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Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CE) (2011 Onwards) (Sem.-6)
ELEMENTS OF EARTHQUAKE ENGINEERING

Subject Code : BTCE-602

Paper ID : [A2289]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.
4. Use of IS Code 1893 : 2002 is allowed.

SECTION-A**Q1. Write briefly :**

- i) How many seismograph stations are needed to locate epicenter of an earthquake?
- ii) What is the amount of ground displacement in a earthquake called?
- iii) Which type of wave is slowest?
- iv) Which are the most destructive waves?
- v) Who developed procedure used to measure size of an earthquake?
- vi) On which factor magnitude of an earthquake depends?
- vii) Which factors can trigger a tsunami?
- viii) Which is most widely used scale of intensity measurement?
- ix) What is a shear wall?
- x) Which observations may indicate a forthcoming destructive earthquake?

SECTION-B

- Q2. Explain various methods of measurement of earthquakes.
- Q3. What is a shear wall? What are its functions?
- Q4. What are various lateral load resisting systems? Explain.
- Q5. What are various kinds of dynamic loadings?
- Q6. In an experiment of free vibration, it is found that the maximum amplitude has reduced to 0.4 times its value in 3 complete cycles. Determine damping in the system.

SECTION-C

- Q7. Discuss effect of structural irregularities on the performance of RC buildings during earthquakes.
- Q8. Derive an expression for the motion of single degree of freedom system using Newton principle for direct equilibrium approach.
- Q9. Describe various seismic strengthening arrangements recommended for masonry Buildings as per IS 4326: 1993.