

# Vidyasagar University

## Curriculum for B. Sc (General) in Disaster Management

[Choice Based Credit System]

### Semester-IV

Course	Course Code	Name of the Subjects	Course Type/ Nature	Teaching Scheme in hour per week			Credit	Marks
				L	T	P		
<b>DSC-1D</b>		<b>DSC1DT:</b> Science & Technology for Disaster management, Disaster Medicine & Epidemiology, Environment and Disaster	Core Course	4	0	0	6	75
		<b>Practical</b>		0	0	4		
<b>DSC-2D</b>	<b>TBD</b>	<b>DSC-2D (other Discipline)</b>	Core Course				6	75
<b>DSC-3D</b>	<b>TBD</b>	<b>DSC-3D (other Discipline)</b>	Core Course				6	75
<b>SEC-2</b>		<b>TBD</b>	Skill Enhancement Course-2	1	1	0	6	50
<b>Semester Total</b>							<b>20</b>	<b>275</b>

**L** = Lecture, **T** = Tutorial, **P** = Practical, **CC** = Core Course, **TBD** = To be decided, **SEC** = Skill Enhancement Course.

**DSC-1** = Discipline Specific Core of Subject-1, **DSC-2** = Discipline Specific Core of Subject-2,

**DSC-3** = Discipline Specific Core of Subject-3.

**List of the Core Course (CC) and Electives**

**Core Course (CC)**

**DSC-1D: Science & Technology for Disaster management, Disaster Medicine & Epidemiology, Environment and Disaster**

**Skill Enhancement Course (SEC)**

**SEC-2: Finance and Insurance in Disaster Management**

**Or**

**SEC-2: Disaster, Human Society, Population and Environmental Conservation**

**Or**

**SEC-2: Agencies in Disaster Management**

## Semester-IV

### Core Course (CC)

**DSC-1D (CC-4): Science & Technology for Disaster management, Disaster Medicine & Epidemiology, Environment and Disaster** Credits 06

**DSC1DT: Science & Technology for Disaster management, Disaster Medicine & Epidemiology, Environment and Disaster**  
Credits 04

#### Course Contents:

**1. Science and Technology for Disaster management:** Geo-informatics in Disaster Management (RS, GIS, GPS and RS). GIS in Disaster management – a. Basics of GIS: i. Introduction, Definition, Nature, Development. ii. Components of GIS iii. Application of GIS in Disaster Management. b. Geo-informatics Perspectives in Disaster Management: i. Structure for Storing Disaster Data. ii. Spatial Analysis of Disaster. Disaster Communication system (Early warning and its dissemination). Land use planning and development regulations. Disaster safe design and construction. Science and Technology Institution for Disaster management in India.

#### **2. Disaster Medicine and Disaster Epidemiology**

**a. Disaster Medicine:** Introduction to disaster medicine, concept and understanding disaster medicine. Various definition in disaster medicine. Disaster life cycle. Disaster planning, Disaster Preparation, Medical Preparedness Plan. Logistics Management, Remote Area Planning. Medical and Health response to different Disasters. Disaster Site Management. Clinical Casualty Management. Disaster Recovery in relation to disaster medical management, Education and Training in Health Management of Disasters. Medical Surge. Emergency medical Triage. National assessing the nature of hazardous materials. Self protection in contaminated and decontaminated areas. Pre hospital medical management of victims. Safe patient transportation – identification of valuable groups ( Pregnancy, pediatric and geriatric other people with associated medical co morbidities). Knowledge about antidote and body decontamination procedure. Safe use of equipments. Role of Information and Communication Technology in Health Response. Psychological rehabilitation.

**b. Disaster Epidemiology-** Principals of disaster Epidemiology Epidemiological Study of Disasters,. **Public Health response and International co-operation:** Rapid health assessment. Rapid health need assessment. Out- breaks investigation Environment Health Hygiene and sanitation issues during disasters. Prevention of risks. Preventive and prophylactic measures including Measles immunization, ORS, water, supply, chemoprophylaxis, food fortification, food

supplements, MISP-Reproductive Health Care, International cooperation in funding on public health during disaster, To identify existing and potential public health problems before, during and after disasters Education and Training in Health Management of Disasters. Clinical causality Management. Community health management. International cooperation in funding on public health during disasters. International Health Regulation, United Nation International Strategy for Disaster Risk Reduction. International Health Regulation, United Nation International Strategy for Disaster Risk Reduction (UNISDR), United Nation Disaster Management Team, International Search and Rescue Advisory Group, (INSARAG), Global Facility for Disaster Risk Reduction (GFDRR), ASEAN Region Forum (ARF), Asian Disaster Reduction Centre (ADRC), SAARC Disasters Management Centre (SDMC), USAID.

**3. Environment and Disaster:** Environment, Ecosystem and Disasters. Climate changes – issues and concerns. Industrial hazards and safety measures. Post disaster impact on environment. Impact of development projects on disaster risks. Aspects of environment projects on disaster risk reduction. Environmental Impact Assessment (EIA).

**4. Participatory management:** Genesis and concept of Participatory management. Women and Youth in participatory management. Participatory management of natural resources – forest resource management, coastal management, mountain ecosystem, management of solid waste.

## **DSC1DP: Practical**

**Credits 02**

### **1. GIS application**

GIS database design. Spatial interpretation of GIS. GIS application in land slide inventory studies. GIS applications earthquake studies. GIS applications in flood hazard. GIS applications in forest fire. GIS applications in cyclone hazard. GIS application for meteorological studies. GIS application for Risk assessment and Vulnerable analysis, GIS application for health management. GIS application for Urban planning. Any other application related to disaster management.

**2. Epidemiological Survey:** A survey reports will be prepared after surveying in any area selected by the institution by using different techniques, statistics etc. for epidemiological survey. Case studies may be used.

**3. Project:** Project report will be submitted based on training in other institutes or industries or NGO's to be carried over by the students on their interested subjects on disaster management.

**4. Mock Drill:** Flood, Tsunami, Earth Quake, Fire, Gas leakage.

**5. Laboratory Note Book and Viva-Voce:** Students will be required to maintain records of all works done in connection with the topics taught in this paper.

*Skill Enhancement Course (SEC)*

**SEC-2: Finance and Insurance in Disaster Management**

**Credits 02**

**SEC2T: Finance and Insurance in Disaster Management**

**Course Contents:**

**Unit-I: Introduction to Banking & Finance:** Concept of Banking, Types of banks, Functions of banks; Tax administration; Public budgeting and finance systems; State and local finances.

**Unit-II: Central Bank / Reserve Bank:** Role and function of central bank, RBI and Monetary Policy

**Unit-III: Introduction to Insurance:** Evolution and Features of Insurance, Classification of Insurance, Conditions relating to risk, selection or Risk

**Unit-IV: Life Insurance & General Insurance:** Principles of LIC, Privatization of Life Insurance Business, Role and performance of LIC, Nonlife insurance – Fire, Automobile, Marine, Health, Rural, Social and miscellaneous insurances.

**Unit-V: Insurance Policies for Disaster Management:** Evaluation of risk funding and risk transfer policies; Catastrophe insurance pool; Reserve funds and contingent credit policies; Role of Government and market participants; Insurance policy design; Fiscal cost of relief and reconstruction; Grants and low interest loan for reconstruction.

**Or**

**SEC-2: Disaster, Human Society, Population and Environmental Conservation**

**Credits 02**

**SEC2T: Disaster, Human Society, Population and Environmental Conservation**

**Course Contents:**

**Unit –I:** Disaster Perception, Disaster Management & Mitigation. Human Society: Meaning, Definition, Structure, Groups, Community, Caste, Class, Family, Rural Society & Urban Society.

**Unit – II:** Population: Meaning, Historical Background, Composition, Literacy; Status and Impact. Migration and Urbanization: Meaning, Causes and Consequences. Population as a Problem: Population Growth, Causes of Rapid Growth in India.

**Unit –III:** Environment and Resource: Meaning, Definition, Natural Resources, Human Resource, Financial Resource, Impact of Population Growth on Natural Resources. Sustainable Development: Concept, Meaning, Definitions, Needs, Areas and Strategies. Development and Disaster: Disaster Centric Development.

**Unit – IV:** Legislative Provision for Environmental Conservation- Environment (Protection) Act, Air Prevention and Control of Pollution Act, Water (Prevention and Control) Act, Wild Protection Act, Forest Conservation Act, Environment Impact Assessment (EIA), Disaster Management Act, 2005.

**Or**

## **SEC-2: Agencies in Disaster Management**

**Credits 02**

### **SEC2T: Agencies in Disaster Management**

#### **Course Contents:**

**Unit-I:** International Agencies: United Nations and its Specialized Agencies Like UNDP, FAO, WHO, AEC (Atomic Energy Commission), United Nations Disaster Management Cell, New Delhi, International Federation of Red Cross and Red Crescent Societies (IFRC) and National Red Cross / Red Crescent Societies.

**Unit-II:** National Agencies : Disaster Management Cell (Ministry of Home Affairs, Govt. of India) , National Institute of Disaster Management, Indian Red Cross Society, Planning Commission , National Civil Defence Organization, Bharat Scouts and Guides Military and Para-Military Forces, Corporate Bodies etc.

**Unit-III:** State and District level agencies: Disaster management cells at State level and District level , District Magistrate office, Role and responsibilities of DM in prevention, preparedness, mitigation, Relief and Rehabilitation, Local bodies and Role of different functionaries.

**Unit-IV:** Civil society agencies: NGO's religious and cultural organizations, Community based organizations, Political parties and their affiliates, Philanthropic Organizations, Recent case studies on the role played by various civil society organizations during disasters.

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