



Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Supplementary Examination August 2021

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

- 1 a) Why do geo-environmental engineering problems require the concept of multi-phase behaviour of soils? (5)
- b) What is mine waste and how they are generally disposed? List the potential geotechnical applications of mine waste. (10)
- 2 a) List and explain any four solid waste disposal facilities. (8)
- b) Explain the ill effects caused by a waste dump and the remediation technique adopted for preventing the same. (7)
- 3 a) Explain the importance of geotechnical characterization of Municipal Solid waste. (8)
- b) What are the locational criteria for sanitary landfills as per MoEF guidelines? List the data to be collected for the site selection of landfills (7)

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

- 4 a) Sketch the cross-section of an engineered MSW landfill and explain the different components along with its functions. (15)
- 5 a) Differentiate between active and passive gas venting systems in a landfill with neat sketches. (8)
- b) List the steps in construction of compacted clay liner. (7)
- 6 a) Explain the various components of leachate collection and removal system with a neat sketch. (10)
- b) List the different ways in which landfill gas can be utilized/disposed. (5)

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

- 7 a) Explain the different approaches adopted in collecting representative samples from a contaminated site. (12)
- b) List and explain the contaminant transport mechanisms in saturated soil. (8)
- 8 a) Explain the effect of change in pore fluid on the variation of engineering properties of soil. (20)
- 9 a) Explain any four techniques that can be adopted for remediation of heavy metal-contaminated sites. (20)
