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Reg. No.....

Name.....

**B.TECH. DEGREE EXAMINATION, NOVEMBER 2014**

**Third Semester**

Branch : Civil Engineering

CE 010 306—ENGINEERING GEOLOGY (CE)

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks



**Part A**

*Answer all questions briefly.  
Each question carries 3 marks.*

1. Explain weathering of rocks.
2. Define epicentre and hypocentre.
3. Write short note on hardness of minerals.
4. Define a fault.
5. How tunneling through inclined strata is done ?

(5 × 3 = 15 marks)

**Part B**

*Answer all questions.  
Each question carries 5 marks.*

6. Describe any five types of soils in India.
7. Discuss different types of earthquake resistant structures.
8. Distinguish between igneous and metamorphic rocks on the basis of origin and textures.
9. Define unconformities and explain their classification.
10. Explain the vertical distribution of ground water.

(5 × 5 = 25 marks)

**Part C**

*Answer all questions.  
Each full question carries 12 marks.*

11. Describe the process of rock weathering, weathering products and their significance in Civil Engineering.

Or

Turn over

12. Describe the geological work of oceans and rivers. Discuss the different land form features produced by the geological work of oceans and rivers.
13. What is an earthquake ? How are they caused ? Give an account of the effect of earthquakes. Discuss the precautionary measures to be taken while building earthquake-resistant structures in earthquake prone areas.

*Or*

14. What are the different layers, their composition and important features of lithosphere and asthenosphere ? Explain.
15. Define a mineral. Describe the physical properties of minerals which will help them to identify in the field with suitable examples.

*Or*

16. (a) Explain the properties and uses of Kaolin. (5 marks)
- (b) Describe the chemical composition, physical properties, mode of occurrence and uses of limestone.

(7 marks)

17. Describe, with the help of a neat labelled sketches, the different parts of a fault. Explain the different types of faults with neat sketches.

*Or*

18. What are folds ? How they are formed ? Illustrate with neat sketches, the different types of folds. Add a note on the effects of folding in major Civil Engineering projects.
19. Enumerate the geological factors to be considered for selecting a dam site. Discuss the geological conditions suitable and unsuitable for reservoir sites.

*Or*

20. Explain the origin and occurrence of groundwater highlighting the different zones. Define the terms aquifer, aquiclude and aquifuge and explain with suitable examples.

(5 × 12 = 60 marks)

