Reg. No. :

Question Paper Code : 97025

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Third Semester

Civil Engineering

CE 6301 — ENGINEERING GEOLOGY

(Regulation 2013)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1.   What is meant by exfoliation?

2.   Name a few secondary tectonic plates.

3.   What are the varieties of plagioclase feldspar?

4.   Bring out the differences between muscovite and biotite.

5.   What is meant by RMR? What is its significance?

6.   Differentiate between Gneiss and Schist.

7.   How do joints influence the strength of rocks?

8.   Using a diagram, explain the Dip and Strike of rock layers.

9.   What is meant by "stand-up time" in tunelling?

10.   List at least four measures to prevent coastal erosion.

PART B — (5 × 16 = 80 marks)

11.   (a)   Describe in detail, the process of weathering of rocks. Add a note on the
             effect of weathering on the strength of rocks.

Or

(b)   Give a detailed account of the erosional and depositional landforms
       created by the action of a river.

12.   (a)   Discuss about the chemical composition, physical properties, origin, varieties and uses of quartz.

Or

     (b)   Give a detailed account of the chemical composition, physical properties, origin, varieties and uses of clay minerals.

13.   (a)   How are rocks classified? Describe the major distinguishing properties of the major rock types.

Or

     (b)   List the various engineering properties of rocks and describe the field and laboratory tests to be conducted to determine these properties.

14.   (a)   Explain how faults and folds affect the choice of locations for dams and tunnels.

Or

     (b)   Elaborate on the electrical methods used for sub-surface investigations.

15.   (a)   Using case studies, give a detailed account of the application of remote sensing in civil engineering.

Or

     (b)   Classify landslides and discuss about the causative factors of landslides. Also, add a note on the measures for mitigation of landslides.

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