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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Third Semester B.Tech Degree (S,FE) Examination January 2022 (2015 Scheme)

Course Code: CE205

Course Name: ENGINEERING GEOLOGY

Draw neat figures wherever necessary

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

- 1 a) Explain different chemical weathering processes. (8)
b) Examine different horizons of residual soil profile and their significance. (7)
- 2 a) Explain permeability and hydraulic conductivity. (7)
b) Discuss the conditions that give rise to an artesian system. (8)
- 3 a) Compare the roles (any three) of liners and barriers to control subsurface water in construction sites. (10)
b) Assess the causes of frost wedging. (5)

PART B

Answer any two full questions, each carries 15 marks.

- 4 a) Analyse how foliations of metamorphic rock influence the strength of the rock. (6)
b) Distinguish between igneous, metamorphic and sedimentary rocks. (9)
- 5 a) Describe the composition and cleavage of the following minerals: a. Orthoclase feldspar, b. Biotite, c. Quartz (7)
b) Why the colour and streak of a mineral are not always identical? (3)
c) Compare P and S waves. (5)
- 6 a) Compare and contrast SIAL and SIMA. (6)
b) Name the rock type and mineralogy of: 1. Sandstone 2. Basalt (4)
c) Examine the liquid nature of outer core. (5)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) What are landslides? Explain the causes and methods to prevent them. (10)
b) Describe and assess the method of strip farming as a soil conservation mechanism. (10)

- 8 a) Explain how the dip and plunge of a fold axis are measured using clinometer compass. (7)
- b) Examine the significance of faults with regard to the construction of engineering structures. (8)
- c) Examine a. Strike slip fault b. Normal fault. (5)
- 9 a) Describe any two coastal protection structures designed to protect beaches from longshore currents. (10)
- b) Evaluate the geological factors to be considered during the construction of dams. (10)
