



**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY, ODISHA, GUNUPUR
(GIET UNIVERSITY)**

M. Sc. (Ag.) (First Semester - Regular) Examinations, February – 2025

SOIL 511 - Management of Problematic Soils and Water

Time: 2 hrs

Maximum: 50 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A

(2 x 5 = 10 Marks)

Q.1. Answer **ALL** the questions

	CO #	Blooms Level
a. Differentiate between saline, sodic, and saline-sodic soils.	CO1	L2
b. Explain the morphological features of saline soils.	CO1	L2
c. What are the chemical properties of salt-affected soils?	CO1	L4
d. Define soil acidity and state its effect on plant growth.	CO2	L2
e. What are the primary sources of soil salinity and sodicity?	CO2	L1

PART – B

(6 x 5 = 30 Marks)

Answer **ANY SIX** questions

	CO #	Blooms Level
2. Describe the area and distribution of problematic soils in India.	CO1	K4
3. Explain the quality parameters of irrigation water and its management.	CO4	K5
4. Explain the problems associated with highly permeable sandy soils and their management strategies.	CO3	K4
5. How does soil erosion contribute to the loss of soil fertility and productivity?	CO2	K2
6. Explain the problems associated with highly permeable sandy soils and their management strategies.	CO3	K4
7. What are the major physical characteristics of compact soils? Explain their impact on crop productivity.	CO1	K3
8. Discuss the classification of eroded soils and their management practices.	CO3	K3
9. Describe the principles of soil salinity monitoring and management in agricultural fields.	CO4	K5

PART – C

(10 x 1 = 10 Marks)

Answer **ANY ONE** question

	CO #	Blooms Level
10. Explain the physical, chemical, and biological management techniques for salt-affected soils.	CO3	L3
11. Discuss the impact of submerged soils on crop growth and their management strategies.	CO2	L4
12. Discuss in detail the classification of soil erosion and management practices to control it.	CO4	L5

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