

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S4 (S,FE) (FT/WP) (S2 PT) Examination December 2025/January 2026 (2019 Scheme)

Course Code: CET202

Course Name: ENGINEERING GEOLOGY

Max. Marks: 100

Duration: 3 Hours

PART A

(Answer all questions; each question carries 3 marks)

Marks

- | | | |
|----|---|---|
| 1 | Describe the nature of natural chemical solutions that interact with rocks in chemical weathering | 3 |
| 2 | Name any three types of erosion by sea waves and currents | 3 |
| 3 | Explain the moment magnitude scale used for the rating of earthquakes | 3 |
| 4 | Explain the uses of Seismic Zonation Map of India | 3 |
| 5 | Relate porosity of a rock to the movement of groundwater through it | 3 |
| 6 | State Darcy's Law | 3 |
| 7 | Define triboluminescence of minerals with one example | 3 |
| 8 | Describe the mineralogy of granite | 3 |
| 9 | Explain dip and strike of rocks | 3 |
| 10 | Classify the joints present in rocks | 3 |

PART B

(Answer one full question from each module, each question carries 14 marks)

Module -1

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|----|--|---|
| 11 | a) Explain the processes responsible for the origin of laterite | 9 |
| | b) Relate rock weathering to any four points of engineering significance | 5 |
| 12 | a) Explain the multiple roles played by water in the origin of landslides. | 7 |
| | b) Illustrate any four types of engineering measures of soil conservation | 7 |

Module -2

- | | | |
|----|--|---|
| 13 | a) Demonstrate the use of propagation of seismic waves through the earth to reveal the interior of the earth | 7 |
| | b) Relate plate tectonics to the origin of earthquakes | 7 |
| 14 | a) Explain the importance of Richter scale in earthquake disasters management | 7 |
| | b) Relate the rating of earthquakes to the destructions caused by the earthquakes | 7 |

Module -3

- 15 Relate the nature of the presence of groundwater at a given area to the different types of aquifers present in that area. 14
- 16 a) Enumerate and explain the different types of groundwater discharge 7
- b) Explain one method to explore groundwater using the electrical resistivity of natural materials present beneath the surface of the earth 7

Module -4

- 17 a) Classify and characterize the rock types present in the coastal region of Kerala 7
- b) Classify the igneous rocks based on the mineralogy of rocks 7
- 18 a) Compare and characterize any six types of lustres of minerals 8
- b) How will you megascopically identify the basalt in the field 6

Module -5

- 19 a) Relate the presence of faults in rocks at a project site to the competence of that rocks to support load 7
- b) Explain the parts of a fold with the help of a diagram 7
- 20 a) Explain the geological part of site investigation for the construction of a tunnel in a region 14
