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Total No. of Pages : 02

Total No. of Questions : 09

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?

SECTION-B

- 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.