Ph.D. Programme

(Environmental Science)

Programme Structure
&
Curriculum & Scheme of Examination
2021-22

AMITY UNIVERSITY MADHYA PRADESH
GWALIOR

Amity University Madhya Pradesh, Gwalior

Amity University Madhya Pradesh, Gwalior
COURSE II – Environmental Safety & Disaster Management
Paper Code: EVS-107

MM 100 **Sessional: 30**
Time: 3 Hrs. **ESE:70**
Pass Marks: 40% **Credits – 04**

Unit -I

Key elements of a safety and Health Management System. Planning, Implementation and Operation. Training, Awareness and competence. Risk assessment and control. Hazard and hazard control. Risk assessment records and control. A simple Risk estimation example – Hazards, remedial measures, Motivation of employees, Insurance coverage of Industrial plant & personnel.

Unit II

Stages in plant life and unsafe condition in factories, maintenance & safety, basics safety programming, safety department, Rules and regulation of safety department, Responsibility of management for safety in plant, safe guarding the public, Responsibility of government, social organization and public authorities. Safety activities of the ILO (International Labour Organization). Economic and social security. Legal aspects of environment protection, NGO initialization, National Committee on environmental Planning (NCP), Environmental Appraisal Committee (EAC), central and state boards for prevention and control of pollution, goals of environment impact policy.

Unit – III

Responsibility of employees and employers regarding health and safety - Fire hazards, prevention and precautions - Industrial hazards prevention and protection - Protection from air and noise pollution. General causes and classification of fire, Detection of fire, extinguishing methods, firefighting installations with and without water. First aid techniques. Industrial ecology, Green chemistry, new technologies – TQM, LCA, PEM, Regulation on occupational safety and health (OSH). Energy utilizations – Heat engines, combined cycle power plants, Heat pumps, geothermal heat pumps, Cogeneration, entropy & chemical energy, fuel cells, Proton exchange membrane (PEM) fuel cell, electricity storage, hydrogen economy, dematerialization.

Unit - IV

Meaning, nature, characteristics and types of Disasters, Causes and effects. Global View, Disaster Profile of India. Disaster Management cycle. Natural and Man-made disasters. Disaster Mitigation: meaning and concept, Disaster Mitigation Strategies, Emerging Trends in Disaster Mitigation, Mitigation management. Role of IT in Disaster Management.

Unit- V

Introduction to disaster Preparedness & Management. International Agencies and their role for Disaster Management. National Agencies and their Role for Disaster Management. Response Essential Components. Human Behaviour and Response Management. Relief Measures.

Examination Scheme

Component	CT	Attendance	Assignment/Project/Seminar/Quiz	EE
Weightage (%)	15	5	10	70

Reference:

1. Industrial Safety & Health management; C. Ray Asfal, David W. Rieske; Prentice Hall Publication
2. Carter, W. Nick, 1991: Disaster Management, Asian Development Bank, Manila.
3. Hand Book of Fire Technology; By: R.S. Gupta; Publishers: Orient Longman Publishers Edition: Edn-II, 2005
4. 6. Sahni, Pardeep et.al. (eds.) 2002, Disaster Mitigation Experiences and Reflections, Prentice Hall of India, New Delhi.