

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

**Term-End Examination**

**00295**

**December, 2014**

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

*Time : 3 hours*

*Maximum Marks : 70*

---

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

---

---

1. Write short notes on any **four** of the following :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Seismograph
- (b) Shallow focus earthquake
- (c) Liquifaction
- (d) Interplate earthquake
- (e) SDOF system

2. What is meant by Elastic Rebound Theory ? Discuss the different types of plate boundaries and their movement. 14

3. Define Shaking Intensity. What is the measurement process involved for Shaking Intensity ? What is ground acceleration ? 14

4. Explain Amplification Factor and Mass Ratio effect for a SDOF building representation using mathematical system. 14
  5. Describe any two earthquake scenarios which brought significant changes in Earthquake Study. 14
  6. Explain hazard, vulnerability and risk in earthquake. Discuss the performance-based seismic design concept. 14
  7. State different steps taken to design an earthquake-resistant structure. Refer to IS 1893 (Part-I) : 2002 provisions wherever applicable. 14
-