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Question Paper Code: 50252

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017 Third Semester

Civil Engineering
CE 6301 – ENGINEERING GEOLOGY
(Regulations 2013)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions.

PART - A

(10×2=20 Marks)

- 1. Draw the internal structure of Earth.
- 2. Mention the characteristics of levees and floodplains.
- 3. Write Mohs' Scale of Hardness.
- 4. Mention the properties and uses of Gypsum.
- 5. Write the significance of determining RQD in Engineering Constructions.
- 6. What is contact metamorphism?
- 7. Using a diagram, explain the terms "Dip" and "Strike".
- 8. Briefly explain the principle involved in electrical resistivity survey for sub-surface investigation.
- 9. What is Richter's scale?
- 10. What are the elements of aerial photographs?

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PART – B (5×13=65 Marks)

 a) Explain the process of weathering in detail and comment on the role of weathering in influencing strength of rocks.

(OR)

- Explain in detail on the geological actions of streams and rivers. Write a note on its significance in Civil Engineering constructions.
- 12. a) Write in detail on the following properties of minerals:
 - (i) Specific Gravity (ii) Hardness (iii) Fracture (iv) Crystalline Structure.

(OR)

- b) Explain the structure and physical properties of clay minerals.
- 13. a) List the various engineering properties of rocks and give a detailed account of the field and laboratory tests to be conducted to determine such properties.

(OR)

- Mention the mineralogical composition, texture, origin and uses of (i) Limestone
 (ii) Slate (iii) Marble.
- 14. a) Illustrate with neat sketches on folds, classification of folds, folding processes and their Civil Engineering significance.

(OR)

- b) Give an account of the procedure for seismic refraction survey methods.
- a) Enumerate with appropriate figures on the types, causes of landslides and their mitigation measures.

(OR)

 Explain the important geological factors governing coastal process and give various coastal protection structures.

PART - C

(1×15=15 Marks)

16. Lithological and structural aspects are the primary considerations for the selection of suitable sites and design of tunnels. Using appropriate case studies or examples, explain the validity of this statement.