

## **FRN 102: FOREST ECOLOGY**

### **SYLLABUS**

Historical development of ecology as a science; Concept of levels of biological organization; Ecosystem – classification and distribution; Forest environment- Major abiotic and biotic components and their interaction; Nutrient cycling; Trophic levels; Food webs; Ecological pyramids and Energy flow; Population ecology: Definition; Population dynamics and carrying capacity; Preparation of life table and its importance in forest management; Community ecology: Species interaction; Ecological succession; Terminology; Basic concepts; Climax vegetation types; Methods to study effects of forest management on succession; Biodiversity and conservation: Definition; Levels of study; Distribution of diversity in life forms; Hotspots of biodiversity; Measurement of diversity and diversity indices; Principles of conservation biology: *Ex situ* and *In situ* methods of conservation; Genetic and evolutionary principles in conservation; Biosphere concept; Conservation: Efforts in India and worldwide

### **Suggested Readings**

1. *Ecology, Environmental Science and Conservation* by J.S. Singh, S.P. Singh and S. R. Gupta
2. *Ecology and Environment* by P. D. Sharma
3. *Fundamental of Ecology* by E.P. Odum
4. *Concept of Ecology* by E.J. Kormondy
5. *Ecology* by M.P. Arora
6. *Ecology* by S.N. Jha
7. *Concept of Modern Ecology* by P.C. Tewari