Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION(S), MAY 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

1	a)	Explain the classification of solid waste.	8
	b)	List out the important mechanisms of soil-water interaction	7
2	a)	Discuss the various solid waste management mechanisms practiced in India	8
	b)	Explain in detail the various contaminant retention and transport mechanisms in soil	7
3	a)	Distinguish between the waste disposal facilities, gasification and refuse derived fuel.	5
	b)	Explain the ill-effects of uncontrolled dumping of wastes.	6
	c)	Define Pyrolysis	4

PART B

Answer any two full questions, each carries 15 marks.

4	a)	Briefly describe about compacted clay liners.	5
	b)	Write down the methodology of construction for compacted clay liners.	10
5	a)	What are the different types of engineered landfills based on site topography and capacity requirements?	5
	b)	Explain in detail about the different components of a landfill cover system with neat sketches.	10
6	a)	Explain the need for proper management of landfill gas.	5
	b)	What are the applications of geosynthetics in a landfill?	5
	c)	Write short note on landfill closure plan.	5

PART C

Answer any two full questions, each carries 20 marks.

7	a)	List out the advantages of phytoremediation process	5
	b)	Describe in detail different processes involved in a phytoremediation process	9
	c)	Discuss in detail Electro kinetic remediation of contaminated soil	6

8	a)	Soil washing is not an effective method for treating soils with high fines content. Comment whether the statement is true or false. Give explanation for the same.	10
	b)	What are the important data required for planning contaminated site remediation	5
	c)	List out the important points to be kept in mind for contamination assessment	5
9	a)	In relation to soil – water – contaminant interaction explain the possible variations of geotechnical properties given below i. Permeability characteristics ii. Atterberg limits iii. Shear Strength	12
	b)	Explain the importance of studying the volume change behavior of soils. Discuss how the swelling and shrinkage characteristics of clays vary in accordance with changes in pore fluid.	8

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