

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: CE205

Course Name: ENGINEERING GEOLOGY

Max. Marks: 100

Duration: 3 Hours

**PART A***Answer any two full questions, each carries 15 marks.*

Marks

- 1 a) Give brief account of relevance of Geology in civil engineering. (5)
- b) Describe different types of weathering and its engineering significance. (10)
- 2 a) Describe the common methods to control subsurface water (5)
- b) Explain (i) Hydraulic conductivity (ii) Artesian condition (10)
- 3 a) Explain the classification of weathered rock mass. (5)
- b) Explain how ground water can pose problems during the construction of tunnels. (10)

PART B*Answer any two full questions, each carries 15 marks.*

- 4 a) Describe any three physical properties which affect the strength of minerals. (6)
- b) Explain: (i) Quartz (ii) Feldspar (iii) Gypsum (9)
- 5 a) Give brief account of rock features that affect the strength of rock as construction material (6)
- b) How are igneous and sedimentary rocks differentiated in field (site)? Add a note on their outcrops in Kerala. (9)
- 6 a) Compared to Himalayan region earthquakes are less frequent in Kerala - Elucidate (5)
- b) Write short notes on: (i) Granite (ii) Shale (10)

PART C*Answer any two full questions, each carries 20 marks.*

- 7 a) What is meant by folds? Explain three different types of fold. (7)
- b) Describe geological factors considered in the construction of tunnels; Add a note on overbreak in tunnel. (10)
- c) What are contours? Draw a contour pattern (not on scale) representing a 60m high volcanic cone, with a dry crater of 25m deep, located along sea shore (use contour interval – 20m) (3)

- 8 a) What are the damaging coastal processes? What are the coastal protection strategies? (10)
- b) Describe different soil conservation measures (10)
- 9 a) How Joints are formed? How do joints differ from fault? (8)
- b) What are the causes of landslides? Add a note on their preventive measures. (8)
- c) The dip amount and dip direction of two outcrop of a contact between limestone and sandstone, located at a distance of 500m apart, are $20^{\circ}/N150^{\circ}$ and $21^{\circ}/N330^{\circ}$. Identify the structure and its strike. (4)

PART B

PART C