

## MIPE3007 ENVIRONMENTAL MANAGEMENT IN MINING (3-0-0)

### **Module - I: (09 Hours)**

Introduction: Sustainable development, environmental carrying capacity - concepts & principles; Environmental impacts of mining and associated activities. Ecology: Introduction to ecology, ecosystem structures and functions.

### **Module - II: (09 Hours)**

Air pollution: Atmospheric composition and meteorology; Sources of air pollution – point and non-point; Emission factors; Control measures – extraction, suppression, and consolidation of dust.

### **Module - III: (11 Hours)**

Noise and vibration: Basic concepts, sources, monitoring, and control measures. Water pollution: Global hydrological cycle; Self-purification mechanism, sources of water pollution, important parameters–pH, turbidity, oil & grease, nitrates, DO, BOD, COD; Eutrophication, deoxygenation, acid mine drainage and heavy metal pollution– preventive and control measures.

### **Module - IV: (07 Hours)**

Land environment: Land degradation due to mining; Physical and biological reclamation. Environmental administration: Laws related to mining environment; EIA of mining projects.

### **Module -V: (09 Hours)**

Land Acquisition & Revenue: Concepts: Related laws and regulations. Corporate Social Responsibility: Concepts and principles. Mine closure: Concepts and principles.

### **Books:**

1. Environmental Engineering, G. Kiely, Irwin/ McGraw Hill International Edition, 1997
2. Environmental Engineering, Arcadio P. Sincero & Gergoria A. Sincero, PHI Publication
3. Mining Environment Management Manual, N. C Saxena, Scientific Publishers (India),2004