Jharkhand Raksha Shakti University

RANCHI

Syllabus
&
COURSE STRUCTURE

POST GRADUATE DIPLOMA IN DISASTER MANAGEMENT

[Duration: One year]

POST GRADUATE DIPLOMA IN DISASTER MANAGEMENT

Semester-I

Code No		Total Credits	Total hours	Total Marks
THEORY PAPERS				
PGDDM-101	Introduction to Disaster Management	2	30	100
PGDDM-102	Risk Assessment & Vulnerability Analysis	2	30	100
PGDDM-103	Industrial Disaster Safety Management	2	30	100
PGDDM-104	Disaster Preparedness, Disaster Response, Incident Command System and Incident Response System	2	30	100
PGDDM-105	GIS & ICT for Disaster Management	2	30	100
PRACTICAL PAPERS				
PGDDM-106	Practical I- GIS for Disaster Management	3	90	100
PGDDM-107	Practical II- ICT for Disaster Management	3	90	100
PGDDM-108	Outdoor Training I	3	90	100
PGDDM-109	Field work I	3	90	100
	Total	**22**	**510**	**900**

POST GRADUATE DIPLOMA IN DISASTER MANAGEMENT

Semester-II

Code No		Total Credits	Total Hours	Total Marks
THEORY PAPERS				
PGDDM-110	Disaster Management Policy & E-Governance	2	30	100
PGDDM-111	Mining Disasters, Fire, Flood and Lightening Disasters	2	30	100
PGDDM-112	Rehabilitation Reconstruction & Recovery	2	30	100
PGDDM-113	Managing Human Behavior and Human Rights	2	30	100
PGDDM-114	Research Methodology in Disaster Management	2	30	100
PRACTICAL PAPERS				
PGDDM-115	Practical III- Remote Sensing for Disaster Management	3	90	100
PGDDM-116	Project Work	3	90	100
PGDDM-117	Outdoor Training II	3	90	100
PGDDM-118	Field work II	3	90	100
	Total	**22**	**510**	**900**

1. INTRODUCTION

The name of the course shall be *Post Graduate Diploma in Disaster Management (PGDDM)*.

2. OBJECTIVES

- **(a) To minimize the risk of disasters with the effective use of ICT, Remote sensing and GIS.**
- **(b) To train students on various aspects of Disaster Management.**
- **(c) To create safe and sustainable environment by community strengthening capacity building.**
- **(d) To assist local administration by providing expertise in the field of Disaster Management.**

3. ELIGIBILITY

A student may be admitted to the PGDDM course for the degree of Post Graduate Diploma in Disaster Management, if he/she is a Graduate (B.Sc. /B.Com/B.A.) from a University established incorporated by law, or any other examination recognized by the university as equivalent thereto with minimum 55% marks in aggregate.

4. COURSE STRUCTURE

The PGDDM Programme is divided in two semesters; details of each semester are as given below:

PGDDM- 101: Introduction to Disaster Management (Credits-2) (Hours- 30)

Unit I- Introduction- Disaster & Disaster Management

Hazard, Risk, Vulnerability, Disaster, Meaning, Nature, Importance, Dimensions & Scope of Disaster Management, Disaster Management Cycle

Unit II- Natural Disasters

Meaning and nature of natural disasters, their types and effects , Hydrological Disasters - Flood, Flash flood , Drought, cloud burst, Geological Disasters- Earthquakes, Landslides, Avalanches, Volcanic eruptions, Mudflow, Wind related- Cyclone, Storm, Storm surge, tidal waves, Heat and cold Waves, Climatic Change, Global warming, Sea Level rise, Ozone Depletion

Unit III- Man-made Disasters

CBRN – Chemical disasters, biological disasters, radiological disasters, nuclear disasters, Fire – building fire, coal fire, forest fire, Oil fire, Accidents- road accidents, rail accidents, air

accidents, sea accidents, Pollution and deforestation- air pollution, water pollution, deforestation, Industrial pollution, deforestation, Naxalism, terrorist attcks

Unit IV- Case studies on Natural and Man-made Disasters

Case studies on Natural Disasters such as Floods, Drought, Cyclone, Earthquake, Landslides, Avalanches, Volcanic eruption etc. Case studies on Man-made Disasters such as Nuclear Disasters, Chemical Disasters, biological Disasters, Pollution, Accidents etc.

Suggested readings:

1. Disaster Administration and Management, Text & Case studies- SL Goel-Deep and Deep Publications
2. Disaster Management- G.K Ghosh-A.P.H. Publishing Corporation
3. Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.
4. Disaster Management – Vinod K Sharma- IIPA, New Delhi, 1995
5. Encyclopedia of Disaster Management- Goel S.L. - Deep and Deep Publications, New Delhi, 2006.

PGDDM- 102: Risk Assessment & Vulnerability Analysis (Credits-2) (Hours- 30)

Unit I- Introduction

Hazard, Risk and Vulnerability, Risk Concepts, Elements of Risk, Perception of Risk, Acceptable risk, Requirements in Risk assessment

Unit II- Risk Assessment & Reduction

Risk Reduction- Mainstreaming "Risk", Role of science and technology in Disaster Risk Reduction, Strategies of Risk reduction, International Mobilization of Risk reduction; Risk analysis techniques- Process of Risk assessment, Analytical systems for risk assessment, Natural hazard/ risk assessment, Understanding climate risk, Mapping of risk assessment, Decision making for risk reduction, Problems in risk assessment; Participatory risk assessment: Rationale for people's participation, Role of civil society organizations, Impact of Globalization, Activities and roles for the community action Risk reduction, Participatory risk assessment methods,

Unit III- Vulnerability

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

Unit IV- Strategic development for Vulnerability reduction

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

Suggested Readings:

1. Disaster Administration and Management, Text & Case studies- SL Goel-Deep and

Deep Publications
2. Disaster Management- G.K Ghosh-A.P.H. Publishing Corporation
3. Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.
4. Disaster Management – Vinod K Sharma- NIDM, New Delhi
5. Disaster Risk Reduction in South Asia- by Pradeep Sahni - Prentice – Hall of India
6. Disaster Mitigation and Management Post – Tsunami Perspectives P, Jagadish Gandhi
7. Disaster Mitigation – Experiences and reflections – By Pradeep sahni - Prentice – Hall of India
8. E-Governance and Disaster Management - Col. (Dr.) Prof. Rajesh Kumar- GenNext Publication 2018, ISBN 9789353241131.

PGDDM- 103 : Industrial Disaster Safety Management (Credits-2) (Hours- 30)

Unit 1 Introduction

Concept, Need and Importance of Industrial Disaster Management, Need for safety, Safety legislation: Acts and rules, Factory Act 1948, Workman's Compensation Act, 1943, Employees State Insurance Act, 1948, Safety standards and codes, Safety policy: safety organization and responsibilities and authorities of different levels, Safety Management

Unit II Industrial Hazards

Chemical hazards, Biological hazards, Radiological hazards, nuclear hazards, Physical hazards, Electrical hazards, Fire hazard, Gas hazards etc.

Unit III Risk Assessment & Hazard Identification

Checklist procedure, Preliminary hazard analysis, What if analysis, Failure mode effect analysis, Hazard and operability (HAZOP) studies, Hazard analysis techniques: Fault tree analysis, Event tree analysis, General outline of DOW index, Risk estimation and management, Major hazard control, Identification of hazard, Categorization methods for elimination of hazard, Mechanical hazards;

Unit IV Disaster Management Plans

1. Onsite Plans
Standard operating procedures, control room, safety officer, Different committees for Disaster management, rescue team, training, exercises and mock drills
2. Offsite Plans
Dissemination of information, identification of vulnerable locations, need and damage assessment, rescue and relief plans, compensation

Unit V Training for Safety

Importance of training-identification of training needs-training methods – programmes, seminars, conferences, competitions – method of promoting safe practice - motivation – communication - role of government agencies and private consulting agencies in safety training – Safety awareness, Employee Participation, awards, celebrations, safety posters, safety displays, safety pledge, safety incentive scheme, safety campaign – Domestic

Unit VI Accident Investigation and reporting

Concept of an accident, reportable and non reportable accidents, reporting to statutory authorities – principles of accident prevention – accident investigation and analysis – records for accidents, departmental accident reports, documentation of accidents – unsafe act and condition – supervisory role – role of safety committee –cost of accident.

Unit VII Safety Performance Monitoring and Audit

Safety Performance Monitoring, Safety Audit-Components of safety audit, types of audit, audit methodology.

Suggested Readings:

1. Disaster Administration and Management, Text & Case studies- SL Goel-Deep and Deep Publications
2. Hazardous Materials Disaster Management-Arunkumar Talwar, Coomnwealth Publisher
3. Heinrich H.W. "Industrial Accident Prevention" McGraw-Hill Company, New York, 1980
4. Krishnan N.V. "Safety Management in Industry" Jaico Publishing House, Bombay, 1997
5. Dan Petersen, "Techniques of Safety Management", McGraw-Hill Company, Tokyo, 1981
6. Blake R.B., "Industrial Safety" Prentice Hall, Inc., New Jersey, 1973
7. Slote. L. Handbook of Occupational Safety and Health, John Willey and Sons, New York

PGDDM- 104: Disaster preparedness, Disaster Response, Incident Command System and Incident Response System (Credits-2) (Hours- 30)

Unit I Disaster Preparedness

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

Unit II Disaster Preparedness Plan

Concept and Significance, Disaster Preparedness Plan essentials, Community Based Disaster Preparedness plan

Unit III Disaster Preparation

Material, relief required- Preparation, awareness, perception, reaction, Authority: Hierarchy set-up, direction of communication, Hazard monitoring, tracking and modeling, Early warning systems, warning protocols, Disaster Resource Network, Role of Information, Education, Communication and Training

Unit IV- Disaster Response

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

Unit V- Coordination in Disaster Response

Disaster response organization, Disaster response & administration - Central, State, District and Local, Disaster Response: Policy & Other organization, Role of multiple stakeholders in Disaster Response NDRF, SDRF, ITBP, CRPF, SRPF, EMS

Unit VI- Quick Disaster Response

First responder, medical first aid, life saving techniques, Golden time; Search & Rescue equipments- Search & Rescue equipments for different disasters, its use, procurement, maintenance; Search & Rescue Teams- Warning teams, evacuation teams, medical support, logistic management & other teams

Unit VII- Relief Measures

Relief measures, Minimum standards of relief, managing relief, Funding relief, Recovery

Unit VIII- Incident Response System & Incident Command System

Overview of Incident Response System, Disaster Response Management, Incident Commander and Command Staff, Operations Section, Planning Section and Logistic Section

Suggested Readings:

1. Disaster Administration and Management, Text & Case studies- SL Goel-Deep and Deep Publications
2. Natural Hazards And Disaster Management : Vulnerability And Mitigation - R B Singh- Rawat Publications
3. E-Governance and Disaster Management - Col. (Dr.) Prof. Rajesh Kumar- GenNext Publication 2018, ISBN 9789353241131.
4. Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.
5. Disaster Management – Vinod K Sharma- IIPA, New Delhi,1995
6. Disaster Planning and Recovery- Levitt, Alan M - John Valley and Sons, New York, 1997.
7. National Disaster Response Plan - Ministry of Agriculture and Cooperation, Government of India, New Delhi: 2002
8. National Disaster Response Plan, NCDM, New Delhi, 2001
9. Disaster Management- G.K Ghosh - A.P.H. Publishing Corporation

PGDDM- 105: GIS & ICT for Disaster Management (Credits-2) (Hours- 30)

Unit I- Introduction

Geographical Information Systems - definition, development, data sources, data structures, raster and vector, data capturing, pre-processing, Introduction to Geomorphology and Geology, Study the statigraphy of India, Morphometric analysis with the help of remote sensing & GIS techniques.

Unit II- Data base management systems in GSI
Concept and scope, data manipulations and product generation- Environmental GIS, Data acquisition system using GPS On line GPS applications.

Unit III- Geographical Information System

Spatial data; Sources of error and data quality; database design, convention, mapping concepts and Coordinate systems; Methods of spatial interpolations in Geographical

Information Systems; visualizations in Geographical Information Systems, Linking terrain, climate and socio economical parameters to target the vulnerability due to natural disasters using GIS and Remote Sensing.

Unit IV- Remote sensing

Introduction to Remote Sensing, Fundamentals of Remote Sensing, Electromagnetic Radiation, Electromagnetic Spectrum, Energy interaction with Atmosphere, Energy interaction with Earth Surface, Platform and Sensors; Characteristics of Image, Image Interpretation and Analysis – Visual Image Interpretation & Digital Image Processing; Microwave Remote Sensing; Remote Sensing Application in Disaster Management; Scenario of Indian Remote Sensing Satellites in future

Unit V- Advanced Information Communication Technology

Tsunami Early Warning System, Forest Resource Information System, Digital Image Processing, emergency communication System, Bluetooth and Wireless communication, HAM Radio,

Unit VI- Disaster Management Information Sources

\Forecasting & warning: Indian meteorological department, tsunami warning centre, pacific disaster centre, central water commission; Resources: UNISDR, USAID, Red Cross ,Indian isaster resource network; Other : National disaster management authority, National Institute of disaster management, National Geophysical Research Institute, Bhuwan, National disaster response force, State and district disaster management centre

Suggested readings

1. Remote Sensing Principles & Applications - B.C. Panda - Viva Book Pvt.Ltd.
2. Remote Sensing and Geographical Information systems - M.Anji Reddy JNTU Hyderabad 2001, B.S.Publications.
3. Remote Sensing and its applications - LRA Narayana - University Press 1999.
4. E-Governance and Disaster Management - Col. (Dr.) Prof. Rajesh Kumar- GenNext Publication 2018, ISBN 9789353241131.
5. Concepts & Techniques of GIS - C.P.Lo Albert, K.W. Yonng - Prentice Hall (India) Publications.
6. GIS - Kang tsung chang, TMH Publications & Co.,
7. Basics of Remote sensing & GIS - S.Kumar- Laxmi Publications.
8. Fundamental of GIS by Mechanical designs John Wiley & Sons
9. Computer Fundamentals- P. K. Sinha, BPB Publications
10. Fundamentals of Computers - V.Rajaraman - PHI Publication, IVth Edition.
11. Principals of Geo physical Information Systems - Peter A Burragh and Rachael, A. McDonnell- Oxford Publishers 2004.

PGDDM- 106 : Practical I- GIS for Disaster Management (Credits-3) (Hours- 90)

Areas of GIS Practical

1. GIS database design & spatial interpretation of GIS.
2. GIS application in land slide inventory studies.
3. GIS applications earthquake studies.
4. GIS applications in flood hazard.
5. GIS applications in forest fire.

6. GIS applications in cyclone hazard.
7. GIS applications in tsunami hazard.
8. Hazard mapping with GIS
9. Use of GIS in Risk assessment and Vulnerability Analysis
10. GIS applications in urban planning
11. GIS application in traffic management
12. GIS application in health management
13. Any other application related to disaster management

PGDDM- 107: Practical II- ICT for Disaster Management

1. Tsunami Early Warning System
2. Forest Resource Information System
3. Digital Image Processing
4. Emergency communication System
5. Bluetooth and Wireless communication
6. HAM Radio.
7. Forecasting & warning: Indian meteorological department, tsunami warning centre, pacific disaster centre, central water commission
8. Resources: UNISDR, USAID, Red Cross, Indian disaster resource network
9. National disaster management authority, National Institute of disaster management, National Geophysical Research Institute, Bhuwan,
10. National disaster response force, State and district disaster management centre

PGDDM- 108: Outdoor Training I (Credits-3) (Hours- 90)

1. Physical Training: P.T.Tables
2. Foot Drill: Drill ki am baten (Introduction)/Demo, Word of Command, Savdhan, Vishram aur Aaramse, Khare Khare murna, Piche, Dahine, Bayen , (Adha Dahine Bayen), Sajna(Dressing), Ginti Karneka, Khuli Line aur Nikat Line, Visarjan aur Line Torna, Sizing Drill, Parade par aur Squad aur Platoon banana, Tez chal aur tham, Aage,Pichhe,Dahine ya Baen Qadam Lena, tez chal main ghumna qadamtal age barh aur , tham, Tez chal se qadam badalna
3. Athletics: 5km. Running (Twice in a week)
4. Athletics: Cross Country (Ones a week)
5. Athletics: Long Jump,High Jump, Shot Put
6. Yogasana: Asan, Padmasan, Budha Padmasan, Utkatasan, Vajrasan, Pachittonasan, Matsendrasan, Naukasan, Bhujangasan, Dhanurasan, Shalbhasan, Pavanmuktasan, Mayurasan, Sarvagasan, Padhastasan, Chakrasan, Janushirasan, Shirshasan, Ushtrasan, Uttanpadmasan, Savasan, Pranayam Kapalbhati, Aalom Vilom, Bhramari, Shitkari, Shitali, Omkar, Mudra, Surya, Vayu, Pruthvi, Pranayam, Shankh, Suryanamaskar
7. Swimming
8. Team Game: Volley Ball, Kabaddi, Kho-Kho, Foot Ball/ optional
9. Theory: General talk about hygiene and discipline Fitness, Diet, Exercise

PGDDM-109: Field Work (Credits-3) (Hours- 90)

1. Hazard mapping of vulnerable area
2. Vulnerability assessment (physical, social, organizational, economical, technological)
3. Risk mitigation planning for vulnerable areas
4. Industrial Disaster Management Analysis

PGDDM- 110: Disaster Management Policy & E-Governance (Credits-2) (Hours- 30)

Unit I– Introduction

Disaster Management: Meaning, Concept, Importance, Objectives of Disaster Management Policy, Disaster Risks in India, Paradigm shift in Disaster Management

Unit II – Disaster Management Policy

Importance of DM Policy, Principles of Disaster management Policy, Features of Disaster Management Policy, Policy Making procedures, Policy Makers, Command and coordination in disaster management

Unit III- E-Governance and Disaster Management

E-Governance: Concept and Significance; E-Governance in Urban Development;
E-Governance in Rural Development; ICT Implementation in Governance: Issues and Challenges; Case Studies: E-Governance, Global View in Indian context; Preparedness and Mitigation in Restoration of E-Governance

Unit IV- Disaster Management Administration

National Disaster Management Policy, Institutional framework for Disaster Management, Existing Institutional arrangement in India, State Disaster management policy, International strategy for Disaster risk reduction, International level organizations involved in disaster management

Unit V- Disaster management and techno legal regime

Study of different measures in different phases of Disasters, Revision of Municipal regulations, Land use planning, Safe Construction practices, Training and capacity development

Unit VI- Case studies

Summary of Indian National Policy on Disaster Management, Disaster management policy of Asian/African countries, Disaster management policy of United state of America

Suggested Readings:

1. Disaster Administration and Management, Text & Case studies- SL Goel-Deep and Deep Publications
2. Natural Hazards and Disaster Management: Vulnerability and Mitigation - R B Singh- Rawat Publications
3. E-Governance and Disaster Management - Col. (Dr.) Prof. Rajesh Kumar- GenNext Publication 2018, ISBN 9789353241131.
4. Disaster Management- G.K Ghosh - A.P.H. Publishing Corporation
5. Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.
6. Disaster management - H.K. Gupta, 2003
7. Disaster Management – Vinod K Sharma- IIPA, New Delhi, 1995

PGDDM- 111: Mining Disasters, Fire, Flood and Lightening Disasters (Credits-2) (Hours-30)
Unit I- Mine Fires

Classification, surface and underground fires, Prevention and control of underground fires, fire fighting and its organization, study of atmosphere behind sealed off areas, re-opening sealed off areas.

Unit II- Spontaneous heating

Mechanism, factors governing spontaneous heating, stages of spontaneous heating, symptoms of spontaneous heating in underground mines, detection and prevention of Spontaneous heating, interpretation of mine air samples, Graham's index, and problems on Graham's index. Incubation period

Unit III- Explosions
Types, mechanism, ignition temperature, lag on ignition, Causes and preventive measures of underground explosions (Fire damp and coal dust explosions) causes and preventive measures. Stone dusting, stone dust and water barriers, investigation after explosion; Dust production in mines and its control. Health hazards; Sampling and assessment of airborne dust

Unit IV- Inundations

Causes of mine inundations from surface and underground Sources; Dams: Types, design, construction of water dams. Dewatering water logged workings, Precautionary and protective measures on surface and in underground when approaching old water logged areas and dewatering of water logged areas/workings, safety boring apparatus.

Unit-V: Mine Illumination/Mine lighting

Technical terms in lighting and photometry, underground lighting, electric safety lamp, different types of portable lamps, methods of illumination in underground mines- Fixed system, mobile system. Standards of mine lighting in opencast and underground mines, Illumination survey lamina and luminance calculations.

Unit – VI: Mine Rescue

Mine rescue and equipment, Short distance apparatus; Self contained oxygen – breathing apparatus, Self rescuers, gas masks, rescue stations, rescue organization, reviving apparatus. Rescue and recovery work in connection with fire, explosions, and inundations. Basic principles of risk management

Unit – VII: Fire Flood, and lightening

Types of Fire- Building Fire, Coal Fire, Forest Fire, Oil Fire; Action plan for Fire & Lightening, Early warning and communications, Prevention, Preparedness and Mitigation measures, Capacity building, Roles and responsibilities for managing Fire and Lightening, Recording of data and documentation. Nature of Floods, Geographical Distribution, Causes and Impacts, Forecasting, Warning and monitoring, Preparedness, response and mitigation, Past Flood Disasters

Suggested Readings:

1. Mine Fires, Inundation and Rescue: M.A. Ramlu, 1991
2. Mine Illumination by Trotller
3. Spontaneous Combustion: S C Banerjee
4. Mine Fires: L C Kaku

5. Mine Fires: Mitchell
6. Mine Ventilation and Air conditioning: Hartman
7. Subsurface Ventilation and Environmental Engineering: McPherson

PGDDM- 112: Rehabilitation Reconstruction & Recovery (Credits-2) (Hours- 30)

Unit I- Rehabilitation, Reconstruction and Development

Concept, Meaning, types of Rehabilitation and Reconstruction, Importance of Disaster Mitigation, Cost – benefit analysis, relationship between vulnerability and development
Damage Assessment- Post Disaster Damage assessment, estimated damage assessment due to probable disasters, Sample Surveys, Epidemiological Surveillance, Nutrition Centered Health Assessment, Remote sensing and Aerial photography, nature and damage to houses and infrastructure due to different disasters
Role of Different organization in Rehabilitation- The Government and Disaster Recovery and rehabilitation; Disaster and Non-governmental efforts; Role of Local Institutions; Insurance, Police, Media

Unit II- Reconstruction

Speedy Reconstructions- Essential services, Social infrastructures, immediate shelters/camps, Contingency plans for reconstructions
Development of Physical and Economic Infrastructure- Developing Physical and Economic Infrastructure, Environmental Infrastructure development,
Disaster resistant House Construction- Guidelines for Disaster resistant construction, traditional techniques, Seismic strengthening of houses in low rain/High rainfall area, earthquake resistant construction technique
Funding arrangements- Funding arrangements at state level and central level, Fiscal discipline, role of International agencies, mobilization of community for resource generation

Unit III- Rehabilitation

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

Unit IV- Recovery

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

Suggested Readings:

1. Asian Development Bank, Disaster Mitigation in Asia and the Pacific, Manila ADB, 1991.
2. Disaster Administration and Management, Text & Case studies- SL Goel-Deep and Deep Publications
3. Disaster Management- G.K Ghosh-A.P.H. Publishing Corporation
4. Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.
5. Disaster Management – Vinod K Sharma- IIPA, New Delhi, 1995
6. Encyclopedia of Disaster Management- Goel S.L. - Deep and Deep Publications, New Delhi, 2006.

7. Post-Earthquake Rehabilitation and Reconstruction, F.Y. Cheng, Y.Y. Wang, Permagon Publications
8. Disaster Management- G.K Ghosh - A.P.H. Publishing Corporation

PGDDM- 113: Managing Human Behavior and Human Rights (Credits-2) (Hours- 30)

Unit I- Individual Dimensions of Organizational Behaviour

Nature of Human Behaviour- Concept, Process, Managerial Implications, Individual differences, Perception- Meaning, Perceptual Process, Perceptual Organization, Interpersonal Perception ; Attitudes and Values- Formation, Theories of attitude formation, attitude change, Values; Motivation- Motivation and behaviour, Motivation and performance, Theories of motivation;

Unit II- Group Dimensions of Organizational Behaviour I

Group Dynamics- Formal and Informal Groups, Group Behaviour, Group Decision Making; Team dynamics- Types of Teams, Effective Team, Team Creation, Task force, Quality Circle; Leadership- Concept, Leadership Styles, Leadership development, leadership & technology

Unit III- Group Dimensions of Organizational Behaviour II
Conflict-Levels of Conflict, Process, Conflict Management, Negotiation, Grievance management; Stress- Concept, Sources of stress, Stress Management, Stress and Performance; Change- Levels of change, Types of change, Change process, Change management

Unit IV- Training and Development

Meaning, Objectives, Training Process, training needs analysis, Training Techniques and Methods, Evaluation, Training Budget, Training outsourcing, E-training, Emerging Trends in Training, Counseling

Unit V- Cases of managing human behaviour in disaster management

Indian cases in natural disasters and man-made disasters
Global cases in natural disasters and man-made disasters

Unit VI- Human rights and Humanitarian laws

Suggested Readings:-

1. Organizational Behavior, Stephen Robbins, 9th Ed., Prentice Hall International Inc.
2. Organizational Behavior- L. M. Prasad, Sultan Chand & sons publications
3. Organizational Behavior- K. Aswathapa, Himalaya Publishing House

PGDDM- 114: Research Methodology in Disaster Management (Credits-2) (Hours- 30)

Unit I- Introduction

Meaning, Concept, nature steps types and characteristics of research, scientific inquiry Philosophical and Sociological foundations of research, Interdisciplinary approach and its implications in various research areas.

Unit II- Methods of Research

Qualitative and quantitative methods of research like Historical, case study, ethnography, ex-post facto, documentary and content analysis, survey (Normative, descriptive, evaluative etc.), field and laboratory experimental studies, Characteristics of methods and their implications in research area.

Unit III- Development of Research Proposal

Research proposal and its elements, Formulation of research problem-criteria of sources and definition, Development of objectives and characteristics of objectives, Development hypotheses and applications

Unit IV- Methods of Data Collection and Analysis

Concept of sampling and other concepts related to sampling; Probability and non-probability samples, their characteristics and implications; Tools of data collections, their types, attributes and uses. Redesigning, research tools-like questionnaire, opinion ire, observation, interviews, scales and tests etc. Analysis of qualitative data based on various tools. Analysis of quantitative data and its presentation with tables, graphs etc. Statistical tools and techniques of data analysis measures of central tendency, dispersion; Decision making with hypothesis testing through parametric and non-parametric tests, Validity and delimitations of research findings

Unit V- Report Writing and Evaluation

Principles of report writing and guide lines according to style manuals, Writing and presentation of preliminary, main body and reference section of report, Evaluation of research report.

Suggested readings:

1. Methods of Social Survey and Research- Bajpai S. R. (1975) - Kitabghar, Kanpur
2. Theory and Practice in Social Research - Hans Raj (1988) – Surjeet Publication, Kolhapur
3. Methodology of Research in Social Science - Krishnaswami O. R. (1988) - Himalaya Pub. House
4. Quantitative Technique - Kothari, C. R. (2005) - Vikas Publication House, New Delhi
5. Development of Research tools - Gautam, N. C. (2004) - Shree Publishers- New Delhi
6. Research Methodology and Statistical Techniques - Gupta Santosh (2005) - Deep and Deep Publications

PGDDM- 115: Practical II- Remote Sensing for Disaster Management (Credits-3) (Hours-90)
1. Introduction to Erdas Imagine
2. Image Enhancement
3. Image Rectification
4. Unsupervised Classification
5. Supervised Classification
6. Object-Based Image Analysis
7. Lidar and NAIP Imagery
8. UAV Data Processing
9. Change Detection
10. Image Operations and Data Fusion
11. Accuracy Assessment

12. Photo Scale and Distance
13. Stereoscopy

PGDDM- 116: Project Work (Credits-3) (Hours- 90)

This is full credit course, being evaluated for 100 marks.
1. The student shall choose a Research Topic after consultation with Faculty Research Guide at the end of first semester.
2. The student should submit Project report at the mid of second semester, evaluation of the same will be done at the end of second semester. The evaluation scheme is as given below:

EVALUATION SCHEME

A) Problem Statement 5 Marks
B) Literature Review 5 Marks
C) Research Methodology 10 Marks
D) Data Analysis 10 Marks
E) Conclusion 10 Marks
F) Suggestions 10 Marks
G) Presentation 25 Marks
H) Viva Voce 25 Marks

Viva voce shall be conducted by panel of two members; one member would be external expert

PGDDM- 117: Outdoor Training Work II (Credits-3) (Hours- 90)

1. Training of Students in other organization regarding Disaster Management

PGDDM- 118: Field Work II (Credits-3) (Hours- 90)

1. Visit of various Mines in Jharkhand and disaster management analysis
2. Visit of various industries in Jharkhand and disaster management analysis
3. Conducting of Mock drills in University
4. Safety of University building, Training in First Aid
5. How Mines and industries are affecting local environment or resources
6. How displacement of large sections of people creates severe vulnerabilities