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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 ?



PART – B

(5×13=65 Marks)

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

(OR)

- b) 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)

- b) 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.

15. a) Enumerate with appropriate figures on the types, causes of landslides and their mitigation measures.

(OR)

- b) 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.
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