

Register No.: ..... Name: .....

**SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)**

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

**FOURTH SEMESTER B.TECH DEGREE EXAMINATION (R), MAY 2023****CIVIL ENGINEERING****(2020 SCHEME)****Course Code : 20CET202****Course Name: Engineering Geology****Max. Marks : 100****Duration: 3 Hours****PART A*****(Answer all questions. Each question carries 3 marks)***

1. Sketch a typical soil profile.
2. Describe the geological process by rivers.
3. How do you measure the size of an earthquake?
4. Explain seismic safety factor.
5. Describe Ghyben Herzberg relation.
6. Explain porosity.
7. Describe the chemical composition and physical properties of Calcite.
8. Explain any two types of sedimentary rocks.
9. Define (i) Dip (ii) Strike (iii) Stratification
10. Distinguish between fault and fold.

**PART B*****(Answer one full question from each module, each question carries 14 marks)*****MODULE I**

11. a) Delineate any two landslide hazard mitigation measures. (5)
- b) Explain the relevance of geology in civil engineering. (9)

**OR**

12. a) Describe the factors affecting weathering of rocks. (6)
- b) Explain any 4 types of soil erosion. (8)

**MODULE II**

13. a) Discuss on the seismic zones of India. (5)
- b) Explain the classification of earthquakes. (9)

**OR**

14. Discuss on different types of seismic waves. Explain the interior of the earth as revealed by the propagation of seismic waves. (14)

**MODULE III**

15. a) Explain Darcy's Law. (4)  
b) What is an aquifer? Explain the different types of aquifer. (10)

**OR**

16. a) Explain the electrical resistivity method for groundwater exploration. (6)  
b) Describe any four methods to control groundwater problems. (8)

**MODULE IV**

17. a) Explain any five structures of igneous rocks. (5)  
b) Classify rocks based on their geological formation. (9)

**OR**

18. a) Explain rock cycle. (4)  
b) Describe different types of rocks found in Kerala. (10)

**MODULE V**

19. Explain the geological considerations of site investigation for construction of dams. (14)

**OR**

20. a) Distinguish Clinometer compass and Brunton compass. (4)  
b) Give an account of common types of faults observed in field with neat diagrams. (10)

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