**SS-706 SALT- AFFECTED SOILS 3(3-0)**

**THEORY**

Salt-affected soils in Pakistan and global perspective, Genesis of saline and sodic soils, Classification systems of salt-affected soils, Effects of salinity and sodicity on soil characteristics, Derivation and applications of Gapon equation, Plant responses to saline and sodic conditions, Amelioration strategies and economic feasibility for salt-affected soils, Water requirements for reclamation, Concept of leaching fraction and its applications, Waterlogging: Causes and extent, Soil and plant responses to waterlogging, Amelioration strategies for waterlogged soils, Environmental impacts of salinity and waterlogging

**BOOKS RECOMMENDED**

1. Ghafoor, A., M. Qadir and G. Murtaza. 2004. Salt-Affected Soils: Principles of Management. Allied Book Centre, Urdu Bazar, Lahore, Pakistan.
2. Pessarakli, M. (ed.). 2010. Hand Book of Plant and Crop Stress. 3rd Ed. Marcel & Dekker Inc., NY, USA.
3. Pierzynski, G.M., J.T. Sims and G.F. Vance. 2000. Soils and Environmental Quality. CRC Press. Boca Raton, FL, USA.
4. Schjonning, P., S. Elmholt and B.T. Christensen. 2004. Managing Soil Quality Challenges in Modern Agriculture. CABI Publisher Cambridge, MA, USA.
5. Singh, N.T. 2005. Irrigation and Soil Salinity in the Indian Subcontinent: Past and Present. Lehigh University Press, Bethlehem, Israel.
6. Tan, K.H. 2009. Environmental Soil Science. 3rd Ed. CRC Press, Boca Raton, FL, USA.
7. Viesmen, J., M.J. Hemmar, E.M. Perez and P.A. Chadik. 2009. Water Supply and Pollution Control. 8th Ed. Prentice Hall, NY, USA.