Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech.(Civil Engineering) (Sem.–2)

ADVANCED STRUCTURAL DESIGN AND DETAILING

Subject Code : CE-514

M.Code : 35211

Time : 3 Hrs. **Max. Marks : 100**

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

1. Determine pressure distribution along height along with Base shear and Base moment for a building located at Bathinda by using provisions of wind code for the following data :

   Length of building = 20m

   Width of building = 10m

   Height of building = 50m

   Fundamental frequency = 0.8 hertz

   Critical damping ratio = 1.3%

   Terrain category III. (20)

2. ''*Nowadays it is mandatory to use limit State Method of Design*''. Justify this statement and discuss salient provisions of beams & columns. (20)

3. Amongst various methods of earthquake analysis, which is the best and why? Discuss in detail that method. (20)

4. Discuss the provisions of Ductile Detailing for (a) beams (b) columns. (10+ 10)

5. Discuss in brief Design & Detailing of Earthen buildings as per IS 13827. (20)

6. ''*In Masonry structures, bands at various levels are generally provided to take care of their stability with respect to natural disaster*.'' Discuss in detail. (20)

7. Give brief account of Jacketing and draw sketches to show the same with respect to RCC structures. (20)

8. What are seismic strengthening arrangements in a building? Discuss various seismic resistance measures, you will take, in the construction of a building. (20)

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.