

**M. Sc. Biotechnology**  
**Semester – III**  
**Paper – I: Environmental Biotechnology**

**Unit – I**

Environmental biotechnology: Scope and application, Concept of Cleaner Technology.

**Unit – II**

Solid wastes: Sources and management (Composting and methane production) general hazardous wastes, radioactive and other hazardous wastes and their management. Sources and safety.

**Unit – III**

Application of microbes as biofertilizers and bioinsecticides for productivity improvement and crop protection. Principles of biomonitoring and applications of biosensors for detection of environmental pollutants.

**Unit – IV**

Bio mining: Use of microbes in biohydrometallurgy and biomineralization.  
Bioremediation: Degradation of pesticides, oil spills and other xenobiotics.

**Unit – V**

Phytoremediation of disturbed ecosystems. Microbes and their genetic engineering for degradation of environmental pollutants.

