**AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)**

Faculty of Engineering

Bachelor of Science in Electrical and Electronic Engineering (EEE)

BAE 2101: Computer Aided Design and Drafting

**Experiment # 07:** Understanding and drawing the proper electric Fittings and Fixture Layout based on Civil planning using AutoCAD software**.**

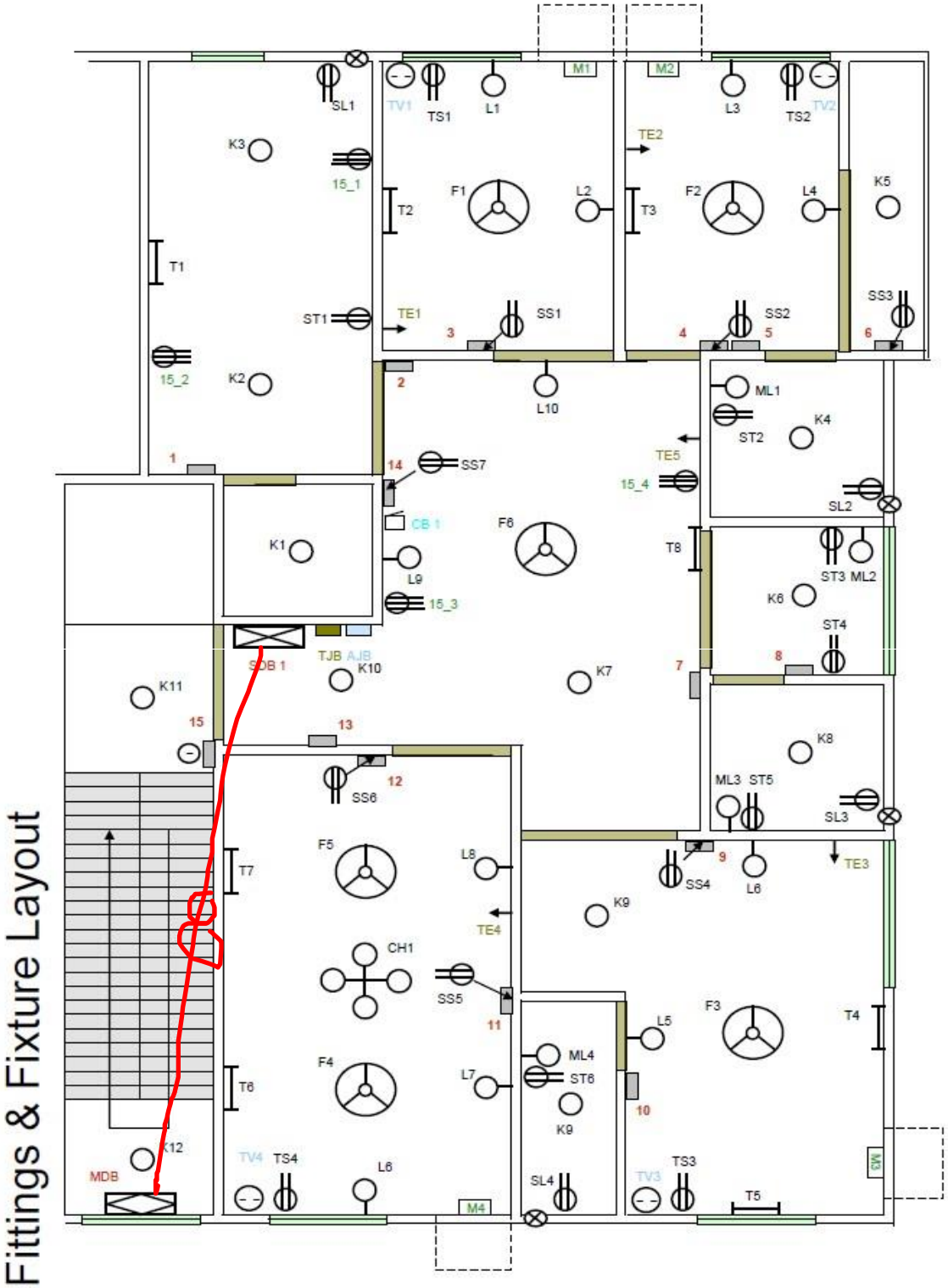
**Objective:** To familiarize students with proper understanding of drawing electric fittings and fixture distribution based on civil planning using AutoCAD software.

**Instructions to be followed while designing**

- Fittings and Fixture Layout
  - ❖ First of all, place all the Switchboards (SB) accordingly. Note carefully the direction of door openings for this issue. Locations of SB for 'Toilets', 'Stores', 'Kitchens' should be outside of the room (where people are not supposed to stay for long or at night.)
  - ❖ Provide sufficient number of lights and fans for each room. If the room is fairly large then provide multiple fans, lights and even multiple SBs.
  - ❖ Every toilet and kitchen should have exhaust fans. Select suitable places for exhaust fans.
  - ❖ Provide sufficient number of switched socket outlets on both SBs and distant from the SBs. Each SB around the living rooms should have at least one socket outlet. Kitchens may have a distant socket for wall mounted fans, toilets should have distant socket for electric razors, hair driers etc.
  - ❖ Each living room should have distant switched socket at skirting level for TV with cable TV connectivity.
  - ❖ Fair amount of telephone connectivity options should be allocated.
  - ❖ Calling Bell (CB) position should be wisely chosen. It should be placed near the common place and distant from the bedroom (if possible).
  - ❖ SDB and MDB positioning should be wise. MDB needs to be monitored by the meter-readers so, it should be placed in an easily accessible place where sufficient lighting arrangement is ensured.

- The symbols to be used for Fittings and Fixture Layout are rather flexible. You can define your own symbols. You must also attach the 'Legend' which would suggest the meanings that your symbols carry.

**Sample Drawing:**



**The symbols to be used for Fittings and Fixture Layout**

F – Fan
L – Light
T – Tube Light
K – One Kind of Light
TV – Television
TE – Telephone
M – Motor
CH – Hanging Light
ML – Multiple Light
CB – Circuit Breaker
SB – Swich Board
SS – Swich Board Socket
ST – Two Pin Socket
SL – Skirting Level Socket
TS – TV Socket
15_1 – 3 Pin Socket (15 A)
TJB – Telephone Junction Board;
AJB – Antenna Junction Board
C1, C2…. – No of Cables;
1,2,3…… - no of SB
SDB – Sub Distribution Board,
MDB – Main Distribution Board,

**Discussion and Conclusion:**

Interpret the findings and determine the extent to which the experiment was successful in complying with the goal that was initially set. Discuss any mistake you might have made while conducting the designing and describe ways the study could have been improved.

## References:

1. Kristen S. Kurland, "AutoCAD 2004, 2D Training Manual".
2. Bob McFarlane, "Beginning AutoCAD 2004"
3. David Byrnes and Mark Mi