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Question Paper Code : 91288

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Third Semester

Civil Engineering

CE 6301 – ENGINEERING GEOLOGY

(Common to PTCE 6301 : Engineering Geology for B.E. Part-Time

for – Civil Engineering – Second Semester – Regulations 2014)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. Mention the thickness of Earth's crust.
2. How are rocks classified according to the scale of weathering ?
3. Write the important minerals from Feldspar group and their uses.
4. Write the name of the minerals belonging to clay group.
5. Write briefly about attrition test.
6. Compare the relative strengths of shale, sandstone, and quartzite.
7. What are Joints and Joint sets ?
8. Define the term 'Rock Quality Designation' (RQD).
9. Define remote sensing.
10. List at least four measures to prevent coastal erosion.

PART – B

(5×13=65 Marks)

11. a) Write elaborately on Physical and chemical weathering of rocks. What is the significance of weathering of rocks in Civil Engineering ?

(OR)

- b) Describe the geological work of sea and its engineering considerations.

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12. a) Using appropriate examples from the mineral kingdom, describe the physical properties of minerals.

(OR)

b) Describe in detail, the properties, composition and uses of Feldspar and Calcite.

13. a) List the various engineering properties of rocks. Describe the instrumentation required and the procedure for tests to determine these properties.

(OR)

b) Describe the mineralogical composition, texture, engineering properties and uses of Dolerite, Laterite, Sandstone and Limestone.

14. a) What are faults ? Explain in detail with sketches on (i) Normal faults (ii) Reverse faults (iii) Strike slip fault (iv) Oblique fault ?

(OR)

b) Explain in detail on electrical resistivity method and Wenner's configuration. Add a note on their application in civil engineering.

15. a) What are landslides ? How do they occur ? Describe the types of landslides with a sketch and enumerate the geological investigation required for mitigation of landslides.

(OR)

b) Explain in detail the various causes and effects of sea erosion, Add a detailed note on coastal protection measures.

PART - C

(1×15=15 Marks)

16. a) Explain with a neat sketch on how Remote Sensing is done. Add a note on applications of Remote Sensing in civil Engineering.

(OR)

b) Explain on various geological factors to be considered for Dam construction.