VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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PROJECT REPORT ON

"ANALYSIS AND DESIGN OF MULTI-STOREY COMMERCIAL FRAMED (G+4) STRUCTURE USING ETABS"

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In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

In

CIVIL ENGINEERING
Under the Guidance of

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CERTIFICATE

Certified that the project work entitled "**ANALYSIS AND DESIGN OF MULTYSTOREY COMMERCIAL FRAMED STRUCTURE (G+4) USING ETABS**" is a bona fide work carried out by

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in partial fulfillment for the award of **BACHELOR OF ENGINEERING** in **CIVIL ENGINEERING** of the **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during the year 2020–2021. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The projectreport has been approved as it satisfies the academic requirements in respect of Project work prescribed for the Bachelor of Engineering Degree.

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ABSTRACT

Our project "Analysis and Design of Commercial building using ETABS software" is an attempt to analyze and design a commercial building using ETABS. A (G+4) storey building is considered for this study. ETABS (Extended Three-Dimensional Analysis of Building System) is a software which is incorporated with all the major analysis engines that is static, dynamic, Linear and non-linear, etc.

Analysis is carried out by static method and design is done as per IS 456:2000 guidelines. Also, an attempt has been made to design the structural elements manually.

The knowledge of practical aspects, such as recent design codes, bye laws, backed up by ample experience, intuition and conclusion. The purpose of standards is to ensure and improve the safety, keeping careful balance between economy and safety.

In this study structure will be subjected to either one or the groups of loads, the various kinds of loads normally considered are dead load, live load, earth quake load and wind load. Here dead load is considered as $1kN/m^2$ and live load is taken as $1.5\ kN/m^2$ and the we are working On a Mangalore region which comes under Zone 3 region.

The primary purpose of all kinds of structural systems used in the building type of structures is to transfer gravity loads effectively. The most common loads resulting from the effect of gravity are dead load, live load, and snow load. Besides these vertical loads, buildings are also subjected to lateral loads caused by wind, blasting or earthquake.

Analysis is carried by static method and design is done as per IS Codes guidelines and we have checked for the displacement, deflection and maximum percentage of steel are all with in the permissible limits.