Course No. CE G618   Weightage: 30 %
Course Title: Design of Multistoried Building   Duration: 90 min.

Q.1 a) How would you differentiate between 'Framed Structure' and 'Twin system of brick walls and reinforced concrete columns' system of construction?   [2]

b) Describe with diagram Indian standards to provide sizes and details of RC horizontal band.   [2]

c) Are openings allowed in Shear walls? If yes then what are the parameters of providing the openings?   [1]

d) Explain with figure loading arrangement to obtain   [3]

   a) maximum span moment   b) maximum span moment   c) maximum support shear

f) Match the column (one or more fields may pin each other)   [5]

Column A	Column B
1) Burj Khalifa	a) Cesar Pelli
2) Petronas Tower	b) 101 stories
3) Taipei towers	c) Braced tube structure
4) John Hanccock	d) Chicago
5) Sears Tower	e) 829 m
	f) Bundled tube structure

Q.2 For the given plan layout, find out the load on interior column of 3rd floor and exterior column of 2^{nd}storey and the height of first storey: **[12]**

→ Number of stories = 13
→ Height of each storey above first storey = height of previous storey + .05 (m)
→ Live load on roof = 1250 N/m^2
→ Live load on each floor = height of that storey x 750 N/m^2
→ Dead load of floor finish, beam and slab = height of that storey x 600 N/m^2

It is observed that total dead load intensity at the 8^{th}storey is 13230 N/m^2

Plan :

3m

4m

2.5m

3.5m 4m 3.5m
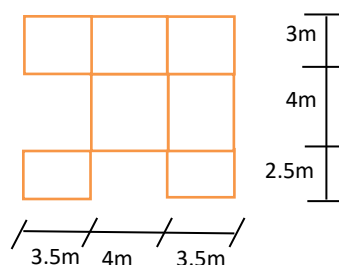
Q.3 A multi-storeyed building having plan dimensions 16m x 30m and overall height of 35 m is to be designed at Hyderabad in developed out-skirt area with scattered buildings of its height. Determine the design wind pressure acting on the building and draw pressure diagram. Also calculate wind loads acting on an internal shear wall B'D' as shown in Figure below. [20]
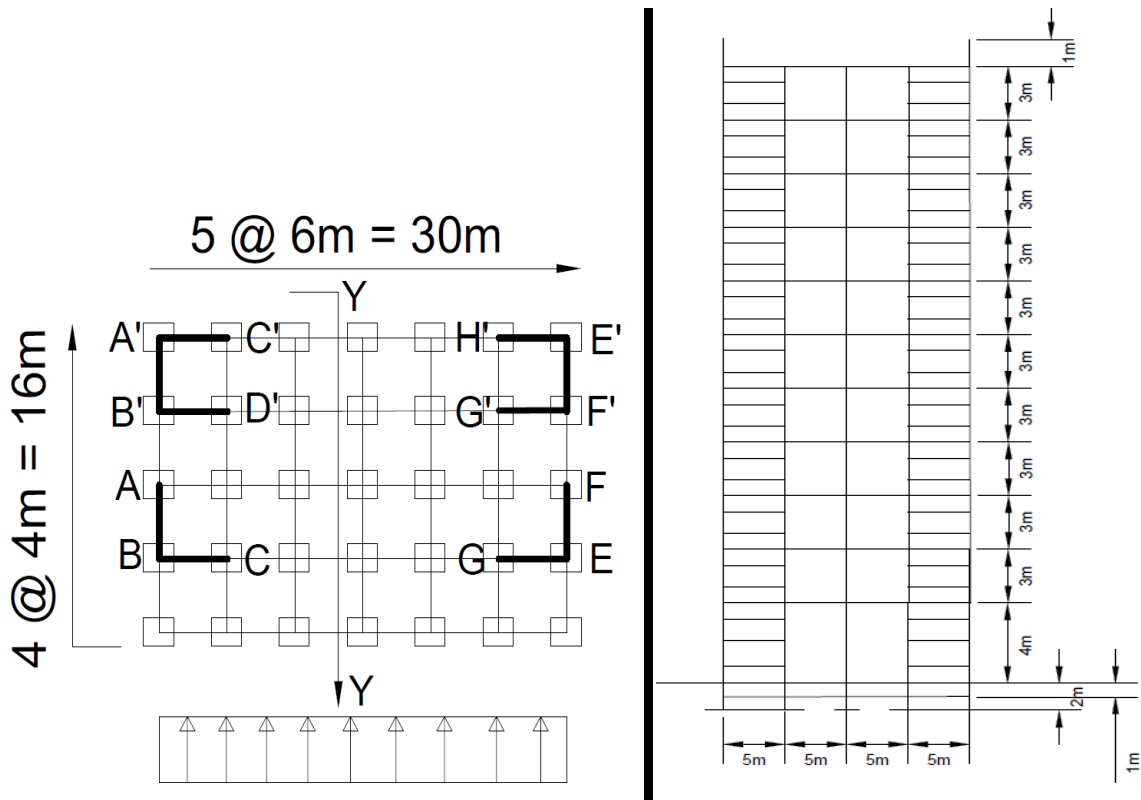
Q.4 Using the cantilever method, determine the reactions at the A, B, C & D of the frame.

[15]