

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)



B. Tech (Eighth Semester – Regular/Supplementary) Examinations, April – 2026
22BCVPE48021 - Environmental Geotechniques
(Civil Engineering)

Time: 3 hrs

Maximum: 70 Marks

Answer ALL questions
(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**Q.1. Answer **ALL** questions

	CO #	Blooms Level
a. Define pyrolysis.	CO1	K1
b. What is fly ash?	CO2	K1
c. Define electro-kinetic remediation.	CO3	K1
d. What is landfill gas?	CO4	K1
e. Define a contaminated site.	CO4	K1

PART – B**(15 x 4 = 60 Marks)**Answer **ALL** the questions

	Marks	CO #	Blooms Level
2. a. Explain the scope of environmental geotechnics.	8	CO1	K2
b. Discuss methods of site characterisation	7	CO1	K3
(OR)			
c. Explain soil-water-environment interaction	8	CO1	K3
d. Discuss factors for landfill site selection.	7	CO1	K2
3.a. Explain the geotechnical properties of solid waste	8	CO2	K3
b. Discuss landfill capacity evaluation.	7	CO2	K3
(OR)			
c. Explain refuse-derived fuel and gasification.	8	CO2	K2
d. Write a short note on fly ash applications.	7	CO2	K2
4.a. Explain the mass transport process in soils.	8	CO3	K3
b. Discuss electro-kinetic remediation	7	CO3	K2
(OR)			
c. Explain in-situ and ex-situ remediation methods	8	CO3	K2
d. Discuss the soil washing technique and limitations	7	CO3	K3
5.a. Explain the landfill cover system and its functions.	8	CO4	K2
b. Discuss geosynthetics in landfill applications	7	CO4	K3
(OR)			
c. Explain remediation of NAPL-contaminated sites.	8	CO4	K3
d. Write a short note on the landfill closure plan	7	CO4	K2

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