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VR20 Reg. No: Reg. No: SIDDHARTHA ENGINEERING COLLEGE				
(AUTONOMOUS)				
II/IV B. Tech. DEGREE EXAMINATION, JANUARY, 2023				
Third Semester				
CIVIL ENGINEERING				
20ES3102A ENGINEERING GEOLOGY				
Time: 3 hours Max. Marks: 70				
Part-A is compulsory				
Answer One Question from each Unit of Part - B				
Answer to any single question or its part shall be written at one place only				

PART-A

1.

 $10 \times 1 = 10M$

1. a. Name about various main and allied branches			gy and write	
		their applications.	(CO1 K1)	
	b.	How does igneous rocks are formed?	(CO1 K1)	
	c.	Define weathering?	(CO ₃ K ₁)	
	d.	What is richter's scale?	(CO3 K1)	
	e.	What is exploration geophysics?	(CO3 K1)	
	£	What is topographic map?	(CO3 K1)	
	g.	Write about suitable rock formation for reservoir sites and tunnels.		
			(CO4 K2)	
	h.	Write about the factors affecting selection of site for reservoirs.		

What are the preventive measures of landslides?

formation of geological features.

State the difference between Strike and Dip with reference to the

(CO4 K2)

(CO3 K1)

(CO3 K2)



20ES3102A PART-B

 $4 \times 15 = 60M$

UNIT-I

- a. Explain about the significance of study of various physical properties in the identification of minerals. (CO1 K2) 8M
 - How does geology related to engineering field and explain about the scope and applications of geology in the planning and execution of civil engineering works.
 (CO1 K2) 7M

(or)

- 3. a. State about the engineering concerns and features of the following rocks:
 - i) Granite and Basalt
- ii) Sand stone and Marble

(CO1 K2) 8M

b. Explain about the factors influencing metamorphism and give examples for metamorphic rocks. (CO1 K2) 7M

UNIT-II

- a. Discuss the classification of folds and their role in civil engineering projects.
 (CO2 K2) 8M
 - b. Discuss the importance of faults in civil engineering. (CO2 K2) 7M

(or)

5. a. Write about the causes and effects of the earthquake.

(CO2 K2) 8M

Dicuss the process of weathering and its importance in civil engineering.
 (CO2 K1) 7M

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UNIT-III

6. Explain about the principle and interpretation of Electrical resistivity method along with neat sketch and write about its applications.

(CO₃ K₃) 15M

(or)

- 7. a. Explain about features of geological map and topographic map and write about their construction methods. (CO3 K3) 7M
 - b. Explain about the principle and interpretation of Seismic refraction method along with neat sketch and write its limitations.

(CO₃ K₃) 8M

UNIT-IV

- 8. a. Explain about the fundamental concepts of environmental Geology and write its features. (CO4 K3) 7M
 - b. Explain the geological methods for selection of tunnel sites.

(CO₄ K₂) 8M

(or)

- 9. a. State and explain about the health hazards due to ground water contamination. (CO4 K2) 8M
 - b. State and explain about the factors affecting the selection of site for construction of dams. (CO4 K2) 7M

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