

AU – 2847

Seventh Semester B. E. (Civil Engineering) Examination

**ADVANCE EARTHQUAKE ENGINEERING**

Paper – 7 CE 05

( USC – 10224)

P. Pages : 2

Time : Three Hours ]

[ Max. Marks : 80

**Note :** (1) Assume suitable data wherever necessary.  
(2) IS 1893–2002 allowed.

1. Explain plate tectonic theory in detail. 14

**OR**

2. (a) Explain Interior of earth. 7

(b) Explain various seismic waves. 7

3. Explain seismic resistive consideration for

(i) Weight of structure

(ii) Ductility

(iii) Load path

(iv) Soft storey 13

**OR**

4. For 2 bay 3 storey  $S_{MRF}$  Hospital Building frame located in zone IV subjected to Dead load = 4 kN/m and live load = 1.5 kN/m on beam with span 3 meter and floor height 3.5 find storey and Base shear ? Assume data if required ?

13

5. Explain seismic consideration for Dam. 13

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OR

6. Explain seismic consideration for Bridges. 13
7. (a) Explain need of vulnerability Atlas. 6  
(b) What do you mean by Risk table ? Explain its use. 8

OR

8. (a) Explain Technology issue for vulnerability Atlas. 7  
(b) Explain use of vulnerability Atlas. 7
9. (a) What is the relation between Repair, Retrofitting and Restrengthening ? 6  
(b) What are the various defects in masonry and frame structure ? 7

OR

10. Explain various repair materials and techniques for building. 13
11. Explain in detail :  
(i) Column Jacketing  
(ii) Slab retrofitting  
(iii) Wall strengthening method with neat diagram. 13

OR

12. How to retrofit :  
(i) Beam  
(ii) Foundation  
explain with neat diagrams. 13

