Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

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)	Explain the soil- water-environmental interaction on geotechnical problems.	8
	b)	What are the geotechnical properties of solid waste?	7
2	a)	With neat sketch, write the multiphase behaviour of soil.	3
	b)	Explain about the environmental impacts of waste dumping.	5
	c)	List out and explain various waste management strategies.	7
3	a)	What do you mean by Flyash? How will you obtain it?	5
	b)	List out the geotechnical applications of Flyash.	5
	c)	Write a short note on municipal solid waste.	5

PART B

Answer any two full questions, each carries 15 marks.

4	a)	What are the major components of a landfill? Explain functions of each component.	8
	b)	How will you evaluate the capacity of a landfill?	7
5	a)	What are the basic functions of cover system?	3
	b)	Explain with neat sketches the classification of landfill liners based on type of material.	6
	c)	What are the various uses of gas collected from landfill?	6
6	a)	How can we dispose leachate collected from a landfill?	8
	b)	What are the different properties of geomembrane?	7

PART C

Answer any two full questions, each carries 20 marks.

7	a)	Write in detail the approach for planning and implementing a successful remediation process.	6
	b)	Write briefly about bioremediation.	10

	c)	List out different sampling techniques for contaminated soil.	4
8	a)	What are the advantages and disadvantages of ex-situ and insitu remediation approaches?	5
	b)	Explain the different methods of in-situ thermal desorption.	10
	c)	Write down the difference between thermal desorption and vitrificaton.	5
9	a)	Describe the effects of pollutants in soil on (i) Index properties (ii) Volume change behaviour (iii) Shear strength (iv) Permeability	20

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