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GIET UNIVERSITY, GUNUPUR – 765022
M. Sc. (Ag.) (First Semester) Examinations, November – 2022
SOIL 511- Management of Problematic Soils and Water

Time: 2 hrs

Maximum : 35 Marks

The figures in the right hand margin indicate marks.

PART – A

Q. 1. Define (or) Explain the following in one or two sentences. (1 x 5 = 5 Marks)

- a. Lime requirement
- b. Infiltration
- c. Slaked lime
- d. Neutralising index
- e. Salt index

PART – B

Q2. Answer ANY FOUR questions: (short Answer Questions) (2.5 x 4 = 10 Marks)

- a. Why gypsum cannot be used as a liming material.
- b. What is the effect of heavy rainfall on soil acidity? Explain.
- c. What is eutrophication? Explain.
- d. If EC of irrigation water and EC of drainage water are 2 dSm^{-1} and 4 dSm^{-1} respectively find out the leaching requirement of the soil.
- e. What are the crop management practices to be followed in acid soil and saline soil?
- f. What are the quality indices of a liming material?

PART – C

Attempt ANY FOUR questions. All question carries equal marks (5 x 4 = 20 Marks)

3. Describe the characteristics of saline soil. List out remedial measures for its reclamation.
4. What is leaching requirement? Classify saline soils according to their characteristics.
5. What are various parameters to judge the quality of irrigations water? Briefly explain all the parameters.
6. What are the problems in laterite soil? List out various management practices to make it suitable for agriculture.
7. What are the important processes for acid soil formation? Differentiate between podzolisation and laterization.
8. What are the constraints in cultivation in fluffy faddy soil and heavy clay soil? Suggest few ameliorative measures.

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