

**SWAMI RAMANAD TEERTH MARATHWADA  
UNIVERSITY, NANDED**

**School of Management Sciences**

**Sub Centre, Latur**



स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

**Syllabus for the**

**PGDDM**

**School of Management Sciences**

**S.R.T.M.U.N., Sub-Centre, Latur**

**Academic Year 2012-2013**

**“POST GRADUATE DIPLOMA IN  
DISASTER MANAGEMENT (PGDDM)”**

**Semester - I**

<b>Paper No.</b>	<b>Subject</b>	<b>Credit</b>	<b>Total Lectures</b>	<b>Internal Marks</b>	<b>Unv. exam External Marks</b>	<b>Total Marks</b>
101	Introduction to Disaster Management	4	48	50	50	100
102	ICT for Disaster Management	4	48	50	50	100
103	GIS in Disaster Management	4	48	50	50	100
104	Research Methodology in Disaster Management	4	48	50	50	100
105	Risk Assessment and Vulnerability Analysis	4	48	50	50	100
106	Practical Work	4	48	50	50	100
	<b>Total Marks</b>					<b>600</b>

**Semester - II**

<b>Paper No.</b>	<b>Subject</b>	<b>Credit</b>	<b>Total Lectures</b>	<b>Internal Marks</b>	<b>Unv. exam External Marks</b>	<b>Total Marks</b>
201	Disaster Preparedness	4	48	50	50	100
202	Disaster Response	4	48	50	50	100
203	Rehabilitation Reconstruction and Recovery	4	48	50	50	100
204	Managing Human behavior	4	48	50	50	100
205	Banking, Finance and Insurance in Disaster Management	4	48	50	50	100
206	Project Work	4	48	50	50	100
	<b>Total Marks</b>					<b>600</b>

**PGDDM Semester I**  
**Paper No. - 101**  
**Paper Title: INTRODUCTION TO DISASTER MANAGEMENT**

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**TOTAL = 48 HRS**

**CHAPTER I**

Hazard, Risk, Vulnerability, Disaster  
Meaning, Nature, Importance, Dimensions & Scope of Disaster Management, National disaster management framework; financial arrangements Disaster Management Cycle.

**CHAPTER II**

Natural Disasters- Meaning and nature of natural disasters, their types and effects.  
Floods, Drought, Cyclone, Earthquakes, Landslides, Avalanches, Volcanic eruptions,  
Heat and cold Waves, Climatic Change: Global warming, Sea Level rise, Ozone  
Depletion

**CHAPTER III**

Man Made Disasters- Nuclear disasters, chemical disasters, biological disasters,  
building fire, coal fire, forest fire, oil fire, air pollution, water pollution, deforestation,  
industrial waste water pollution, road accidents, rail accidents, air accidents, sea  
accidents.

**CHAPTER IV**

Factors affecting damage – types, scale population, social status, habitation  
pattern, physiology and climate.  
Factors affecting mitigation measures, prediction, preparation, communication, area  
and accessibility, population, physiology and climate

**CHAPTER V**

Disaster Management- Efforts to mitigate natural disasters at national and  
global levels. International Strategy for Disaster reduction.

**CHAPTER VI**

Case Studies

**Suggested readings:**

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

**PGDDM Semester I**  
**Paper No. - 102**  
**Paper Title: ICT for DISASTER MANAGEMENT**

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**Total = 48 hrs**

**CHAPTER I**

Definition of computer, component of Computers, Computer Generation, Classification of Computers, Distributed & Parallel computers, Computer Languages, Computer Memory, Memory Cell & Organization, Types of Memory (Primary And Secondary), RAM, ROM, PROM, EPROM, Secondary Storage Devices ( FD, CD, HD, Pen drive, DVD, Tape Drive, DAT ). I/O Devices, Input Devices, Touch screen , OMR, OBR , OCR, Light pen, Output Devices : Scanners, Digitizers, Plotters, LCD, Plasma Display, Printers.

**CHAPTER II**

Introduction to Database Management System, Examples, Characteristics of the Database Approach, Advantage of using a Database Approach, Database System concepts and Architecture, Data Models, Schemes and Instances, DBMS Architecture and Data Independence, Database Languages and Interfaces, Database System Environment, Classification of Database Management Systems. , MIS concepts through example Indian bioresource Information Network (IBIN), Spatial Data Viewer fro Tsunami Early Warning System, Forest Resource Information System. Spatial data, Spatial database management, Geoinformatics, GIS

**CHAPTER III**

Spreadsheet Basics: Screen elements, Adding and renaming worksheets, The standard toolbar A Worksheet, Formatting Cells: Formatting toolbar, Format Cells dialog box, Dates and times; Formulas and Functions: Formulas, Linking worksheets, Relative, absolute, and mixed referencing, Basic functions, Function Wizard, Autosum, Sorting and Filling: Basic ascending and descending sorts, Complex sorts, Autofill; Alternating text and numbers with Autofill, Autofilling functions; Graphics; Adding clip art; Add an image from a file; Editing a graphics; AutoShapes; Charts: Chart Wizard; Resizing a chart; Moving a chart, Chart formatting toolbar; Page Properties and Printing: Page breaks, Page orientation, Margins, Headers, footers, and page numbers, Print Preview, Print; Keyboard Shortcuts.

**CHAPTER IV**

Introduction of Remote Sensing, Comparison to maps, GIS, aerial photography / Photogrammetry, SONAR, Satellite Images Vs Maps, Remote Sensing Vs GIS, Remote Sensing Vs Aerial Photography / Photogrammetry.

Sensors History, Passive sensors, Active sensors Orbits and swaths, Sensor characteristics Scanner Sensor Systems, Spatial Resolution, Pixel Size, and Scale, Spectral / Radiometric resolution, Spectral characteristics, Spectral range, Spectral bandwidth, Spectral sampling, Signal-to-noise ratio, Temporal Resolution

**CHAPTER V**

Storage formats, Image enhancement: Histogram, stretching, colour palettes, Contrast enhancement, Linear Stretch, Histogram equalization, Piece-wise linear stretch, RGB false colour composite

**CHAPTER VI**

Introduction, emergency communication System, Bluetooth and Wireless communication, HAM Radio, etc.

**Suggested readings:**

1. Fundamentals of Information Technology - Chetan Srivastava - Kalyani Publishers
2. Fundamentals of Computers - V.Rajaraman - PHI Publication , IVth Edition.
3. Fundamentals of Programming - Raj K.Jain - S.Chand Publication
4. Database System Concepts - Abraham Silberschatz and Henry Korth, Sudarshan : Tata McGraw-Hill- IVth Edition, ISBN : 0-07-120413-X
5. Fundamentals of Data base Systems - Elmasri and Navathe , Addison-Wesley, 1999, III rd Edition
6. Fundamentals of Remote Sensing - Noam Levin, November 1999
7. Introduction to Remote Sensing - Dr Robert Sanderson - New Mexico State University

## PGDDM Semester I

Paper No. - 103

**Paper Title: GEOGRAPHIC INFORMATION SYSTEM IN DISASTER MANAGEMENT**

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TOTAL = 48 HRS

### CHAPTER I

Geographic Information Systems - definition, development, data sources, data structures, raster and vector, data capturing, pre-processing.

### CHAPTER II

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

### CHAPTER III

Geographic Information System - Spatial data; sources of error and data quality; database design, convention, mapping concepts and Coordinate systems.

### CHAPTER IV

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

### CHAPTER V

Over view of GIS software - Arc Info; Arc View Principles, operation protocols and hands on training query based information retrieval Web GIS Online GIS and its data applications. Development of GIS based decision support for disaster risk reduction.

### **Suggested readings:**

Remote Sensing Principles & Applications - B.C. Panda - Viva Book Pvt.Ltd.  
Remote Sensing and Geographical Information systems - M.Anji Reddy JNTU Hyderabad 2001, B.S.Publications.  
Remote Sensing and its applications - LRA Narayana - University Press 1999.  
Principals of Geo physical Information Systems - Peter A Burragh and Rachael ,A. Mc Donnell- Oxford Publishers 2004.  
Concepts & Techniques of GIS - C.P.Lo Albert, K.W. Yonng - Prentice Hall (India) Publications.  
GIS - Kang tsung chang, TMH Publications & Co.,  
Basics of Remote sensing & GIS - S.Kumar- Laxmi Publications.  
Fundamental of GIS by Mechanical designs John Wiley & Sons.

## PGDDM Semester I

Paper No. - 104

Paper Title: RESEARCH METHODOLOGY IN DISASTER MANAGEMENT

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TOTAL = 48 HRS

### CHAPTER I

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 area

### CHAPTER II

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.

### CHAPTER III

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.

### CHAPTER IV

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, opinnaere, observation, interviews, scales and tests etc.

### CHAPTER V

Analysis of qualitative data based on various tools.

Analysis of quantative data and it 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.

### CHAPTER VI

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:

Methods of Social Survey and Research- Bajpai S. R. (1975) - Kitabghar, Kanpur

Theory and Practice in Social Research - Hans Raj (1988) - Surjeet

Publication, Kolhapur

Methodology of Research in Social Science - Krishnaswami O. R. (1988) - Himalaya  
Pub. House

Research Methodology in Social Science - Sadhu, Singh

Quantitative Technique - Kothari, C. R. (2005) - Vikas Publication House, New Delhi  
Development of Research tools - Gautam, N. C. (2004) - Shree Publishers- New Delhi  
Research Methodology and Statistical Techniques - Gupta, Santosh (2005) - Deep and Deep Publications  
Business Research Methods- William G. Zikmund  
Research Methodology – C. R. Kothari



**PGDDM Semester I**  
**Paper No. - 105**  
**Paper Title: RISK ASSESMENT AND VULNERABILITY ANALYSIS**

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TOTAL = 48 HRS

**CHAPTER I**

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

**CHAPTER II**

**Risk Reduction**

Mainstreaming "Risk", Targets for risk reduction, 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 through community action', Participatory risk assessment methods

**Vulnerability analysis and Risk assessment**

Addressing Semantics, Approaches to vulnerability Analysis, Models of Vulnerability analysis, Quantification of vulnerability, Assessment of Risk Vulnerability and capacity analysis (VCA), Vulnerability of Himalayan Eco-system

**CHAPTER III**

**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

**CHAPTER 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

**CHAPTER V**

Case Study

**Suggested readings:**

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

Disaster Management- G.K Ghosh-A.P.H. Publishing Corporation

Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.

Disaster Management – Vinod K Sharma- NIDM, New Delhi

Disaster Risk Reduction in South Asia- by Pradeep Sahni - Prentice – Hall of India

Disaster Mitigation and Management Post – Tsunami Perspectives P, Jagadish Gandhi

Disaster Mitigation – Experiences and reflections – By Pradeep sahani - Prentice – Hall of India

**PGDDM Semester I**  
**Paper No. - 106**  
**Paper Title: PRACTICAL WORK**

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**TOTAL = 48 HRS**

This is full credit course, being evaluated for 100 marks.

The work will mainly consist of practical work and two class tests

- **GIS Practical work**
  1. **GIS** database design
  2. Data models of GIS
  3. **GIS application** in land slide inventory studies
  4. **GIS applications** in earthquake studies
  5. **GIS applications** in flood hazard
  6. **GIS applications** in forest fire
  7. **GIS applications** in cyclone hazard
  8. **GIS applications** in tsunami hazard
  
- Two class tests will be conducted

**PGDDM Semester II**  
**Paper No. - 201**  
**Paper Title: DISASTER PREPAREDNESS**

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**TOTAL = 48 HRS**

**CHAPTER I**

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

**CHAPTER II**

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

**CHAPTER III**

Hazard monitoring, tracking and modeling, Early warning systems, warning protocols ,India Disaster Resource Network, , Emergency Sanitation/Shelter environments , worst scenario analysis, Emergency operation Centre, Role of Information, Education, Communication and Training

**CHAPTER IV**

Material, relief required- sources of relief, modes and means of transport, medical facility and communication network. Preparation of manpower, awareness of damages, perception, reaction time. Authority: Hierarchy set-up, direction of communication

**CHAPTER V**

Remote sensing, Disaster Mapping, Aerial Photography, land use zoning, Wireless and Radio, HAM radio  
Disaster Preparedness: Policy and Programmes

**CHAPTER VI**

Case studies

**Suggested readings:**

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

Natural Hazards And Disaster Management : Vulnerability And  
Mitigation - R B Singh- Rawat Publications

Disaster Management- G.K Ghosh - A.P.H. Publishing Corporation

Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A –  
119, William Publications, New Delhi.

Disaster Management – Vinod K Sharma- IIPA, New Delhi,1995

**PGDDM Semester II**  
**Paper No. - 202**  
**Paper Title: DISASTER RESPONSE**

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**TOTAL = 48 HRS**

**CHAPTER I**

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  
Need and damage assessment

**CHAPTER II**

Disaster response organization, Disaster response & administration - Central, State, District and Local , Disaster Response: Policy & Other organization  
Role of multiple stakeholders in Disaster Response

**CHAPTER III**

Individual and Group behavior  
Psychological Response  
Trauma & Stress Management, Rumor & Panic Management

**CHAPTER IV**

Minimum standards of relief, Managing relief, Funding relief, Recovery

**CHAPTER V**

Case Studies

**Suggested readings:**

Disaster Administration and Management, Text & Case studies- SL Goel-Deep and Deep Publications  
Disaster Planning and Recovery- Levitt, Alan M - John Valley and Sons, New York, 1997.  
National Disaster Response Plan - Ministry of Agriculture and Cooperation, Government of India, New Delhi: 2002  
National Disaster Response Plan, NCDM, New Delhi, 2001  
Disaster management – S.K.Singh, S.C. Kundu, Shobha Singh A – 119, William Publications, New Delhi.  
Disaster Management – Vinod K Sharma- NIDM, New Delhi

## **CHAPTER I**

Reconstruction ,Rehabilitation and Development : Importance of Disaster Mitigation, Cost – benefit analysis, relationship between vulnerability and development, rehabilitation as a bridge between relief and development

Damage Assessment: Sample Surveys, Epidemiological Surveillance, Nutrition Centered Health Assessment, Remote sensing and Aerial photography, nature and damage to houses and infrastructure due to different disasters

## **CHAPTER II**

The Government and Disaster

Disaster and Non governmental efforts

Role of Local Institutions

Insurance, Police , Media

## **CHAPTER III**

### **Reconstruction**

Parameters of Vulnerability: Concept of vulnerability and its parameters, vulnerability reduction strategies, sustainable livelihood framework

Development of Physical and Economic Infrastructure

Developing Physical and Economic Infrastructure, Environmental Infrastructure development, Sustainable Community development

Creation of Long-term job opportunities

Concept of livelihood and approach to reconstruction, livelihood options: Challenges and limitations

Funding arrangements

Funding arrangements at state level and central level, Fiscal discipline, role of International agencies, mobilization of community for resource generation

## **CHAPTER IV**

### **Socio- economic Rehabilitation**

- Disaster resistant House Construction

Guidelines for Disaster resistant construction, traditional techniques, building codes and standards, recent advances in Housing Technology, agencies involved in disaster resistant construction

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
- Incorporating and translating Local needs in the Rehabilitation process

## **CHAPTER V**

Case study

### **Suggested readings:**

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

Disaster Management – Vinod K Sharma- IIPA, New Delhi, 1995  
State, NGO's and Disaster Management – Kishor C ,  
Samal, Shibalal Meher, Nilkanth Panigrahi, Srikant Mohanty.

Textbook of Disaster Management Education : Dr. Jayeshsingh  
Shah, Ashtosh Singh, Tembe.

Asian Development Bank, Disaster Mitigation in Asia and the  
Pacific, Manila ADB, 1991.

**PGDDM Semester II**

**Paper No. - 204**

**Paper Title: MANAGING HUMAN BEHAVIOR**

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**Total = 48 hrs**

**CHAPTER I**

Basic foundations of Individual Behavior – Impact on Individual Behavior of: Thinking – Memory – Learning – Emotions – Intelligence – and Abilities.

Perception - concept and perceptual Process

Attitude - Nature and dimensions of attitude – Developing the right attitude

**CHAPTER II**

Concept of Group- Formal and Informal Groups - Theories of Group Formation - Group dynamics - Determinants of Interpersonal behavior – ethics, values & Interpersonal behaviour. Team building: concept - Importance - team decision making.

Stress Management: Causes- Effects- Coping Strategies- Stress as a motivator.

Conflict Management - Types of conflict – Intrapersonal, Interpersonal [Transaction Analysis – Ego States – Johari Window etc.] and Organizational - Constructive and Destructive conflict. Frustration - concept

Motivation - Maslow's Theory of need hierarchy - Herzberg's theory.

Morale - Definition and relationship with productivity - Morale Indicators.

Leadership - Roles & activities. Communication

**CHAPTER III**

Change, change as a natural process, Importance & Causes of change – social, economic, technological and organizational.

Nature of planned change, Organizational change management, process of change, resistance to change, preparing organization for change, Stakeholders and Negotiating Change: Client and Consultant Relationship, Organizational improvement strategies, large scale interpenetrations and System Thinking

**CHAPTER IV**

Training - Needs-Training Process-Methods of Training –Tools and Aids-Evaluation of Training Programs- e-training - counseling.



**Suggested readings:**

Organizational Behavior, Stephen Robbins, 9th Ed., Prentice Hall International Inc.  
Human Behavior at Work, Keith Davis,  
Organizational Behavior, Fred Luthans,  
Human Behavior at work, Davis and New storm,  
Organizational Behavior, K. Aswathappa,  
Human Resource Manahgement, P.Subbaraoa, Himalaya Publishing house.  
Human Relations & Organizational Behaviour, R.S.Dwivedi

**PGDDM Semester II**

**Paper No. - 205**

**Paper Title: BANKING, FINANCE & INSURANCE IN DISASTER MANAGEMENT**

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**TOTAL = 48 HRS**

**CHAPTER I**

Introduction to Banking & Finance

- a. Concept of Banking
- b. Types of banks
- c. Functions of banks
- d. Tax administration;
- e. Public budgeting and finance systems;
- f. State and local finances.

**CHAPTER II**

Central Bank / Reserve Bank

Role of central bank

Functions

RBI and Monetary Policy

**CHAPTER III**

Introduction to Insurance

- a. Evolution and Features of Insurance
- b. Classification of Insurance
- c. Conditions relating to risk, selection or Risk

**CHAPTER IV**

Life Insurance & General Insurance

- a. Principles of LIC
- b. Privatization of Life Insurance Business
- c. Role and performance of LIC

- d. Non-life insurance – Fire, Automobile, Marine, Health, Rural, social and Miscellaneous insurances.

## **CHAPTER V**

Insurance Policies for Disaster Management:

- a. Evaluation of risk funding and risk transfer policies;
- b. Catastrophe insurance pool
- c. Reserve funds and contingent credit policies;
- d. Role of Government and market participants;
- e. Insurance policy design;
- f. Fiscal cost of relief and reconstruction;
- g. Grants and low interest loan for reconstruction.

### **Suggested readings:**

National Disaster Response Plan, NCDM, New Delhi, 2001.

Contemporary Natural and Manmade Disaster. Master of Disaster Mitigation.

World Institution Building Programme Centre, 2004.

Money and Banking – T.N.Hajela

Banking and Fiancial Markets in India – Bhasin Niti

Indian Banking – Natrajan

Banking Principles and practices – shekhar

Principles of Insurance - Mishra

Principles & practice of Insurance – G.S.Panda

**PGDDM Semester II**  
**Paper No. - 206**  
**Paper Title: PROJECT WORK**

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**TOTAL = 48 HRS**

This is full credit course evaluated for 100 marks.

The work will mainly consist of visiting to the fields for sample collection and analyzing the data in the Laboratory and establishing any one themes of disaster management.

Data obtained is to be analyzed, compiled and submitted as a dissertation report.

The students shall choose Research Topic after consultation with Faculty / Research Guide at the end of first semester.

The student should submit report at the mid of second semester and 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	05 Marks
B) Literature Review	05 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.

**Note:-**

1. Lecture Periods of 60 Minutes each.
2. For each subject evaluation, 50% marks are reserved for internal evaluation and 50% marks are reserved for University evaluation.
3. The structure of Internal Marks and Exam shall be decided by the teacher who is teaching the paper. (10 marks for class room participation and 40 marks for evaluation)
4. The structure of External Exam / paper shall be of the University Examination pattern

5. Project Work (206)

Each student shall undergo a practical training for a period of not less than 50 days during the vacation at the end of First Year.

Based on the actual training during the vacation, the student shall write a project report on the topic selected under the guidance of a faculty/ research guide and submit two copies of the same to the Director of the institute before 30th April. The project Report shall be assessed by internal (50 marks) and external (50 marks) examiners. For external evaluation, there will be a viva -voce at the end of second semester. Such viva-voce shall be conducted by a panel of two referees [One referee will be External and One referee will be Internal Teacher] appointed by the University.

- 6 The grading will be given on CGPA system as practiced by the University.

7. Standard of passing

- i. Every candidate must secure 50% marks in aggregate and for external examination 25 out of 50 marks and for internal examination 25 out of 50 marks.
- ii. The internal and external assessment will constitute separate heads of passing and that will be shown separately in the transcripts.
- iii. The external assessment shall be based on the external written examination to be held at the end of each semester for each paper / course. The project report and viva- voce shall constitute one head of passing.
- iv. Marks in internal assessment should be communicated to the university before the commencement of the semester examination.