



**Syllabus: Syllabus for Paper II**  
**PhD Entrance Examination**  
**TERI School of Advanced Studies**

**1. Biodiversity and Conservation:**

Fundamentals of Ecology. Concept of Ecosystems, functioning services and assessment techniques. Significance of Biodiversity Conservation and monitoring techniques. Concept of Biodiversity 'Hotspots', Ecoregions and 'Key Biodiversity Areas'. The IUCN Red listing process for conservation categorization. Protected Areas in India and its planning. National and Global Legislations for Biodiversity Conservation. Global Conventions: CBD, Ramsar, UNCCD, CITES and CMS. Land degradation and Forest landscape Restoration. Sustainable Forest management and Forest Certification.

**2. Geospatial science for environment:**

Basics of remote sensing, electromagnetic radiation, radiation laws, platforms and sensors, resolutions, multispectral scanning principle, spectral signature, visual interpretation, digital image processing, vegetation indices, basics of GIS, data models, projection, datum, spatial reference system, spatial queries, geoprocessing, spatial analysis, remote sensing and GIS integration, basics of statistics, measure of center, measure of variation, transportation and disposal; Recycling and Reuse of solid waste