





# Swami Vivekanand University, Sagar



Faculty :Management

Department :Disaster Management

Course Name: Certificate in Disaster Management

Course Code- CDM

Mode: Yearly

Course Code	Title of the Paper	Distribution Of Marks				Total
		External		Internal		
		Max	Min	Max	Min	
CDM-101	Introduction To Disaster Management	70	25	30	11	100
CDM -102	Risk Assessment And Vulnerability Analysis	70	25	30	11	100
CDM -103	Disaster Preparedness And Response	70	25	30	11	100
CDM -104	Recovery, Rehabilitation And Reconstruction	70	25	30	11	100
CDM-105	Search & Rescue Techniques And Paramedics	70	25	30	11	100
CDM-106	Project/Dissertation	-	-	100	36	100
<b>Grand Total</b>		<b>350</b>		<b>250</b>		<b>600</b>



## INTRODUCTION TO DISASTER MANAGEMENT

**Subject Code: CDM-101**

**Max. Marks: 70**

**Min. Pass Marks: 25**

### **UNIT- I**

**Marks-14**

#### **Introduction**

Definitions:- Hazard, Risk, Vulnerability, Disaster-Meaning, Nature Importance, Dimensions and scope of Disaster Management; Disaster Management Cycle, The Disaster Management Act 2005

### **UNIT- II**

**Marks-14**

#### **Natural Disasters**

Natural Disasters- Meaning and nature of natural disasters, their type and effects; Hydrological Disasters- Flood, flash flood, Drought, cloud burst; Geological Disasters- Earthquake, Tsunamis, Landslides, Avalanches, Volcanic eruption and mudflow

### **UNIT- III**

**Marks-14**

#### **Types of Natural Disasters**

Wind Related-Cyclone, Storm, Storm surge, Tidal waves, Heat and cold waves, Cold waves, Climatic change, Global change, Sea level rise, Ozone Depletion.

### **UNIT- IV**

**Marks-14**

#### **Man Made Disasters**

CBRN- Chemical disasters, biological disasters, radiological disasters, nuclear disasters; Fire- building fire, coal fire, forest fire, oil fire

### **UNIT- V**

**Marks-14**

#### **Types of Man Made Disasters**

Accidents-Road accidents, Rail accidents, air accidents, sea accidents; Pollution- air pollution, water pollution  
Deforestation, Industrial waste

### **Suggested Readings:**

1. Carter, W. Nick, 1991. Disaster Management: A Disaster Manager's Handbook, Asian Development Bank, Manila
2. Green Stephen. 1980. International Disaster Relief: Towards A Responsive systems, Mc Graw Hill Book Company, New York.
3. Prakash, Indu , 1995, Disaster Management, Rashtra Prahari Prakashan, Gaziabad.



**Subject Code: CDM-102**

**Max. Marks: 70**

**Min. Pass Marks: 25**

## **UNIT- I**

**Marks-14**

### **Introduction**

Risk Concepts, Elements of Risk, Perception of Risk, Acceptable risk, Requirements in Risk assessment; Risk Reduction-Mainstreaming "Risk"; Role of science and technology in Disaster Risk Reduction; Strategies of Risk reduction, International Mobilization of Risk reduction.

## **UNIT- II**

**Marks-14**

### **Risk Assessment & Reduction**

Risk analysis techniques; Process of Risk assessment, Analytical systems for risk assessment, Natural hazard/risk assessment, Understanding climate risk, Mapping of risk assessment, Decision making for risk reduction, Problems in risk assessment

Participatory risk assessment - Rationale for people's participation, Role of civil society organizations, Impact of Globalization, Activities and roles for the community action Risk reduction, Participatory risk assessment methods

## **UNIT- III**

**Marks-14**

### **Vulnerability**

Observation and perception of vulnerability- Vulnerability Identification, Vulnerability types and dimensions, Vulnerability- Social factors and economic factors, Vulnerability to shanty settlements; Vulnerability in the city, Risk in Urban areas, Issues in urban planning, Initiatives for risk reduction in India

## **UNIT- IV**

**Marks-14**

### **Strategic development for Vulnerability reduction**

Physical & Social infrastructure for Vulnerability reduction; Interactive areas for Vulnerability reduction & Policy making; Hazard resistant designs and construction; Systematic management and Strategic planning for vulnerability reduction

## **UNIT- V**

**Marks-14**

### **Damage Assessment, Role of different Organizations:**

Damage assessment, parameters of vulnerability, natural damage to houses and infrastructure due to disasters. General introduction of Yokohoma Strategy for a safer world. Development of physical and economic infrastructure, creation of long term job opportunities and livelihood options.; Role of various agencies in Disaster Management and development FEMA, ISDR, CRED, WORLD BANK, USAID, UNEP

### **Suggested Readings:**

1. Coburn, A.W, R.J.S. Spence and A. Pomonis, 1994, "Vulnerability and Risk Assessment," Disaster Management Training Programme, United Nations.
2. Fournier d'Albe, E. M, 1979, "Objectives of Volcanic Monitoring and Prediction", *Journal of the Geological Society*.
3. Hamilton, J.I. and W.Kip Viscusi, 1999, *Calculating Risks: The Spatial and Political Dimensions of Hazardous Waste Policy*, The MIT Press, Massachusetts.



**Subject Code: CDM-103**

**Max. Marks: 70**

**Min. Pass Marks: 25**

## **UNIT- I**

**Marks-14**

### **Disaster Preparedness**

Disaster Preparedness: concept and significance Measures, Institutional Mechanism, Disaster preparedness with special needs/ vulnerable groups, Policy and Programmes

## **UNIT- II**

**Marks-14**

### **Disaster Preparedness Plan**

Concept and Significance of Disaster Preparedness Plan, Disaster Preparedness Plan essentials, Community Based Disaster Preparedness plan ,Prediction, Early Warnings and Safety Measures of Disaster

## **UNIT- III**

**Marks-14**

### **Role of Different Organizations / Institutions**

Role of Information, Education, Communication, and Training; Role of Government, International and NGO Bodies, Information Technology (IT) in Disaster Preparedness, Geographers on Disaster Management

## **UNIT- IV**

**Marks-14**

### **Disaster Response**

Essential Components of Disaster Response, Disaster Response Plan, Resource Management- Financial, Medical, equipment, communication, Human, transportation, Food and essential commodity (Identification, Procuring, Propositioning and deployment), Directing and controlling functions ,Communication, Participation & activation of Emergency Preparedness Plan, Logistics Management, Emergency support functions, Need and damage assessment

## **UNIT- V**

**Marks-14**

### **Coordination in Disaster Response**

Disaster Response Plan - Communication, Participation, and Activation of Emergency Preparedness Plan Search, Rescue, Evacuation and Logistic Management

### **Psychological Response and Management**

Psychological Response and Management (Trauma, Stress, Rumor and Panic); Relief and Recovery Medical Health Response to Different Disasters

## **Suggested Readings:**

1. Sharma, V.K. (ed.): Disaster Management, Indian Institute of Public Administration, New Delhi.
2. Mishra, G.K. and Mathur G.C.(1993) Natural Disaster Reduction, Reliance Public House, New Delhi.
3. Thomas, Babu,1993, Disaster Response: A Handbook for Emergencies,



## RECOVERY, REHABILITATION AND RECONSTRUCTION

Subject Code: CDM-104

Max. Marks: 70

Min. Pass Marks: 25

### UNIT- I

Marks-14

#### Rehabilitation, Reconstruction and Development

Rehabilitation, Reconstruction and Development-Concept, Meaning, Types of Rehabilitation and Reconstruction ; Importance of Disaster Mitigation, Cost – benefit analysis, relationship between vulnerability and development Damage Assessment- Post Disaster Damage assessment, estimated damage assessment due to probable disasters, Sample Surveys, Epidemiological Surveillance, Nutrition Centered Health Assessment, Remote sensing and Aerial photography, nature and damage to houses and infrastructure due to different disasters

### UNIT- II

Marks-14

#### Role of Different Organizations in Rehabilitation

The Government and Disaster Recovery and rehabilitation, Disaster and Non Governmental efforts, Role of Local Institutions; Insurance, Police, Media

### UNIT- III

Marks-14

#### Reconstruction

Speedy Reconstructions- Essential services, Social infrastructures, immediate shelters/camps, Contingency plans for reconstructions, Development of Physical and Economic Infrastructure- Developing Physical and Economic Infrastructure, Environmental Infrastructure development

### UNIT- IV

Marks-14

#### Disaster Resistant House Construction

Guidelines for Disaster resistant construction, traditional techniques, Seismic strengthening of houses in low rain/High rainfall area, earthquake resistant construction technique ; Funding arrangements- Funding arrangements at state level and central level, Fiscal discipline, role of International agencies, mobilization of community for resource generation

### UNIT- V

Marks-14

#### Rehabilitation

Rehabilitation - Socio- economic Rehabilitation- Temporary Livelihood Options and Socio-Economic Rehabilitation Education and awareness and role of Information Dissemination, Participative Rehabilitation; Role of various agencies in Recovery Work- Monitoring and Evaluation of rehabilitation work, Rehabilitation process

#### Recovery

Concept of recovery, livelihood and approach to reconstruction, Livelihood restoration, Speedy recovery, Linking Recovery with safe development, Creation of Long-term job opportunities

#### Suggested Readings:

1. Maharashtra Emergency Earthquake Rehabilitation Programme, Programme Management Unit, Earthquake Relief and Rehabilitation Cell, Government of Maharashtra, Mumbai.
2. G.C. Mathur, Housing in Disaster Prone Areas, National Buildings Organisation and UN Regional Housing Centre, ESCAP, New Delhi, 1986.



## SEARCH & RESCUE TECHNIQUES AND PARAMEDICS

**Subject Code: CDM-105**

**Max. Marks: 70**

**Min. Pass Marks: 25**

### **UNIT- I**

**Marks-14**

**Introduction**-Introduction To Search Technique, Correct Method Of Searching A Room, Factors Influencing Search & Rescue, Types Of Searches, Factors While Searching, Rescue Technique, Shelter In Place, Exit Assist, Rescue By Fireman, Fireman's Lift, Rescue Using Fire Services Equipments, Ladders And Hydraulic Platforms, Requisite Qualities Of Rescuer, Different Rescue Scenarios.

### **UNIT- II**

**Marks-14**

#### **On site Emergency Planning**

On-site Emergency Plan, Emergency Alarm System, Emergency Control Room, Key personnel, Emergency Control Program, Off-site Emergency Plan, Mutual Aid Scheme, Emergency Evacuation, Security and Media management

### **UNIT- III**

**Marks-14**

**Various Rescues Scenarios**- Rescue In Mines And Shafts, Road Accident (Highway) Rescue, Entry Into Vehicle, The Type Of Injury Depends, Rescue From High Rise Buildings, Rescue Using Chair Knot, Collapse Of Building/ Judgment Of Collapse, Precautions While Rescue, Rescue Problems In Case Of High Rise Building, Rescue In Case Of Poisonous Gas Leak, Rescue In Sewer Line, Rescue In Case Of Electrical Appliances.

### **UNIT- IV**

**Marks-14**

**Paramedics**- Human Anatomy, Vital Organs, First Aid, Aims, Responsibility Of First Aider, Principles Of First Aid, Main Three Emergencies, Wounds, Bleeding, Dressings & Bandages, Types Of Bandages, Types Of Injuries, Electric Shock, Electric Burn, Effect On Heart, Toxic Gases, Cardiac Massage, Burns, Helping A Person Whose Clothes Have Caught Fire, Management Of Burns.

### **UNIT- V**

**Marks-14**

#### **Respiratory System**

Respiratory system and artificial respiration, Stretcher and casualty handling, Triangular Bandages and their uses, roller bandage, and its use, Rescue drill: Picking up, lowering and carrying insensible persons, Lines rescue, Resuscitation, Vital function – Different methods of manual resuscitation, their advantages and disadvantages

#### **Suggested Readings:**

1. Elementary principles of rescue by Got. Of India, ministry of Home Affairs
2. Rescue Service Manual by HMSO
3. Rescue –Civil defense handbook by HMSO
4. Penn Well, "Technical rescue operation", volume- II; Larry Collins



**Subject Code: CDM-106**

**Max. Marks (Ext. Exam): 100**

**Min. Pass Marks: 36**

**TOPIC: CASE STUDY WITH SURVEY:**

Disaster affected Area: Cyclone – Orissa 1999 Super Cyclone, Flood – Bihar floods, Tsunami – Tsunami of South India, Heat waves – Heat waves of Andhra Pradesh and Odisha and Cold waves – Cold waves of U.P., Earthquakes – Bhuj Earthquakes, Landslides – landslides in North East, Drought, Storm, Global warming; Air Pollution – Bhopal Gas Tragedy, Forest fire, Industrial waste, Shelter Home: Cyclone

Any topic relevant to either Natural Disaster or Man-Made Disaster. Students have to do a survey and submit a report relevant to Disaster Management in a particular region.