

Register No.: Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

FOURTH SEMESTER B.TECH DEGREE EXAMINATION (S), AUGUST 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. Describe any three depositional features made by the sea
2. What is laterite and how is it formed
3. Illustrate the origin of tectonic earthquakes with neat diagram
4. Define plate tectonics
5. Elucidate the electrical resistivity survey in groundwater exploration
6. Discuss the ground water flow equation using Darcy's law
7. Define a mineral. Give two examples of minerals and their chemical composition
8. Describe the different types of igneous rocks based on their origin
9. How is a topographic map helpful to a civil engineer
10. Write a note on the attitude of geologic structures

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

11. Explain how the geological process of rivers modify the morphology of earth. (14)

OR

12. a) Elaborate the relevance of geology in civil engineering. (8)
b) Discuss about any four coastal protection measures (6)

MODULE II

13. a) Explain the methods of rating of an earthquake. (7)
b) Discuss the various types of seismic waves and write a note on seismograph and seismogram (7)

OR

14. a) Give an account on different plate boundaries and the seismic (8)

belts of the world

- b) Write a note on the seismic zones of India (6)

MODULE III

15. a) Discuss the Ghyben-Herzberg relation with neat sketches and the reason for sea water intrusion in coastal aquifers (8)
b) Explain any three methods to control ground water problems (6)

OR

16. a) Discuss on the problems created by groundwater to civil engineering structures (7)
b) What is an aquifer? Write a note on the different types of aquifers with neat sketches. (7)

MODULE IV

17. a) Explain the megascopic characteristics of the following rocks. (6)
i. Dolerite ii. Limestone iii. Gneiss
b) Describe any four structures of metamorphic and sedimentary rocks. (8)

OR

18. a) Explain rock cycle. (4)
b) Discuss on any five physical properties of minerals with suitable examples. (10)

MODULE V

19. a) Write a note on the geologic factors to be considered during the construction of a tunnel. (14)

OR

20. a) Discuss the engineering significance of faults at a project site. (4)
b) Describe the parts of a fold. Give an account on the classification of folds. (10)
