

SARDAR PATEL UNIVERSITY
B.Sc (Semester: I)
Syllabus with effect from: June-2011

Paper Code: US01EENV04	Total Credit: 2
Title of Paper: Environmental Science	

Unit	Description in Detail	Weightage (%)
I	Introduction to Environmental Studies Definition, Scope & Significance of Environmental Studies Multidisciplinary Nature Components of Environment, Atmosphere, Hydrosphere (Hydrological Cycle), Lithosphere (Structure of Earth), Biosphere. Green House Gases. Bio-Geochemical Cycles: Nitrogen & Carbon	25%
II	Ecosystem Concept of Ecosystem Structure of an Ecosystem: Abiotic Components & Biotic Components (Producers, Consumers & Decomposers) Function of An Ecosystem: Energy Flow in Ecosystem. Food Chain (Grazing & Detritus) & Food Web with Examples Ecological Pyramids: Pyramid of Number, Biomass & Energy Types of Ecosystems Forest, Pond & Desert Ecosystem.	25%
III	Natural Resources Classification: Renewable Sources & Types, Non Renewable Sources & Types. Conservation of Natural Resources Forest Resource: Forest Wealth of Gujarat (Forest Cover, Types, Species Composition) Causes of Deforestation, Conservation Strategies Significance) Water Resources: Use & Overexploitation & Surface & Ground Water. Conservation Methods, Dams-Benefits & Problems Case Studies. Land Resources Use, Overexploitation & Conservation of Soil.	25%
IV	Biotic Interactions: Positive Interactions (Symbiosis) with Suitable Examples Commensalisms Mutualism Negative Interactions with Suitable Examples Parasitism Predation Antibiosis	25%

Basic Text & Reference Books:

- Basic of Environmental Studies by N S Varandani
- Ecology & Environmental by P D Sharma
- Fundamentals of Ecology by M C Dash
- Environmental Science by Dr Y K Singh
- Environmental Science by S C Santra
- Environmental Studies by R Rajagopalan
- A Text Book of Environmental Studies by D K Asthana & M Asthana
- An Introduction to Environmental Engineering & Science by Gilbert N Master
- Sustainable Development & Ecology by P S Ramakrishna
- Environmental Conservation :Fundamental of Forestry Vol 5 by S S Negi, Bishen Singh Mahendra Pal Singh Dehradun
- Non Conventional Sources of Energy G D Rai....

