDIA

²Assistant professor, Dept of Civil, Shadan College of Engineering and Technology HYD,T.S,INDIA

³Assistant professor, Dept of Civil Shadan College of Engineering and Technology HYD,T.S,INDIA

Abstract In present scenario buildings with shear wall is a typical feature in the modern multi-storey construction in urban India. Such features are highly undesirable in building built in seismically active areas. This study highlights the importance of explicitly recognizing the presence of the shear wall in the analysis of building. Design of RCC elements will also be perform as per IS-456 2000 for the building without shear wall. A numerical study will perform using Staad pro Software will be used for 3D multi storey frames with and without shear wall to study the responses of the structure under seismic and wind loads. Storey displacements will be computed for both the buildings with and without shear wall and comparing the results.

1. INTRODUCTION

Civil engineer deals with the construction of building such as residential houses, dams, bridges, canals, etc. A simple building can be defined as an enclosed structure with walls and roof. In the early ancient times humans lived in caves, over trees or under trees, to protect themselves from wild animals, rain, sun, etc. as the times passed as humans being started living in huts made of timber branches. The shelters of those old huts have been developed nowadays into beautiful houses. Rich people live in sophisticated condition houses.

Buildings are the important indicator of social progress of the county. Every human has desire to own comfortable homes on an average. Generally, one spends his two-third life times in the houses. This is the reason that the person do supreme effort and spend hard earned saving in owning houses. Nowadays, the house building is major work of the social progress of the county. Daily new techniques are being developed for the construction of houses economically, quickly and fulfilling the requirements of the community engineers and architects do the design work, planning and layout, etc. of the buildings.

A building frame consists of number of bays and stories. A multi-storey, multi-paneled frame is a complicated

statically intermediate structure. A design of R.C building of G+5 storey frame work is taken up. The size of building is 40x28m. The number of columns are 33. It is residential complex. The design is made using software on structural analysis design (STAAD-Pro).

The building subjected to both the vertical loads as well as horizontal loads. The vertical load consists of dead load of structural components such as beams, columns, slabs etc and live loads, seismic loads. The horizontal load consists of the wind forces thus building is designed for dead load, live load and wind load as per IS 875. The building is designed as 3 dimensional vertical frame and analyzed for the maximum and minimum bending moments and shear forces by outputs method as per IS 456-2000. With the help of STAAD-Pro software computations of loads, moments and shear forces and obtained.

We have chosen STAAD Pro because of its following advantages easy to user interface

- conformation with the Indian Standard Codes
- versatile nature of solving any type of problem
- Accuracy of the solution

2. STRUCTURAL MODELLING:

The two buildings are modeled and analyzed for static, response spectrum and pushover analyses, using the finite element package SAP2000. The analytical models of the buildings include all components that influence the mass, strength and stiffness. The non-structural elements and components that do not significantly influence the building behavior were not modeled. The floor slabs are assumed to act as diaphragms, which ensure integral action of all the vertical lateral load-resisting elements. Beams and columns were modeled as frame elements with the centre lines joined at nodes. Rigid offsets were provided from the nodes to the faces of the columns or beams. The stiffness for column and beams were taken as 0.7E_I, accounting for the cracking in the members and the contribution of flanges in the



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ANALYSIS AND DESIGN OF BUILDING WITH SHEAR WALL USING STAAD.PRO

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Abstract In present scenario buildings with shear wall is a typical feature in the modern multi-storey construction in urban India. Such features are highly undesirable in building built in seismically active areas. This study highlights the importance of explicitly recognizing the presence of the shear wall in the analysis of building. Design of RCC elements will also be perform as per IS-456 2000 for the building without shear wall. A numerical study will perform using Staad pro Software will be used for 3D multi storey frames with and without shear wall to study the responses of the structure under seismic and wind loads. Storey displacements will be computed for both the buildings with and without shear wall and comparing the results

1. INTRODUCTION

Civil engineer deals with the construction of building such as residential houses, dams, bridges, canals, etc. A simple building can be defined as an enclosed structure with walls and roof. In the early ancient times humans lived in caves, over trees or under trees, to protect themselves from wild animals, rain, sun, etc. as the times passed as humans being started living in huts made of timber branches. The shelters of those old huts have been developed nowadays into beautiful houses. Rich people live in sophisticated condition houses

. Buildings are the important indicator of social progress of the county. Every human has desire to own comfortable homes on an average. Generally, one spends his two-third life times in the houses. This is the reason that the person do supreme effort and spend hard earned saving in owning houses. Nowadays, the house building is major work of the social progress of the county. Daily new techniques are being developed for the construction of houses economically, quickly and fulfilling the requirements of the community engineers and architects do the design work, planning and layout, etc. of the buildings.

A building frame consists of number of bays and stories. A multi-storey, multi-paneled frame is a complicated

statically intermediate structure. A design of R.C building of G+5 storey frame work is taken up. The size of building is 40x28m. The number of columns are 33. It is residential complex. The design is made using software on structural analysis design (STAAD-Pro).

The building subjected to both the vertical loads as well as horizontal loads. The vertical load consists of dead load of structural components such as beams, columns, slabs etc and live loads, seismic loads. The horizontal load consists of the wind forces thus building is designed for dead load, live load and wind load as per IS 875. The building is designed as 3 dimensional vertical frame and analyzed for the maximum and minimum bending moments and shear forces by outputs method as per IS 456-2000. With the help of STAAD-Pro software computations of loads, moments and shear forces and obtained.

We have chosen STAAD Pro because of its following advantages easy to user interface

- conformation with the Indian Standard Codes
- versatile nature of solving any type of problem
- Accuracy of the solution

2. STRUCTURAL MODELLING:

The two buildings are modeled and analyzed for static, response spectrum and pushover analyses, using the finite element package SAP2000. The analytical models of the buildings include all components that influence the mass, strength and stiffness. The non-structural elements and components that do not significantly influence the building behavior were not modeled. The floor slabs are assumed to act as diaphragms, which ensure integral action of all the vertical lateral load-resisting elements. Beams and columns were modeled as frame elements with the centre lines joined at nodes. Rigid offsets were provided from the nodes to the faces of the columns or beams. The stiffness for columns and beams were taken as $0.7EI_g$, accounting for the cracking in the members and the contribution of flanges in the

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DYNAMIC ANALYSIS OF MULTI STORIED BUILDING (G+6) USING STAAD PRO

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Abstract: Analysis and design of buildings for static forces is a routine affair these days because of availability of affordable computers and specialized programs which can be used for the analysis. On the other hand, dynamic analysis is a time consuming process and requires additional input related to mass of the structure, and an understanding of structural dynamics for interpretation of analytical results. Reinforced concrete (RC) frame buildings are most common type of constructions in urban India, which are subjected to several types of forces during their lifetime, such as static forces due to dead and live loads and dynamic forces due to the wind and earthquake. Here the present works (problem taken) are on a G+10 storied regular building. These buildings have the plan area of 25m x 45m with a storey height 3.6m each and depth of foundation is 2.4 m. & total height of chosen building including depth of foundation is 114 m. The static and dynamic analysis has done on computer with the help of STAAD-Pro software using the parameters for the design as per the IS-1893- 2002-Part-1 for the zones- 2 and 3 and the post processing result obtained has summarized

1. INTRODUCTION

The high-rise building is generally considered as one that is taller than the maximum height which people are willing to walk up, it thus requires mechanical vertical transportation. This includes a rather limited range of building uses, primarily residential apartments, hotels, and office buildings, and also occasionally including education facilities.

As per NATIONAL BUILDING CODE OF INDIA (NBC) 2005, High rise building is defined as a building of 15 metres or greater in height, which is divided at regular intervals into occupiable levels. To be considered a high rise building a structure must be based on solid ground.

It is a common practice to model a multi storied tall building as a frame structure where the load structure design are supported by beams and column.

Intrinsically the structural strength provided by the walls and slabs are neglected as the building height is increasing the effects of lateral load on multi storey and structural increase considerably the consideration of walls and slab in the structural modelling in addition to the frame structure load to improve lateral stiffness those a more economical structural design can be achieved.

In this thesis modelling and structural analysis of multi storied building [G+6] have been performed to investigate the effect considering the walls, slab subjected to dynamic load studied. The structure was subjected to self-weight, dead load, live load, wind load and seismic loads under the load case details of STAAD.Pro. The wind load values were generated by STAAD.Pro considering the given wind intensities at different heights and strictly abiding by the specifications of IS 875 (part 3). Seismic load calculations were done following IS 1893-2000.

The minimum requirements pertaining to the structural safety of buildings are being covered by way of laying down minimum design loads which have to be assumed for dead loads, imposed loads, and other external loads, the structure would be required to bear. Strict conformity to loading standards recommended in this code, it is hoped, will ensure the structural safety of the buildings which are being designed. Structure and structural elements were normally designed by Limit State Method.

The entire process of structural planning and design requires not only imagination and conceptual thinking but also sound knowledge of practical aspects, such as recent design codes and bye-laws, backed up by experience, institution and judgment.

It is emphasized that any structure to be constructed must satisfy the need efficiency for which it is intended and shall be durable for its desired life span.



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EFFECT OF FOUNDATION SYSTEM FOR DIFFERENT SUPPORTS CONDITIONS IN A R.C.C BUILDING USING STAAD.PRO

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Abstract— The principle objective of this project is to analyze and design a Hospital Building [G + 3 (3 dimensional frame)] using STAAD Pro. In order to compete in the ever growing competent market it is very important for a structural engineer to save time. as a sequel to this an attempt is made to analyze and design a Multi-storeyed building by using a software package staad-pro.

The design involves load calculations manually and analyzing the whole structure by STAAD Pro. The design methods used in STAAD-Pro analysis are Limit State Design conforming to Indian Standard Code of Practice. STAAD-Pro features a state-of-the-art user interface, visualization tools, powerful analysis and design engines with advanced finite element and dynamic analysis capabilities. From model generation, analysis and design to visualization and result verification, STAAD-Pro is the professional's choice. Initially we started with the analysis of simple 2 dimensional frames and manually checked the accuracy of the software with our results. The results proved to be very accurate. We analyzed and designed a G + 1 storey building [2-D Frame] initially for all possible load combinations [dead, live, wind and seismic loads].

1. INTRODUCTION

From a long time it has been the constant effort of structural engineers to improve their concepts of analysis and design so that an economical structure is obtained which is consistent with safety and serviceability. The introduction of various grades of steels helped in achieving considerable economy in the use of scarce minerals and in reducing the cost of construction.

A complete knowledge of the behavior of structures is essential for design and such knowledge as mainly obtained through organized research in laboratories. Ultimately such knowledge finds acceptance in the "codes of practice." Various countries. These research and development programs are very costly to be afforded by any one country. These research

developments have become truly international and this is particularly true in the field of "limit state design of R.C.C. Structures."

2. DESIGN PRINCIPLE, ASSUMPTION AND NOTATION ASSUMED

The notation adopted throughout the work is same as in IS-456-2000.

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1. Using partial safety factors for loads in accordance with clause 36.4 of IS-456-2000 as $\gamma_f = 1.5$

2. Partial safety factor for material in accordance with clause 36.4.2 of IS-456-2000 is taken as 1.5 for concrete and 1.15 for steel

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self weight of beams = $0.23 \times 0.450 \times 25 = 2.5875$ kN/m

Weights due to walls on beam = $(2.55 \times 0.152 \times 19) = 7.3644$ kN/m

total = 9.9519 kN/m

Amount of distributed load coming from slab either in the form of triangular load or trapezoidal load = $\{ w L_x \{ 3 - (L_x / L_y)^2 \} / 6$ or $\{ w L_x / 3 \}$

And loads from cantilever slabs ie = $w L_x$

Here w = self wt of slab, L_x = shorter dimension, L_y = longer dimension of slab panel

Live load on slab:-

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"SEISMIC RESPONSE OF RCC BUILDING WITH AND WITHOUT DIAPHRAGM USING STAAD PRO"

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Abstract: The main objective of this project is to analyze and design a RCC framed structure with and without diaphragm for seismic forces. For this analysis we considered a college building [G + 3] (3 dimensional frame). In order to compete in the ever growing competent market it is very important for a structural engineer to save time, as a sequel to this First architectural plan and layout of a college building has been prepared in AUTOCAD and the analysis and design is done by using the software package STAADPRO. In this first the analysis and design is done by applying dead load, live load and floor loads and the results are tabulated. Then again the analysis and design is repeated by applying the panel properties with pressure intensity on the panel and the results are tabulated. The results obtained from the above two steps are compared and are represented graphically.

1. INTRODUCTION

The project is mainly to study the response of a floor (or roof) diaphragm to the horizontal forces generated within it, and how the forces are transmitted horizontally to the building walls and frames.

A horizontal system (roof, floor or other membrane or horizontal bracing) acting to transmit lateral forces to vertical-resisting elements is called as diaphragm.

The floors and roof of a building, in addition to resisting gravity loads, are also generally designed to act as diaphragms. In this respect, they are required both to distribute seismic forces to the main elements of horizontal resistance, such as frames and shear walls, and also to tie the structure together so that it acts as a single entity during an earthquake. The robustness and redundancy of a structure is highly dependent on the performance of the diaphragms. Precast floors without an in-situ topping are not generally recommended in seismic areas.

In a ductile structure, diaphragms will almost always be required to remain elastic, so that they can sustain their function of transferring forces to the main lateral-

resisting structure, and tying the building together. Diaphragms should in principle therefore have the strength to sustain the maximum forces that may be induced in them by the chosen yielding mechanism within the rest of the structure. Eurocode 8 deals with this rather simply by specifying that diaphragms should be designed for 1.3 times the shear forces obtained directly from the analysis.

2. LOAD PARAMETERS

Introduction

Loads and properties of materials constitute the basic parameter of a R.C structures. Both of them are basically of a varying nature. For such a quality of varying nature, it is necessary to arrive of a single representative value. Such value is known as characteristic value. The value to be taken in design which provides appropriate or designed margin of safety is known as design values. The loads are taken as per IS-875 and the material properties like characteristic value are taken from IS-456.

Types of load

The various types of loads acting on the structure which needs consideration in building design as follows:-

dead loads

live loads

wind loads

earthquake loads

other loads

3. MODELING AND ANALYSIS

Structural Planning

Structural planning is first stage in any structural design. It involves the determination of appropriate form of structure, material to be used, the structural system, the layout of its components and the method of analysis.

As the success of any engineering project measured in terms of safety and economy, the emphasis today is being more on economy. Structural planning is the first step towards successful structural design.

Structural Planning of Reinforced Concrete Framed Building



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I. INTRODUCTION

The project is mainly to study the response of a floor (or roof) diaphragm to the horizontal forces generated within it, and how the forces are transmitted horizontally to the building walls and frames.

A horizontal system (roof, floor or other membrane or horizontal bracing) acting to transmit lateral forces to vertical-resisting elements is called as diaphragm.

The floors and roof of a building, in addition to resisting gravity loads, are also generally designed to act as diaphragms. In this respect, they are required both to distribute seismic forces to the main elements of horizontal resistance, such as frames and shear walls, and also to tie the structure together so that it acts as a single entity during an earthquake. The robustness and redundancy of a structure is highly dependent on the performance of the diaphragms. Precast floors without an in-situ topping are not generally recommended in seismic areas.

In a ductile structure, diaphragms will almost always be required to remain elastic, so that they can sustain their function of transferring forces to the main lateral-

resisting structure, and tying the building together. Diaphragms should in principle therefore have the strength to sustain the maximum forces that may be induced in them by the chosen yielding mechanism within the rest of the structure. Eurocode 8 deals with this rather simply by specifying that diaphragms should be designed for 1.3 times the shear forces obtained directly from the analysis.

2. LOAD PARAMETERS

Introduction

Loads and properties of materials constitute the basic parameter of a R.C structures. Both of them are basically of a varying nature. For such a quality of varying nature, it is necessary to arrive of a single representative value. Such value is known as characteristic value. The value to be taken in design which provides appropriate or designed margin of safety is known as design values. The loads are taken as per IS-875 and the material properties like characteristic value are taken from IS-456.

Types of load

The various types of loads acting on the structure which needs consideration in building design as follows:-

- dead loads
- live loads
- wind loads
- earthquake loads
- other loads

3. MODELING AND ANALYSIS

Structural Planning

Structural planning is first stage in any structural design. It involves the determination of appropriate form of structure, material to be used, the structural system, the layout of its components and the method of analysis.

As the success of any engineering project measured in terms of safety and economy, the emphasis today is being more on economy. Structural planning is the first step towards successful structural design.

Structural Planning of Reinforced Concrete Framed Building



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"SEISMIC RESPONSE OF RCC BUILDING WITH AND WITHOUT DIAPHRAGM USING STAAD PRO"

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ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS: ARTIFICIAL NEURAL NETWORK MODELING

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Abstract Running costs of a building is a substantial share of its total life-cycle cost (LCC) and it ranges between 70-80% in commercial buildings. Despite its significant contribution to LCC, investors and construction industry practitioners tend to mostly rely on construction cost exclusively. Though the early stage estimation of running costs is limited due to the unavailability of historical cost data, several efforts have been taken to estimate the running costs of buildings using different cost estimation techniques. However, the prediction accuracy of those models is still challenged due to less quality and amount of data employed. This study, therefore, developed an artificial neural network (ANN) model for running costs estimation of commercial buildings with the use of building design variables. The study was quantitatively approached and running costs data together with 13 building design variables were collected from 35 commercial buildings. The ANN model developed resulted in a 96.6% perfect correlation between the running cost and building design variables. The testing and validation of the model developed indicate that there is greater prediction accuracy. These findings will enable industry practitioners to make informed cost decisions on implications of running costs in commercial buildings at its early stages, eliminating excessive costs to be incurred during the operational phase.

Keywords: Cost modeling, Operations cost, Maintenance cost, Building design variables, Decision-making, LCC.

1. INTRODUCTION

Usually, costs incurred during the operational phase of a building responsible for a substantial share of its Life Cycle Cost (LCC). Some buildings have inherently higher running cost than others, such as commercial buildings. For example, the running costs of commercial buildings account for over 69% of the total LCC (Wang

et al. 2014). Similarly, Wong *et al.* (2010) revealed that the running cost of an office building varies between 72 to 81% of its total LCC. Despite its contribution to the LCC structure, often running cost is given less focus in investment decision making and investors tend to mostly rely on initial cost alone.

A recent study on the review of existing models for LCC estimation revealed that there is no simple model for estimating the running cost of buildings to date (Krstić and Marenjak 2017). The application of available methods and models for the running cost estimation of buildings are also limited to the later stage of building life cycle as these models require an extensive set of operational cost data (Krstić and Marenjak 2017). For example, Al-Hajj and Horner (1998) have presented a running costs model for institutional buildings, with eleven cost elements and to an accuracy of 1.13%. Similarly, Kirkham *et al.* (2002) and El-Haram *et al.* (2002) have developed

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Estimation of cost of a product, system, or service based on its determinants is a well-known and approved method for cost estimation over the years. For example, Kirkham *et al.* (1999) have developed an energy cost model for sports centres based on building design variables such as the number of users and floor area. However, Krstić and Marenjak (2017) stressed that these models are not based on adequate historical cost records and not based on the available cost structure, rather than standard cost structure. Authors further indicate that the models developed so far ignore some important factors



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I. INTRODUCTION

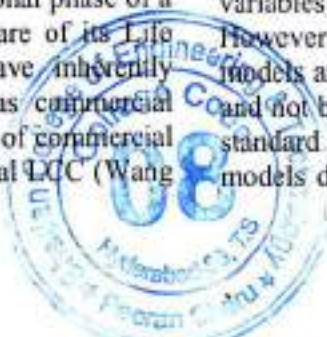
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MIX DESIGN OF CONCRETE BY BIS METHOD

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Abstract—The quality of concrete in a structure is determined not only by the proper selection of its constituents and their proportions, but also by appropriate techniques in the production, transportation, placing, compacting, finishing, and curing of the concrete of the actual structure, often at a job site. Although these processes have an impact on the actual quality of concrete

In order to obtain a strong, durable and economical concrete mix, it is necessary to understand the characteristics and behavior of the ingredients

1. INTRODUCTION

Concrete is the most widely used man-made construction material. It is obtained by mixing cement, water and aggregates (and sometimes admixtures) in required proportions. The mixture when placed in forms and allowed to cure becomes hard like stone. The hardening is caused by chemical action between water and the cement and it continues for a long time, and consequently the concrete grows stronger with age. The hardened concrete may also be considered as an artificial stone in which the voids of larger particles (coarse aggregate) are filled by the smaller particles (fine aggregate) and the voids of fine aggregates are filled with cement. In a concrete mix the cement and water form a paste called cement water paste which in addition to filling the voids of fine aggregate acts as binder on hardening, thereby cementing the particles of the aggregates together in a compact mass.

The strength, durability and other characteristics of concrete depend upon the properties of its ingredients, on the proportions of mix, the method of compaction and other controls during placing, compaction and curing. The popularity of the concrete is due to the fact that from the common ingredients, it is possible to tailor the properties of concrete to meet the demands of any particular situation. The advances in concrete technology have paved the way to make the best use of locally available materials by judicious mix proportioning and proper workmanship, so as to produce concrete satisfying performance requirements.

2. CONSTITUENTS OF CONCRETE

The constituents of modern concrete have increased from the basic four (Portland cement, water, stone, and sand) to include both chemical and mineral admixtures. These admixtures have been in use for decades, first in special circumstances, but have now been incorporated in more and more general applications for their technical, and at times economic benefits in either or both fresh and hardened properties of concrete.

The main constituents of concrete are:

- (i) Cement
- (ii) Aggregates
- (iii) Water
- (iv) Admixtures

3. CEMENT

Cement is a well-known building material and has occupied an indispensable place in construction works. There is a variety of cements available in the market and each type is used under certain conditions due to its special properties. The cement commonly used is portland cement, and the fine and coarse aggregates used are those that are usually obtainable, from nearby sand, gravel or rock deposits. In order to obtain a strong, durable and economical concrete mix, it is necessary to understand the characteristics and behaviour of the ingredients



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ESTIMATION OF RESIDENTIAL BUILDING USING LOW COST MATERIALS

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Abstract: Affordable housing mainly deals with effective costing and following of sustainable building techniques which helps in reducing the cost of construction without sacrificing the strength, durability and performance. The plan of 2BHK have been considered for Residential building. The total residential building is divided into two parts i.e., Structural and non Structural. As the cost of cement takes major part of total building cost, so we adopted fly ash by replacing cement with percentages of 30%, 40%, 50% for structural elements. The strength tests such as compressive, split test, flexural test have been calculated. From the test results, 40% replacement of fly ash gave required strength for single storey building. For Non- structural elements, the low cost materials such as concrete frames, hollow concrete blocks etc were adopted. This project recommends plan and sustainable materials adopted for a single storied building. After assigning low cost materials for structural and Non- structural elements of building, the quantity and cost is estimated. The overall cost is reduced up to 30% compared to conventional building cost.

Keywords : Sustainable building techniques, Building materials , Estimation

1. INTRODUCTION

Housing is a basic need of human being. But this is out of the means of low income house holder who constitute majority of population in our country. In India maximum affordability of household was defined to be 5.1 times the household's total gross income as compared to the developed countries. Low cost housing is a different concept which deals with effective costing and following of sustainable building techniques. There is a huge misconception that low cost housing is suitable for only sub normal works and they are built by using cheap building materials of low quality. The fact is that Low cost housing is done by proper management of resources.

The production of Portland cement is not only costly and energy intensive, but it also produces large amounts of carbon emissions. The production of one ton of Portland cement produces approximately one ton of CO₂ in the atmosphere. Fly ash is a byproduct of the combustion of pulverized

coal and is collected by mechanical and electrostatic separators from the fuel gases of thermal power plants where coal is used as a fuel. Fly ash is commonly used in concrete in replacement ranging from 0%-30% by weight of the total cementitious material. Large quantities of fly ash are available around the world at low cost and the use of HVFA seems to offer the best solution to rising cement demands. The use of HVFA in concrete has recently gained popularity as a resource efficient, durable, cost effective, sustainable option for OPC concrete application.

The low cost materials such as Hollow concrete blocks , spiral stair case, concrete flooring , pre cast doors and window frames are recommended for cost reduction of Residential building.

2. CONSTRUCTION OF 2 BHK :



Fig: 1. PLAN OF 2BHK BUILDING ESTIMATE

CONSTRUCTION PLANNING AND MANAGEMENT OF RESIDENTIAL BUILDING USING PRIMAVERA

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Abstract Indian Construction industry now days are facing with a lot of problem which is produce the lost of a billion ringgit. The main factor which gives the instability to the construction industry is a cost and time planning. By referring to the news in mass media the cost and the time of the project will be the first factors that lead in the uncompleted of the project or the delayed of the project. This phenomenon will cause a lot of problem to the client which is the client must do the payment back to the bank form the loan that the bank provided although the project did not complete. Cost of the project is the factor that usually may lead of the project delayed or uncompleted The time scheduling also is the major factor that lead to the delayed or the uncompleted of the project. The construction company is facing a tough challenge in the time planning of the project because without the proper planning the time factor will cause the lost of the profit to the company. All of the construction company have planning and scheduling the time first before starting the project and some of the company did not follow well the time constraint of the project and this situation will lead the delayed of the project. Sometimes the construction companies which are planning their time for the project did not concern about the environment factor when doing the planning. The environment factor must be consider when doing the planning because the bad impact of the environment factor to the scheduling of the project will cause the delayed of the project and at the same time will make the loss of profit to the company. Thus it is important to carry a study on schedule developing for a project

I. INTRODUCTION

India is the one of the developing countries which is concentrating in the development of the new buildings and at the same time maintaining all existing building. The government is spending a lot of money for the new infrastructure works especially schools, hospitals, universities and low cost housing projects. With this investment, many contracting companies are being set up. At the same time multinational companies are

looking forward in exploring the construction industry in India. By looking for the expenditure of the construction industry, the project management profession is being very valuable for the construction companies in order to make sure the projects can be completed successfully. The project management knowledge becomes the critical part in the project because it contains the knowledge in controlling the cost, scheduling, and resources. In this Project Management field, project manager plays very important role in the construction project. Project management professionals are responsible for ensuring the project completes successfully, thus it is important for them to have experience and knowledge in Project Management techniques.

II. LITERATUREREVIEW

The life cycle is the only thing that uniquely distinguishes projects from non-projects". If that is true, then it would be valuable to examine just what role the so-called Project life cycle plays in the conduct of project management. The basic life cycle follows a common generic sequence: Opportunity, Design & Development, Production, Hand-over, and Post-Project Evaluation. A project can be defined as the work required Taking an opportunity and converting it into an asset." In this sense, both the opportunity And asset are singular, with the implied use being for generating benefit rather than Consumed as a resource in normal operational activity over a prolonged period. (Kerzner, 1995).

III. METHODOLOGY

The Project Management Module is comprehensive, multi-project planning and control software built on Oracle and Microsoft SQL server relational database for enterprise-wide project management scalability. The Project Management module can stand alone for Project and resource management, or it can be used in conjunction with other products, including the Time sheets module, Methodology Management module and PRIMAVERA's Web application The project Management module enables organization to store and manage its projects in a central location. The module

CONSTRUCTION PLANNING & MANAGEMENT OF COMMERCIAL BUILDING USING PRIMAVERA

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1. INTRODUCTION

The construction industry mainly caters to the need of providing shelter, harnessing energy and creates public access. The basic human needs have not changed over time even though the process and environment in which designer or constructor operate have become increasingly more complicated. Rapidly escalating technology has made challenging construction possible which were impossible to imagine in the previous generations. India is the one of the developing countries which is concentrating in the development of the new buildings and at the same time maintaining all existing building. The government is spending a lot of money for the new infrastructure works especially schools, hospitals, universities and low cost housing projects. With this investment, many contracting companies are being set up. At the same time multinational companies are looking forward in exploring the construction industry in India

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2. OBJECTIVE OF STUDY

For conducting this study the following objectives are proposed and these objectives will be the guideline for the production of the final thesis.

To learn the various interdependencies between activities of a construction project.

To sequence the activities in the most appropriate way.



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ABSTRACT—The main objective of this project is to analyze and design a RCC framed structure with and without diaphragm for seismic forces. For this analysis we considered a college building [G + 3] (3 dimensional frame). In order to compete in the ever growing competent market it is very important for a structural engineer to save time, as a sequel to this First architectural plan and layout of a college building has been prepared in AUTOCAD and the analysis and design is done by using the software package STAADPRO. In this first the analysis and design is done by applying dead load, live load and floor loads and the results are tabulated. Then again the analysis and design is repeated by applying the panel properties with pressure intensity on the panel and the results are tabulated. The results obtained from the above two steps are compared and are represented graphically

1. INTRODUCTION

The construction industry mainly caters to the need of providing shelter, harnessing energy and creates public access. The basic human needs have not changed over time even though the process and environment in which designer or constructor operate have become increasingly more complicated. Rapidly escalating technology has made challenging construction possible which were impossible to imagine in the previous generations. India is the one of the developing countries which is concentrating in the development of the new buildings and at the same time maintaining all existing building. The government is spending a lot of money for the new infrastructure works especially schools, hospitals, universities and low cost housing projects. With this investment, many contracting companies are being set up. At the same time multinational companies are looking forward in exploring the construction industry in India

By looking for the expenditure of the construction industry, the project management profession is being very valuable for the construction companies in order to

make sure the projects can be completed successfully. The project management knowledge becomes the critical part in the project because it contains the knowledge in controlling the cost, scheduling, and resources. In this Project Management field, project manager plays very important role in the construction project. Project management professionals are responsible for ensuring the project completes successfully, thus it is important for them to have experience and knowledge in Project Management techniques. The construction management it may refer to the contractual arrangement under which is a firm supplies construction management service to an owner. However, in its more common use it refers to the act of managing the construction process which is the way to manage the basic resource of construction. The resource included workers and subcontractor, equipment and construction plant, material, money and time. Skillful construction management results in the project completion on time and within budget. Time management is on keys of effective project management. They are a few problems effect the time management such as a rework activity, the change of job specification without direct notification, work overload, unreasonable time constraint and etc. The impact that from poor time management will cause delay or event worst effect mostly on cost as it is correlates to each other. As a solution of this situation the planning and scheduling will be the best method that can be used to overcome with this problem. With the proper planning and scheduling it will assist the project manager in completing the project within the time and meet the aim and objective of the project.

2. OBJECTIVE OF STUDY

For conducting this study the following objectives are proposed and these objectives will be the guideline for the production of the final thesis.

To learn the various interdependencies between activities of a construction project.

To sequence the activities in the most appropriate way.



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CONSTRUCTION PLANNING & MANAGEMENT OF COMMERCIAL BUILDING USING PRIMAVERA

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SHEET PILE TECHNOLOGY

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ABSTRACT—Piling is a type of ground treatment constructed to resist the lateral pressure of soil when there is desired change in ground elevation. Sheet pile retaining walls are usually used in soft soils and when there is excess water in the surrounding subsoil, which interferes with the foundation of structures. In case of soft soils sheet piles act as retaining walls for sliding soil and in the later case they are used as water barrier for stopping the surrounding water penetrating the foundation leading failure of structure. In this particular work sheet piles are used for retaining the non-cohesive soil sliding frequently interrupting the earth-work in excavation as well as for stopping the excessive water penetrating through the soil from surroundings. Scope of this work is to study the Topography of the soil, Engineering Properties to reflect the type and selection of sheet pile suitable and methods of driving.

I. INTRODUCTION

I. A deep foundation is distinguished from shallow foundation by the depth they are embedded into the ground. Poor soil and large design loads at shallow depths are some of the reasons to recommend deep foundation. There are different terms used to describe deep foundation including the piles which are generally driven into ground in-situ. Sheet piles can be made up of timber, steel, reinforced concrete, etc.

II. Sheet piling is a form of driven piling using thin interlocking sheet of steel to obtain a continuous barrier in the ground. They are used for the stabilization of the soil. The main application of sheet piles is in retaining walls and cofferdams erected to enable permanent works to proceed. Normally, vibrating hammer, t-crane and crawle drilling are used to establish sheet piles. Material used can be estimated by driving them 1/3 above ground and 2/3 below ground, but this can be altered depending on the environment.

III. Generally tests are performed on soils to obtain physical properties of soil around a site to design earthworks and foundations for proposed structures. They can be performed either in laboratory or on site. Some of the laboratory tests performed is particle size analysis, direct shear test, soil compaction test, etc.,

IV. Particle size analysis is done to determine the soil gradation. The distinction between coarse and fine particles is usually made at 75 μ m. The rate of sedimentation is used to determine the particle gradation

V. Direct shear test determines the consolidated, drained strength properties of a sample. A constant strain rate is applied to a single shear plane under a normal load, and the load response is measured. If this test is performed with different normal load, the common shear strength parameters can be determined.

VI. Recently, development of construction methods for densely populated urban area is emphasized. For example, in order to ease traffic congestion, railroads are re-laid on viaducts. For this project, structures are usually constructed very close to existing structures, and the space allowed for construction work is limited. In addition, it is required to reduce costs, as well as minimizing the impact to the environment, such as noise, vibration and disposals from construction work. Sheet-pile Foundation, which combines the footing and sheet-piles, proposed as a new foundation form (Koda et al. 2003, Nishioka et al. 2004) is one solution. Because of the confinement of the ground is increased by the sheet-piles, both bearing capacity and horizontal resistance of the SPF are improved compared to those of the shallow foundation. Therefore, the applicability became wider than that of the shallow foundations. For example, SPF can be adopted on the loose sandy ground to which the pile foundation has been usually applied. The construction cost of SPF is almost the same as that of the shallow foundation and more competitive than that of the pile foundation. On the other hand, since the pile work is not necessary, it can avoid various disadvantages of pile foundation, such as noise, vibration and the disposal of surplus soil.

On the basis of the materials from which they are made, the different types of sheet piles are:

- Timber/wood sheet piles
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- Steel sheet piles
- Composite



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Peer Review: www.irjges.com

Page Code: 198

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ANALYSIS AND EXECUTION OF ROAD WORKS

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Abstract: Road Transport is vital to India's economy. It enables the country's transportation sector contribute 4.7 percent of India's gross domestic product, in comparison to railways that contributed 1 percent, in 2009-2010, despite railways handling of passenger and pure cargo. Road transport has gained in importance over the years despite significant barriers and inefficiencies in interstate freight and passenger movement compared to railways and air. The government of India considers road network as critical to the country's development, social integration and security needs of the country. India's road network carries over 65 percent of its freight and about 85 percent of passenger traffic. Indian road network is administered by various government authorities, given India's federal form of government. National highways connect capitals, important places, ports and places of strategic importance of various states. Though national highways account for only 2% of the total road length, they carry nearly 1/3 of the total traffic. Flexible pavement is composed of a bituminous material surface course and underlying base and sub base courses. The bituminous material is more often asphalt whose viscous nature allows significant plastic deformation. Most asphalt surfaces are built on a gravel base, although some 'full depth' asphalt surfaces are built directly on the sub grade. Depending on the temperature at which it is applied, asphalt is categorized as hot mix asphalt (HMA), warm mix asphalt, or cold mix asphalt. Flexible Pavement is so named as the pavement surface reflects the total deflection of all subsequent layers due to the traffic load acting upon it. The flexible pavement design is based on the load distributing characteristics of a layered system. It transmits load to the sub grade through a combination of layers. Flexible pavement distributes load over a relatively smaller area of the sub grade beneath. The initial installation cost of a flexible pavement is quite low which is why this type of pavement is more commonly seen universally. However, the flexible pavement requires maintenance and routine

repairs every few years. Highway surveys involve the location of alignments and computation of volumes materials that must be added, removed, or moved. It initially requires a topographic survey of the site. For large projects, photographic method will be used to develop the base map. The base map is used by surveyors and other professional to create a base plan for the project. After the alignment has been established, the quantities of earth that must be added or removed are computed. The goal of most projects is to minimize the hauling distances of the earth. This is done using mass diagrams. Eventually surveyor's layout the elevation and slope of the various sub-grades, base, and top coat materials. The end result is a smooth alignment with smooth transitions from straight to curved sections allowing for safe public transportation.

1. INTRODUCTION AND LITERATURE REVIEW

National Highway 5 (NH-5) is a major National Highway in India that runs along India's east coast through the states of Orissa, Andhra Pradesh and Tamil Nadu. The northern terminal is at Jharpokharia in Orissa and the southern terminal is at Chennai in Tamil Nadu. NH 5 is a part of the golden quadrilateral project undertaken by National Highways Development Project. Under the new national highway numbers NH 5 is renamed as NH 16. NH 5 runs for a distance of 1533 km. In Tamil Nadu NH 5 starts from Chennai and shortly enters Andhra Pradesh from Gummidipundi. In Andhra Pradesh, it passes through most of the coastal towns in nine coastal districts including Nellore, Ongole, Chilakaluripet, Guntur, Vijaywada, Eluru, Tanuku, Rajahmundry, Tuni, Visakhapatnam, Srikakulam, Tekkali and Palasakasibugga. In Orissa, it passes through Baipada, Balasore, Bhadrak, cuttack, Bhubaneswar and Berhampur. Our project is on Six Lining of Chilakaluripet - Nellore section of NH 5 from km 1182.802 to km 1366.547 (approx. length-



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TIME IMPACT ANALYSIS OF CONSTRUCTION PROJECTS USING PRIMAVERA

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Abstract—Delay is one of the most common problems in the construction industry. At the time of bidding contractors plan tasks and assign resources according to the site visits, the information given in the contract and specifications related with the project. However, as the project progresses some conditions of the work may change. These changes may affect originally planned means and methods. Finally, the affected activities cause the project total cost and duration to increase. In construction projects, if not managed properly in accordance with the contract, changes are likely to result in claims between the project participants. In this study, a delay analysis methodology which is based on time impact analysis is proposed. The aim of this methodology is to quantify impacts of work changes on the schedule and identify the responsible parties for these changes. The proposed methodology comprises of 3 steps: identification and quantification of delays, allocation of these delays to responsible parties and to calculate overall impact of changes on time. The major benefits of this methodology are; a) its ability to handle and quantify changes in a step by step procedure b) it helps decision makers to give reliable decisions by monitoring the impact of changes during the project's life cycle. Construction professionals may use it to apportion impact of changes in a systematic and reliable way. An application of this methodology on a project demonstrates the superiority of the process in explaining the dynamic nature of changes and in apportioning the impacts between different parties in a systematic way

1. INTRODUCTION

The construction industry mainly caters to the need of providing shelter, harnessing energy and creates public access. The basic human needs have not changed over time even though the process and environment in which designer or constructor operate have become increasingly more complicated. Rapidly escalating technology has made challenging construction possible which were impossible to imagine in the previous generations. India is the one of the developing countries which is concentrating in the development of the new

buildings and at the same time maintaining all existing building. The government is spending a lot of money for the new infrastructure works especially schools, hospitals, universities and low cost housing projects. With this investment, many contracting companies are being set up. At the same time multinational companies are looking forward in exploring the construction industry in India. By looking for the expenditure of the construction industry, the project management profession is being very valuable for the construction companies in order to make sure the projects can be completed successfully. The project management knowledge becomes the critical part in the project because it contains the knowledge in controlling the cost, scheduling, and resources. In this Project Management field, project manager plays very important role in the construction project. Project management professionals are responsible for ensuring the project completes successfully, thus it is important for them to have experience and knowledge in Project Management techniques.

Case Study:

The project's name is ORCHID VILLA, situated in Abids, Hyderabad.

M/s EDGE CONSULTING ENGINEERING SOLUTIONS, India is the project management consultants and M/s SK Constructions and Co. is the contractor for the building project.

Project Details:

Name of the project : ORCHID VILLA Total Site area : 500 sq meters

Built up area : 310 sq meters

Number of Floors : Ground + First Total Project

Duration : 12 Months Civil works Duration : 8 Months

Cost of the Project : 26 Lakhs INR



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TIME IMPACT ANALYSIS OF CONSTRUCTION PROJECTS USING PRIMAVERA

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ESTIMATING THE RUNNING COSTS OF COMMERCIAL BUILDINGS: ARTIFICIAL NEURAL NETWORK MODELING

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Abstract: Running costs of a building is a substantial share of its total life-cycle cost (LCC) and it ranges between 70-80% in commercial buildings. Despite its significant contribution to LCC, investors and construction industry practitioners tend to mostly rely on construction cost exclusively. Though the early stage estimation of running costs is limited due to the unavailability of historical cost data, several efforts have been taken to estimate the running costs of buildings using different cost estimation techniques. However, the prediction accuracy of those models is still challenged due to less quality and amount of data employed. This study, therefore, developed an artificial neural network (ANN) model for running costs estimation of commercial buildings with the use of building design variables. The study was quantitatively approached and running costs data together with 13 building design variables were collected from 35 commercial buildings. The ANN model developed resulted in a 96.6% perfect correlation between the running cost and building design variables. The testing and validation of the model developed indicate that there is greater prediction accuracy. These findings will enable industry practitioners to make informed cost decisions on implications of running costs in commercial buildings at its early stages, eliminating excessive costs to be incurred during the operational phase.

Keywords: Cost modeling, Operations cost, Maintenance cost, Building design variables, Decision-making, LCC.

1. INTRODUCTION AND LITERATURE REVIEW

Usually, costs incurred during the operational phase of a building responsible for a substantial share of its Life Cycle Cost (LCC). Some buildings have inherently higher running cost than others, such as commercial buildings. For example, the running costs of commercial buildings account for over 69% of the total LCC (Wang et al. 2014). Similarly, Wong et al. (2010) revealed that the running cost of an office building varies between 72 to 81% of its total LCC. Despite its contribution to the LCC structure, often running cost is given less focus in investment

making and investors tend to mostly rely on initial cost alone.

A recent study on the review of existing models for LCC estimation revealed that there is no simple model for estimating the running cost of buildings to date (Krstić and Marenjak 2017). The application of available methods and models for the running cost estimation of buildings are also limited to the later stage of building life cycle as these models require an extensive set of operational cost data (Krstić and Marenjak 2017). For example, Al-Hajj and Horner (1998) have presented a running costs model for institutional buildings, with eleven cost elements and to an accuracy of 1.13%. Similarly, Kirkham et al. (2002) and El-Haram et al. (2002) have developed WLCC models for hospital buildings where cost components such as facilities management costs, energy costs, maintenance costs, residual costs, and discount rate were determinants of WLCC. Early-stage supportive running cost estimation models are therefore essential as it provides implications of costs to be incurred during the operating phase of buildings at early design stages of building constructions.

Estimation of cost of a product, system, or service based on its determinants is a well-known and approved method for cost estimation over the years. For example, Kirkham et al. (1999) have developed an energy cost model for sports centres based on building design variables such as the number of users and floor area. However, Krstić and Marenjak (2017) stressed that these models are not based on adequate historical cost records and not based on the available cost structure, rather than standard cost structure. Authors further indicate that the models developed so far ignore some important factors such as the age, location, level of occupancy, and standards of operation. Deciding through which type of building to include in a forecasting model is not the only problem. The choice of modelling technique is also important (Boussabaine et al. 1999). Among the statistical approaches, regression techniques deserve attention due to relative ease of implementing and requirement less computational power than other statistical



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Design & Analysis of Multi-Storied Building using Sap 2000

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Abstract—The technique of sensor fusion addresses the multiple-sensor framework. The advances in sensor fusion enable to perform intrusion detection for both rare and new attacks. This project discusses this assertion in detail, and describes the theoretical and experimental work done to show its validity. The attack-detector relationship is initially modeled and validated to understand the detection scenario. The different metrics available for the evaluation of intrusion detection systems are also introduced. The usefulness of the data set used for experimental evaluation has been demonstrated. The issues connected with intrusion detection systems are analyzed and the need for incorporating multiple detectors and their fusion is established in this work. Sensor fusion provides advantages with respect to reliability and completeness, in addition to intuitive and meaningful results. The goal for this work is to investigate how to combine data from diverse intrusion detection systems in order to improve the detection rate and reduce the false-alarm rate. The primary objective of the proposed project work is to develop a theoretical and practical basis for enhancing the performance of intrusion detection systems using advances in sensor fusion with easily available intrusion detection systems. This project introduces the mathematical basis for sensor fusion in order to provide enough support for the acceptability of sensor fusion in performance enhancement of intrusion detection systems.

Keywords: What is sap 2000, Types of load considered, Fundamental natural period, Dynamic analysis, Analysis of load, Structure and support, Beam design, Column design.

1. INTRODUCTION

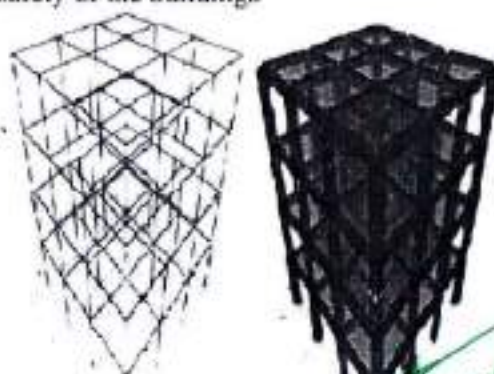
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issues relating to the optimality of decision making in the and dynamic analysis capabilities. From model generation, analysis and design to visualization and result verification, SAP 2000 is the professional's choice. Initially we started with the analysis of simple 2 dimensional frames and manually checked the accuracy of the software with our results. The results proved to be very accurate. We analyzed and designed a G + 3 storey building [2-D Frame] initially for all possible load combinations [dead, live, wind and seismic loads].

Our project involves analysis and design of multistoried [G+3] using a very popular designing software SAP 2000. We have chosen SAP 2000 because of its following advantages:

- Easy to use interface.
- Conformation with the Indian Standard Code.
- Versatile nature of solving any type of problem
- Accuracy of the solution.

The design of the building is dependent upon the minimum requirements as prescribed in the Indian Standard Codes. The minimum requirements pertaining to the structural safety of buildings are being covered by way of laying down minimum design loads which have to be assumed for dead loads, imposed loads, and other external loads, the structure would be required to bear. Strict conformity to loading standards recommended in this code, it is hoped, will not only ensure the structural safety of the buildings



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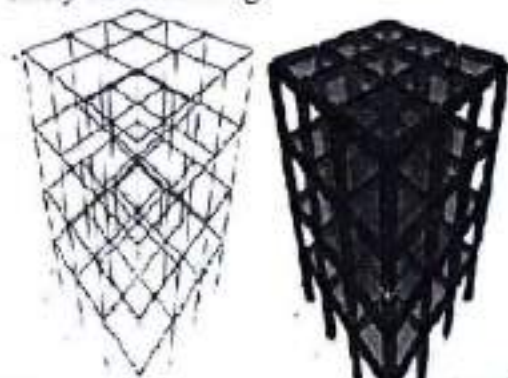
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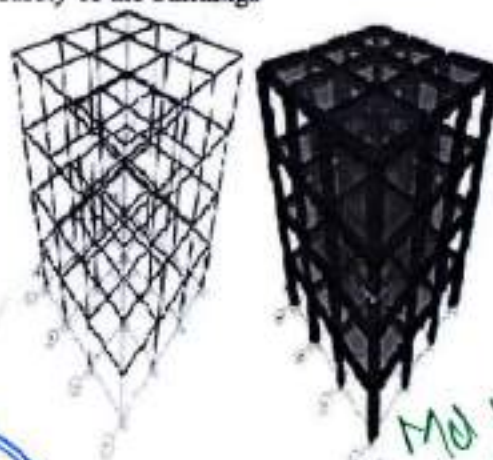
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The design of the building is dependent upon the minimum requirements as prescribed in the Indian Standard Codes. The minimum requirements pertaining to the structural safety of buildings are being covered by way of laying down minimum design loads which have to be assumed for dead loads, imposed loads, and other external loads, the structure would be required to bear. Strict conformity to loading standards recommended in this code, it is hoped, will not only ensure the structural safety of the buildings



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STRUCTURAL ANALYSIS OF MULTISTORY BUILDING OF DIFFERENTSHEAR WALLS LOCATION AND HEIGHTS

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Abstract Abstract: Shear walls are structural systems which provide stability to structures from lateral loads like wind, seismic loads. These structural systems are constructed by reinforced concrete, plywood/timber unreinforced masonry, reinforced masonry at which these systems are sub divided into coupled shear walls, shear wall frames, shear panels and staggered walls. The present paper work was made in the interest of studying and analysis of various research works involved in enhancement of shear walls and their behaviour towards lateral loads. As shear walls resist major portions of lateral loads in the lower portion of the buildings and the frame supports the lateral loads in the upper portions of building which is suited for soft storey high rise building, building which are similar in nature constructed in India, As in India base floors are used for parking and garages or offices and upper floors are used for residential purposes.

Keywords: Multistory building (G + Structure), Shear wall, STAAD. Pro etc.

1. INTRODUCTION

In structural engineering, a shear wall is a structural system composed of braced panels (also known as shear panels) to counter the effects of lateral load acting on a structure. Wind and seismic loads are the most common loads that shear walls are designed to carry. Shear walls resist in-plane loads that are applied along its height. The applied load is generally transferred to the wall by a diaphragm or collector or drag member. They are built in wood, concrete, and CMU (masonry).

Shear walls must provide the necessary lateral strength to resist horizontal earthquake forces. When shear walls are strong enough, they will transfer these horizontal forces to the next element in the load path below them. These other components in the load path may be other shear walls, floors, foundation walls, slabs or footings.

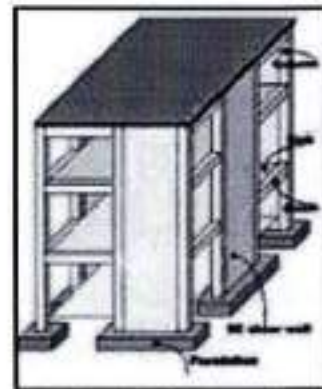


Fig 1.1: Shear wall

Shear walls also provide lateral stiffness to prevent the roof or floor above from excessive side-sway. When shear walls are stiff enough, they will prevent floor and roof framing members from moving off their supports. Also, buildings that are sufficiently stiff will usually suffer less nonstructural damage.

The strength of the shear wall depends on the combined strengths of its three components: lumber, sheathing and fasteners. Later in this section you will learn how each component affects the strength and how strength is lost by improper installations. When all of the components are properly in place, the shear wall can provide its intended strength. For shear wall sheathing, the 1994 Uniform Building Code (UBC) permits the use of gypsum wallboard, cements plaster, fiberboard, wood particleboard, plywood and oriented strand board. Previous editions of the UBC also allowed wood lath and plaster, horizontal and diagonal sheathing for shear walls. All of these sheathing materials provide different strengths. The UBC shows these strengths in pounds per foot of wall length. Fasteners for shear wall construction may be staples, screws or nails. Denser lumber species provide stronger fastener strengths. Values for shear wall strengths assume a dense lumber species like douglas fir-larch or southern pine. Thicker framing members also increase wood structural panel sheathing strengths.



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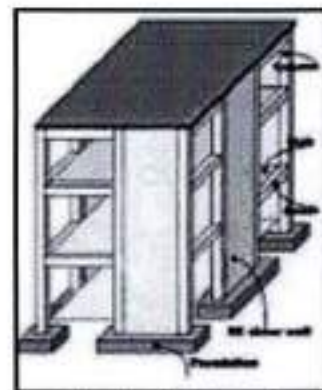


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