

**Syllabus for Entrance Examination**  
**M. Sc. Environmental**

**UNIT 1**

**Environment and Ecosystem:** Biotic and abiotic factor; Plants, animals and microorganisms; Ecological factors, Ecology and ecosystem, Biodiversity and conservation with special reference to Jharkhand

**UNIT 2**

**Environmental Pollution:** Concept of pollution, Air pollution; composition of air, chemical reactions occurring in different layers of atmosphere, effect of air pollutants, water pollution; types of water pollution, sources of water pollution, eutrophication, biological magnification, prevention and control of water pollution, soil pollution; sources and effect of soil pollution, noise pollution; noise pollution its health effects and control, electronic waste; sources, types and constituents of e-wastes, environmental consequences of e-wastes

**UNIT 3**

**Contemporary Issues:** Sustainable development, contemporary environmental issues, climate change, global warming, acid rain, environmental protection act, air and water (prevention and control of Pollution) Act.

**Agriculture and Meteorology:** Atmospheric and astronomical factors affecting depiction of solar radiation; ozone layer and ozone hole; Meteorological factors associated with incidence and development of crop, solar radiation and photosynthesis, soil temperature and plant growth, and evapotranspiration.

**UNIT 4**

**Environmental Policy**

Fundamental principles of environmental protection; Constitutional and Legislative Provisions; National Environmental Policy; State Environmental issues and policy framework. Constitutional Provisions (Article 48A, 51A); Functions of Central and State Pollution Control Boards

**Basic Statistics:** Measures of central tendency (mean, median and mode), Means (Arithmetic, geometric and harmonic), Percentiles and quartiles; Standard Error and Standard Deviation

**UNIT 5**

**Soil Fertility:** Nutrient cycling, soil organic matter, biofertilizer, major, minor and trace elements, and plant nutrient uptake

**Environmental Chemistry:** Stoichiometry, Gibbs Energy, Chemical Potential, Chemical Equilibrium, Acid Base Reactions, Solubility Product, Solubility of gases in water, unsaturated and saturated hydrocarbon, radionuclide.