

UNIVERSITY OF JAMMU

(NAAC ACCREDITED 'A' GRADE' UNIVERSITY)
(Baba Sahib Ambedkar Road, Jammu-180006 (J&K))

Academic Section

Email: academicsectionju14@gmail.com

NOTIFICATION (24/Sept. /Adp/ 73)

It is hereby notified for the information of all concerned that the Vice-Chancellor, in anticipation of the approval of the Competent Bodies, is pleased to authorize the following:-

- I. Introduction of Master Degree Programme in Disaster Management under Non Choice Based Credit System and Bachelor of Arts in Disaster Management under Non Choice Based Credit System for Army Personnel at High Altitude Warfare School (HAWS), Gulmarg from the session 2024-2025 onwards;
- II. Adoption of Statutes and Scheme for Master Degree Programme in Disaster Management under Non Choice Based Credit System (**Annexure-I**) and Bachelor of Arts in Disaster Management under Non Choice Based Credit System (**Annexure-II**) for Army Personnel at High Altitude Warfare School (HAWS), Gulmarg; and
- III. Adoption of Syllabi and Courses of Studies of Bachelor of Arts in Disaster Management of Semester I, II, III, IV, V and VI under Non Choice Based Credit System (**as given in the Annexure-III**) and Master Degree Programme for semesters I, II, III and IV under Non Choice Based Credit System (**as given in the Annexure-IV**) for the examinations to be held in the years indicated against each semester as under:-

Subject	Semester	For the examinations to be held in the year
Disaster Management (Bachelor of Arts)	Semester-I	December 2024, 2025 and 2026
	Semester-II	May 2025, 2026 and 2027
	Semester-III	December 2025, 2026 and 2027
	Semester-IV	May 2026, 2027 and 2028
	Semester-V	December 2026, 2027 and 2028
	Semester-VI	May 2027, 2028 and 2029
Disaster Management (Master Degree Programme)	Semester-I	December 2024, 2025 and 2026
	Semester-II	May 2025, 2026 and 2027
	Semester-III	December 2025, 2026 and 2027
	Semester-IV	May 2026, 2027 and 2028

The Syllabi of the courses are available on the University website:
www.jammuuniversity.ac.in.

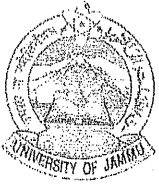
Sd/-
DEAN ACADEMIC AFFAIRS

No. F. Acd/II/24/9843-67

Dated: 9/9/2024

Copy for information and necessary action to:

1. Dean, Faculty of Science
2. Convener, Board of Studies in Geology



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3. Sr. P.A. to the Controller of Examinations
4. All members of the Board of Studies
5. Confidential Assistant to the Controller of Examinations
6. I/C Director, Computer Centre, University of Jammu
7. Programmer, Computer Section, Examination Wing
8. Deputy Registrar/Asst. Registrar (Conf. /Exam. UG/Exam. PG/Exam. Non.Prof)
9. Incharge, University Website for Uploading of the notification

Sumitasharma
6/9/2024
Deputy Registrar (Academic)

SS
4/9/24

JS
4/9/24

**DISASTER MANAGEMENT CENTRE
DEPARTMENT OF GEOLOGY
UNIVERSITY OF JAMMU, JAMMU**

**SCHEME FOR POSTGRADUATION COURSE IN DISASTER
MANAGEMENT UNDER NON CHOICE BASED REDIT SYSTEM FOR
ARMY PERSONNEL AT HIGH ALTITUDE WARFARE SCHOOL (HAWs),
GULMARG**

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**DISASTER MANAGEMENT CENTRE
DEPARTMENT OF GEOLOGY
UNIVERSITY OF JAMMU, JAMMU**

Scheme for Post-Graduation (M.A. / M. Sc.) in Disaster Management under Non Choice Based Credit System for Army Personnel at High Altitude Warfare School (HAWS)

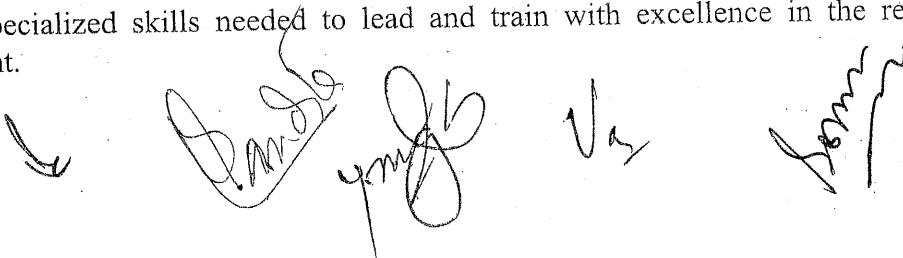
1. Introduction

The University of Jammu and High Altitude Warfare School of Army at Gulmarg have entered into MoU for technical advancement and progression of Army personnel and university students and faculty members specifically in the discipline of high altitude studies and disaster management in mountainous regions. The MOU envisioned that University of Jammu shall offer certificate, diploma, undergraduate and postgraduate degree courses to the trainees and officers (instructors) of HAWS giving due weightage to their experiential learning. The Certificate and Diploma courses for the HAWS trainees have been approved and six courses have been completed till date. The Disaster Management Centre of Geology Department has formulated three skill based certificate courses in Disaster Management on rock craft and mountain rescue; Search, rescue and survival and Snow craft and avalanche rescue for the students of Jammu University. The training of local youth and volunteer students by the instructors of HAWS in their training centres in Kashmir shall help in imparting special skills to the students and developing trained manpower for rescue work during an eventuality. These courses will aid in developing the skills of learners to get self-employment by planning different adventure sports and camps and also help to enhance the unexplored adventure sports of the Jammu region.

The Post-Graduation (M. A. / M. Sc.) Course in Disaster Management under Non CBCS at the High Altitude Warfare School (HAWS) is designed for serving army personnel with specialized skills and well-prepared individuals capable of leading and coordinating effective disaster response efforts in challenging environments. Recognizing the unique requirements of military operations in such terrains, this program combines disaster management principles with military expertise to enhance the capabilities of army personnel in handling emergencies. The course shall be run by the Disaster Management Centre, Department of Geology, University of Jammu in hybrid mode.

2. Objective

The primary objective of the Post-Graduation Course in Disaster Management under Non CBCS at HAWS is crafted with the primary objective of acknowledging and enhancing the commendable efforts of army personnel/ instructors with advanced skills in disaster response, recovery, and management specific to high-altitude and complex terrains. The program aims to recognize and further elevate the critical role played by army instructors in preparing military personnel for effective disaster response in demanding environments. Through this course, we seek to underscore the dedication and hard work of these instructors, ensuring they are equipped with the specialized skills needed to lead and train with excellence in the realm of disaster management.

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Master Degree Programme in Disaster Management

3. **Methodology:** The Post-Graduation course employ a combination of theoretical lectures, practical exercises, case studies, simulations and teaching experience gained by army personnel during their tenure as instructors at HAWS. Military training methodologies are integrated to ensure realistic and effective disaster response training. Participants engage in hands-on exercises, field visits, to reinforce learning by teaching.
4. **Eligibility Criteria:** Candidate must have passed the B.A./ B.Sc./ B. Com examination of any recognized University or its equivalent to be eligible for admission in first semester of Master's Degree programme in Disaster Management.
5. **Duration of the Programme:** Two Years
6. **Intake Capacity:** All service personnel/ instructors who are posted or served at HAWS shall be eligible to apply for the admission in the Post-Graduation course.
7. **Medium of Instruction:** English
8. **Fee Structure*:**

SNo	Fee Type	Amount
1	Enrolment Fee (To be retained by the Dept.)	Rs. 500
2	Admission Fee (To be deposited in Univ. Chest)	Rs. 530
2	Registration Fee (To be remitted to the Examination Wing)	Rs. 440
3	Inter-University Migration Fee (To be remitted to the Examination Wing)	Rs. 980
4	Examination Fee (At the start of every semester), (To be remitted to the Examination Wing)	Rs. 960
5	Degree Fee (To be remitted to the Examination Wing)	Rs. 900

* The amount of the Fee shall be as per the University notifications issued from time to time.

9. **Teaching:** The teaching in the PG courses shall be conducted in hybrid mode. The theory classes shall be engaged by the faculty members of the University of Jammu and the Officers (former and currently posted) of HAWS physically at HAWS or through online mode.

10. **Scheme of Examination:** The examination pattern is designed to ensure a balanced assessment, incorporating both continuous evaluation and a comprehensive end-of-semester examination. The NEP encourages a holistic approach to education, including practical applications, interdisciplinary learning, and the development of critical thinking skills. Therefore, practical components, field visits, and experiential learning shall be integrated into the program where ever feasible.

The theory examination in all courses shall be of **80% of total marks** whereas the continuous assessment shall comprise of **20%** of total marks in all courses except courses on Experiential

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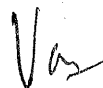
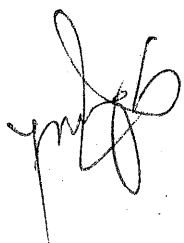
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Master Degree Programme in Disaster Management

Learning where the marks shall be awarded based on the performance during the practical training. The question paper in theory shall comprise of four questions of 20 marks each with internal choice and the time allotted shall be three hours.

End Semester Examination (ESE): This is a comprehensive examination at the end of each semester, testing the students' knowledge, critical thinking, and application of concepts learned during the semester. All the admitted candidates have to submit their examination forms at the start of every semester and submit the requisite examination fee. The end Semester Examination shall be held at HAWS itself in order to prevent unnecessary move of Army instructors and personnel which would hamper the training of Army personnel undergoing Mountain Warfare & Winter Warfare courses at HAWS. Post End Semester Examination, the answer sheets will be sent to Jammu University for evaluation under strict vigilance.

Course structure and detailed syllabus for **Post-Graduation in Disaster Management** is attached as **Appendix 'A'**.



PROGRAMME STRUCTURE FOR AWARD OF POSTGRADUATION DEGREE (M.A./M.Sc.) IN DISASTER MANAGEMENT TO HAWS PERSONNEL UNDER NON-CHOICE BASE CREDIT SYSTEM

COURSE STRUCTURE

COURSE NO	COURSE TITLE	MARKS	CREDITS
SEMESTER I			
MDM-101	Fundamentals of Disaster Management	100	4
MDM-102	National Framework in Disaster Management	100	4
MDM-103	Disaster Management Policies and Legal Framework	100	4
MDM-104	Theoretical Foundations of Disaster Management	100	4
MDM-105	Experiential and Practical Learning in Advanced Mountain and Rock Climbing Skills	200	10
SEMESTER II			
MDM-201	Managing Disasters in Changing Environment	100	4
MDM-202	Disaster Risk Reduction	100	4
MDM-203	Urban Disaster Risk Management	100	4
MDM-204	Capacity Building for Organizational Excellence	100	4
MDM-205	Experiential and Practical Learning Skills and Techniques in Ice Craft and Climbing	200	10
SEMESTER III			
MDM-301	Sustainable Development Goals in Disaster Management	100	4
MDM-302	Disaster Preparedness and Mitigation	100	4
MDM-303	Disaster Informatics	100	4
MDM-304	Disaster Response and Recovery	100	4
MDM-305	Experiential and Practical Learning Skills in Avalanche and High Altitude Rescue	200	10
SEMESTER IV			
MDM-401	Disaster Resilience	100	4
MDM-402	Disaster and Risk Communication	100	4
MDM-403	Disaster Emergency and Public Health	100	4
MDM-404	Psychological Preparedness in Disaster Management	100	4
MDM-405	Experiential and Practical Learning in Mountain and Winter Environments	200	10

NOTE: The theory examination in all courses shall be 80% of total marks whereas the continuous assessment shall comprise of 20% of total marks in all courses except courses on Experiential Learning (MDM-105, MDM-205, MDM-305, MDM-405) where the marks shall be awarded based on the performance during the practical training. The question paper in theory shall comprise of four questions of 20 marks each with internal choice and the time allotted shall be three hours.

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SEMESTER - I
DETAILED SYLLABUS

Course No.: MDM-101

Title: Fundamentals of Disaster Management

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2024, 2025 & 2026

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Fundamentals of Disaster Management involves establishing clear objectives to effectively mitigate, respond to, and recover from disasters. These objectives aim to enhance community resilience, ensure timely and coordinated emergency responses, and minimize human suffering and economic losses.

Unit 1: Basics of Disaster Management

Historical Overview of Disasters Management, Terminology and Concepts; Basic concepts on hazards, Vulnerability and Risk, Nature, causes, and effects of different types of vulnerability and their potential impacts; concept of Resource mobilization, Disaster Management Ethics, Case studies of past disasters

Unit 2: National Disaster Management Policies

Disaster Management Act; Disaster Information Management; National Policy on Disaster Management; State and Local Disaster Management Policies; Policy Implementation and Challenges; Policy Reforms; Overview of National and International Disaster Management Policies; International Humanitarian Law, International Human Rights law

Unit 3: Hazards and Disasters: National and Global

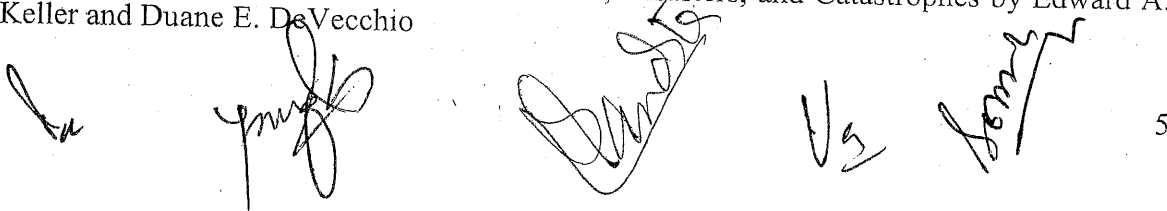
Development and process of Flood and Riverbank Erosion; Understanding Cyclone, Tornado and Salinity; Aridification and desertification process: Drought, Desertification, Heat wave and Cold wave; Geologic causes of origin of Earthquake, Landslide; Tsunami and Volcanic Eruption; Wildfire; Thunderstorm, Lightning and Arsenic Contamination; Human-Induced Disasters

Unit 4: National and International Case Studies in Disaster Management

Hurricane Katrina; Indian Ocean Tsunami; Bhuj Earthquake; Nepal Earthquake; Fukushima Nuclear Disaster; Chernobyl Nuclear Disaster; Bhopal Gas Tragedy; Deepwater Horizon Oil Spill; Grenfell Tower Fire; Haiti Earthquake; Great Smog of London.

Books Recommended:

1. Introduction to International Disaster Management by Damon P. Coppola
2. Natural Hazards: Earth's Processes as Hazards, Disasters, and Catastrophes by Edward A. Keller and Duane E. DeVecchio



Master Degree Programme in Disaster Management

3. Disaster Management: A Disaster Manager's Handbook by Asian Development Bank
4. Disaster Management Handbook by Jack Pinkowski
5. Disaster Management in India by Rajesh Anand
6. Disaster Management: Text and Case Studies by D. B. N. Murthy
7. Disaster Management by Harsh K. Gupta
8. Natural Disasters and Disaster Management in India by Anand S. Arya
9. National Disaster Management Guidelines- (NDMA)
10. Comprehensive guidelines on various aspects of disaster management in India-India Disaster Report- (NDMA)

Course No.: MDM-102

Title: National Framework in Disaster Management

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2024, 2025 & 2026

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: The National Framework in Disaster Management aims to establish comprehensive disaster preparedness across all sectors. It seeks to enhance early warning systems and response mechanisms to minimize loss of life and property during disasters. Additionally, it aims to foster resilience and community empowerment through effective coordination and resource allocation.

Unit 1: National Disaster Management System

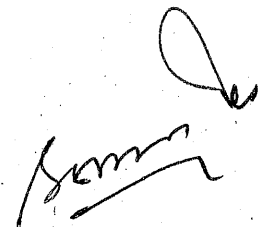
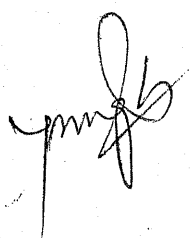
Overview of Disaster Management in India; Historical Perspective of Disasters in India; Key Elements of National Policy on Disaster Management; Institutional Framework for Disaster Management in India; Evolution of Disaster Management Institutions; National Disaster Management Authority (NDMA); State Disaster Management Authorities (SDMAs); District Disaster Management Authorities (DDMAs)

Unit 2: Legal Framework for Disaster Management

Comprehensive study of disaster management frameworks and legal aspects; Strategic difference in Disaster Management Act of 2005 and 2009; Role of the judiciary in disaster management in highlighting judicial interventions and landmark decisions that shape disaster response and mitigation efforts; Practical applications of programmatic and legislative interventions in disaster management

Unit 3: Disaster Management Plans

Formulation of Disaster Management Plans at Various Levels; Key Components of Effective Disaster Management Plans; Coordination and Communication Strategies; Development and Implementation of National Plans; Role of Various Stakeholders in Plan Formulation; Integration of Disaster Risk Reduction in Development Planning



Unit 4: Coordination Mechanisms and Sector-Specific Impact Analysis

Coordination Between Different Levels of Government; Public-Private Partnerships in Disaster Management; Case Studies of Effective Coordination Mechanisms; Infrastructure Development and Disasters; Impact on Agriculture and Livelihoods; Urban Development and Disaster Vulnerability; Case Studies of Sector-Specific Impacts

Books Recommended:

1. Disaster Management in India: Challenges and Strategies by P.G. Dhar Chakrabarti
2. Disaster Management: Future Challenges and Opportunities by Jagbir Singh
3. Disaster Management in India: Perspectives, Issues, and Strategies by Vinod K. Sharma
4. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), Government of India
5. Disaster Management Handbook by Jack Pinkowski
6. Disaster Management: Global Challenges and Local Solutions by Rajib Shaw and R.R. Krishnamurthy
7. Disaster Risk Reduction in South Asia by Pradeep Sahni
8. Disaster Management by Harsh K. Gupta
9. Disaster Management and Preparedness by Larry Collins and Thomas D. Schneid
10. Disaster Management: A Disaster Manager's Handbook by A. D. S. Gill
11. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
12. National Policy on Disaster Management- (NDMA)

Course No.: MDM-103

Title: Disaster Management Policies and Legal Framework

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

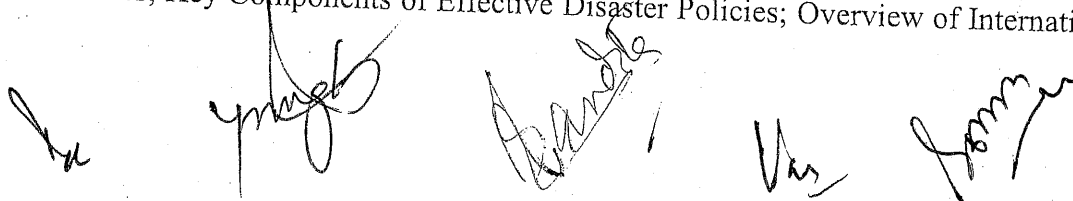
Examination to be held in the year 2024, 2025 & 2026

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Disaster management policies and legal frameworks aim to enhance preparedness, response, and recovery efforts in the face of natural and man-made disasters. These policies establish guidelines for coordination among governmental agencies, NGOs, and communities to mitigate risks and minimize impacts on affected populations. Legal frameworks provide the authority and structure necessary for effective resource allocation, risk assessment, and rapid deployment of emergency services during crises.

Unit 1: Introduction to Disaster Policies and Legislation

Understanding Disaster Policies; Importance of Disaster Policies; Historical Evolution of Disaster Policies; Key Components of Effective Disaster Policies; Overview of International



Master Degree Programme in Disaster Management

Disaster Policies; Role of the United Nations in Disaster Management; Steps in Policy Formulation for Disaster Management

Unit 2: Legal Aspects of Disaster Management

International Disaster Legislation; Key International Conventions and Treaties; Role of International Humanitarian Law in Disasters; Enforcement of Disaster Laws and Penalties; Protection of Human Rights during Disasters; Rights of Vulnerable Groups (Women, Children, Elderly, Disabled); Legal Mechanisms for Redressal of Human Rights Violations

Unit 3: Policy Formulation and Implementation

Stakeholder Engagement and Public Participation; Challenges in Policy Implementation; Monitoring and Evaluation of Disaster Policies; Building Codes and Land Use Planning Laws; Environmental Laws; Integration of Disaster Risk Reduction in National Policies; Coordination among National, Regional, and Local Authorities

Unit 4: Policy and Challenges in Disaster Management

Policy Challenges; Emerging Threats (Climate Change, Urbanization); Policy Gaps and Needs in Disaster Management; Interagency Coordination and Collaboration Challenges; Legal Implications of Climate Change on Disaster Management; Strategic Planning for Sustainable Disaster Management

Books Recommended:

1. Disaster Management in India by Vinod K. Sharma
2. Disaster Management: Approaches and Strategies by Harsh K. Gupta
3. Disaster Management in India: Evolution of Institutional Arrangements and Operational Strategies" by Rajendra K. Jain
4. Disaster Management: Global Challenges and Local Solutions by R. Subramanian
5. Focuses on disaster management policies, practices, and case studies specific to India-NDMA
6. Disaster Management: A Disaster Manager's Handbook by Asian Development Bank
7. Disaster Management in India by Rajesh Anand
8. Disaster Management: Text and Case Studies by D. B. N. Murthy

Course No.: MDM-104

Title: Theoretical Foundations of Disaster Management

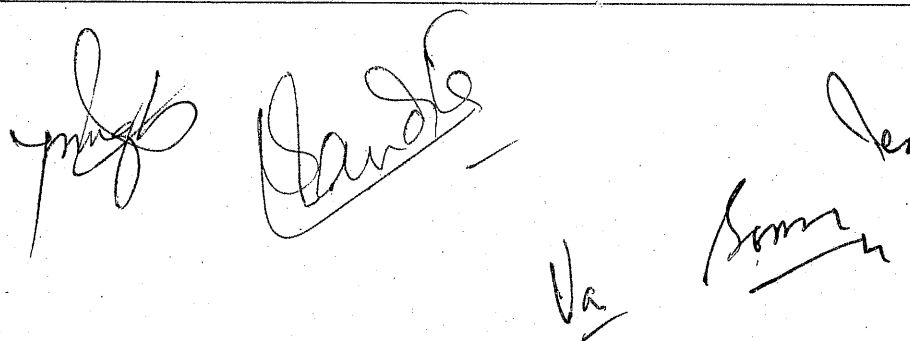
Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2024, 2025 & 2026

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.



Master Degree Programme in Disaster Management

Objective: The objectives of "Theoretical Foundations of Disaster Management" are to understand the underlying principles and frameworks that guide disaster response and mitigation, analyze historical and contemporary disaster events to identify effective strategies, and develop comprehensive plans to enhance resilience and reduce vulnerability in communities.

Unit 1: Historical and Theoretical Perspectives

Theoretical Approaches to Disaster Management: Toward a Theory of Disaster; Shift of Paradigms in Environment and Disaster Studies; Convergence and Divergence; Historical Perspectives of Disaster Management; Pre-Modern to Modernity and Post-Modern Stage

Unit 2: Multi-Disciplinary Approaches

Approaches to Disaster Management; Sociological, Anthropological, Geographical, Technical, and Development Studies Approaches; Behavioral and Ecological Approaches; Change of Perceptions: Act of God vs. Act of Nature; Disaster as Intersection of Society and Nature; Societal Injustice Theory

Unit 3: Economic and Decision-Making Theories

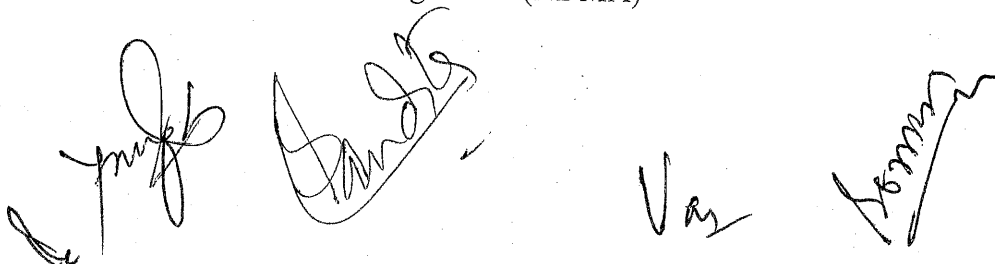
Economic Theory and Decision-Making: Economic Theory; Decision-Making Theory; Systems Theory and Chaos Theory: Management Theory; Social Constructionist Views: Organizational Behavior, Development Perspectives, Sustainability Perspectives

Unit 4: Resilience and Contemporary Issues

Theory of Resilience: Concept & Etymology; Resilience in the Humanitarian Field of Study; Overview of different resilience models and frameworks; Theoretical Use of Resilience; Role of institutions in fostering resilience; Impact of poverty on disaster vulnerability and resilience; Gender-specific impacts of disasters; Contemporary Issues in Disaster Management

Books Recommended:

1. Disaster Management in India by Vinod K. Sharma
2. Disaster Management: Global Challenges and Local Solutions by R. Subramanian
3. Disaster Management: Approaches and Strategies by Harsh K. Gupta
4. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
5. Disaster Risk Management in India by Anil K. Gupta
6. Disaster Risk Reduction: Cases from Urban Africa edited by Mark Pelling and Ben Wisner
7. Handbook of Disaster Risk Reduction and Management edited by Christian N. Madu and Chu-Hua Kuei
8. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
9. National Policy on Disaster Management- (NDMA)



Course No.: MDM-105 **Title:** Experiential and Practical Learning in Advanced Mountain and Rock Climbing Skills
Credits: 10 **Maximum Marks:** 200
Examination to be held in the year 2024, 2025 & 2026

Note: The evaluation of this course shall be based on continuous assessment during the practical training on various aspects of disaster management being imparted during the course of study. The concerned teachers/ instructors shall keep a daily record of performance of the trainees and award marks as per their punctuality, understanding and performance during the practical sessions.

Objective: Advanced Mountain and Rock Climbing Skills" covers mastering technical climbing techniques, enhancing safety protocols, and developing leadership in challenging alpine environments. Participants will learn advanced rope management, rock protection placement, and efficient route finding. The course aims to empower climbers with the skills needed for complex ascents and to navigate hazardous conditions confidently.

Unit 1: Mountain Endurance and Rock Craft

Introduction to Mountain Endurance Training; Importance of Endurance in Mountain Activities; Types of Endurance Exercises; Physical Conditioning; Cardiovascular Exercises; Strength Training for Climbers; Flexibility and Balance Training; Psychological Aspects of Endurance; Safety Protocols and Precautions; Emergency Response Planning

Unit 2: Rock Craft Equipment

Introduction to Rock Craft Equipment; Overview of Essential Equipment; Selection Criteria for Gear; Equipment Maintenance and Care; Personal Protective Equipment (PPE); Ropes and Hardware; Anchors and Protection Points; Specialized Equipment; Knots & Hitches; Basic Climbing Knots; Practical Applications and Safety; Common Mistakes and How to Avoid Them; Essential Bouldering Techniques; Spotting Techniques and Best Practices

Unit 3: Climbing Techniques and Safety

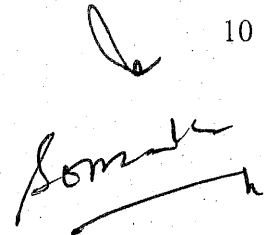
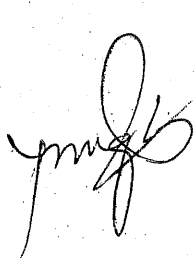
Anchoring and Belaying Techniques; Natural vs. Artificial Anchors; Belaying Methods; Belay Devices and Their Use; Belaying Safety and Communication; Advanced Anchoring Techniques; Anchoring on Different Rock Types; Principles of Free Climbing and Aid Climbing; Safety Protocols and Best Practices; Emergency Response Planning

Unit 4: Stream Crossing and Skiing Techniques

Importance of Stream Crossing in Outdoor Activities; Assessing Stream Conditions; Planning and Preparation; Techniques for Safe Stream Crossing; Advanced Stream Crossing Techniques; Overview of Essential Ski Gear; Selecting the Right Equipment; Advanced Ski Equipment; Avalanche Safety Equipment; Practical Applications and Field Exercises; Advanced Downhill Techniques; Basic Fall and Recovery Method

Books Recommended:

1. The Complete Guide to Climbing and Mountaineering by Pete Hill and Stuart Johnston



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2. National Disaster Management Guidelines: Preparation of State Disaster Management Plans-NDMA
3. Climbing Anchors by John Long and Bob Gaines
4. Rock Climbing: Mastering Basic Skills by Craig Luebben
5. Advanced Rock Climbing: Skills and Techniques for Leading On Rock by John Long and Bob Gaines
6. National Guidelines for Disaster Management-NDMA
7. The Climbing Handbook: The Complete Guide to Safe and Exciting Rock Climbing by Steve Long
8. Guidelines for Incident Response System in India-(NDMA)

Pandit

John Long

John Long

John Long

John Long

SEMESTER II

DETAILED SYLLABUS

Course No.: MDM-201

Title: Managing Disaster in Changing Environment

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: The objective of this course is to develop adaptive strategies to mitigate the impact of disasters in an evolving environment. This involves integrating new data and technologies to enhance preparedness and response capabilities. Additionally, the focus is on fostering resilience through community engagement and policy interventions to ensure sustainable disaster management practices.

Unit 1: Understanding Environmental Change

Basics of Environmental Change; Definition and Concepts of Environmental Change; Natural vs Anthropogenic Causes of Environmental Change; Historical Perspective of Environmental Variability; Global Warming and Greenhouse Effect; Scientific Evidence and Observations; Impacts of Environmental Change

Unit 2: Disaster Management and Environmental Change Adaptation

Strategies to adapt to Environmental changes, Emphasizing the concept and significance of these adaptations; Different approaches, including both structural (like building infrastructure) and non-structural methods (like policies and education); Integrating Environmental Adaptation into Development Planning; Effective National and International Environmental Adaptation practices

Unit 3: Mitigation of Environmental Change

Mitigation Strategies and Technologies; Definition and Importance of Environmental Mitigation; Key Mitigation Strategies: Renewable Energy, Energy Efficiency, Afforestation; Carbon Capture and Storage Technologies; Role of Innovation and Technology in Mitigation; International Mitigation Efforts; Case Studies of International Mitigation Initiatives

Unit 4: Future Trends and Challenges

Emerging Trends in Environmental and Disaster Management; Challenges in Implementing Resilience and Disaster Risk Reduction (DRR) Strategies; Role of Technology and Innovation in Future Solutions; Strategic Planning for Future Environmental and Disaster Scenarios

Books Recommended:

1. Disaster Risk Reduction: Cases from Urban Africa by Mark Pelling and Ben Wisner

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Master Degree Programme in Disaster Management

2. Climate Change and Natural Disasters: Transforming Economies and Policies for a Sustainable Future by Vinod Thomas, Jose Ramon G. Albert, and Renato Redentor Constantino
3. Managing Natural Disasters and the Environment by Jayant A. Sathaye and Stephen Meyers
4. Disaster Management and Climate Change: Perspectives from Asia edited by Rajib Shaw and Anshu Sharma
5. Climate Change and Disaster Management by Anil K. Gupta and Sreeja S. Nair
6. Natural Disasters and Climate Change: An Economic Perspective by Stéphane Hallegatte
7. Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation by Christopher B. Field, Vicente Barros, Thomas F. Stocker, and Qin Dahe
8. Guidelines on Temporary Shelters for Disaster-Affected Families
9. Guidelines on Prevention & Management of Thunderstorm & Lightning/Squall/Dust/Hailstorm & Strong Winds
10. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
11. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
11. National Policy on Disaster Management- (NDMA)

Course No.: MDM-202

Title: Disaster Risk Reduction

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

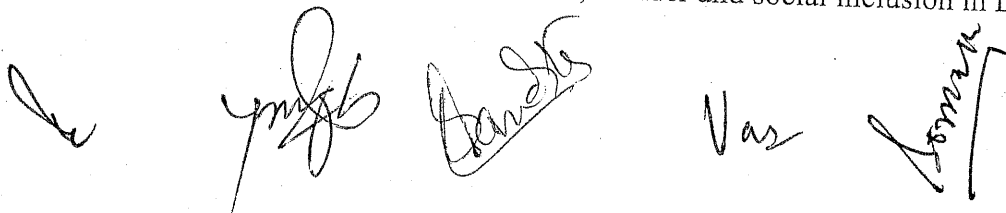
Objective: Disaster Risk Reduction (DRR) aims to mitigate the impact of natural and human-made disasters through proactive measures. Key objectives include enhancing community resilience through preparedness and response strategies, promoting sustainable development practices that minimize risk, and fostering international cooperation to address global vulnerabilities and challenges.

Unit 1: Introduction to Disaster Risk Reduction

Fundamentals of Disaster Risk Reduction; Definition and scope of DRR; Historical development of DRR; Key concepts: Hazard, Vulnerability, and Risk; DRR frameworks and policies; Risk Assessment and Analysis; Tools and techniques for risk assessment; National and local Disaster Risk Reduction policies

Unit 2: Disaster Preparedness and Mitigation

Preparedness Planning; Emergency planning and response strategies; Public awareness and education; Training and simulation exercises; Structural and non-structural measures; Participatory approaches to Disaster Risk Reduction; Gender and social inclusion in DRR



Unit 3: Policy and Legal Aspects of DRR

International and national legal frameworks; Policy development and advocacy; Legal challenges in Disaster Risk Reduction implementation; Case studies of legal and policy interventions; Future Directions in DRR; Emerging risks and vulnerabilities; Future trends in urbanization and development

Unit 4: Future Trends and Challenges in DRR

Climate Change and DRR; Impact of climate change on disaster risk; Adaptation strategies; Integrating climate change into Disaster Risk Reduction planning; International climate agreements and DRR; Technological Innovations in DRR; Technological challenges and opportunities; Lessons Learned and Best Practices

Books Recommended:

1. Disaster Risk Reduction: Cases from Urban Africa by Mark Pelling and Ben Wisner
2. Natural Hazards and Disaster Risk Reduction: Putting Research into Practice by Jörn Birkmann and Stefan Kienberger
3. At Risk: Natural Hazards, People's Vulnerability and Disasters by Piers Blaikie, Terry Cannon, Ian Davis, and Ben Wisner
4. Disaster Risk Reduction for the Built Environment by Lee Boshier
5. Urban Disaster Resilience and Security: Addressing Risks in Societies edited by Alexander Fekete and Frank Fiedrich
6. Climate Change Adaptation and Disaster Risk Reduction: Issues and Challenges edited by Rajib Shaw, Juan Pulhin, and Joy Jacqueline Pereira
7. Disaster Risk Reduction and Resilience by Bupinder Zutshi, H.S. Meena, S.K. Mishra, and Ajay Kumar Singh
8. Disaster Management: Approaches and Strategies by Harsh K. Gupta
9. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
10. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
11. National Policy on Disaster Management- (NDMA)

Course No.: MDM-203

Title: Urban Disaster Risk Management

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Urban Disaster Risk Management aims to mitigate risks associated with natural disasters in densely populated areas. It focuses on enhancing preparedness, response, and recovery strategies within urban environments. The objectives include improving infrastructure

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resilience, implementing early warning systems, and fostering community engagement to minimize vulnerability and ensure swift recovery post-disaster.

Unit 1: Introduction to Urban Disaster Risk Management

Understanding Urban Disasters; Definition and Types of Urban Disasters; Key Characteristics of Urban Disasters; Impact on Urban Areas; Urban Risk Assessment and Vulnerability Analysis; Urban Hazard Identification; Vulnerability and Capacity Analysis

Unit 2: Mitigation and Preparedness Strategies

Concept and Importance of Community-Based Disaster Risk Management (CBDRM); Community-Based Disaster Risk Management (CBDRM); Identification of Community-Based Disaster Risk; Community Engagement Strategies; Case Studies of Successful CBDRM Initiatives

Unit 3: Response and Recovery Management

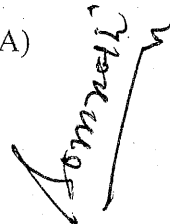
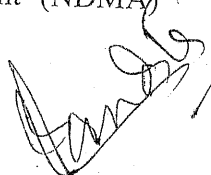
Disaster Response Coordination; Coordination Mechanisms and Incident Command Systems; Roles and Responsibilities of Stakeholders; Resource Mobilization and Logistics; Challenges in Urban Disaster Response; Principles of Urban Search and Rescue; Immediate and Long-term Recovery; Housing and Infrastructure Rehabilitation

Unit 4: Urban Resilience and Sustainable Development

Concept of Urban Resilience; Components of Urban Resilience; Enhancing Urban Resilience through Policy and Planning; Integrating Resilience into Urban Development; Impact of Climate Change on Urban Disasters; Adaptation Strategies for Urban Areas; Green Infrastructure and Nature-Based Solutions; Sustainable Transport and Energy Systems

Books Recommended:

1. Urban Disaster Resilience: New Dimensions from International Practice in the Built Environment edited by David Sanderson, Jerold S. Kayden, and Julia Leis
2. Disaster Risk Management Systems Analysis: A Guide Book by Stephan Baas, Selvaraju Ramasamy, J. Dey de Pryck, and Federica Battista
3. The Role of Ecosystems in Disaster Risk Reduction edited by Fabrice G. Renaud, Karen Sudmeier-Rieux, and Marisol Estrella
4. Urban Risk Assessments: An Approach for Understanding Disaster and Climate Risk in Cities by Eric Dickson, Judy L. Baker, Daniel Hoornweg, and Asmita Tiwari
5. At Risk: Natural Hazards, People's Vulnerability and Disasters by Ben Wisner, Piers Blaikie, Terry Cannon, and Ian Davis
6. Building Urban Resilience: Principles, Tools, and Practice by Abhas K. Jha, Todd W. Miner, and Zuzana Stanton-Geddes
7. Climate Change Adaptation and Disaster Risk Reduction: Issues and Challenges edited by Rajib Shaw, Juan M. Pulhin, and Joy Jacqueline Pereira
8. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
9. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
10. National Policy on Disaster Management- (NDMA)



Master Degree Programme in Disaster Management

Course No.: MDM-204

Title: Capacity Building for Organizational Excellence

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Capacity Building for Organizational Excellence" aims to enhance institutional capabilities through targeted training and development initiatives. By focusing on skill enhancement and leadership training, the program seeks to foster a culture of continuous improvement and innovation within the organization. Its overarching goal is to strengthen operational efficiency, adaptability, and strategic alignment to achieve sustainable growth and excellence.

Unit 1: Organizational Needs and Skill Gaps

Assessing Organizational Needs, Identifying Skill Gaps, Various types of skill Gaps, Importance of identifying skill gaps, Training Requirement Analysis, Developing Capacity Building Plans, Establishing and Operating Emergency Operation Centers

Unit 2: Leadership and Strategic Planning

Concept of Leadership Development Programs, Strategic Planning Techniques, Strategic Planning significance, Project Management Skills, Communication Skills Enhancement, Role of leadership in disaster management, efficient human resource management, Issues in Leadership and Strategic Planning

Unit 3: Team Building and Conflict Resolution

Concept of team Building Activities, Conflict Resolution Strategies, Importance of Conflict Resolution Strategies; Stakeholder Engagement, Various Aspects of Stakeholder Engagement, Organizational Development, Case Studies in Team Building and Conflict Resolution

Unit 4: Financial and Human Resource Management

Concept of Financial Management Skills, Importance of Financial Management Skills; Funding sources and financial resource mobilization during disasters, Human Resource Development in disaster scenarios; financial monitoring and reporting mechanisms, Ensuring transparency and accountability in financial management

Books Recommended:

1. Capacity Building for Sustainable Development by Valentine U. James
2. Capacity Building for a Reforming African Power Sector by Mark T. C. Williams and Michael G. Pollitt
3. The Capacity to Innovate: A Must-Have in a Knowledge Society by Louis Larochelle

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4. Building Organizational Capacity" by Jerry W. Gilley, Ann Maycunich Gihuly, and Heather S. Dixon
5. Organizational Capacity Development in South Asia edited by Dinesh Sharma and Amita Singh
6. Capacity Building for Agricultural Research and Development: Proceedings of a Workshop in India edited by National Academy of Sciences
7. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
8. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
9. National Policy on Disaster Management- (NDMA)

Course No.: MDM-205

Title: Experiential and Practical Learning Skill
Techniques in Ice Craft and Climbing

Credits: 10

Maximum Marks: 200

Examination to be held in the year 2025, 2026 & 2027

Note: The evaluation of this course shall be based on continuous assessment during the practical training on various aspects of disaster management being imparted during the course of study. The concerned teachers/ instructors shall keep a daily record of performance of the trainees and award marks as per their punctuality, understanding and performance during the practical sessions.

Objective: Skills and Techniques in Ice Craft and Climbing encompass a broad spectrum of abilities essential for navigating icy terrain and scaling vertical faces. The primary objective is to equip climbers with proficiency in ice tool placement, crampon technique, and rope management, ensuring safe and efficient movement on ice.

Unit 1: Introduction to Ice Craft Equipment and Techniques

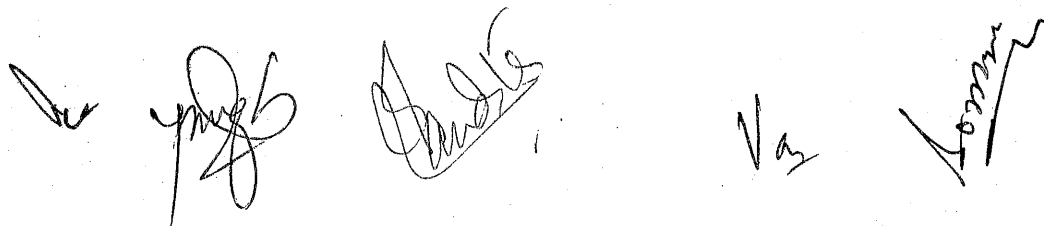
Ice Craft Equipment Overview; Types of Ice Axes and Their Uses; Crampons and Their Varieties; Ice Screws and Anchors; Harnesses and Helmets for Ice Climbing; Haulage of Load Using Power Ascender; Techniques for Efficient Load Hauling; Safety Measures and Precautions; Practical Exercises in Load Hauling

Unit 2: Technique of Ice Climbing

Basic Ice Climbing Techniques; Advanced Techniques and Movements; Ice Climbing Safety Protocols; Hands-on Ice Climbing Practice; Route Selection & Rope Fixing on Ice Wall; Criteria for Route Selection on Ice; Techniques for Fixing Ropes on Ice Walls; Ensuring Safety While Fixing Ropes

Unit 3: Crevasse Fall & Rescue Drills

Understanding Crevasse Formation; Formation and Types of Crevasses; Risks Associated with Crevasses; Identifying Crevasses in the Field; Preventative Measures; Crevasse Fall Scenarios; Real-life Crevasse Fall Case Studies; Safety Gear and Equipment for Crevasse Rescue; Psychological Preparedness for Crevasse Falls



Unit 4: Preparation of Ice Bases

Selecting a Suitable Location for Ice Bases; Equipment Needed for Snow Base Preparation; Techniques for Establishing a Secure Ice Base; Equipment Needed for Ice Base Preparation; Building and Maintaining Ice Bases; Marching in Snowy Terrains; Basic Survival Skills in Snowy Conditions

Books Recommended:

1. Mountaineering and Climbing in the Indian Himalaya by Harish Kapadia
2. Exploring the Himalaya by M.S. Kohli
3. Ice & Mixed Climbing: Modern Technique by Will Gadd
4. Freedom of the Hills by The Mountaineers
5. Challenge of the High Himalaya by Harish Kapadia
6. The Himalayan Club: India's Leading Mountaineering Organization by M.S. Kohli
7. The Ice Climber's Guide to Northern New England by Rick Wilcox
8. Cold Climbs: The Great Snow and Ice Climbs of the British Isles by Ken Wilson
9. Training Manual for Mountain Rescue by Indian Mountaineering Foundation
10. Himalayan Mountaineering: The Great Adventure by S. Chauhan
11. Crevasse Rescue by Alyn Williams
12. Mountain Rescue: Techniques and Equipment by Terence Cuneo
13. Survival in the Himalayas by M.S. Kohli
14. Himalayan Mountaineering: In Search of New Heights by S. Chauhan
15. Glacier Mountaineering: An Illustrated Guide to Glacier Travel and Crevasse Rescue by Andy Tyson and Mike Clelland

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SEMESTER III

DETAILED SYLLABUS

Course No.: MDM-301

Title: Sustainable Development Goals (SDGs) in Disaster Management

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: The objective of this course is to provide a comprehensive framework to enhance resilience and mitigate risks, aiming to reduce the impact of disasters on communities and ecosystems. By integrating SDGs into disaster management strategies, the objective is to foster sustainable development, promote inclusive preparedness, response, and recovery efforts, and ensure long-term resilience to environmental and humanitarian crises.

Unit 1: Introduction to Sustainable Development Goals (SDGs)

Overview of SDGs: History and Development of the SDGs; Structure and Objectives of the 17 SDGs; Importance of SDGs in Global Development; Key Targets and Indicators for Monitoring Progress; Linkages between SDGs and Disaster Management

Unit 2: SDGs Related to Disaster Management

Role of Disaster Risk Reduction (DRR) in SDG Progress; How Disasters Impact SDG Achievement; National Strategies for SDG Implementation; Urban Resilience and Disaster Risk Management; Planning and Building Disaster-Resilient Infrastructure; Role of Local Governments in Enhancing Urban Resilience; Building Resilient Health Systems

Unit 3: Sustainable Planning and Development

Principles of Sustainable Development in Disaster-Prone Areas; Community Education and Awareness Campaigns; Role of Educational Institutions in Promoting SDGs; Capacity Building Initiatives for Local Governments; Early Warning Systems and Their Importance

Unit 4: Monitoring, Evaluation, and Case Studies

Monitoring and Evaluation Frameworks for SDGs in Disaster Management; Key Indicators for Monitoring Progress; Best Practices and Lessons Learned; Case Studies and Lessons Learned from Past Disasters; Adaptation of Best Practices in Local Contexts; Future Directions and Innovations

Books Recommended:

1. Disaster Risk Reduction for the Built Environment by Lee Boshier

Lee *Boshier* *James* *Var* *Ammer*

2. Disaster Risk Reduction Approaches in Bangladesh by Kuniyoshi Takeuchi and Rajib Shaw
3. Disaster Risk Reduction for Economic Growth and Development by Ian Davis and David Alexander
4. Disaster Management: Global Challenges and Local Solutions by Rajib Shaw, Juan M. Pulhin, and Joy Jacqueline Pereira.
5. Sustainable Development Goals and Disaster Risk Reduction edited by Rajib Shaw, Anshu Sharma, and Juan M. Pulhin.
6. Disaster Risk Reduction Approaches in Bangladesh by Rajib Shaw and Kazi Matin Ahmed.
7. Natural Disasters and Disaster Management in India by Anand S. Arya
8. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), Government of India
9. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
10. National Policy on Disaster Management- (NDMA)
11. Disaster Risk Management in India by Anil K. Gupta

Course No.: MDM-302

Title: Disaster Preparedness and Mitigation

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80 Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

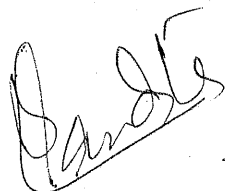
Objective: Disaster preparedness and mitigation aim to systematically reduce the impact of natural or human-induced disasters through proactive planning, resource allocation, and community engagement. By identifying risks and vulnerabilities, implementing effective response strategies, and promoting resilience, these efforts seek to minimize loss of life, protect infrastructure, and enhance overall disaster readiness.

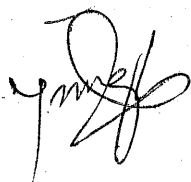
Unit 1: Overview of Disaster Mitigation and Preparedness

Concept; aims, goals, objectives, significance, scope and relationship with other parts of the disaster continuum, types, major components and elements of preparedness; Mitigation through natural resource protection and sustainability-centric development and structures.

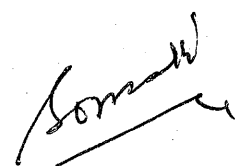
Unit 2: Theories and Models of Disaster Mitigation and Preparedness

Social cognitive theory, Education and preparedness knowledge theory, Social marketing perspective on disaster preparedness, Demographic preparedness theory, Preparedness and motivation theory (Psychological perspective), Stakeholder approach, Community preparedness theory on conservation resource approach, Lockdown Theory etc. Preparedness and mitigation Models and Guidelines









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Unit 3: Assessment and Planning for disaster preparedness:

Hazard, vulnerability and risk assessment in preparedness stage, prerequisites for preparedness planning, types of planning, General planning process for national and community level, major steps of mitigation plan, organizational or institutional plan, sectoral plan for different hazards, contingency plan for emergency response, developing an action plan frameworks and challenges

Unit 4: Preparedness and Mitigation

Structural engineering protection of hydro-climatic and coastal hazard mitigation measures; landslide hazard and riverbank erosion mitigation measures, drought and desertification mitigation strategies; Urban building protection and livelihood security; building codes, retrofitting, nonstructural reinforcement of existing building, fire hazard mitigation, thunderstorm mitigation, Green architecture and design, sustainable structures and new age engineering, technology for sustainable and green buildings

Books Recommended:

1. Disaster Management in India by S. K. Saha
2. Disaster Management: Global Challenges and Local Solutions edited by Prakash Sinha
3. Disaster Management in India by Kishor Chandra Satpathy
4. Principles of Emergency Management and Emergency Operations Centers (EOC) by Michael J. Fagel
5. Disaster Recovery Planning: Preparing for the Unthinkable by Jon William Toigo
6. Disaster Response and Recovery: Strategies and Tactics for Resilience by David A. McEntire
7. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
8. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
9. National Policy on Disaster Management- (NDMA)
10. Guidelines on Temporary Shelters for Disaster-Affected Families -NDMA
11. Guidelines on Prevention & Management--NDMA
12. Guidelines on Minimum Standards of Relief--NDMA

Course No.: MDM-303

Credits: 04

Title: Disaster Informatics

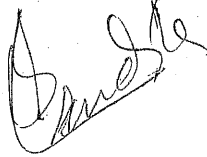
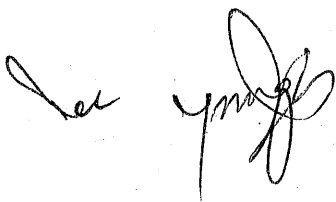
Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Disaster Informatics course aims to improve disaster management through the application of information and communication technologies (ICT). It focuses on leveraging data



analytics, remote sensing, and real-time communication to enhance preparedness, response, and recovery efforts during natural or man-made disasters.

Unit 1: Overview of Disaster Informatics

Definition and significance of disaster informatics, Use of informatics in disaster, crisis, and emergency management, Advancement of information technology, History of disaster informatics, Theoretical foundations of disaster informatics, Approaches and model

Unit 2: Data Communication and Technology

Concepts of data communication, Modes of data communication, Computer networking, Informatics environment, Cloud computing, Telecommunication, Satellite communication, Radar Technology, Spatial technology, Website development, Artificial intelligence

Unit 3: Disaster Management Information System

Concept of database management, Elements of database management, Database Model, Database Management System, Database creation and organization, Data collection, processing, and presentation, Opportunities and challenges, Case studies: COVID-19, Cyclone and Floods etc.

Unit 4: Data Protection and Recovery Planning

Principles of data protection, Importance of safeguarding sensitive information, Data protection policy, Data protection strategies, Techniques for securing data against unauthorized access and breaches, Confidentiality of sensitive information, data integrity and availability, Risk assessment, Data backup, Recovery drills

Books Recommended:

1. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
2. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
3. Guidelines on Prevention & Management -NDMA
4. Guidelines on National Disaster Management Information and Communication System-NDMA
5. Disaster Informatics: Integrating Crisis Data into GIS Workflows by Brian Tomaszewski and Joanne White.
6. Disaster Management: International Lessons in Risk Reduction, Response and Recovery edited by David Alexander.
7. Disaster Informatics: The Impact of Big Data on Disaster Response and Recovery by Amir Khorram-Manesh, Frederik Gieselberg, and Tetsuya Sato
8. Disaster Informatics for Emergency Management and Homeland Security by Hesham El-Askary, Samira Daroub, and Imtiaz Ahmad

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Master Degree Programme in Disaster Management

Course No.: MDM-304

Credits: 04

Title: Disaster Response and Recovery

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2025, 2026 & 2027

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: This course aim to swiftly and effectively address the aftermath of natural or man-made disasters. These initiatives encompass immediate humanitarian aid, infrastructure restoration, and community resilience building. The objective is to mitigate suffering, restore normalcy, and enhance preparedness for future crises through coordinated, timely interventions

Unit 1: Disaster Response at a Glance

Concepts and terminologies in disaster response; Principles, Frameworks and Models of Disaster Response; Emergency Response vs Disaster Response; Emergency Management: Key Principles of Effective Response; Best Practices of Effective Response, Case Studies

Unit 2: Incident Response

Preparation, Organization and Prevention: Preparing for Incident Response; Incident Response Policy; Building the Security Incident Response Team; Incident Response Planning; Assembling and Maintaining the Final Incident Response Plan; Coordination and Collaboration across responsible agencies

Unit 3: Initial Response Measures

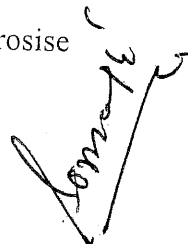
Hazard Detection; Issuing Warnings; Evacuation: Means, Behaviour, Considerations and Procedure; Sheltering: Types and Characteristics; Caring for the Injured, Dead and Distraught; Search and Rescue Operations; Emergency Medical Care and Triage; Mass Fatality Management; Decision Support System; Donation and Volunteer Management; Hospital Management; Incident Command System

Unit 4: Dimensions of Disaster Recovery

Immediate Needs and Moving Beyond Immediate Needs; Over viewing the Process of Response in different contemporary emergencies; Debris Management; Environmental Recovery; Historic and Cultural Resources; Build Back Better: Holistic Recovery; Infrastructure and Lifelines; Rebuilding a lesson learnt from the past; Important Case studies of the world

Books Recommended:

1. Disaster Management: Global Challenges and Local Solutions by Rajib Shaw, R. R. Krishnamurthy
2. Disaster Management in India: Challenges and Strategies by Vinod K. Sharma
3. Disaster Management Handbook by Jack Pinkowski
4. Incident Response & Computer Forensics by Kevin Mandia, Chris Prosis



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5. Effective Incident Response Team by Jeff Bollinger, Brandon Enright, Matthew Valites
6. Incident Response: Planning and Management by Leighton Johnson
7. Search and Rescue Operations in Disasters by Dr. R.K. Bhandari
8. Emergency Medical Care for Disaster Situations by Dr. S. Murugan
9. The Disaster Preparedness Handbook by Arthur T. Bradley
10. Disaster Recovery Planning by Joseph F. Gustin
11. Disaster Recovery: Principles and Practices by Michael Wallace, Lawrence Webber
12. Rebuilding Communities After Disasters by Adenrele Awotona

Course No.: MDM-305

Title: Experiential and Practical Learning
Skills in Avalanche and High Altitude Rescue

Credits: 10

Maximum Marks: 200

Examination to be held in the year 2025, 2026 & 2027

Note: The evaluation of this course shall be based on continuous assessment during the practical training on various aspects of disaster management being imparted during the course of study. The concerned teachers/ instructors shall keep a daily record of performance of the trainees and award marks as per their punctuality, understanding and performance during the practical sessions.

Objective: The objective of mastering practical skills in avalanche and high altitude rescue is to equip rescuers with the necessary competencies to navigate and respond effectively in challenging mountain environments. This training focuses on developing proficiency in avalanche search and rescue techniques, including probing, shoveling, and using transceivers to locate buried victims swiftly and safely.

Unit 1: Avalanche Rescue Equipment

Overview of Avalanche Rescue Equipment: Types of equipment used in avalanche rescue; Importance and proper maintenance of rescue gear; Use of Avalanche Rod; Description and purpose of avalanche rods; Techniques for deploying and using avalanche rods; Avalanche Beacons; Functionality and types of avalanche beacons; Procedures for using beacons in rescue operations

Unit 2: Search Methods in Avalanche Rescue

Method of Search with Avalanche Victim Detector (AVD): Operation and usage of AVDs; Techniques for efficient search using AVDs; Method of Search with Avalanche Rod; Recco Radar System; Coordinated Search Strategies

Unit 3: High Altitude Area Operations

High Altitude Area Clothing: Essential clothing for high altitude environments; Layering systems and material selection for extreme conditions; Ladder Launching: Techniques for deploying ladders in snow and ice; Safety measures and teamwork in ladder launching; Advanced Military Ski Techniques; Training for endurance and balance

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Unit 4: Advanced Ski Patrol and Movement Techniques

Technique of Moving on Skis While Being Roped Up; Methods for roped movement on skis; Safety procedures and team coordination; Long Distance Patrols on Skis with Combat Load; Coping with altitude sickness and extreme weather; Emergency shelters and survival strategies

Books Recommended:

1. Mountaineering and Snow Rescue Techniques by Colonel H. S. Chauhan
2. Avalanche Essentials: A Step-by-Step System for Safety and Survival by Bruce Tremper
3. Snow Sense: A Guide to Evaluating Snow Avalanche Hazard by Jill Fredston and Doug Fesler
4. Mountain Rescue Techniques by Brigadier P.K. Thakur
5. Staying Alive in Avalanche Terrain by Bruce Tremper
6. Backcountry Avalanche Safety by Tony Daffern
7. High Altitude Medicine and Physiology by Colonel Dr. S.K. Dash
8. High Altitude Mountaineering by Andrew Lock
9. Medicine for Mountaineering & Other Wilderness Activities by James A. Wilkerson
10. Winter Warfare: Tactics, Techniques, and Training for Mountain Operations by Brigadier N.C. Mohanty
11. The Ski Guide Manual: Advanced Techniques for the Backcountry by Rob Coppolillo
12. The Handbook of Mountain Warfare by Major General J.F.C. Fuller

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SEMESTER IV

DETAILED SYLLABUS

Course No.: MDM-401

Title: Disaster Resilience

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2026, 2027 & 2028

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Disaster resilience course aims to fortify communities against the impacts of natural or man-made catastrophes, ensuring minimal disruption to livelihoods and infrastructure. By integrating proactive planning, robust infrastructure, and effective response mechanisms, resilience endeavors to mitigate risks and enhance adaptive capacities.

Unit 1: Fundamentals of Disaster Response

Overview of various disaster response strategies and their importance in mitigating the impact of emergencies, Basic first aid and medical response, Fire safety and rescue techniques, Communication and coordination in disaster response; Shelter planning and setup, Hygiene and sanitation in emergency shelters, Camp coordination and management; Techniques for effective management and coordination of emergency camps to ensure orderly and efficient operations.

Unit 2: Public-Private-Partnership and Social Corporate Responsibility

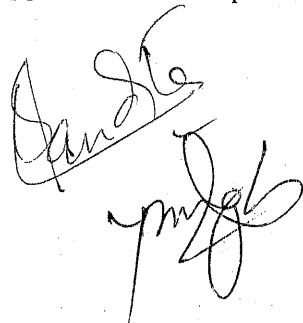
Public-Private Partnership (PPP) and Corporate Social Responsibility in Disaster Management; Role of PPPs in enhancing disaster preparedness and response capabilities; Types of PPP models: collaborative frameworks, joint ventures, outsourcing; Case studies of successful PPP initiatives in disaster response; Role of Corporate Social Responsibility (CSR) in Disaster Preparedness

Unit 3: Community-Based Approaches to Disaster Resilience

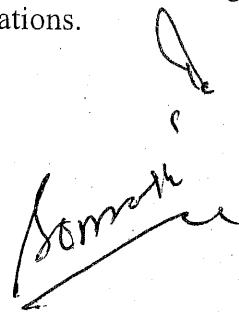
Community Preparedness and Awareness: Importance of community involvement in building disaster resilience; Strategies for enhancing community preparedness and awareness through training and education programs; Resilient Infrastructure and Housing; Importance of strengthening community bonds; Contributions of NGOs and volunteer groups in fostering a culture of preparedness and mutual support

Unit 4: Financial and Human Resource Management in Disasters

Critical aspects of financial and human resource management in disaster scenarios, Essential skills for effective financial planning, Importance of resource mobilization, and transparency in financial management, Funding sources and mechanisms for financial monitoring and reporting, Accountability in managing disaster-related funds; Importance of developing and managing human resources effectively to support disaster response and recovery operations.







Master Degree Programme in Disaster Management

Books Recommended:

1. Building Resilience: Social Capital in Post-Disaster Recovery by Daniel P. Aldrich
2. Disaster Management in India by Ravi Chopra
3. Disaster Management in India: A Study of State Civil Supplies Corporations by P. C. Sinha
4. Disaster Management in India edited by A. K. Singh
5. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), Government of India
6. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
7. National Policy on Disaster Management- (NDMA)
8. Guidelines on Temporary Shelters and on Incident Response System -NDMA

Course No.: MDM-402

Title: Disaster and Risk Communication

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2026, 2027 & 2028

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

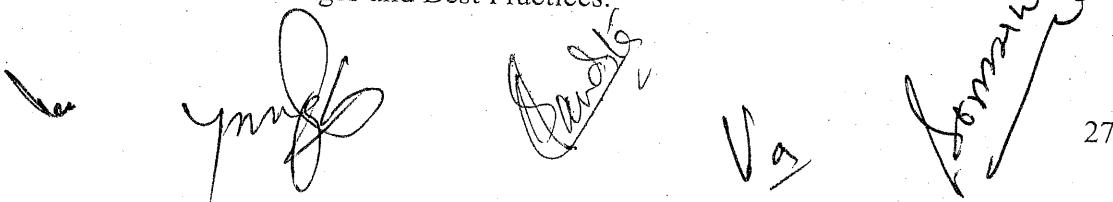
Objective: Disaster and risk communication aims to effectively convey information before, during, and after crises to minimize harm and facilitate preparedness and response efforts. By providing timely and accurate information, it seeks to enhance public understanding, encourage appropriate actions. Effective communication strategies are crucial in mitigating confusion, reducing risks, and promoting swift recovery in the face of disasters and emergencies.

Unit 1: Understanding Disaster Communications

Introduction to Disaster Communication: Definition and Types of Communication, Nature of Communication, Communication Context, Communication Skills, Communication Apprehension, Perception, Audience, Development Communication, Co-cultural Communication Theory, Definition of Disaster Communications, Communication Science in Disaster Management.

Unit 2: Tools and Techniques for Disaster Communications

Use of Communication Tools in Disaster Management, Information Dissemination Techniques, Telecommunication, Satellite Communication, Submarine Communication, Internet, Mobile Technology, New Communication Mechanism, Wireless Network Technology, Internet and Social Networking, Techniques of Social Media use in Emergencies, Alternative Communication Solutions, Communication Challenges and Best Practices.



Unit 3: Communication Strategy and Plan

Principles of Disaster Communication Strategy, Prerequisite for Communication Planning, Stages of Communication Planning, Selection of Media and Media Plan, Communication Plan and Disaster Risk Reduction, Disaster phases and Communication, Disaster Communication Ethics.

Unit 4: Early Warning and Communication

Early Warning of Disasters, Prediction and Forecasting, History of Early Warning Systems (EWS), Recent Development of EWS, Elements of Early Warning, Community Based EWS, Early Warning and Communication Team, Developing Early Warning Systems, Application of Warning Operations, Functions and Role of Media in Disaster Management, Interactive Voice Response.

Books Recommended:

1. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
2. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
3. Guidelines on Prevention & Management –NDMA
4. Guidelines on Risk Reduction & Management-NDMA
5. Disaster Management and Risk Reduction: Strategy and Coordination by Rajib Shaw
6. Disaster Communication in a Changing Media World: Challenges, Issues, and Strategies in India edited by K. Srinivas and H. Sudarshan
7. Disaster Communication in a Changing Media World by George Haddow, Kim Haddow, and Damon P. Coppola
8. Risk Communication: A Handbook for Communicating Environmental, Safety, and Health Risks by Regina E. Lundgren and Andrea H. McMakin.

Course No.: MDM-T403

Title: Disaster, Emergency and Public Health

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2026, 2027 & 2028

Guidelines for setting of question paper: Eight long answer type questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: Disaster, Emergency, and Public Health objectives typically aim to enhance preparedness, response, and recovery efforts during crises. By integrating these efforts, the goal is to mitigate risks, minimize adverse health impacts, and ensure resilient communities in the face of disasters and emergencies.

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Master Degree Programme in Disaster Management

Unit 1: Fundamentals of Medical Emergency Response

Introduction to Medical Emergencies: Definition and types of medical emergencies; Importance of timely response in saving lives; Components of an effective emergency preparedness plan; Integration of emergency response with hospitals and clinics; Protocols for patient transfer and communication

Unit 2: Basic Life Support (BLS)

Cardiopulmonary Resuscitation (CPR): Adult CPR, Child CPR, Infant CPR and Automated External Defibrillator (AED) Usage; Airway Management: Opening the Airway, Oropharyngeal Airway (OPA) Insertion, Nasopharyngeal Airway (NPA) Insertion, Bag-Valve-Mask (BVM) Ventilation; Respiratory Emergencies: Asthma Attacks, Anaphylaxis, Choking and Hyperventilation; Circulatory Emergencies: Heart Attacks, Strokes, Shock Management and Severe Bleeding

Unit 3: Advanced Life Support (ALS)

Advanced Airway Techniques: Endotracheal Intubation, Laryngeal Mask Airway (LMA), Advanced Cardiac Life Support (ACLS) Algorithms, Drug Administration (Epinephrine, Amiodarone, etc.), Post-Cardiac Arrest Care, Electrical Therapy (Defibrillation, Cardioversion); Peripheral IV Insertion, Intraosseous (IO) Access, Common Emergency Medications, Fluid Resuscitation; Head and Neck Injuries, Chest and Abdominal Injuries, Fractures and Dislocations and Spinal Immobilization

Unit 4: Special Situations

Pediatric Emergencies: Pediatric Assessment, Pediatric Resuscitation, Common Pediatric Emergencies, Pediatric Trauma; Preterm Labor, Postpartum Hemorrhage, Neonatal Resuscitation; Hypothermia and Frostbite, Heat Stroke and Heat Exhaustion, Drowning and Near-Drowning, Poisoning and Toxic Exposures; Triage Systems, Incident Command System (ICS), Disaster Preparedness, Psychological First Aid

Books Recommended:

1. Updated National Guidelines For Mental Health and Psychosocial Support Services in Disasters -NDMA
2. Guidelines on Minimum Standards of Relief-NDMA
3. Guidelines on School and Hospital Safety-NDMA
4. Guidelines on Incident Response System Guidelines on Psycho-Social Support and Mental Health Services in Disasters Guidelines on Preparation of State Disaster Management Plans--NDMA
5. Disaster Management: Global Challenges and Local Solutions by R.B. Singh and S. K. Singh
6. Disaster Management in India by K. Srinivasulu
7. Public Health and Disasters: Health Care in Emergencies edited by Raman Preet
8. Emergency Response and Disaster Management by R. L. Goyal
9. Disaster Nursing and Emergency Preparedness by Tener Goodwin Veenema
10. Principles of Emergency Management and Emergency Operations Centers (EOC) by Michael J. Fagel

Master Degree Programme in Disaster Management

11. Public Health Preparedness: Case Studies in Policy and Management by Laura H. Kahn, MD, MPH, MPP
12. Introduction to Emergency Management by George Haddow, Jane Bullock, and Damon P. Coppola

Course No.: MDM-404

Title: Psychological Preparedness in Disaster Management

Credits: 04

Duration of Examination: 3 hours

Maximum Marks: 100 (Theory Examination: 80Marks; internal assessment: 20 Marks)

Examination to be held in the year 2026, 2027 & 2028

Guidelines for setting of question paper: Eight long answer types' questions are to be set with two questions from each unit. The candidate has to attempt only four questions selecting one question from each unit. Each question carries 20 Marks.

Objective: In the context of disaster management, psychological preparedness course aimed at enhancing the mental resilience of individuals and communities facing disasters. It encompasses strategies to mitigate psychological distress, promote coping mechanisms, and foster psychological first aid.

Unit 1: Fundamentals of Psychological Preparedness

Understanding Psychological Preparedness; Definition and importance; Psychological impacts of disasters; Difference between physical and psychological preparedness; Key concepts and theories; Types of stress related to disasters; Psychological and physiological responses to stress; Psychological First Aid (PFA); Skills and techniques for providing PFA; Special considerations for different populations

Unit 2: Psychological Preparedness for Individuals and Families

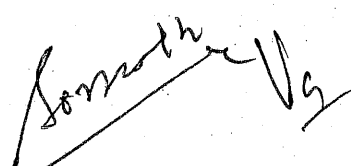
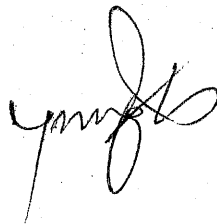
Building Individual Resilience; Personal risk perception and awareness; Strengthening adaptive capacities; Self-care and stress management techniques; Special considerations for children and elderly; Psychological preparedness training programs; Role of schools and educational institutions; Understanding public response to disaster warnings

Unit 3: Community-Based Psychological Preparedness

Community Resilience and Social Capital; Importance of community cohesion; Role of community organizations and leaders; Public Awareness Campaigns; Engaging diverse populations; Training First Responders and Volunteers; Psychological preparedness for emergency responder; Addressing stigma related to mental health

Unit 4: Post-Disaster Psychological Interventions

Immediate Psychological Interventions; Crisis intervention techniques; Debriefing and defusing sessions; Continuity of care post-disaster; Community mental health programs; Rehabilitation and recovery services; Best practices and evidence-based interventions; Success stories and challenges.



Master Degree Programme in Disaster Management

Books Recommended:

1. National Disaster Management Guidelines by National Disaster Management Authority (NDMA), India
2. Standard Operating Procedures for Responding to Natural Disasters-(NDMA)
3. Updated National Guidelines For Mental Health and Psychosocial Support Services in
4. Guidelines on Hospital Safety-NDMA
5. Guidelines on Incident Response System-NDMA
6. Guidelines on Psycho-Social Support and Mental Health Services in Disasters
Guidelines on Preparation of State Disaster Management Plans-NDMA
7. Disaster Mental Health: Theory and Practice by James Halpern and Mary Tramontin
8. Disaster Psychiatry: Readiness, Evaluation, and Treatment edited by Robert J. Ursano, Carol S. Fullerton, and Lars Weisaeth
9. Psychosocial Capacity Building in Response to Disasters by Joshua L. Miller and Mark S. Schorr
10. Public health emergencies and disaster management in India by Dr. Rajib Dasgupta
11. Disaster management and psychological aspects in emergencies by Dr. Nitin Agarwal
12. Disaster psychology and preparedness by Dr. Subhasis Bhadra

Course No.: MDM-405

Title: Experiential and Practical Learning in Mountain and Winter Environments

Credits: 10

Maximum Marks: 200

Examination to be held in the year 2026, 2027 & 2028

Note: The evaluation of this course shall be based on continuous assessment during the practical training on various aspects of disaster management being imparted during the course of study. The concerned teachers/ instructors shall keep a daily record of performance of the trainees and award marks as per their punctuality, understanding and performance during the practical sessions.

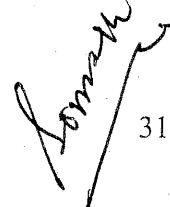
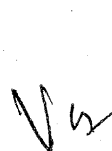
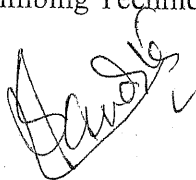
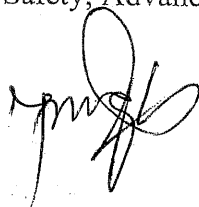
Objective: The objective of this course is to facilitate practical learning experiences in mountain and winter environments, fostering hands-on skills and knowledge acquisition through immersive educational activities.

Unit 1: Advanced Mountain and Snowcraft Training

Glacier March and Mountain Operations; Camping in Snow; Techniques for glacier travel; Setting up camp in snow conditions; Essential gear for snow camping; Mountain Hazards and Navigation: Identifying and mitigating mountain hazards (avalanches, crevasses, rock falls); Special Heliborne Operations: Techniques and safety procedures for heliborne operations

Unit 2: Advanced Mountain Skills

Tyrolean Traverse and Equipment Use; Setting up and crossing a Tyrolean traverse; Using a Kestrel weather meter and altimeter; Mountain Weather and Explosives; Pitch Climbing and Camouflage; Avalanche Safety; Advanced Climbing Techniques



Unit 3: Skiing and Winter Combat Skills

Overview of modern ski equipment; Skiing with Combat Load; Firing weapons while on skis; Winter individual battle drills with and without skis; Combat first aid procedures; Camp hygiene practices; CPR in cold environments; Handling emergencies in snow-covered terrain

Unit 4: Health and Safety in Mountain Environments

Cold Injuries and Health Hazards; Recognizing and treating cold injuries (frostbite, hypothermia); Health hazards specific to mountain environments; High Altitude Effects; Impact of high altitude on the human body; Preventive measures for altitude sickness; Langlauf (cross-country skiing) with combat load

Books Recommended:

1. Mountaineering in the Indian Himalaya by M.S. Kohli
2. Himalayan Mountaineering: In Love with Mountains by Major H.P.S. Ahluwalia
3. The Ultimate Guide to Winter Camping by Cliff Jacobson
4. Mountain Navigation: Finding Your Way in the Wild by Peter Cliff
5. Helicopter Rescue Techniques by John Funnell
6. Climbing in the Himalaya: A Guide to Climbing and Trekking by Harish Kapadia
7. Tyrolean Traverse Techniques by Jerry Auld
8. Mountain Weather: Weather Conditions in the Mountains by Jeff Renner
9. Avalanche Safety for Skiers and Climbers by Tony Daffern
10. Advanced Rock Climbing Techniques by Chris Sharma
11. Skiing in the Himalayas by Gurdial Singh
12. Combat Skiing: Military Ski Techniques by Alexander Yelistratov
13. High Altitude Medicine and Physiology by Dr. Kamal K. Mahajan
14. Surviving in the Mountains: A Guide to Mountain Health Hazards by Dr. Rajeev Sharma
15. Mountain Medicine by Dr. Charles Houston
16. Cross-Country Skiing: Building Skills for Fun and Fitness by Steve Hindman

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