

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh semester B.Tech examinations (S), September 2020

Course Code: CE465**Course Name: GEO-ENVIRONMENTAL ENGINEERING**

Max. Marks: 100

Duration: 3 Hours

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

Marks

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| 1 | a) | Geo environmental engineering is multidisciplinary. Justify your answer. | (9) |
| | b) | With neat sketch explain the multiphase behaviour of soil. | (6) |
| 2 | a) | What do you mean by MoEF guidelines? Explain its purpose. | (5) |
| | b) | What factors to be considered for the selection of site for landfill? | (6) |
| | c) | Mention the various processes in soil structure interaction | (4) |
| 3 | a) | What are the impacts of waste dump and its remedial measures? | (8) |
| | b) | Explain the significance of soil sorption behaviour in waste management. | (7) |

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

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| 4 | a) | Explain with neat sketch the various components of a sanitary landfill and its functions. | (15) |
| 5 | a) | What is leachate? How the quantity can be estimated? | (6) |
| | b) | Explain the issues to be overcome by an efficient sanitary landfill. | (5) |
| | c) | Write any two tests on geosynthetic to be used as a clay liner? | (4) |
| 6 | a) | Write the selection criteria of soil for a liner system? | (5) |
| | b) | Give your comments on environmental monitoring of landfill. | (6) |
| | c) | What are the advantages of compacted clay liners? | (4) |

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

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| 7 | a) | What are the sampling methods used for the investigation of contaminated soil? | (10) |
| | b) | What are the various types of Phyto remediation? | (10) |
| 8 | a) | Explain in detail the variation of engineering properties of soil due to change in environment. | (20) |

- 9 a) Write briefly on the following. (20)
- a) Electro kinetic remediation
 - b) Transport of contaminant in saturated soil
 - c) Pump & treat method
 - d) in situ and exit remediation.

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