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 —  $(10 \times 2 = 20 \text{ marks})$ 

- 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?
- 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)

 (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.
- (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.
- (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.
- (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.