



# **UCE306: ARCHITECTURE DRAWING AND BUILDING CONSTRUCTION**

**By**

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**Assistant Professor**

**Thapar Institute of Engineering &  
Technology, Patiala**









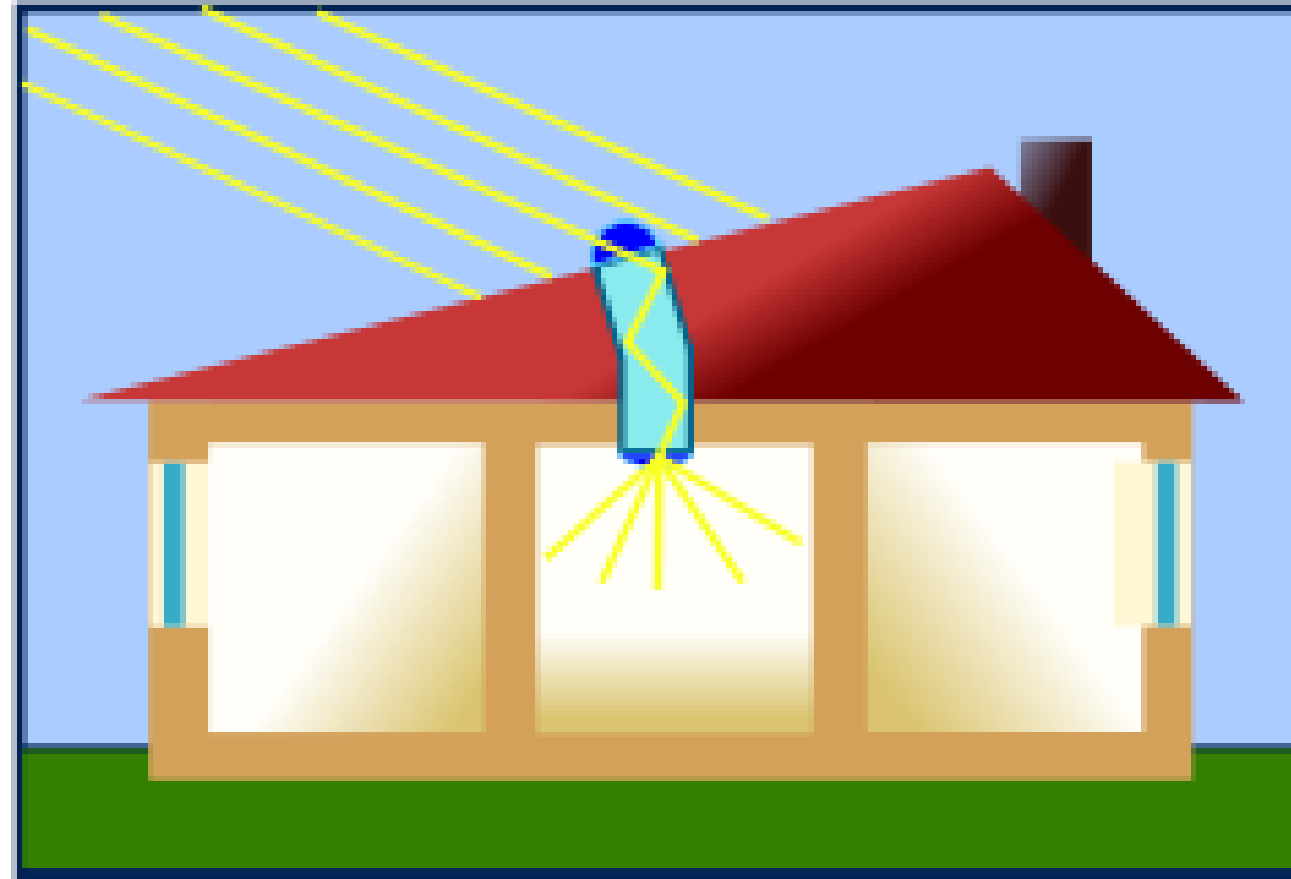








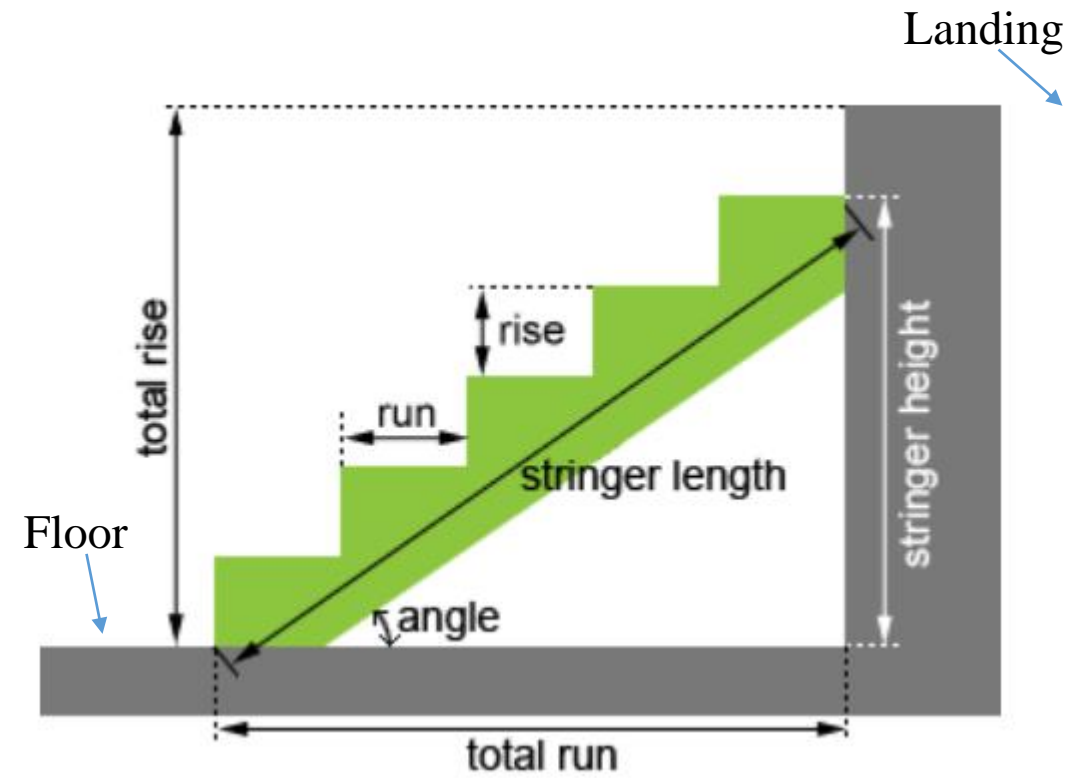
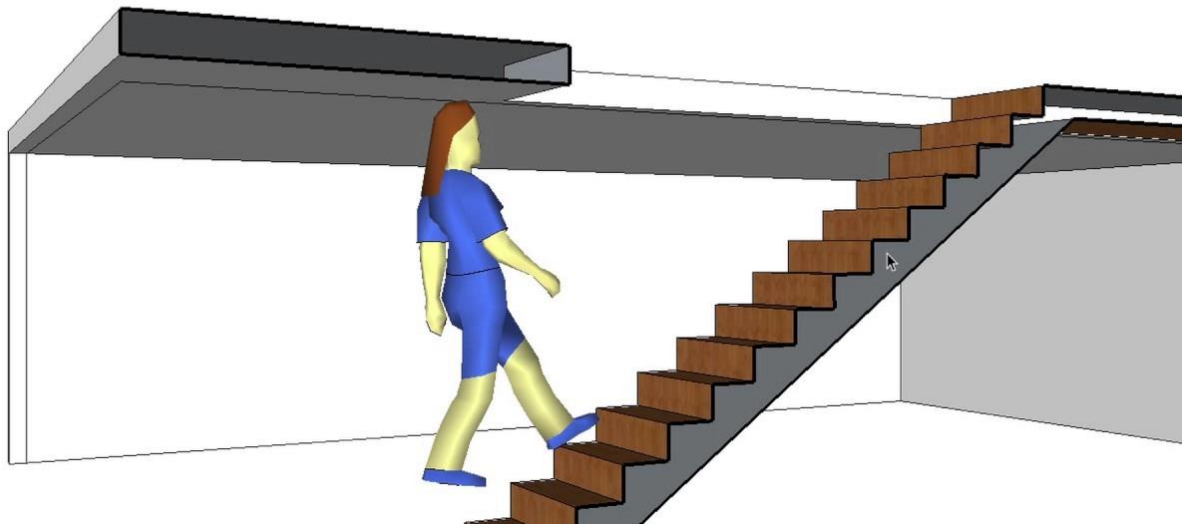
# Day lighting



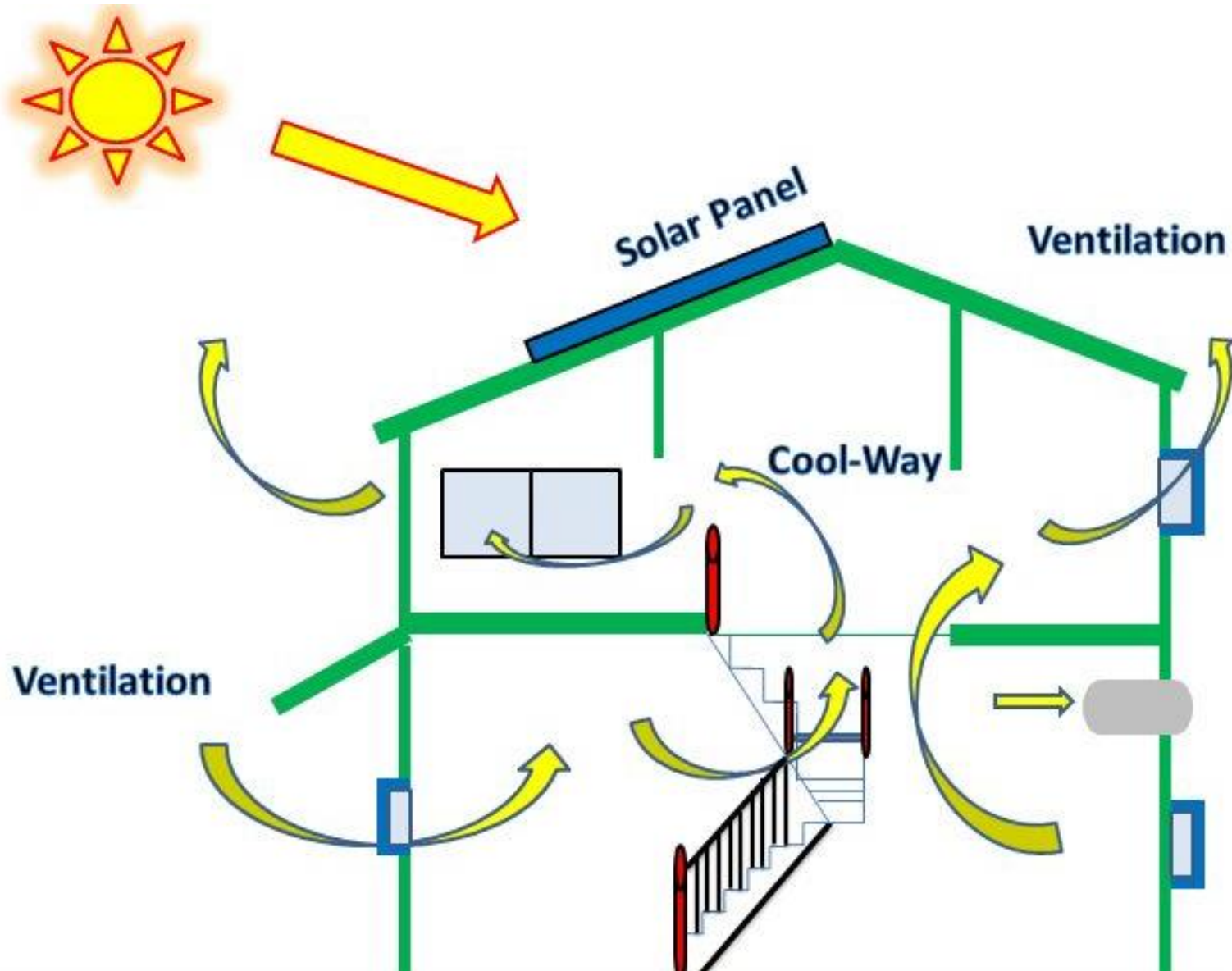


# EVOLUTION OF STAIRCASE









# Low Cost Housing

The Hamlet Laurie  
bakers home



Everything is made of bricks



# Building Components



# UCE306: ARCHITECTURE DRAWING AND BUILDING CONSTRUCTION

**Introduction to Architecture Drawing:** Proportion, orientation, site plan, working drawing Building layout, Architectural, structural working drawings, Modular co-ordination and drawing on modules, Building bye-laws.

**Foundations:** Types spread, arch, combined, cantilevered, Raft, Grillage, Piles & wells, Footings in block cotton soil, Basement & Retaining walls

**Masonry:** Stone & Brick: Brick masonry, Bonds and junctions, Walling, Mud wall, Sun-dried bricks, burnt bricks, stones walling, load bearing & non load bearing brick masonry for multistoried constructions, brick panel walling, reinforced masonry. Bonds & junctions

**Prefabricated Construction:** Prefabricated components, Assembly at site, Low cost housing & hollow blocks.

**Damp Proof Course:** Points of its requirement in buildings, D.P.C. at Plinth level, in basement and roof tops etc. joints in prefabricated construction. Anti termite treatment

**Lintels & Arches:** Location and construction details in wood, brick, stone and R.C.C.

**Stairs & Stair cases:** Suitability of location, stairs in multistoried buildings, Residential and public buildings, Fire escape, Stairs in timber, stone, brick, RCC and Metal Drawings in Plan elevation and sections. Hand rail & railings, description and sketches of lifts escalators.

**Doors & Windows:** Details, location in buildings, sizes & construction for wooden & metal, Battened braced, framed, flush and paneled, sliding, folding telescopic, with louvers, collapsible. Windows in timber & Metal casement, double hung, Dormer, Corner, Fanlight, skylight, clear storey etc. Low cost ideas, Revolving doors, Aluminum door and windows.

**Roofing and Flooring:** Types of Flooring, Flat roofs: Waffle floor, channels, cored units etc., inclined roofs. Form Work, Scaffolding, underpinning.



# BOOKS

## ***Text Books:***

- 1. Singh, Gurcharan, Building Construction Engineering, Standard Book House (1994).*
- 2. Sharma, S. K., Building Construction, S. Chand and Company (2012).*

## ***Reference Books:***

- 1. Kumar, Sushil, Building Construction, Standard Publisher and Distributors (1990).*
- 2. Punima, B. C., Building Construction, Laxmi Publishing House (2002).*
- 3. Sharma and Kaul, A Text Book of Building Construction, S. Chand and Company (1987).*

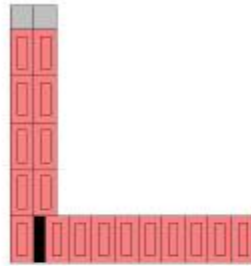
# Evaluation Scheme:

<b>Sr. No.</b>	<b>Evaluation Elements</b>	<b>Weightage (%)</b>
1.	MST	25
2.	EST	35
3.	Sessionals (May include Assignments/Projects/Tutorials/Quizzes/Lab Evaluations)	40

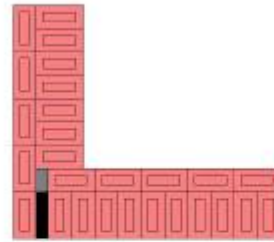
## Sessionals

<b>Components</b>	<b>Marks</b>
Tutorial-1	5
Tutorial-2	8
Tutorial-3	5
Course Quiz	6
Assignment (Dream house)	6
Project	10

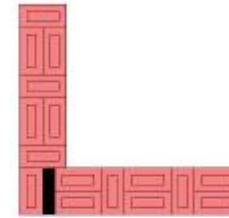




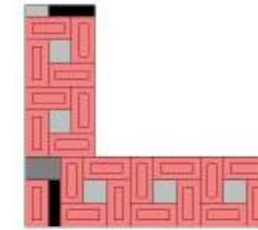
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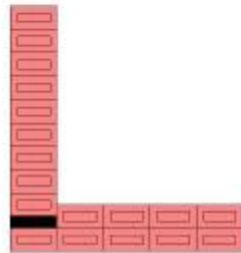
ODD LAYER



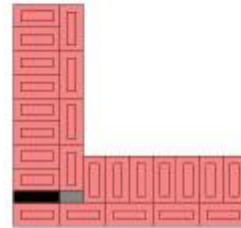
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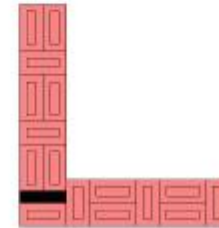
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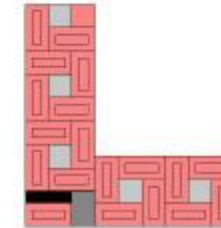
EVEN LAYER



EVEN LAYER



EVEN LAYER



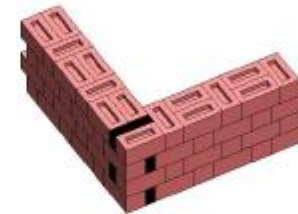
EVEN LAYER



ENGLISH BOND  
(One Brick Thick)



ENGLISH BOND  
(One & Half Brick Thick)

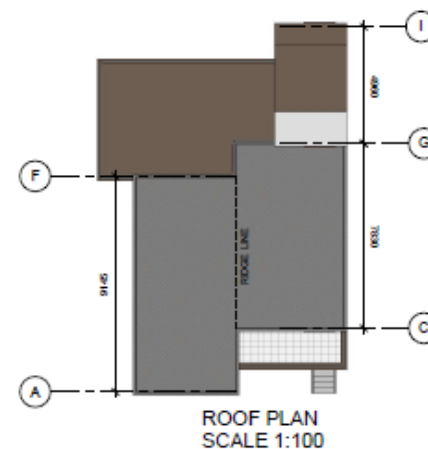
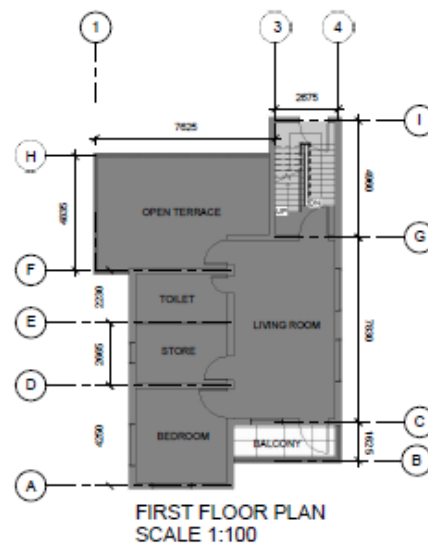
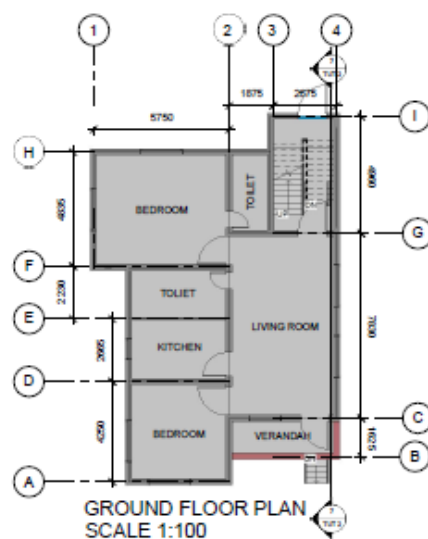
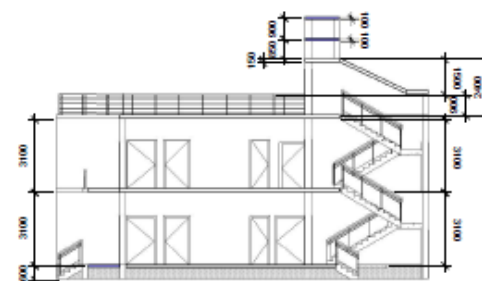
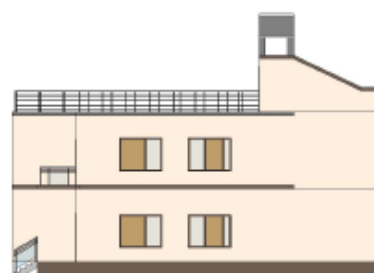
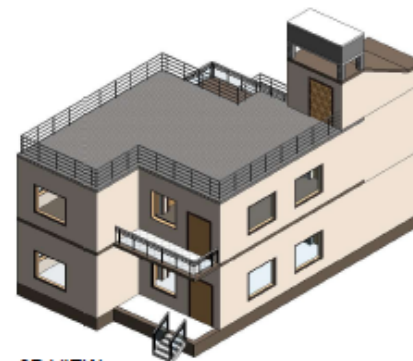
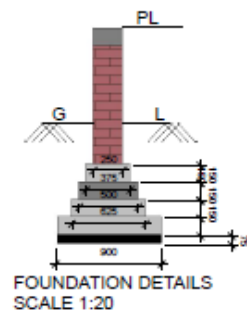
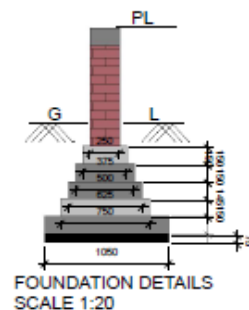
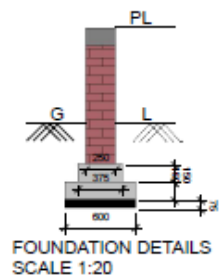


FLEMISH BOND  
(One Brick Thick)



FLEMISH BOND  
(One & Half Brick Thick)

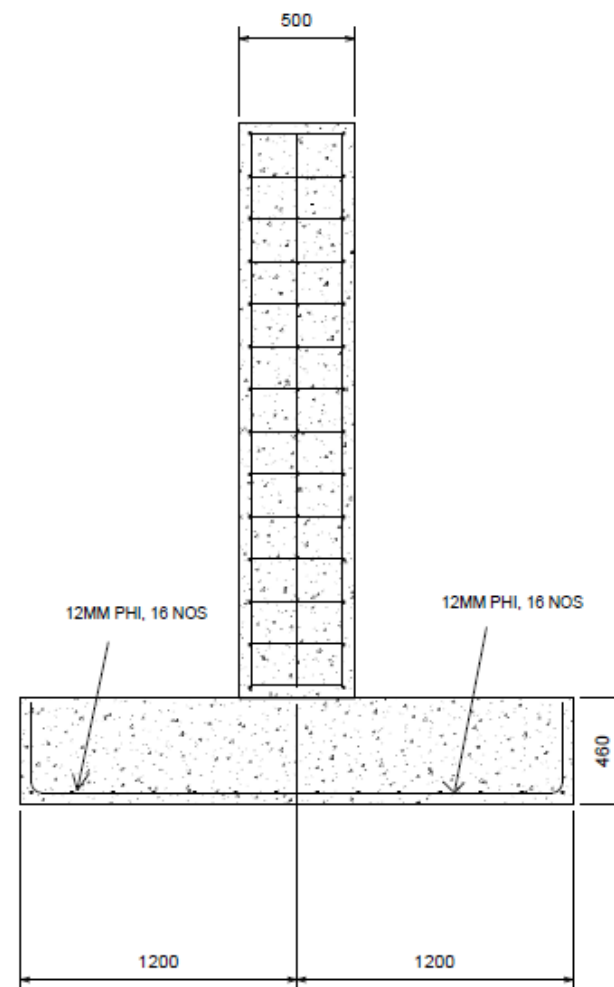
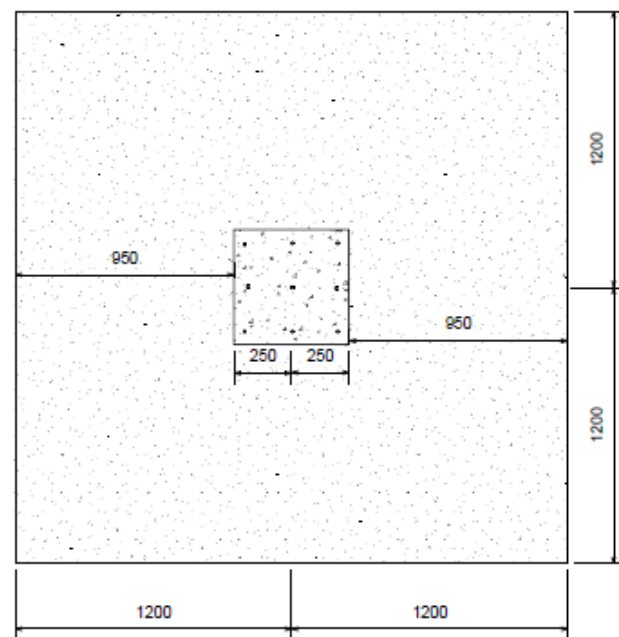
No.	Name	Specification (mm)
1	Full Brick	200x100x100
2	Three Quarter Bat	150x100x100
3	Queen-Closer(Quarter)	100x100x50
4	Queen-Closer	200x100x50
5	Half Bat	50x100x100



THAPAR INSTITUTE  
OF ENGINEERING AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

## TUTORIAL 2

TITLE	TWO STORIED BUILDING
DRAWN BY	Vasu Sharma
ROLL NO.	101802030
DATE OF COMMENCEMENT	Oct. 10 2019
DATE OF SUBMISSION	Nov. 21 2019
CHECKED BY	Dr. Himanshu Chawla



THAPAR INSTITUTE  
OF ENGINEERING AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

ARCHITECTURE DRAWING  
AND BUILDING  
CONSTRUCTION (UCE306)

TUTORIAL 3

TITLE - FOUNDATION

THAPAR INSTITUTE OF  
ENGINEERING TECHNOLOGY

TUTORIAL 3

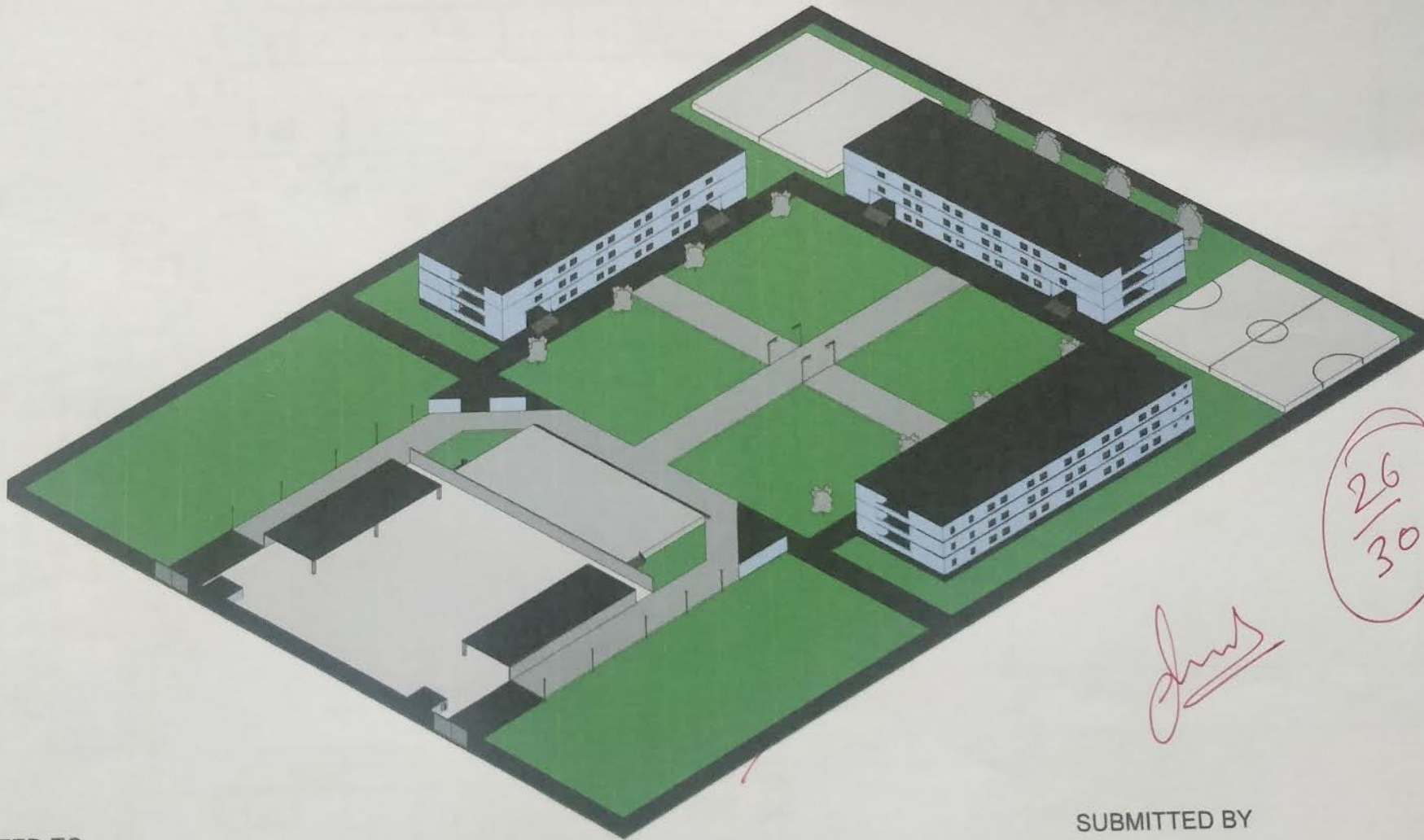
Roll No.	101802030
Date	25 NOVEMBER 2019
Drawn by	VASU SHARMA
Checked by	Dr. HIMANSHU CHAWLA

Scale 1:20

05-12-2019 20:12:55



PROJECT  
ON  
SENIOR SECONDARY SCHOOL



26  
30

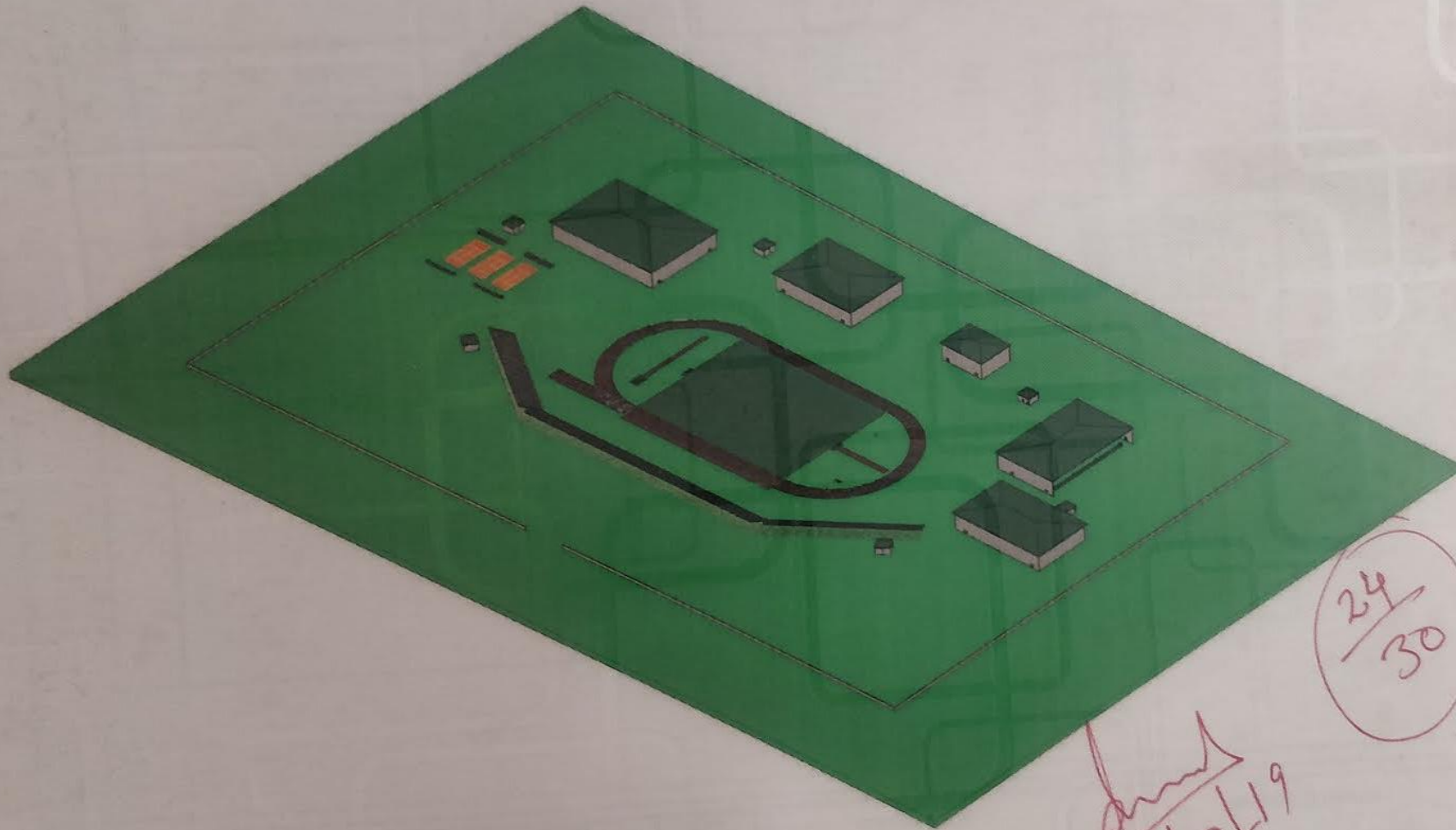
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ATED TO  
R HIMANSHU CHAWLA

SUBMITTED BY

SHIV UDAY PARTAP SINGH  
HARNOOR SINGH AULAKH  
ROBIN SINGH SAINI(101802  
GURMUKH SINGH(1018020

# PROJECT ON SPORTS COMPLEX



3D VIEW

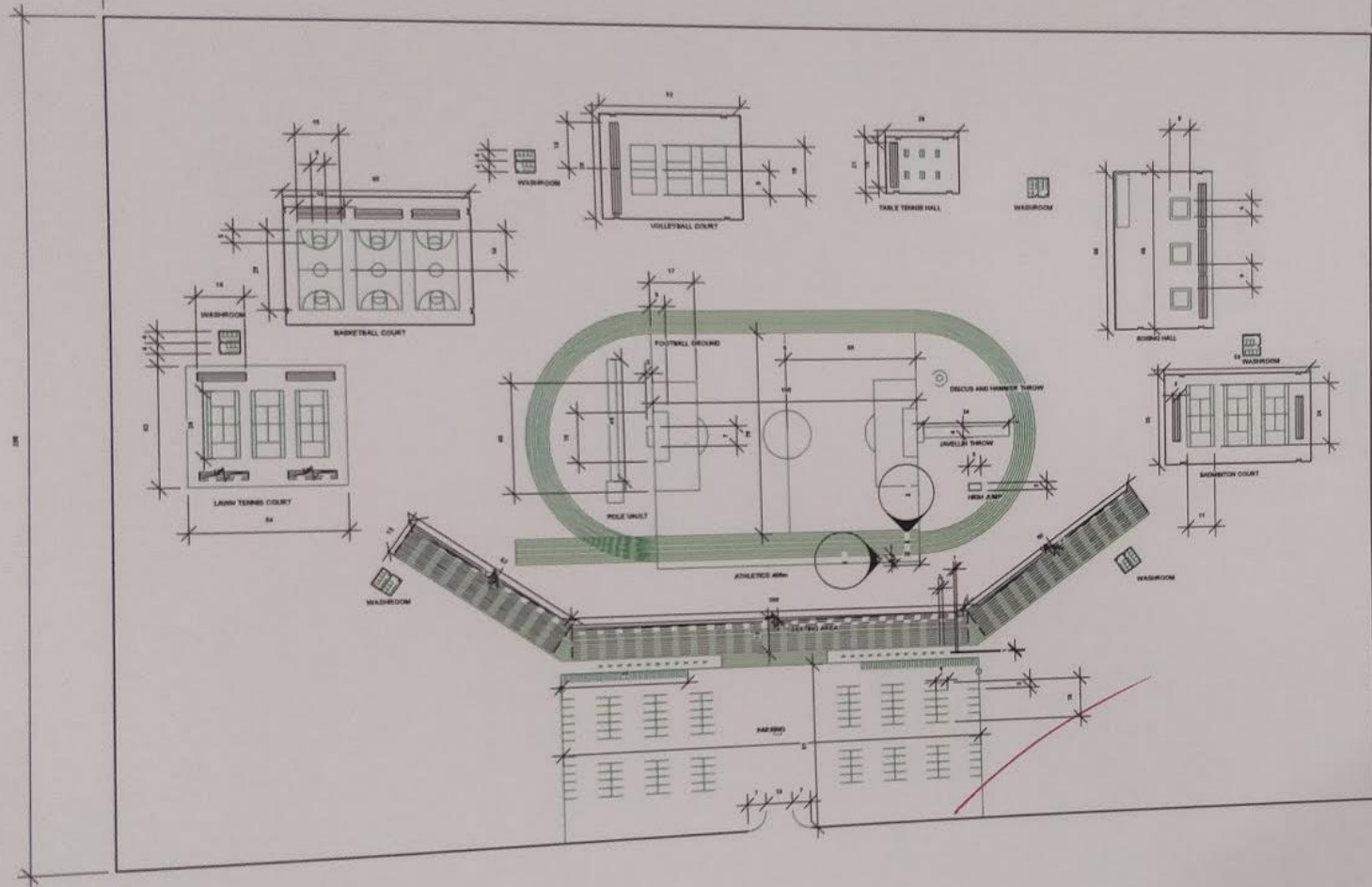
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21/2/19

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30

No.	NAME	Size
1	Basketball Court	28X46m
2	Badminton Court	13X35m
3	Boxing Court	36X60m
4	Table Tennis Hall	26X21m
5	Volleyball Court	18X36m
6	Lawn Tennis Court	23X10m

TIET PATIALA  
 ARCHITECTURAL DRAWING AND  
 BUILDING CONSTRUCTION

SPORTS COMP	
Roll number	101982010, 101982011 101982013, 101982002
Date	25 November, 2019
Checked by	Dr. Himanshu chawla





Hand-drawn site plan of a residential plot. The plot is 53'-6" wide and 75' deep. It features a 6'-0" high common boundary wall at the rear, a rear lawn of 18", and a front lawn of 18". The front boundary is a 40'-0" wide road. A 2.5 x 18m space is designated for two wheelers. The plot is labeled with 'PLOT NO = 180' and 'PLOT NO = 156'.

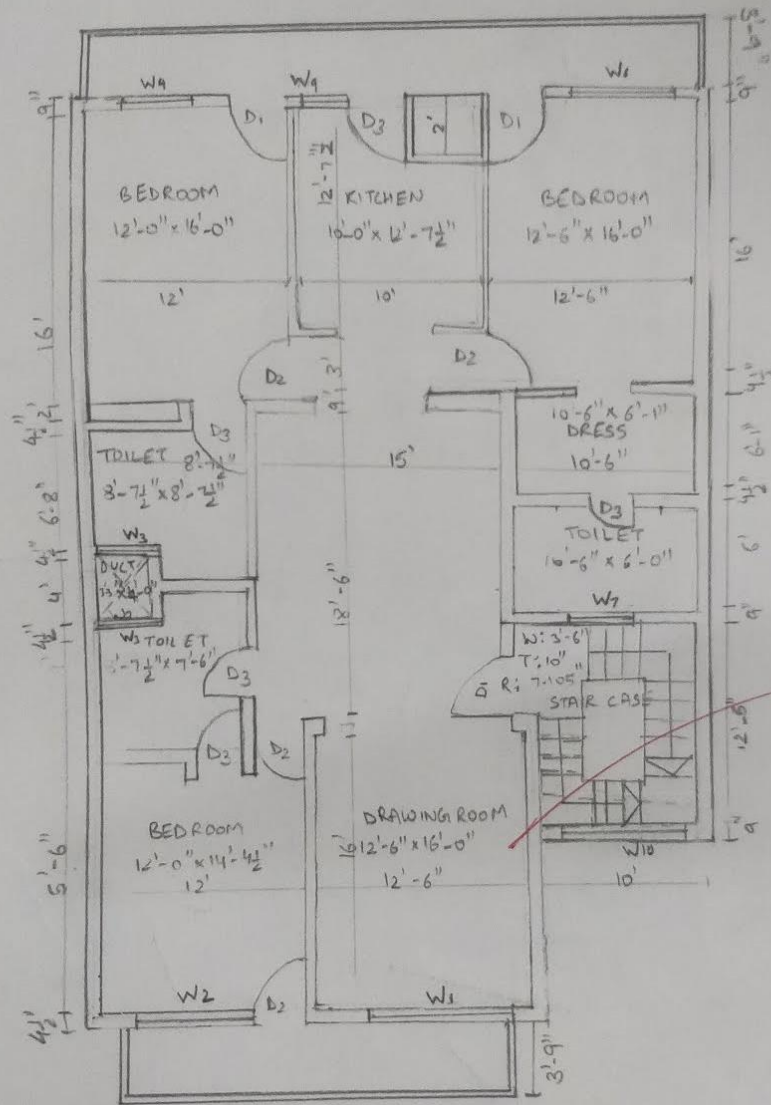
Hand-drawn floor plan of a house. The plan includes the following rooms and dimensions:

- REAR LAWN** (top)
- BEDROOM** (top left): 12' x 12'
- KITCHEN** (top center): 10'-0" x 12'-7 1/2"
- BEDROOM** (top right): 12'-6" x 16'-0"
- TOILET** (middle left): 8'-7 1/2" x 5'-6"
- TOILET** (middle right): 10'-6" x 6'-0"
- LOBBY/DINING** (center): 15'-0" x 18'-6"
- DRESS** (middle right): 10'-6" x 6'-1"
- BEDROOM** (bottom left): 12'-0" x 14'-4 1/2"
- DRAWING ROOM** (bottom center): 12'-6" x 16'-0"
- STAIR CASE** (bottom right): 10' x 10' (with 3'-6" width and 7'-10" depth noted)
- FRONT LAWN** (bottom)

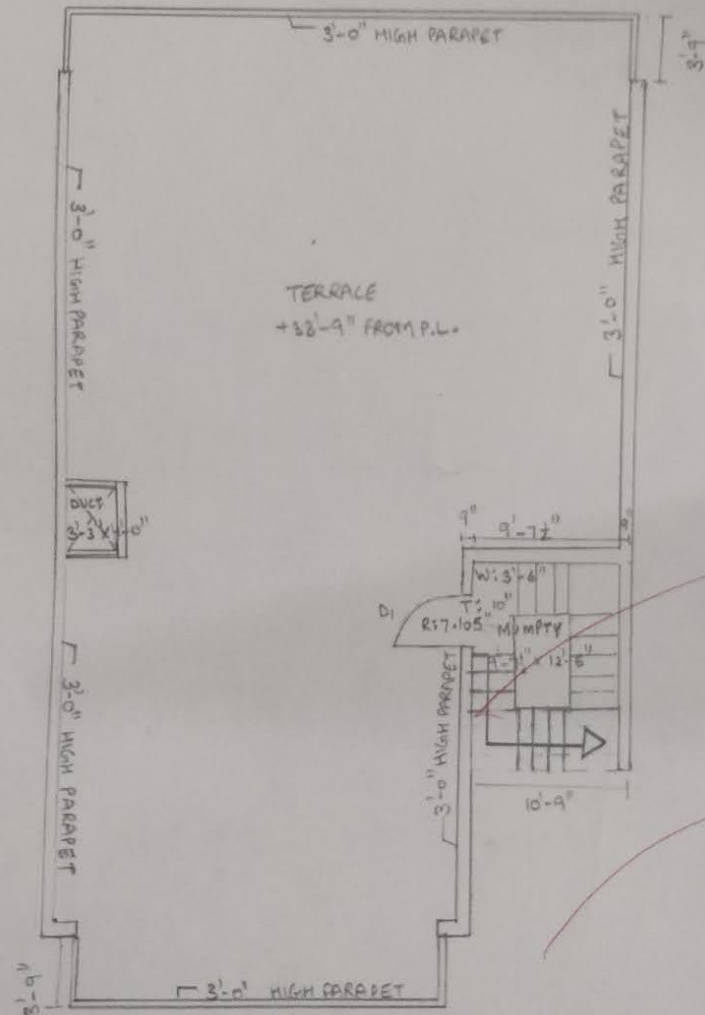
Other features and dimensions include:

- Windows (W1-W8)** and **Doors (D1-D3)** are marked throughout the plan.
- Overall dimensions** on the left: 9', 16', 6'-8", 4', 4', 5'-6", 16'-4 1/2", 9'.
- Overall dimensions** on the right: 9', 16', 6'-11", 9', 5'-8", 9'.
- Front Porch** (bottom left): 2'-5" x 8'-8" with a space for a bench and 2 windows.

# FIRST FLOOR



# TERRACE PLAN



# Course Learning Outcomes (CLO)

Upon completion of this course, you will be able to

- 1 Plan and draw constructional details of different building components
- 2 Capable of working with an architect and contractor
- 3 Prepare building plans and other components for a project
- 4 Capable of supervise building constructions



A night view of a city with fireworks exploding in the sky. The city lights are visible in the background, and the fireworks are in the foreground. The text "Thank you" is overlaid in the center.

Thank you