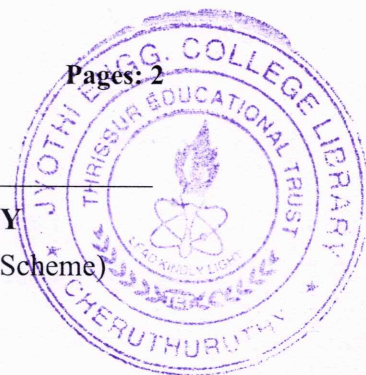


Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S4 (R,S) (FT/WP) / (S2 PT) Exam April 2025 (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 a typical soil profile with a neat sketch.	3
2	Give an account of the important coastal protection measures.	3
3	Explain the theory of origin of earthquakes with suitable illustration.	3
4	Write a note on magnitude and intensity of earthquakes and their scales of measures.	3
5	Illustrate the hydrological cycle with a neat diagram.	3
6	Explain the various problems created by groundwater to civil engineering structures.	3
7	Give details on the hardness of minerals and the Mohs scale of hardness.	3
8	Describe the important rock types of Kerala.	3
9	Illustrate the parts of a normal fault with the help of a neat sketch.	3
10	Give an account of geological mapping and the tools used.	3

PART B*(Answer one full question from each module, each question carries 14 marks)***Module -1**

- | | | |
|-------|--|----|
| 11 | Describe the principal types of weathering. Comment on the engineering significance of weathering. | 14 |
| 12 a) | Give an account of the geological action of rivers highlighting on the various landform features. | 10 |
| b) | Enumerate points on the controlling measures of landslides. | 4 |

Module -2

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|----|--|----|
| 13 | Discuss earthquakes in relation to plate tectonics highlighting on the different | 14 |
|----|--|----|

types of tectonic plates and the seismic belts of the world.

- | | | | |
|----|----|--|----|
| 14 | a) | Explain the internal structure of the earth with the help of a neat diagram as revealed by the propagation of seismic waves. | 10 |
| | b) | Write a note on the seismic zones of India. | 4 |

Module -3

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|----|----|--|----|
| 15 | | Describe the vertical distribution of groundwater. Give an account of the various types of aquifers with neat illustrations. | 14 |
| 16 | a) | Discuss the electrical resistivity survey method for groundwater exploration. | 8 |
| | b) | Explain the Ghyben-Herzberg relation as applicable to sea water intrusion in coastal aquifers. | 6 |

Module -4

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|----|----|--|----|
| 17 | a) | Describe any four physical properties of minerals. | 8 |
| | b) | Write down the chemical composition and physical properties of quartz and calcite. | 6 |
| 18 | | With the help of neat diagrams describe the important structures exhibited by igneous rocks and sedimentary rocks. | 14 |

Module -5

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|----|----|--|----|
| 19 | a) | Describe the geometrical features of a fold and the important types of folds with relevant figures. | 9 |
| | b) | Explain the engineering significance of geological structures. | 5 |
| 20 | | Illustrate the parts of a tunnel. Explain the geological considerations of site investigation for the construction of tunnels. | 14 |
