



# **FACULTY OF INDUSTRIAL TECHNOLOGY**

## **DEPARTMENT OF CIVIL AND WATER**

# **FINAL YEAR PROJECT REPORT**

Submitted by

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**STRUCTURAL DESIGN OF A THREE STOREY REINFORCED  
CONCRETE OFFICE BUILDING**

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**DEPARTMENT: CIVIL AND WATER ENGINEERING**

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**ABSTRACT**

The design of a three storey framed reinforced concrete structure for office is required. The building measures 41.63m x 21.12m width and has approximate height of 15m. Complete structural design and detailed structural drawings must be provided for the following:

- Steel roof
- Slab
- Beams
- Columns
- Staircase
- Lift shaft
- Foundation

The building consists of solid slab spanning two way for all floors, but there is a portion in the first floor with a one way spanning slab because of the void which is supported by the beams. All two way slabs were analysed as continuous spans but the one way slab was analysed as simply supported. Structural steel roof was provided to support the roofing sheets, ceiling as well as necessary services. Most of the reinforced concrete member sizes (beams and columns) had been set by the architect hence “GIVE THE ARCHITECT WHAT HE WANTS” (Eng V.V. Desai, 2011), and relatively minor changes and preliminary sizing of elements was carried out by the author in the project.

*You don't quote in abstract*