



## AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH (AIUB)

Faculty of Engineering

BAE 2101: Computer-Aided Design and Drafting

### 1.0 Title

Design a civil plan with electrical fitting & fixtures according to BNBC of a **Multipurpose Restaurant Hall** using AutoCAD.

### 2.0 Objectives

In this experiment, students will design the civil plan of a **Multipurpose Restaurant Hall** in AutoCAD with Electrical Fittings according to the Bangladesh National Building Code.

### 3.0 Experiment to Solve

The experiment should be designed by the students following below mentioned requirements:

1.	Draw a <b>Civil Plan</b> of a <b>Multipurpose Restaurant Hall</b> of total <b>6000 SFT+ Group Number*1000</b> (approx.) using AutoCAD Software.	[P1]	<b>20 points</b>
2.	Draw the <b>Fittings</b> for the civil plan consist of necessary electrical fittings applying BNBC.	[P4] [P5]	<b>10 points</b>

### 4.0 Lab Project Submission

. Course Name:	COMPUTER-AIDED DESIGN & DRAFTING	Course Code:	BAE 2101
Semester:	Spring 2023-2024	Section:	L
Faculty:	MD. RAKIBUL ISLAM CHOWDHURY	OEL/Project	1
Assessment:	<b>OEL (CO2 &amp; CO3), POI: P.e.1.C6</b>		
Submission Deadline:	02/05/2024		

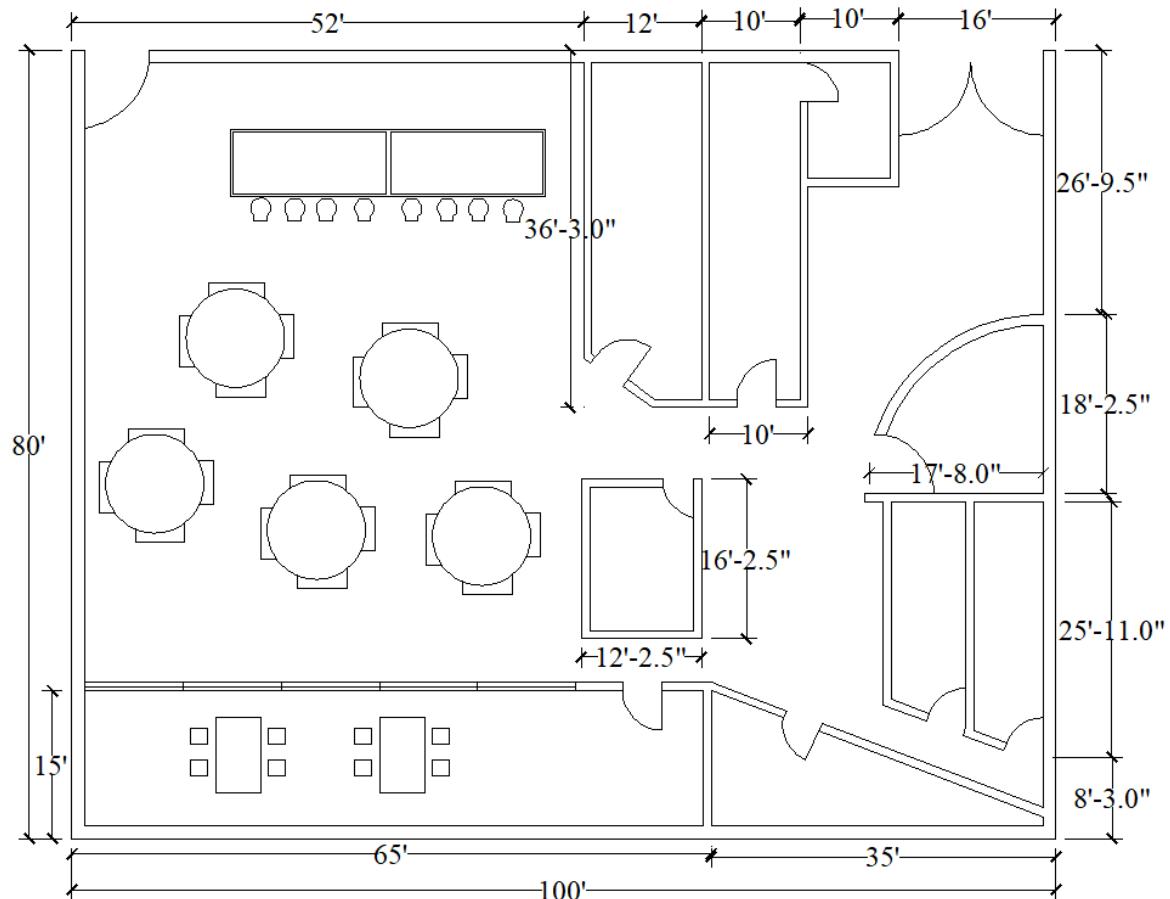
Category	Unsatisfactory (1-5)	Below Average (6-10)	Good (11-15)	Excellent (16-20)	Secured Marks
Civil Plan	The civil plan is either copied or very poor with major errors.	The civil plan is below average or incomplete with major errors.	The civil plan is drawn partially as per requirement with minor errors	The civil plan is unique and drawn as per requirements with proper dimensions	
Comments		Total Marks:			

Category	Unsatisfactory (0-3)	Below Average (5)	Good (7)	Excellent (8-10)	Secured Marks
Electric Fittings	The fittings are incomplete or copied	The fittings are drawn or placed inappropriately without maintaining BNBC	The fittings are drawn and placed appropriately with partially complying to BNBC	The fittings are placed appropriately and maintaining BNBC	
Comments	<b>Total Marks:</b>				

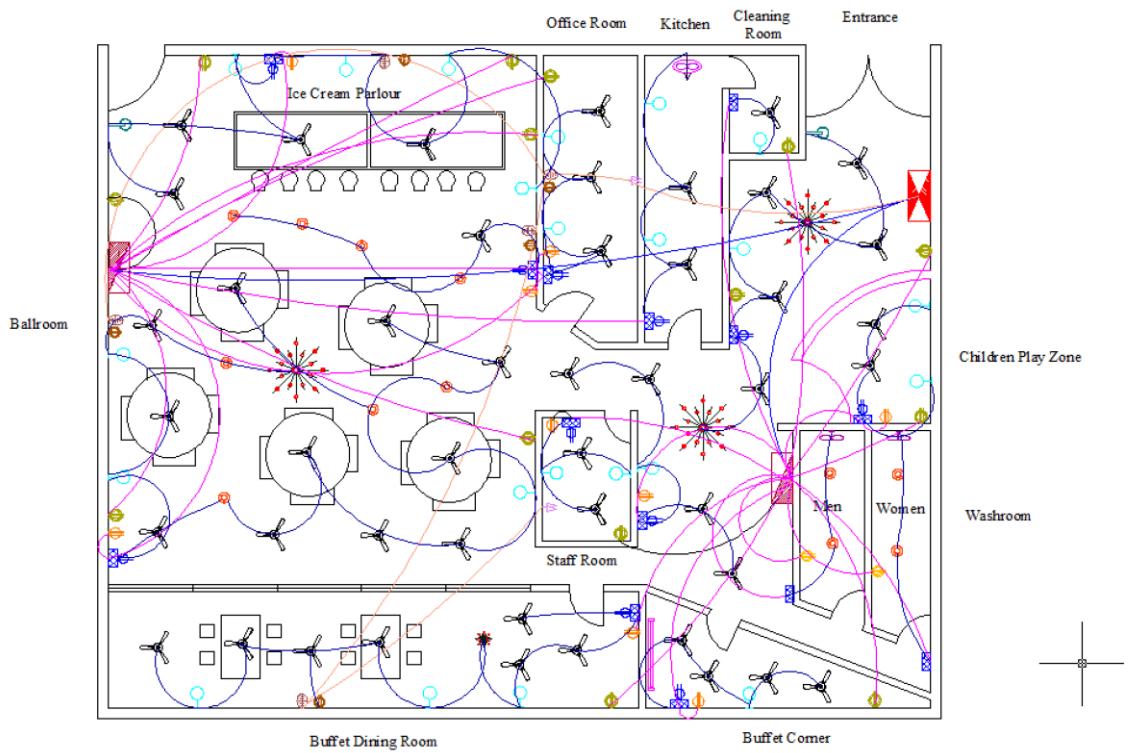
### Group - 2

SL #	ID	Student Name	Department	Marks
1	17-33226-1	Md. Yusuf Ahmed	CSE	
2	22-49157-3	Khaza Tahmid Tahsin	CSE	
3	22-49172-3	Khan, Md. Sazzad	CSE	
4	23-54469-3	Kazi Mysha Rahman	CSE	

### Civil Plan of a Multipurpose Restaurant Hall of total of 8000 square Feet



## Electrical fittings of the Multipurpose Restaurant Hall



## Light, Fan, AC Calculation:

Office Area : ( 36.25' \* 12') = 435 Ft<sup>2</sup>

General : 150 Lux..... 67 W

Self -Carrying Counters: 300 Lux .....135W

No of lights: 135/ 67 = 2

No of fan : 435/ 130 = 3.43 = 3

AC = 9.5 ton

Kitchen Area : ( 36.25' \* 10') = 363 Ft<sup>2</sup>

General : 150 Lux..... 56 W

Kitchens: 200 Lux .....75W

No of lights :  $75 / 56 = 1.45 = 2$

No of fan :  $363 / 130 = 2.8 = 3$

AC = 9 ton

Cleaning Room Area :  $(14' * 10') = 140 \text{ Ft}^2$

General : 150 Lux..... 22 W

Cleaning : 200 Lux .....29W

No of lights :  $29 / 22 = 1.32 = 1$

No of fan :  $140 / 130 = 1.07 = 1$

AC = 3.5 ton

Staff Room Area :  $(16.2' * 12.2') = 198 \text{ Ft}^2$

General : 150 Lux..... 30 W

Self-Carrying Counters : 300 Lux .....61W

No of lights :  $61 / 30 = 2$

No of fan :  $198 / 130 = 1.5 = 2$

AC = 5 ton

Buffet Area :  $(15.83' * 35') = 554 \text{ Ft}^2$

General : 150 Lux..... 85.5 W

Dining room: 150 Lux ..... 85.5W

No of lights : 2

No of fan :  $554 / 130 = 4.3 = 4$

AC = 16.5ton

Children play Room Area :  $(18.21' * 117.67') = 321 \text{ Ft}^2$

General : 150 Lux..... 49.7 W

Play zone: 300 Lux .....99.4W

No of lights : 2

No of fan : 2.47 = 2

AC = 8.5 ton

Washroom Area : ( 25.92' \* 8.67') = 225 Ft^2

General : 150 Lux..... 34.83 W

Toilets : 100 Lux .....23.2W

No of lights : 4

No of exhaust fan : 2

AC = 1.5 ton

Single Dining Area : 962.5 Ft^2

General : 150 Lux..... 149.03W

Dining room: 150 Lux .....149.03

No of lights : 2

No of fan : 962.5/ 130

AC = 10 ton

Lobby Area : 4801.5 Ft^2

General : 150 Lux..... 743.37 W

No of lights : 17

No of fan : 26

AC = 21 ton