Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

MVSE-302(B)

M.E./M.Tech., III Semester

Examination, December 2020

Design of Tall Structures

(Elective-II)

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is shear wall? Discuss the classification of shear wall.

   b) Discuss the reinforcement detailing in shear wall with figure explaining the provisions.

2. a) Discuss the classification of tall building and assumptions involved in its analysis.

   b) What are the different static and dynamic loads acting on tall structures? Explain.

3. a) Describe the procedure to calculate the Design wind velocity.

   b) What is gust factor? Determine the design wind pressure for the design wind velocity of 45 kmph for a circular post of diameter 300 mm, height 1.2 m, located in an open field.

4. a) What are the codal provisions for EQ resistant design of chimneys?

   b) Discuss the design criteria for T.V. towers.

5. a) Describe the procedure to calculate the lateral loads on the structures using Equivalent Static analysis.
   b) Describe the procedure to calculate the lateral loads on the structures using Dynamic analysis.

6. a) What are codal provisions for earth-quake resistant design of chimneys?
   b) What are codal provisions for hydro-dynamic analysis of elevated water tank?

7. A chimney of height 90m is proposed to be building over a hill top at Himachal Pradesh. The height of the hill is 800m and it has a gradient of 1:5. The horizontal approach is 2.5km from G.L. Calculate the design wind pressure.

8. Write short notes on any three of the following:
   a) Regorlans method of analysis
   b) Tabular structures
   c) Various bracing used in tower
   d) Khan and Sbarro unit method

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