

**BACHELOR OF ARCHITECTURE (B.Arch.)**

**Term-End Examination**

00013

**June, 2017**

**BARE-073 : EARTHQUAKE RESISTANT  
STRUCTURES (ELECTIVE 1)**

*Time : 3 hours*

*Maximum Marks : 70*

**Note :** Answer any **five** questions. Provide neat sketches with your answers to show details.

1. Write short notes on any **two** of the following :  $2 \times 7 = 14$ 
  - (a) Hazard and Vulnerability
  - (b) Plate Tectonics
  - (c) Performance-based Design
  
2. Explain the difference between 'Magnitude' and 'Intensity' of earthquake. Which of these may be dependent on type of construction and why ? Discuss briefly. 14
  
3. What do you understand by 'Seismic Zone Map' ? How is it constructed ? Write its utility, briefly, in the Indian context. 14
  
4. Discuss the origin, path and nature of different seismic waves. 14

5. Describe the various types of losses which take place in earthquake events due to damages in civil engineering structures. 14
6. (a) Briefly discuss the concept of base isolation. Give an Indian example where it has been applied. 7
- (b) Discuss how building irregularity may endanger its safety in a seismic event. 7
7. Explain any one method for retrofitting a brick wall against a seismic event. Provide a neat sketch. 14
-