

BACHELOR OF ARCHITECTURE (B.Arch.)

Term-End Examination

00158

June, 2016

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

Time : 3 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Attempt any four questions from the remaining ones. Illustrate your answers with neat sketches.*

1. Define the following terms briefly : $4 \times 3 \frac{1}{2} = 14$
- (a) Epicentre and Focus
 - (b) Liquefaction
 - (c) Intensity of earthquake
 - (d) Magnitude of earthquake
2. What are direct and indirect seismic effects ? Explain, in detail, any two direct effects. 14
3. Discuss how RC framed high rise buildings may behave differently from brick masonry short height buildings. What is the role of stiffness of buildings in such a difference of performance ? 14
4. What are the various approaches in seismic control of structures ? Explain any one in detail. 14

5. What do you understand by 'Irregular buildings' ? Describe why a soft storey in a building is undesirable, considering possible displacements in a seismic event. 14
 6. Differentiate between the characteristics of 'Primary and Secondary seismic waves'. Draw neat sketches to show their movement patterns. 14
 7. What do you understand by a 'multi degree of freedom system' ? Discuss how base shear is distributed in such a system representing a building. 14
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