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0200CET202052401

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Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S4 (R,S) / S4 (WP) (R) / S2 (PT) (S, FE) Examination May 2024 (2019 Scheme)

Course Code: CET202

Course Name: ENGINEERING GEOLOGY

Max. Marks: 100 Duration: 3 Hours

Draw neat diagrams wherever necessary

PART A

(Answer all questions; each question carries 3 marks) Marks

1		Differentiate exfoliation and spheroidal weathering.	3
2		Describe the flow type mass wasting processes.	3
3		Compare the characteristics of P and S seismic waves.	3
4		Describe elastic rebound theory.	3
5		Compare the porosity and permeability characteristics of various rocks.	3
6		Give an account of the artesian aquifer condition.	3
7		Differentiate colour, lustre and streak of minerals. Cite examples.	3
8		Differentiate Gabbro and Basalt.	3
9		Discuss the use of Brunton compass in geological studies.	3
10		What are contours in a toposheet?	3

PART B

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

Module -1

11	a)	Explain the role played by geological agents in shaping the earth's surface.	8
	b)	Discuss the civil engineering significance of weathering.	6

OR

12	a)	Give an account of any three types of sand dunes commonly seen.	6
	b)	Discuss the importance of understanding river processes that affect civil engineering projects like bridge construction and flood management.	8

Module -2

13	a)	Give an account of the intensity and magnitude scale for rating earthquakes.	8
	b)	Discuss the internal structure of the Earth based on seismic waves propagation.	6

OR

14	a)	Discuss the types of plate boundaries and their relation to seismicity.	8

	b)	Explore the application of seismic zonation of India to assess the earthquake risk for construction projects.	6

Module -3

15	a)	Describe the challenges posed by groundwater to civil engineering structures.	7
	b)	Give an account of the geophysical method (any one) employed in groundwater exploration.	7

OR

16	a)	Discuss the groundwater conditions in coastal aquifers and related groundwater contamination.	8
	b)	Discuss the vertical distribution of groundwater and seasonal fluctuation of water table.	6

Module -4

17	a)	Apply the physical properties of minerals to distinguish between quartz, orthoclase, and plagioclase feldspars.	6
	b)	Give an account of the Mohs hardness test and their application in determining the quality of construction materials.	8

OR

18	a)	Discuss the texture of igneous rocks and structure of sedimentary and metamorphic rocks.	8
	b)	Give an account of the major rock types in Kerala, which are being used as building stones.	6

Module -5

19	a)	Describe the geological factors to consider during site investigation for dam construction.	8
	b)	Discuss why jointed rocks challenge engineering constructions.	6

OR

20	a)	Describe syncline, anticline, dip-slip fault and thrust fault with the help of neat diagrams.	8
	b)	Discuss the relevance of field based studies of earth's crustal structures in the site selection process of a civil engineering project.	6

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