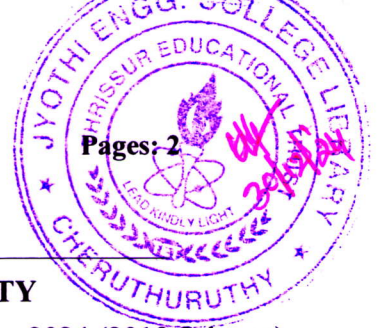


B

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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S4 (S, FE) / S2 (PT) (S, FE) / S4 (WP) (S) Examination December 2024 (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	Differentiate frost wedging and frost heaving.	3
2	What are dunes?	3
3	Discuss 'Ring of fire'.	3
4	Explain the types of earthquakes.	3
5	Differentiate water table and perched water table.	3
6	Define porosity and permeability of water bearing formations.	3
7	Discuss the physical properties of major minerals that constitute granite.	3
8	Differentiate limestone and marble.	3
9	Explain normal, reverse and strike slip faults.	3
10	Discuss the types of joints.	3

PART B

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

Module -1

- 11 a) Discuss the significance of geology in designing civil engineering projects by citing examples of failures of civil engineering structures. 8
- b) Give an account of coastal erosion and coastal area protection structures. 6

OR

- 12 a) Discuss the products of weathering. Add a note on engineering significance of weathering. 7
- b) Explain the factors that influence soil erosion and methods for soil conservation. 7

Module -2

- 13 a) Explain the seismic discontinuities in the interior of earth. 9
- b) Discuss the fundamental concepts of the Plate tectonics theory. 5

OR

- 14 a) Describe the methods for recording and measuring earthquakes. 8
b) Discuss the disastrous effects of earthquakes. 6

Module -3

- 15 a) Describe the origin and vertical distribution of groundwater. 8
b) Discuss the after effects of excessive pumping of groundwater in a region. 6

OR

- 16 a) Explain Darcy's law. Give an account of the factors that influence the movement of groundwater. 6
b) Elucidate the principles of electrical resistivity survey method for groundwater exploration. 8

Module -4

- 17 a) Explain Mohs hardness scale. Discuss the significance of conducting hardness test on building materials. 9
b) Discuss the physical and chemical properties of calcite and gypsum. 5

OR

- 18 a) Give an account of the classification of igneous rocks based on the texture and mineralogy. 8
b) Describe the characteristics of major sedimentary and metamorphic rocks which are used as building stones. 6

Module -5

- 19 a) Discuss the parts of a folded rock. 5
b) Give an account of the geological considerations to be taken in designing a tunnel project. 9

OR

- 20 a) Discuss the importance of geological mapping in initial phase of engineering projects. 7
b) Discuss different elements/components of a toposheet. 7
