

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: M.Sc (Nano Science & Nano Technology)**  
**Semester: III**  
**Syllabus with Effect from: June - 2013**

<b>Paper Code: PS03ENST01</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: Nanomaterials and Environment</b>	

Unit	Description in detail	Weightage (%)
I	Introduction to Environmental pollution, atmosphere pollution, source of air pollution, water pollution, pollution due to sewage and sludge, solid waste problem, metal pollutants, Environmental carcinogens, symbiotic relationship of Environment & Materials. Ending chemical pollution, cutting resource consumption, making it easier to be clean, cleaning of twentieth century mess, cleaning soil and water, cleansing the atmosphere, orbital wastes, nuclear waste, wealth of garbage.	25%
II	Packing, Insect proof packaging, Rodent proof packing, Air conditioning , constant damp heat and cyclic damp heat, humidity and cycles of humidity, Isolation from environmental radiation. Chemical corrosion, Electrochemical corrosion, concepts of reaction at an electrodes, Nernst equation, Tafel equation and polarisation, corrosion kinetic. Protection against corrosion.	25%
III	Green wealth, Environmental Restoration, Imported Ecosystem protectors, mending the land & current topics on Hazard of Nanomaterials, Home safety. Extra ordinary accident., Responsible action. Molecular.level Manufacturing techniques.	25%
IV	Ethics view, policies and prospects of nanotechnology	25%

**Basic Text & Reference Books:-**

- Handbook of Nanostructured Materials and Nanotechnology-H.S.Nalwa (Ed.)
- Encyclopedia of Nanoscience and nanotechnology – H.S. Nalwa
- The Nanoscope – P. Diwan and A. Bhardawaj

