

Reg No.: _____

Name: _____

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

Course Code: CE465

Course Name: GEO-ENVIRONMENTAL ENGINEERING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

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|---|----|---|-----|
| 1 | a) | Explain the various solid waste management mechanisms practised in India. | (7) |
| | b) | Predict the fate of contaminant in subsurface soil by explaining the soil –water-contaminant interaction. | (8) |
| 2 | a) | What are the physical characteristics of waste? | (8) |
| | b) | Explain the role of soil in Geo-environmental applications. | (7) |
| 3 | a) | What are the various geotechnical reuse of waste? | (8) |
| | b) | What are the potential impacts of waste dumping on environment? | (7) |

PART B

Answer any two full questions, each carries 15 marks.

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| 4 | a) | Explain with neat sketches the various types of liners used? | (8) |
| | b) | Explain the methodology of construction of compacted clay liner. | (7) |
| 5 | a) | What are the different components of a cover system? Explain them with a neat sketch. | (8) |
| | b) | How will you evaluate the capacity of a land fill? | (7) |
| 6 | a) | How will you determine the leach ate quantity in closure and post closure period? | (8) |
| | b) | What are the components of a landfill gas? | (4) |
| | c) | List some of the materials used in landfill construction. | (3) |

PART C

Answer any two full questions, each carries 20 marks.

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| 7 | a) | Explain bioremediation. | (10) |
| | b) | Give the details of planning and implementing a remediation process. | (10) |
| 8 | a) | Explain soil washing in detail. | (10) |
| | b) | Explain the difference between thermal desorption and vitrification. | (10) |

- 9 a) List any three geotechnical properties that may vary in relation with the soil- water-contaminant interaction. (10)
- b) Explain the various methods of phyto remediation (10)
