American International University-Bangladesh (AIUB)
Faculty of Engineering
BAE 2101: COMPUTER AIDED DESIGN AND DRAFTING

OBE Assignment [*30 points*]

Submission Deadline: Wednesday, 29th December 2020 (till 10:00 pm)

C02 & C04 will be assessed from this assignment

****** Follow the instructions before doing your assignment***

Question: Mr. X & Mrs. Y have purchased a land in Bashundhara R/A, Dhaka. Now they want to construct a **5** Storied building (**Ground + 4 Floors**) of having **3** units – A, B, C in each floor. You are asked to design for only **B** unit flat of having **1400 sq-ft** (approx.) based on the following specifications:

- *3 Bedroom (size: Bed-1 (master Bed) is 14' x 14', Bed-2 is 14' x 14', Bed-3 is 14' x 13')*
- *4 bathrooms (Size: Attached bath of Bed-1 is 4'6" x 6', Attached bath of Bed-2 is 4' x 6', bath of Bed 3 is 4'6" x 6', Common Bath is 5' x 8')*
- *Living/Drawing (Size: 14' x 14')*
- *Dining (Remaining free space after completing all the specifications)*
- *Kitchen (Size: 7' x 5')*
- *4 Veranda (Size: Ver_Bed-1, Ver_Bed-2 & Ver_Bed-3 is 4'6" x 6', Ver_Kit is 4' x 5')*
- *Door for kitchen / bathroom / veranda - 2'6", Door for Bedroom - 3' and Main Door 4'*
- **Considering the abovementioned specifications do the following using AutoCAD 2007 Software:**

  i) **Draw the Civil Plan** of the flat along with **stair, lift** and **lobby (Space: 8**′*, which is excluded from the flat size***)**. [*Hints: Brick to interior/exterior Offset distance = 5″, Stair Offset distance = 10″]. **10 points**

  ii) **Draw** the **proper Electric Fittings (applying BNBC)** **5 points**

  iii) **Draw** the **electric conduit layout (Wiring – applying BNBC)** where **Red, Blue & Yellow color** represents **light load, medium load & heavy load** respectively. **5 points**

  iv) **Calculate** the **load** for **Unit B** only. Also **Calculate** the **load** for each **floor** and **load for the building** considering all the flat types are same and same types of load. **5 points**

  v) **Calculate** the **capacity** of the **Generator** based on the load calculation. **Draw** a separate **Generator room** and **show** the connection with distribution board. **5 points**

**** You can follow the attached sample but don't take it as reference. Less than 5 % (approx.) of total sq-ft is acceptable.*