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VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

II/IV B.Tech. DEGREE EXAMINATION, DECEMBER - 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

10 x 1 = 10M

1. a. Enlist the allied branches of geology. (CO1 K1)
- b. What is streak of a mineral? (CO1 K2)
- c. Define petrology. (CO1 K1)
- d. What is meant by texture of rock? (CO1 K2)
- e. What are rock forming minerals? (CO1 K2)
- f. Explain the term weathering. (CO2 K1)
- g. What is a topographic map? (CO3 K1)
- h. Define the term epicentre. (CO3 K2)
- i. Write the purposes of tunnel. (CO4 K2)
- j. What do you understand by a gravity dam? (CO4 K2)



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PART-B

4 x 15 = 60M

UNIT-I

2. a. Explain the term geology and write the importance of geology in civil engineering perspective. **(CO1 K2) 7M**

- b. Write the important physical properties of minerals:

- i) Calcite ii) Quartz
iii) Feldspar iv) Mica

(CO1 K2) 8M

(or)

3. a. Discuss the rock cycle. **(CO2 K2) 8M**

- b. What is sedimentary rock and explain its common structures?

(CO2 K2) 7M

UNIT-II

4. a. Explain the causes and effects of earth quakes. **(CO2 K3) 8M**

- b. What are intensity and magnitude of an earthquake and explain the safety measures required for the buildings constructed in these areas?

(CO3 K3) 7M

(or)

5. a. Discuss the different types of faults with neat sketches.

(CO2 K3) 8M

- b. Briefly explain the folds and its classifications.

(CO2 K3) 7M

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UNIT-III

6. a. What are the different types of geophysical method and write its applications. **(CO3 K4) 7M**

- b. Describe the of seismic refraction method and explain its principle.

(CO3 K4) 8M

(or)

7. a. What are topographical and geological maps and discuss their advantages and disadvantages. **(CO3 K3) 8M**

- b. Describe Electrical resistivity method and explain its applications.

(CO3 K4) 7M

UNIT-IV

8. a. Explain briefly how do you select the site for the dam construction.

(CO4 K3) 8M

- b. Explain the impact of constructing the reservoir for induced earthquake.

(CO4 K3) 7M

(or)

9. a. Write the significance of ground water condition for tunneling.

(CO4 K3) 7M

- b. Discuss the impact of mining construction material on the environment.

(CO4 K3) 8M

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