

M.Sc. (Ag.) Semester-II Examination 2017
Soil Science and Agricultural Chemistry
Course : SSC-511
(Problem Soil Management)

Time : 3 Hours

Full Marks : 50

Questions are of value as indicated in the margin

Answer **any five** questions

1. Briefly discuss the salt tolerance mechanism of crops. How can various crops be classified according to their salt tolerance? Give a short account on cropping pattern for utilizing poor quality alkali water. 3+3+4=10
 2. Give a brief account on agronomic practices for management of saline soils. What are the management principles for clayey soils? 8+2=10
 3. Compare the characteristics of saline, saline-alkali and alkali soils. How are they managed? Define white alkali and black alkali. 4+4+2=10
 4. Describe different types of soil acidity. Discuss the management of acid soils. 3+7=10
 5. (a) What do you mean by quality of irrigation water? Give an brief account on the parameters to be considered along with their ratings for adjudging the quality of irrigation water.
(b) Calculate the R.S.C. value of irrigation water containing $\text{CO}_3 = 7 \text{ me/l}$, $\text{HCO}_3^- = 2 \text{ me/l}$, $\text{Ca}^{++} = 3 \text{ me/l}$ and $\text{Mg}^{++} = 4 \text{ me/l}$. Find the suitability class of irrigation water based on the result. 8+2=10
 6. How does acid sulphate soils are formed? Write briefly the management practices of acid sulphate soils. 10
 7. Characterize calcareous soils. Mention the nutrient status and management practices for calcareous soils. 10
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