

(Following Paper ID and Roll No. to be filled in your Answer Books)

PAPER ID : ME22

Roll No.

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M. TECH. (Sem.II)

THEORY EXAMINATION 2015-16

TALL BUILDING

Time: **3 Hours**

Total Marks: **100**

Note : Attempt all questions. All questions carry equal marks.

1. Attempt any two parts of the following : (10×2=20)

- (a) What do you mean by tall building? Discuss the classification and assumptions involved in analysis.
- (b) What are the different static and dynamic loads acting on tall structures? Explain.
- (c) Describe basic concept of matrix method. Explain matrix methods for analysis of building frames.

2. Attempt any two parts of the following : (10×2=20)

- (a) Write down the procedure for determining the earthquake forces to different floor levels of the multi storeyed building

- (b) Write down the uncertainties in earthquake design.
- (c) Write in details about the followings:
 - (i) Design lateral force, Base shear & Fundamental time period.
 - (ii) Wind pressure coefficients and wind force calculation as per IS: 875'.

3. Attempt any two parts of the following : (10×2=20)

- (a) What do you mean by shear wall structures? What are the various types of shear walls? Discuss behavior of shear wall building.
- (b) Discuss the ductility and reinforcement details in the shear walls.
- (c) Write short note on the following :
 - (i) Foundation super structure interaction
 - (ii) Detailing of joints
 - (iii) Concept of moment redistribution in RCC slab

4. Attempt any two parts of the following : (10×2=20)

- (a) What are the methods of structural design of tall concrete and masonry structure?

- (b) Discuss in detail the continuous method of analysis of shear wall with openings.
- (c) A chimney of height 80 m is proposed to be built over a hill top at Jaipur. The height of the Hill is 600 m and it has a gradient of 1:4.5. The horizontal approach is 2 km from G.L. Calculate the design wind pressure.

5. Attempt any two parts of the following : (10×2=20)

- (a) Write a detailed note on yield line analysis of R.C.C slab.
- (b) Discuss in details about elastic as well as plastic analysis and design of structures with the help of suitable examples.
- (c) Write short note on the following :
 - (i) Foundation super structure interaction
 - (ii) Detailing of joints
 - (iii) Concept of moment redistribution in RCC slab
 - (iv) Gust factor
 - (v) Tabular structures
