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BICEE-006

00978

DCLEVI/DELVI
DIPLOMA ENGINEERING

Term-End Examination

June, 2013

BICEE-006 : EARTHQUAKE ENGINEERING

Time : 2 hours *Maximum Marks : 70*

Note : *Question No-1 is* ***compulsory.*** *Answer* ***any four*** *questions from the remaining.*

1. Write True or False for the following : 7x2=14
   (a) Body waves are the one which cause maximum damage to the structures.
   (b) Mercallie scale measures the intensity produced during the earthquake.
   (c) According to IS - 13920, the minimum grade of concrete for three or more storey building shall be M25.
   (d) Seismograph is a device to record the motion of the ground during earthquake.
   (e) The Bhuj earthquake in 2001, was an inter-plate earthquake.
   (f) Earthquake always result in soil liquifaction.
   (g) Ductility of a structure is the capacity to undergo inelastic deformations without significant loss of strength.

2. What are the different types of seismic waves and which type causes serious damage to the Civil Engineering structures over the earth surface ? **14**

3. Explain the force - displacement relation for a system, in regard to both small deformations and larger deformations. **14**

4. Explain the effect of damping on tree vibration for both damped and undamped structure, with a neat diagram. **14**

5. Discuss the construction aspects of Timber structures with respect to types of framing. **14**

6. Discuss the importance of planning aspects and symmetry in designing, for an earthquake resistant structure. **14**

7. Write short note on **any four** of the following : **4x3½=14**
   (a) Internal structure of earth
   (b) Causes of an earthquake
   (c) Ductile detailing
   (d) Retrofitting
   (e) Single degree of freedom system
   (f) Earthquake zones of India