M.Sc.(Ag.) Examination, 2019
Semester-II
Soil Science and Agricultural Chemistry
Course- SSC-511
(Management of Problem Soils)

Time: Three Hours **Full Mark: 50**

Questions are of value as indicated in the margin

Answer ***any five*** questions.

1. Briefly describe different causes of soil acidity. How does soil acidity influence the availability of different nutrients? How can acid soil be reclaimed and managed? 4+2+4=10
2. Discuss in brief the various factors that results in the formation of saline soil. Briefly state the physical, chemical and biological characteristics of saline soil. How does soil salinity affect plant growth? Write in brief the reclamation and management practices of saline soil. 3+2+2+3=10
3. Briefly state the formation and characteristics of alkali soil. Write down the detrimental effect of soil alkalinity on plant growth? Write in details on reclamation and management practices of alkali soil. 4+2+4=10
4. Describe in details about different criteria considered in evaluating the quality of irrigation water along with their ratings. Write in brief about the use of saline water in agriculture. 8+2=10
5. Explain in brief different aspects of monitoring soil salinity in the field. Why sandy soil is called as problem soil and how can such sandy soil be managed? 6+4=10
6. Discuss the salt tolerance mechanism of crops. Write the cropping patterns for utilizing poor quality groundwater. 5+5=10
7. Write short note on: (***any four***) 2.5×4=10
   (i) Calcium carbonate equivalent
   (ii) Calcareous soil
   (iii) Acid sulphate soil
   (iv) Brackish water
   (v) Leaching requirement
   (vi) Management practices of red and lateritic soil
8. Differentiate between: (***any four***) 2.5×4=10
   (i) SAR and ESP
   (ii) Active acidity and potential acidity
   (iii) Black alkali soil and degraded alkali soil
   (iv) SAR and adjusted SAR
   (v) Lime
   (vi) Laterization and podzolization
