B.Tech.(CE) (2012 to 2017)   (Sem.–6)
ELEMENTS OF EARTHQUAKE ENGINEERING
Subject Code : BTCE-602
M.Code : 71083

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 have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Q1 **Answer briefly :**

(a) Define design horizontal seismic coefficient.

(b) Explain response spectrum method.

(c) What do you mean by ductile failure?

(d) Define logarithmic decrement, give its expression.

(e) Enlist various codes of practice along with correct name related to earthquake engineering.

(f) What are different kinds of intensity scales?

(g) What are isoseismal maps?

(h) Differentiate between Body waves and Surface waves.

(i) Give the expression used for distributing lateral force along the height of building,

(j) What is transmissibility ratio?

Q2.   How will you calculate the natural frequency of an undamped free vibration system using D'Alembert's method?

Q3.   "*Ductility is an essential attribute of an earthquake resistant design of structure*". Comment.

Q4.   Explain the procedure of determining base shear along any principal direction.

Q5.   What are moment resisting frames? Why are these kind of frames preferred by architects?

Q6.   Write a short note on type of seismic waves along with neat diagram of each.

SECTION-C

Q7.   Derive the relation for response of damped forced vibration for SDOF system.

Q8.   What are the lessons learnt from the past earthquakes ? Explain in context with RC and Masonry buildings.

Q9.   Explain the most common modes of masonry failure.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.