

SARDAR PATEL UNIVERSITY
Programme: B.Sc (Environmental Science)
Semester: V
Syllabus with effect from: June 2013

Paper Code: US05CENV06	Total Credits: 3
Title Of Paper: Population Dynamics & Biostatistics	

Unit	Description in detail	Weightage (%)
I	<p>Environmental Ethics and Population issues</p> <p>Environmental Ethics The need of Environmental Ethics, Guiding principal of Environmental Ethics, basic Directives of Environmental Ethics; Individual's obligations to community and the Society, The rights of Nature, Our obligations to future generation. Ethics and Environmental issues.</p> <p>Population issues Human population as a Global environmental problem, the three phases of population growth; a) The Lag phase, b) Rapid growth phase, c) Stabilization phase , Analyzing the Pattern of Population growth .</p>	25%
II	<p>Health and Environment Introduction, Health related issues, Entry of Environmental pollutants in human body, adverse effect of Stressful environment - Direct and Indirect Effects of Severe Environment on Human Health, Human diseases: Infectious Diseases, Chemicals, Diet, Water borne pathogens, Respiratory Hazards, Vector borne diseases, Climate change and human health, Health effects of air, water, noise, solid waste and radioactive pollution, Health Impact Assessment.</p>	25%
III	<p>Sustainable Development Concepts of sustainable development- temporal and spatial dimensions; currencies for evaluation of sustainable development- Bio physical measurement, Environmental degradations and conservation issues; Imperatives for sustainable Development – Slacking the pace of climate change, controlling acid rains, stratospheric ozone depletion and pollution of Environment.</p>	25%
IV	<p>Biostatistics Introduction, Sampling methods, Sampling Design, Selection of samples, Datapresentation, Measurement of Central tendency - Mean, Mode, Median, Standard Deviation, Variance, Standard Error, Probability - Probability distribution, Binomial distribution, Test of Significance - T-Test, Z-Test, Chi-square (χ^2) - Test, Co-relation - Types, degree, methods of determining Co relation</p>	25%

Basic Text & Reference Books:

- Biotechnology - Expanding Horizons - B.D.Singh
- Environmental Science - S.C.Santra (New Central book Agency, Kolkata)
- Water supply, Waste Disposal and Environmental engineering - A.K.Chatterjee (Khanna Pub.Delhi)
- Sustainable Development and Ecology : P.S.Ramkrishnan, National Book Trust
- Environmental Science - Y.K.Singh New Age International Pub. New delhi



- A Textbook of Environmental Studies - D.K.Asthana, Meera Asthana
- Methods in Biostatistics - B.K.Mahajan (Jaypee Brothers, New delhi)
- Fundamentals of Biostatistics – A.M.Goon,M.K.Gupta and B.Dasgupta (The world Press Pvt.Ltd, Kolkata)
- Cytogenetics, Evolution and Biostatistics – R.S.Shukla, P.S.Chandel

