

SARDAR PATEL UNIVERSITY
Programme: B.Sc
Semester: III
Syllabus with effect from: June-2012

Paper Code: US03CENV01	Total Credit: 3
Title of Paper: Concepts of Ecology	

Unit	Description in detail	Weightage (%)
I	Ecology and Ecosystem: Basic concepts of Ecology Ecosystem: Definition, classification, Structure of ecosystem, function of ecosystem, Biotic and abiotic components, Ecological pyramids (Biomass, Number and Energy), Food chain and Food web, Ecological Energetics, Energy flow in ecosystem, Single channel energy model, Y shaped energy model, Ecosystem Productivity, Productivity of different ecosystems, Measurement of productivity in terrestrial and aquatic ecosystems. Factors affecting productivity.	25%
II	Population ecology: Population characteristics (Spacing, Size and Density, Dispersion, Growth forms, Age structure, Natalty, Mortality), concepts of growth rate, Survivorship curve, Biotic potential, Population dynamics, Theory of Population growth, population regulation, species survivability, 'r' and 'k' selected species.	25%
III	Community ecology: Definition, Characteristics, composition, structure, origin and development, Analytical characters (Quantitative and qualitative) and Synthetic characters, Methods of study of communities (Floristic methods, Physiognomic methods and Phytosociological methods), Ecological succession- causes, basic types, general process, Hydrosere, Lithosere.	25%
IV	Habitat Ecology : Fresh water Ecology, Marine Ecology, Estuarine Ecology, Terrestrial Ecology, Desert Ecology. Major ecosystems (with biotic and abiotic components) - Pond Ecosystem, Ocean Ecosystem, Forest Ecosystem, Desert Ecosystem, Cropland ecosystem, Aquatic ecosystem Ecosystem modeling	25%

Basic Text & Reference Books:

- Fundamentals of Ecology - E.P.Odum (1997) Natraj Publishers, Dehradun
- Fundamentals of Ecology - M.C.Dash (1993) Tata Mc. Graw Hill Pub.
- Ecology and Environment - P.D.Sharma
- The way the world works - Environmental sciences - Nebel & Wright (1996) Prentice Hall Publication.
- Plant Ecology - Weaner & Clements (1938) Mc Graw Hill.
- The nature of Life - Hopson (1995) Mc.Graw Hill.

