

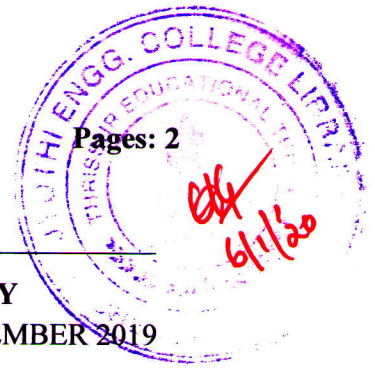
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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
THIRD SEMESTER B.TECH DEGREE EXAMINATION(R&S), DECEMBER 2019

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) Write a note on the relevance of geology in civil engineering | (10) |
| | b) Discuss the engineering significance of weathering | (5) |
| 2 | a) Elucidate on the engineering classification of weathered rock masses | (8) |
| | b) Evaluate the porosity and permeability of rocks | (7) |
| 3 | a) Discuss the ground water flow equation using Darcy's law | (6) |
| | b) Elucidate the problems created by subsurface water in construction sites | (9) |

PART B

Answer any two full questions, each carries 15 marks.

- | | | |
|---|---|------|
| 4 | a) Write short notes on
Shale | (5) |
| | b) Marble | (5) |
| | c) Quartzite | (5) |
| 5 | a) Discuss about the seismic discontinuities inside the earth | (7) |
| | b) Elucidate on the role of seismic waves in the study of internal structure of earth | (8) |
| 6 | a) Explain hardness of minerals | (5) |
| | b) Discuss any five rocks of Kerala | (10) |

PART C

Answer any two full questions, each carries 20 marks.

- | | | |
|---|---|-----|
| 7 | a) Describe the attitude of geological structures | (6) |
| | b) Discuss any two types of faults in rocks | (7) |

- c) Examine the role of slope and water in the occurrence of landslides (7)
- 8 a) Discuss the geological factors to be considered in the selection of reservoir site (12)
- b) 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° /N150^o and 21° /N330^o. Identify the structure and its strike. (5)
- 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)
- 9 a) What are the landforms produced by marine erosion and deposition (8)
- b) Examine the methods to prevent landslides (5)
- c) Discuss the various flood management strategies (7)
