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M.Tech.(Civil Engg.) (2016 Batch) (Sem.–2)

EARTHQUAKE ENGINEERING

Subject Code : MTCE-207

M.Code : 74300

Time : 3 Hrs. Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. What is the difference between the intensity and magnitude of an earthquake? What scales are MMI,RF, JMA and MSK? Explain their comparative descriptions.

2. Write short note on types of vibration. Derive the response for undamped forced single degree of freedom system.

3. Discuss the propogation of energy from one place to another in an elastic medium. If P-waves, S-waves and Rayleigh waves are generated and propogated during an earthquake. What will be percentage of total energy shared By P-waves, S-waves and Rayleigh waves?

4. Explain the laboratory tests conducted to determine dynamic soil properties.

5. Discuss the factors on which elastic modulus and shear modulus of soil depend. Explain the backbone curves for soil. Describe the provisions and recommendations of the Indian Standards for determining dynamic shear modulus.

6. What do you mean by power spectra and spectral parameters in strong ground motion studies? How will you obtain central period, predominant period and shape factor?

7. Discuss in detail the criteria for machine foundation.

8. Describe the criteria for liquefaction. What are the factors on which liquefaction depends? How will you estimate settlement after liquefaction?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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