॥ सा विद्या या विमुक्तये ॥

स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड

'ज्ञानतीर्थ', विष्णुपुरी, नांदेड – ४३१ ६०६ (महाराष्ट्र राज्य) भारत

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY, NANDED

'Dnyanteerth', Vishnupuri, Nanded - 431 606 (Maharashtra State) INDIA

Established on 17th September, 1994, Recognized By the UGC U/s 2(f) and 12(B), NAAC Re-accredited with'B++' grade

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वाणिज्य व व्यवस्थापन विद्याशाखे अंतर्गत पद्व्युत्तर पदवी अभ्यासक्रम राष्ट्रीय शैक्षणिक धोरण २०२० च्या अनुषंगाने शैक्षणिक वर्ष २०२३–२४ पासून लागू करण्याबाबत.

प रि प त्र क

या परिपत्रकान्वये सर्व संबंधितांना कळविण्यात येते की, शासन निर्णय क्र. एनईपी २०२०/प. क्र. ०९/विशि–३/शिकाना दिनांक २० एप्रिल २०२३ व शासन पत्र. क्र एनईपी २०२०/प. क्र. ०९/विशि–३, दिनांक १६ जून २०२३ अन्वयं सूचित केल्यानुसार राष्ट्रीय शैक्षणिक धोरण २०२० च्या अनुषंगाने दिलेल्या आराखडया नुसार दिनांक १६ जून २०२३ रोजी संपन्न झालेल्या मा. विद्यापरिषदेच्या बैठकीत ऐनवेळचा विषय क्र. ११/५६–२०२३ अन्वये मान्यता दिल्यानुसार प्रस्तुत विद्यापीठाच्या वाणिज्य व व्यवस्थापन विद्याशाखे अंतर्गत खालील पदव्युत्तर पदवी अभ्यासक्रम (AICTE,PCL,BCI,CoA, NCTE इ.सारख्या नियामक संस्थाची मान्यता आवश्यक असलेले अभ्यासक्रम वगळून) शैक्षणिक वर्ष २०२३–२४ पासून लागू करण्यात येत आहे.

1. M. Com. (संलग्नित महाविद्यालये),
2. M. Com. (विद्यापीठ परिसर संकुल, उपपरिसर लातूर व परभणी),
3. M. Com. (Banking & Insurance) (संलग्नित महाविद्यालये)
4. PGDTPP (संलग्नित महाविद्यालये)
5. PGDDM (संलग्नित महाविद्यालये)
6. **B.B.A.** पदवी अभ्यासक्रम (न्यु मॉडेल डीग्री कॉलेज हिंगोली)
7 **B. Com.** पदवी अभ्यासक्रम (न्यु मॉडेल डीग्री कॉलेज हिंगोली)

सदरील परिपत्रक व अभ्यासक्रम प्रस्तुत विद्यापीठाच्या **www.srtmun.ac.in** या संकेतस्थळावर उपलब्ध आहेत. तरी सदरील बाब ही सर्व संबंधितांच्या निदर्शनास आणून द्यावी, ही विनंती.

'ज्ञानतीर्थ' परिसर,
विष्णुपुरी, नांदेड – ४३१ ६०६.
जा.क्र.:शै–१/एनइपी२०२०/ वाव्य.पीजी/२०२३–२४/126
दिनांक : ०६.०७.२०२३.

सहा.कुलसचिव
शैक्षणिक (१–अभ्यासमंडळ) विभाग

प्रत :
१) मा. प्राचार्य, सर्व संलग्नित महाविद्यालये, प्रस्तुत विद्यापीठ.
२) मा. संचालक, सर्व संकुले परिसर व उपपरिसर, प्रस्तुत विद्यापीठ
३) मा. प्राचार्य, न्यु मॉडल डिग्री कॉलेज हिंगोली, प्रस्तुत विद्यापीठ.
४) मा. समन्यवय, कै. श्री उत्तमराव राठोड आदिवाशी विकास व संशोधन केंद्र, किनवट.

प्रत माहितीस्त्व
१) मा. कुलगुरू महोदयांचे कार्यालय, प्रस्तुत विद्यापीठ.
२) मा. प्र. कुलगुरू महोदयांचे कार्यालय, प्रस्तुत विद्यापीठ.
३) मा. कुलसचिव, प्रस्तुत विद्यापीठ.
४) मा. सर्व आधिष्ठाता, प्रस्तुत विद्यापीठ.
५) सर्व प्रशासकीय विभाग प्रमुख साहाय्यक, प्रस्तुत विद्यापीठ.
६) सिस्टीम एक्सपर्ट, शैक्षणिक विभाग, प्रस्तुत विद्यापीठ.

SWAMI RAMANAND TEERTH

MARATHWADA UNIVERSITY, NANADED

(R-23 Structure and Syllabus of One YearPost Graduate Diploma in Disaster Management)

Sub-Campus Latur

PGDDM

Under the Faculty of

FACULTY OF COMMERCE & MANAGEMENT

Effective from Academic Year 2023 – 2024
(As per NEP-2020)

FromDean'sDesk:

To meet the challenge of ensuring excellence in Commerce and Managementeducation,theissueofqualityneedstobeaddressed,debatedandtakenforwardi nasystematicmanner.Accreditationisthe principal means of quality assurance in higher education. The major emphasis of accreditation process isto measure the outcomes of the program that is being accredited. In line with this Faculty of Commerce and Management of SRTM University of Nanded has taken a lead in incorporating philosophy of outcome based education in the process of curriculum development.

Faculty of Commerce and Management, SRTM University, Nanded in one of its meetings unanimously resolved that, each Board of Studies shall prepare some Program Objectives (PO's) and give freedom to affiliated Institutes to add few (PO's) and course objectives and course outcomes to be clearly defined for each course, so that all faculty members in affiliated institutes understand the depth and approach of course to be taught, which will enhance learner's learning process. It was also resolved that, maximum senior faculty from colleges and experts from industry to be involved while revising the curriculum. .We are happy to state that, each Board of studies has adhered to the solutions passed by Faculty of Commerce and Management, and developed curriculum accordingly. In addition to outcome-based education, semester-based credit and grading system is also introduced to ensure quality of Commerce and Management education.

SemesterbasedCreditandGradingsystemenablesamuch-requiredshiftinfocusfromteacher-centric to learner-centric education since the workload estimated is based on the investment of time in learning and not in teaching. It also focuses on continuous evaluation which will enhance the quality of education. SRTM University, Nanded has taken a lead in implementing the system through its affiliated Colleges and Faculty of Commerce and Management has devised a transparent creditassignmentpolicyandadoptedtenpointsscaletogradelearner'sperformance.Creditas signment for courses is based on 15 weeks teaching learning process, however content of courses is to be taught in 12-13 weeks and remaining 3-2 weeks to be utilized for revision, guest lectures, coverage of content beyond syllabus etc.

Prof. H S Patange
Associate Dean,

Prof. D M Khandare,
Dean,

Faculty of Commerce and Management,
Swami Ramanand Teerth Marathwada University, Nanded

From Desk of Chairman…

Every square centimeter of land in our country is prone to some kind of natural or man-made disaster. A recent study estimates that over 75% of the Indian districts, including 95% of coastal ones, are prone to extreme disaster events.

The Latur region is prone to several natural and man-made disasters. This region had experienced a devastating earthquake in 1993, killing thousands of people and causing a loss of crores of rupees. Due to severe drought conditions, for the first time in the known history of the country, the entire city (Latur) was supplied with drinking water by train. This region experiences drought conditions after every 6-7 years of interval. Apart from this the city is the hot spot for lightning activities. This region is also prone to other disasters like floods, accidents, epidemics, pollution, deforestation, fire, etc. By understanding the hazard and vulnerability profile of this region, the university decided to start a disaster management course, i.e. Post Graduate Diploma in Disaster Management (one year) for regional disaster risk reduction through capacity building. PGDDM course was started in 2012 under the innovative scheme of the University Grant Commission with an interdisciplinary approach. The department addressed various disaster issues through research and extension activities under this program.The Program Objectives and Program Outcomes (PO's) are as follows:

Program Objectives:

1. To minimize the risk of disasters with the effective use of Remote sensing and GIS
2. To train students on various aspects of Disaster Management
3. To create safe and sustainable environment by community strengthening capacity building
4. To assist local administration by providing expertise in the field of Disaster Management

Program Outcomes:

1. It will be minimized the risk of disasters with the effective use of Remote sensing and GIS
2. It will be trained students on various aspects of Disaster Management
3. It willcreate safe and sustainable environment by community strengthening capacity building
4. It will assist local administration by providing expertise in the field of Disaster Management

Dr R S Pawar - Chairman, BOS in Accounts and Applied Statistics
Dr C K. Harnawale- Chairman, BOS in Business Economics
Dr P T Pawar- Chairman, BOS in Business Studies
Dr. D S Yadav- Chairman, BOS in Commercial and Mercantile Law
Dr M S Rode - Chairman, BOS in Management Science and Business Administration (Including NGO)

Swami Ramanand Teerth Marathwada University, Nanded

Faculty of Commerce and Management

R-23 Credit Framework for One YearPost Graduate Diploma in Disaster Management (PGDDM)
Subject: Disaster Management

Year& Level	Sem.	Major Subject (DSC)	RM	OJT / Internship/ Apprenticeship	Field Project Work	Credits	Total Credits
1	2	3	4	5	6	7	8
1 (6)	I	PGDDM501 (4 Cr) PGDDM502 (4 Cr) PGDDM503(4 Cr) PGDDM504(2 Cr)	Research Methodology PGDDMRM501 (4 Cr)		Field Project Work PGDDMFP501 (4 Cr)	22	44
	II	PGDDM551 (4 Cr) PGDDM552 (4 Cr) PGDDM553 (4 Cr) PGDDM554 (2 Cr)	---	Community Engagement PGDDMCP551 (4 Cr)	Field Project Work PGDDMFP551 (4 Cr)	22	
Total Credits		28	04	04	08	44	

Abbreviations:

DSC: Department/Discipline Specific Core (Major)

OJT: On Job Training: (Internship/Apprenticeship)

RM: Research Methodology

FP: Field Project

Eligibility for Admission

The candidate should fulfil the following eligibility criteria:

Any post graduate students passed with minimum of **50%** marks in aggregate* or equivalent CGPA (**45%**in case of candidates of backward class categories and Persons with Disability belonging to Maharashtra State only) from any **of the Universities** incorporated by an act of the central or state legislature in India or other educational institutions established by an act of Parliament or declared to be deemed as a University under Section 3 of the UGC Act.

R-23 Structure and Syllabus of One Year Post Graduate Diploma in Disaster Management

PGDDM Semester – I: Teaching Scheme

	Course Code	CourseName	TeachingScheme (Hrs.)/ Week		CreditsAssigned		
			Theory	Practical	Theory	Practical	Total
Major (DSC) Minor (DSM)	PGDDM501	Introduction to Disaster Management	4	-	4	-	4
	PGDDM502	GIS in Disaster Management	4	-	4	-	4
	PGDDM503	Industrial Disaster Management	4	-	4	-	4
	PGDDM504	ICT for Disaster Management	2		2	-	2
	PGDDMRM501	Research Methodology	4	-	4	-	4
Field project/ Internship/ Apprenticeship/ Out research program/ Intra-inter-faculty	PGDDMFP501	Field Project (Practical Work)	-	08	-	4	4
			18	08	18	04	22
Total Credits							**22**

PGDDM Semester – I: Examination Scheme

	Course Code	CourseName	ExaminationScheme						
			Continuous Assessment (CA)			End Semester Examination (ESE)			Total (Marks)
			Best of Two Tests (Each Test 10 Marks)	Assignment/ Tutorial(Marks)	Total (CA) (Marks)	Theory Exam (Marks)	Practical Exam. (Marks)	Total (ESE) (Marks)	
Major (DSC)	PGDDM501	Introduction to Disaster Management	10	10	20	80	-	80	100
	PGDDM502	GIS in Disaster Management	10	10	20	80	-	80	100
	PGDDM503	Industrial Disaster Management	10	10	20	80	-	80	100
Minor (DSM)	PGDDM504	ICT for Disaster Management	5	5	10	40	-	40	50
Research Methodology	PGDDMRM501	Research Methodology	10	10	20	80	-	80	100
Field project/ Internship/ Apprenticeship/Out research program/ Intra-inter-faculty	PGDDMFP501	Field Project (Practical Work)	-	40	40	-	60	60	100
			45	85	130	360	60	420	550

NOTE: 1. Learner / student must pass separately in CA and ESE

1. 1 Credit for 25 Marks

A. 1 Credit = 1 hour (60 min.) for Theory B. 1 Credit = 2 hours (120 min.) for practical

For Example: - 1 course offered is of 3 credits then,

Total Max.Marks = 100,[CA=20 Marks (20%) and ESE = 80Marks(80%)]

R-23 Structure and Syllabus of One Year Post Graduate Diploma in Disaster Management

PGDDM Semester – II: Teaching Scheme

	Course Code	CourseName	TeachingScheme (Hrs.)/ Week		CreditsAssigned		
			Theory	Practical	Theory	Practical	Total
Major (DSC)	PGDDM551	Disaster Preparedness	4	-	4	-	4
	PGDDM552	Disaster Response	4	-	4	-	4
	PGDDM553	Rehabilitation Reconstruction and Recovery	2	-	2	-	2
Minor (DSM)	PGDDM554	Industrial Safety Management	4	-	4	-	4
	PGDDMCP551	Community Engagement Program	--	08	--	4	4
Field project/ Internship/ Apprenticeship/Out research program/ Intra-inter-faculty	PGDDMFP551	Field Project Work	-	08	-	4	4
			14	16	14	8	22
Total Credits							**22**

PGDDM Semester –II:Examination Scheme

	Course Code	Course Name	Examination Scheme						
			Continuous Assessment (CA)			End Semester Examination (ESE)			Total (Marks)
			Best of Two Tests (Each Test 10 Marks)	Assignment/ Tutorial (Marks)	Total (CA) (Marks)	Theory Exam (Marks)	Practical Exam. (Marks)	Total (ESE) (Marks)	
Major (DSC)	PGDDM551	Disaster Preparedness	10	10	20	80	-	80	100
	PGDDM552	Disaster Response	10	10	20	80	-	80	100
	PGDDM553	Rehabilitation Reconstruction and Recovery	5	5	10	40		40	50
Minor (DSM)	PGDDM554	Industrial Safety Management	10	10	20	80	-	80	100
	PGDDMCP551	Community Engagement Program	-	40	40	-	60	60	100
Field project/ Internship/ Apprenticeship/ Out research program/ Intra-inter-faculty	PGDDMFP551	Field Project Work	-	40	40	-	60	60	100
			35	115	150	280	120	400	550

NOTE:

1. **Learner / student must pass separately in CA and ESE**
2. **1 Credit for 25 Marks**

A. 1 Credit = 1 hour (60 min.) for Theory B. 1 Credit = 2 hours (120 min.) for practical

For Example: - 1 course offered is of 3 credits then,

Total Max.Marks = 100, [CA=20 Marks (20%) and ESE = 80 Marks (80%)]

Swami Ramanand Teerth Marathwada University, Nanded
(R-23Syllabus of OneYear PG Diploma in Disaster Management)
PGDDM Semester I (Level 6)
Subject: Disaster Management
Under Faculty of Commerce and Management
Effective from Academic Year 2023 – 2024 (As per NEP-2020)
Course Title: Introduction to Disaster Management
Course Code: PGDDM501

Course Prerequisites:	Basic knowledge of geography, disasters, climate etc.
Course Objectives:	1. To teach students basic concepts of Disaster Management
	2. To explain various phases of disaster management cycle
	3. To orient students about various natural disasters
	4. To orient students about various manmade disasters
	5. To provide insight about global, national, and regional level scenario of disaster management
Course Outcomes:	1. Students will learn basic concepts of disaster management
	2. Students will learn characteristics, phenomenon, and effects of different natural disasters
	3. Students will learn characteristics, phenomenon, and effects of different manmade disasters
	4. Students will learn major disaster damage determinants
	5.Also, students will learn institutional frame work for disaster management at national as well as global level

Course Teaching and Evaluation Scheme

Teaching Scheme				**Evaluation Scheme**					
Credits Assigned		**Teaching Hours**		**Continuous Assessment**			**End of Semester Exam Marks**	**Practical/ Oral Exam Marks**	**Total Marks**
Theory	**Practical**	**Theory**	**Practical**	**Average of Two Tests (Each Test of 10 Marks)**	**Assignments (Marks10)**	**Total (Marks)**			
04	--	**60**	--	**10**	**10**	**20**	**80**	--	**100**

Course Contents

Module No.	**Unit No.**	**Topics**	**Teaching Hours**
1.0		**Introduction**	**12**
	1.1	Hazard, Risk, Vulnerability,	
	1.2	Meaning and definition of Disaster, Disaster Management, its nature and importance	
	1.3	Disaster Management Cycle	
	1.4	National disaster management framework; financial arrangements for Disaster management, International Strategy for Disaster reduction.	
2.0		**Natural Disasters**	**12**
	2.1	Natural Disasters- Meaning and nature of natural disasters, their types	
	2.2	Hydrological Disasters -Flood, Flash flood, Drought, cloud burst	
	2.3	Geological Disasters-Earthquakes, Landslides, Avalanches, Volcanic eruptions, Mudflow	
	2.4	Wind related-Cyclone, Storm, Storm surge, tidal waves. Other disaster like Heat and cold Waves, Climatic Change, Global warming, Sea Level rise, Ozone Depletion etc.	
3.0		**Manmade Disaster**	**12**
	3.1	CBRN – Chemical disasters, biological disasters, radiological disasters, nuclear disasters	
	3.2	Fire –building fire, coal fire, forest fire, Oil fire. Accidents- road accidents, rail accidents, air accidents, sea accidents	
	3.3	Pollution and deforestation- air pollution, water pollution, deforestation, Industrial wastewater pollution, deforestation	

	3.4	Stampede, Bomb blast, Riots, Epidemics:- Causes, Effects, mitigation Strategies	
4.0		**Disaster Determinants**	**12**
	4.1	Damages due to natural disasters	
	4.2	Damages due to manmade disasters	
	4.3	Factors affecting damage – types, scale population, social status, habitation pattern, physiology, and climate.	
	4.4	Factors affecting mitigation measures, prediction, preparation, communication, area and accessibility, population, physiology, and climate,	
5.0		**Case Study**	**12**
	5.1	Case study of natural disaster	
	5.2	Case study of manmade disaster	
	5.3	Regional natural disaster case study	
	5.4	Regional manmade disaster case study	

Reference Books:

- Goel S.L., (2007),Disaster Administration and Management, Text & Case studies, Deep and Deep Publications, New Delhi.
- Ghosh G.K, (2006),Disaster Management,6th edition, A.P.H. Publishing Corporation, New Delhi.
- Singh S.K.& Kundu S.C.,Disaster management ,William Publications, New Delhi.
- Sharma V.K. & Vinod K, (1995),Disaster Management, IIPA, New Delhi.
- Goel S.L., (2006), Encyclopedia of Disaster Management, Deep and Deep Publications, New Delhi.

Continuous Assessment (CA):

1.Two Tests: There shall be Two tests of 10 marks each and must covering at least 80% of syllabus. The Average Marks of Two tests will be considered for final Internal Assessment.

2. Assignment/ Tutorial: At least 05 assignments for 10 marks each covering entire syllabus must be given. The assignments should be students' centric and an attempt should be made to make assignments more meaningful, interesting and innovative.

End of Semester Examination (ESE for 4 Credit Course):

1. Question No.1 will be compulsory carrying 20 marks and shall be based on any module of the syllabus.
2. Attempt any 4 questions (from Q.2 to Q.7) carrying 15 marks each covering all the modules of the syllabus.
3. The students need to solve total 5 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester I (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title:Geographical Information System in Disaster Management

Course Code: PGDDM502

Course Prerequisites:	Students should have basic knowledge of ICT, remote sensing, topography
Course Objectives:	1. To study the concept of GIS and its applications in the field of Disaster Management.
	2. To educate the students in GIS technology.
	3. To provide opportunities to analyze the data and evaluate the situations in a GIS Context.
	4. To identify disasters by using GIS technology before they occur.
	5. To reduce the disasters by using risk zone maps by GIS technology.
Course Outcomes:	1. Trained students with the help of GIS will assist disaster management teams in reducing disaster risk
	2. It ability to predict where a natural disaster is most likely to occur.
	3. With the use of past data and geographical concepts and principles, students can manage risk effectively.
	4. GIS tools will enable the students to analyze more effectively, and understand patterns and relationships.
	5. With the help of GIS, students can record Geographical data.

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme					
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks	Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks10)	Total (Marks)			
04	--	60	--	10	10	20	80	--	100

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Introduction**	12
	1.1	Geographical Information Systems – definition, concept and scope	
	1.2	Development, data sources, data structures, raster and vector, data capturing, pre-processing	
	1.3	Study of GIS techniques	
	1.4	Study the statigraphy of India	
2.0		**Data base management systems in GIS**	12
	2.1	Concept and scope of Database Management Systems in GIS	
	2.2	Data manipulations and product generation- Environmental GIS	
	2.3	Concept of Data acquisition system in GIS	
	2.4	Data acquisition system using GPS On line GPS applications	
3.0		**Geographical Information System**	12

	3.1	Spatial data; sources of error and data quality; database design, convention, mapping concepts and Coordinate systems.	
	3.2	Methods of spatial interpolations in Geographical Information Systems; visualizations in Geographical Information Systems**,**	
	3.3	Linking terrain, climate and socio economical parameters to target the vulnerability due to natural disasters using GIS	
	3.4	Applications of Aerial Photography and Remote Sensing in GIS	
4.0		**GIS SOFTWARE**	**12**
	4.1	Over view of GIS software - Arc Info; Arc View Principles	
	4.2	Operation protocols and hands on training query based information retrieval Web GIS, Online GIS and its data applications.	
	4.3	Development of GIS based decision support for disaster risk reduction	
	4.4	Introduction to open source GIS software.	
5.0		**Case Study**	**12**
	5.1	Land use and Land cover	
	5.2	Hazard mapping	
	5.3	Urban planning	
	5.4	Case studies on natural and manmade disasters	

Reference Books:

- Panda B.C. (2013), Remote Sensing Principles & Applications, Viva Book Pvt.Ltd.
- Reddy Anji M.(2001), Remote Sensing and Geographical Information systems, B.S.Publications, Hyderabad.
- Narayan L.R.A.(1999), Remote Sensing and its applications, University Press.
- Burragh P. A. and Rachael A.(2004), Principals of Geo physical Information Systems, Oxford Publishers.
- Albert C.P.Lo, Yonng K.W., Concepts & Techniques of GIS, Prentice Hall (India) Publications.

Continuous Assessment (CA):

1.Two Tests: There shall be Two tests of 10 marks each and must covering at least 80% of syllabus. The Average Marks of Two tests will be considered for final Internal Assessment.

2. Assignment/Tutorial: At least 05 assignments for 10 marks each covering entire syllabus must be given. The assignments should be students' centric and an attempt should be made to make assignments more meaningful, interestingand innovative.

End of Semester Examination (ESE for 4 Credit Course):

1. Question No.1 will be compulsory carrying 20 marks and shall be based on any module of the syllabus.
2. Attempt any 4 questions (from Q.2 to Q.7) carrying 15 marks eachcovering all the modules of the syllabus.
3. The students need to solve total 5 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester I (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Industrial Disaster Management

Course Code: PGDDM503

Course Prerequisites:	Awareness about Safety initiatives at organizational level for risk reduction during all phases of disaster management cycle .
Course Objectives:	1.To educate students about various industrial hazards
	2.To train students in risk assessment and hazard analysis of Industries
	3.To train students in preparing offsite and onsite plans
	4. To learn what students need to know if they are ever in an industrial disaster so they can keep calm ,respond accordingly and minimize further damage.
	5. To ensure protection of worker's rights and to redress their grievances.
Course Outcomes:	1. Students will be aware of industrial hazards
	2. Students will learn about Industrial Safety and Health Legislation
	3. After completion course students will learn risk assessment and hazard identification techniques
	4. Students will be able to prepare onsite and offsite plans
	5. Students will update themselves with recent case studies

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme					
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks	Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks10)	Total (Marks)			
04	--	60	--	10	10	20	80	--	100

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Introduction**	12
	1.1	Definition and characteristics of Industrial Disaster	
	1.2	Need and Importance of Industrial Disaster Management	
	1.3	The perils of industry	
	1.4	Types of Industrial Hazards	
2.0		Industrial Safety and Health Legislation	12
	2.1	ILO convention and recommendation concerning occupational health and safety, relevant conventions and recommendation of ILO in furtherance of safety , health and safety	
	2.2	Provisions under the Factories Act(1948),rules made thereunder with amendments. Case laws under Factories Act.	
	2.3	Social Security Legislation	
	2.4	Workmen's Compensation Act and Rules	

3.0		Risk Assessment & Hazard Identification	**12**
	3.1	Checklist procedure, Preliminary hazard analysis, What if analysis, Failure mode effect analysis	
	3.2	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	
	3.3	Identification of hazard, Categorization methods for elimination of hazard, Mechanical hazards;	
	3.4	Machine guarding, safety with hand tools/ portable power tools, Pressure vessel hazards and their control, Safety in material handling: hazards and safe Practices, safety with storage of materials	
4.0		Disaster Management Plans	**12**
	4.1	Onsite Plans Standard operating procedures, control room, safety officer, Different committees for Disaster management, rescue team, training, exercises and mock drills	
	4.2	Offsite Plans Dissemination of information, identification of vulnerable locations, need and damage assessment, rescue and relief plans, compensation	
	4.3	Risk assessment of industrial accidents	
	4.4	International efforts for industrial accident prevention	
5.0		Case study	**12**
	5.1	Industrial Disasters, Environmental damage and effects	
	5.2	Workplace accident case study	
	5.3	Bhopal Gas tragedy a chemical accident	
	5.4	Risk management in the area of Major industrial accident	

Reference Books:

1. Goel S.L., (2007), Disaster Administration and Management, Text & Case studies, Deep and Deep Publications, New Delhi.
2. Talwar A., Hazardous Materials Disaster Management, Commonwealth Publisher, New Delhi.
3. Heinrich H.W. (1980), Industrial Accident Prevention, McGraw-Hill Company, New York.
4. Krishnan N.V. (1996),Safety in Industry, JaicoPublishery House, New Delhi

Continuous Assessment (CA):

1.TwoTests: Thereshall be Two tests of 10 marks each and must covering at least 80% of syllabus. The Average Marks of Two tests will be considered for final Internal Assessment.

2. Assignment/Tutorial: At least 05 assignments for 10 marks each covering entire syllabus must be given. The assignments should be students' centric and an attempt should be made to make assignments more meaningful, interestingand innovative.

End of Semester Examination (ESE for 4 Credit Course):

1. Question No.1 will be compulsory carrying 20 marks and shall be based on any module of the syllabus.
2. Attempt any 4 questions (from Q.2 to Q.7) carrying 15 marks eachcovering all the modules of the syllabus.
3. The students need to solve total 5 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester I (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: ICT for Disaster Management

Course Code: PGDDM504

Course Prerequisites:	Students should aware of hardware, operating and system software , computer proficiency etc.
Course Objectives:	1.To teach basic concepts of ICT
	2.To educate students about recent ICT technologies in the field of Disaster Management
	3. To communicate the information effectively by making use of appropriate technology for community awareness and skills.
Course Outcomes:	1. Trained students with the help of ICT will assist disaster management teams in reducing disaster.
	2. It acknowledged the students about recent ICT technologies in the field of disaster management.
	3. ICT tools can assist trained manpower in learning warning system

Course Teaching and Evaluation Scheme

Teaching Scheme				**Evaluation Scheme**					
Credits Assigned		**Teaching Hours**		**Continuous Assessment**			**End of Semester Exam Marks**	**Practical/ Oral Exam Marks**	**Total Marks**
Theory	**Practical**	**Theory**	**Practical**	**Test I Marks**	**Test II Marks**	**Average Marks of Two Tests**			
02	**-**	**30**	**-**	**10**	**10**	**10**	**40**	**--**	**50**

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Computer Systems**	**10**
	1.1	Basic Organization of Computers, Classification of Computers, Hardware, Software, Computer Languages	
	1.2	Computer Memory, Types of Memory (Primary And Secondary), Secondary Storage Devices , I/O Devices	
	1.3	Application software, Software Package, Operating Systems, Database Management System,	
	1.4	Data Warehousing and Data Mining	
2.0		**Information Communication Technology**	**10**
	2.1	Business Data Processing- Data storage hierarchy, methods of organizing data, file management Data Communications	
	2.2	Computer Networks- Elements of Communication Systems, Data transmission modes, speed, media;	
	2.3	Digital and Analog data transmission, Switching techniques, Routing Techniques,	
	2.4	Network topologies, Network Types, Communication protocols, wireless networks, Internet, multimedia	
3.0		**Advanced Information Communication Technology and Information Sources**	**10**
	3.1	Tsunami Early Warning System, Forest Resource Information System, GIS, Remote Sensing, Digital Image Processing,	

	3.2	Emergency communication System, Bluetooth and Wireless communication, HAM Radio.	
	3.3	**Forecasting & warning**: Indian meteorological department, tsunami warning centre, pacific disaster centre, central water commission;	
	3.4	**Resources:** UNISDR,USAID, Red Cross ,Indian disaster 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	

Reference Books:

1. P. K. Sinha, Computer Fundamentals- BPB Publications
2. V.Rajaraman, Fundamentals of Computers - PHI Publication, IVth Edition.
3. Raj K.Jain Fundamentals of Programming - S.Chand Publication
4. Abraham Silberschatz and Henry Korth, Sudarshan, Database System Concepts -: Tata McGraw-Hill- IVth Edition, ISBN : 0-07-120413-X
5. Elmasri and Navathe , Addison-Wesley (1999). Fundamentals of Data base Systems – IIIrd Edition

Continuous Assessment (CA):

Two tests must be conducted which should cover at least 80% of syllabus. The marks of the average of two tests will be considered for final Internal Assessment.

End Semester Examination (ESE for 2 Credit Course):

1. Question paper will comprise of 6 questions, each carrying 10 marks.

2. Question No.1 will be compulsory and based on any module of entire syllabus.

3. Attempt any 3 questions (from Q.2 to Q.6) covering all the modules of the syllabus.

4. The students need to solve total 4 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester I (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Research Methodology

Course Code: PGDDMRM501

Course Prerequisites:	Student should have basic knowledge of research, research process
Course Objectives:	1. To instill a comprehensive and step-wise understanding of the research process
	2. To facilitate students to develop insights about basic concepts of research designs and methodology aimed at solving research problems
	3.To make students be acquainted with the process of sampling and data collection
	4. To teach students the methods of data analysis and interpretation.
	5.To encourage students for conducting research on local disaster issues
Course Outcomes:	1.This module will help student in identifying research problem
	2.It will help students in data collection and data analysis
	3.Students will be able to understand the process and types of sampling and data collection.
	4.Students will be able to make data analysis and its interpretation.
	5.Students will be able to prepare research proposal and research report after completing this module

Course Teaching and Evaluation Scheme

Teaching Scheme				**Evaluation Scheme**					
Credits Assigned		**Teaching Hours**		**Continuous Assessment**			**End of Semester Exam Marks**	**Practical/ Oral Exam Marks**	**Total Marks**
Theory	**Practical**	**Theory**	**Practical**	**Test I Marks**	**Test II Marks**	**Average Marks of Two Tests**			
04	**-**	**60**	**-**	**10**	**10**	**20**	**80**	**--**	**100**

Course Contents

Module No.	Unit No.	Topic	Teaching Hours
1.0		**Introduction to Research**	
	1.1	Meaning and Definition of Research; Importance and Scope of Research;	**12**
	1.2	Types of Research and Methods of Research;	
	1.3	Research Problem and Research Proposal	
	1.4	Formulation of Research Objectives and Research Hypothesis.	
2.0		**Data Collection**	
	2.1	Concept of data; types of data, sources of data;	**12**
	2.2	Methods of Primary and Secondary Data Collection.	
	2.3	Introduction to Sampling and stages of Sampling, difference between universe and sample;	
	2.4	Methods of Probability & Non-Probability Sampling;	
3.0		**Data Analysis and Interpretation**	**12**

	3.1	Editing and coding of data; Classification and tabulation of data;	
	3.2	Interpretation of data;	
	3.3	Use of Statistical tools and techniques for data analysis	
	3.4	Presentation of data- Use of charts, graphs, and diagrams	
4.0		**Hypothesis Testing**	
	4.1	Meaning and Procedure of Hypothesis Testing	
	4.2	Types of Hypotheses; Types of Errors;	**12**
	4.3	Chi Square Test;	
	4.4	Numerical Problems on Chi Square Test.	
5.0		**Research Report Writing**	
	5.1	Research Report: Meaning and features	
	5.2	Types of Research Report;	**12**
	5.3	Elements of Research Report;	
	5.4	Referencing styles; Citation and bibliography	
		Total	**60 Hours**

Reference Books:

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

Continuous Assessment (CA):

Two tests must be conducted which should cover at least 80% of syllabus. The marks of the average of two tests will be considered for final Internal Assessment.

End Semester Examination (ESE for 2 Credit Course):

1. Question paper will comprise of 6 questions, each carrying 10 marks.

2. Question No.1 will be compulsory and based on any module of entire syllabus.

3. Attempt any 3 questions (from Q.2 to Q.6) covering all the modules of the syllabus.

4. The students need to solve total 4 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester I (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Field Project (Practical Work)

Course Code: PGDDMFP501

Course Prerequisites:	Student shall have basic knowledge of ICT,GIS, Research Methodology
Course Objectives:	1. To brief students about different software available for GIS
	2. To give practical training on Arc GIS
	3. To explain Arc desktop
	4. To orient students about different tools of Arc GIS
	5. To explain use of software for different disasters
Course Outcomes:	1. The students will learn different software available for GIS
	2. The Students will learn Arc GIS from practical training
	3. The Students will gain the knowledge of Arc desktop
	4. The students will educate about different tools of Arc GIS
	5. The students will learn the use of software for different disasters

Course Teaching and Evaluation Scheme

Teaching Scheme				**Evaluation Scheme**			
Credits Assigned		**Teaching Hours**		**Continuous Assessment**		**End of Semester Exam Marks Practical/ Oral Exam Marks**	**Total Marks**
Theory	**Practical**	**Theory**	**Practical**	**Practical (At least ten practical of 4 marks each)**	**Total (Marks)**		
--	**08**	**--**	**120**	**40**	**40**	**60**	**100**

Course Contents

This is six credit course based on Use of GIS software especially Arc GIS. Students are expected to carry out GIS practicals on different phases of Disaster Management such as Disaster preparedness, mitigation, response, recovery rehabilitation and reconstruction. Each student shall perform ten practical on any aspects of disaster management and shall submit the Journal book at the end of the semester. The weightage for internal and external components is 40% and 60% respectively.At the beginning of semester student will identify the problem (disaster related) and start collecting information on it. Each student shall select project topic on recent disasters, problems (preferably local disaster related issues) and submit a detail research project proposal on it at the end of semester. The student can continue same topic as a research project in the next semester

Module No.	**Unit No.**	**Topics**	**Hours**
1.0		**Introduction**	**10**
	1.1	Open source software for GIS	
	1.2	Introduction Arc GIS	
	1.3	Information of use Different tools for different operations	
	1.4	Arc Desktop	
2.0		**Coordinate System**	**10**
	2.1	Shape file creation	
	2.2	Shape file to KMZ and KMZ to shape file	
	2.3	Creating graphics to features (Shape file)	
	2.4	Creating Custom Point shape file by XY Tool	

3.0		**GIS database design**	**10**
	3.1	An overview of geo-database design-ArcMap	
	3.2	Geo-database design steps-ArcMap	
	3.3	Information of GIS Data and Database Design	
	3.4	Creating a database in GIS	
4.0		**Spatial interpretation of GIS**	**10**
	4.1	Information of Spatial Analysis (Flow direction, Flow Accumulation)	
	4.2	Contour generation from DEM	
	4.3	Digital Elevation Model from Contour using Spatial Analysis	
	4.4	Catchment and Watershed Extraction using Spatial Analysis	
5.0		**Geo-Processing and Geo-Referencing**	**10**
	5.1	Introduction of Geo-Processing and Geo-Referencing	
	5.2	Geo-referencing of two different images	
	5.3	Saving of image permanently using Geo-referencing	
	5.4	Information of Geo-processing , Buffer, Clip and Intersect	
6.0		**GIS application (Five Practical on any five of these)**	40
		GIS application in land slide inventory studies	
		GIS applications earthquake studies	
		GIS applications in flood hazard	
		GIS applications in forest fire	
		GIS applications in cyclone hazard	
		GIS applications in tsunami hazard	
		Use of GIS in Risk assessment and Vulnerability Analysis	
		Hazard mapping with GIS	
		GIS applications in Urban planning	
		GIS application in traffic management	
		GIS application in health management	
		Any other application related to disaster management	
7.		**Project Proposal**	30

Continuous Assessment (CA): 40 Marks

1. Practical: There shall be at least ten practical on the above mentioned topic .The student will submit practical book at the end of semester

2. Project Proposal: A detailed project proposal on disasters (preferably local disaster issues)

End of Semester Examination (ESE for 4 Credit Course):

1. External Practical exam –30 Marks
2. External Viva voce - 30 Marks

The viva voce will be conducted on following aspects

External Practical – 15 Marks Research Project Proposal – 15 Marks

PGDDM Semester - II

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester II (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Disaster Preparedness

Course Code:PGDDM551

Course Prerequisites:	Student should have basic understanding of disaster, disaster management and disaster management cycle
Course Objectives:	1.To brief students about basic concepts of preparedness
	2.To teach students preparedness measures for various disasters
	3. To teach students disaster preparedness plan
	4. To orient students about emerging technologies used in preparedness
	5.To train students in making disaster preparedness plan
Course Outcomes:	1. Students will have through understanding of disaster preparedness
	2.Students will learn preparedness measures for different types of natural and manmade disasters
	3. Students will understand various elements of preparedness plan
	4.Students will learn new technologies used in preparedness and emergency communication
	5.Students will learn how to prepare preparedness plan

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme					
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks	Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks 10)	Total (Marks)			
04	--	60	--	10	10	20	80	--	100

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Introduction**	12
	1.1	Disaster Preparedness: concept and significance	
	1.2	Disaster Preparedness Measures, Disaster preparedness with special needs/ vulnerable groups	
	1.3	Institutional Mechanism for Disaster Preparedness	
	1.4	Disaster Preparedness: Policy and Programmes	
2.0		**Disaster Preparedness Plan**	12
	2.1	Disaster Preparedness Concept and Significance	
	2.2	Disaster Preparedness Plan, elements of preparedness plan	
	2.3	Village disaster management plan, school safety plan, Industrial disaster management plan	
	2.4	Community Based Disaster Preparedness plan	
3.0		**Disaster Preparation**	12
	3.1	Disaster inventory management	
	3.2	Awareness, mock drill and capacity building programs	
	3.3	HVRC analysis, Early warning system, disaster communication	
	3.4	Temporary shelters, evacuation plan, Disaster management committees	

4.0		**Emerging Technologies in Disaster Management**	**12**
	4.1	Role of ICT in preparedness	
	4.2	Remote sensing, Aerial Photography	
	4.3	land use zoning ,Disaster Mapping	
	4.4	Wireless and Radio, HAM radio	
5.0		**Case Study**	**12**
	5.1	Preparation of disaster preparedness plan	
	5.2	Preparedness plan for school/village/industry /community	
	5.3	Case studies on major disasters	
	5.4	Local disaster case study	

Reference Books:

Continuous Assessment (CA):

1.Two Tests: There shall be Two tests of 10 marks each and must covering at least 80% of syllabus. The Average Marks of Two tests will be considered for final Internal Assessment.

2. Assignment/Tutorial: At least 05 assignments for 10 marks each covering entire syllabus must be given. The assignments should be students' centric and an attempt should be made to make assignments more meaningful, interestingand innovative.

End of Semester Examination (ESE for 4 Credit Course):

1. Question No.1 will be compulsory carrying 20 marks and shall be based on any module of the syllabus.
2. Attempt any 4 questions (from Q.2 to Q.7) carrying 15 marks eachcovering all the modules of the syllabus.
3. The students need to solve total 5 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of OneYear PG Diploma in Disaster Management)

PGDDM Semester II (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Disaster Response

Course Code: PGDDM552

Course Prerequisites:	The basic knowledge about the risk reduction of man-made disasters and natural disasters.This course predominantly focused on immediate and short-term needs .
Course Objectives:	1. To orient the students about Disaster on site situations
	2. To teach Disaster response techniques
	3. To educate students about Disaster response organizations
	4. To train students for providing quick, adequate, and effective responses to calamities.
	5. To prevent new and reducing existing disaster risk and managing residual risk.
Course Outcomes:	1. Trained students will act as a First Respondent and can handle Onsite situations
	2. Students can face disaster response techniques.
	3. Students will understand approaches of Disaster Risk Reduction (DRR) and the relationship between vulnerability, disaster prevention and risk reduction.
	4. Trained students will rescue from immediate danger and stabilization of the physical and emotional condition of survivors.
	5. Students will understand risks and potential consequences and prevent small-scale as well as large scale accidents or mitigate their effects.

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme					
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks	Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks 10)	Total (Marks)			
04	--	60	--	10	10	20	80	--	100

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Introduction**	**12**
	1.1	Essential Components of Disaster Response, Disaster Response Plan	
	1.2	Resource Management- Financial, Medical, equipments, communication, Human, transportation, Food andessential commodity (Identification, Procuring, Propositioning and deployment), Directing andcontrolling functions	
	1.3	Communication, Participation & activation of Emergency Preparedness Plan,	
	1.4	Logistics Management, Emergency support functions, Need and damage assessment	
2.0		**Coordination in Disaster Response**	**12**
	2.1	Disaster response organization, Disaster response & administration - Central, State, District and Local ,	
	2.2	Disaster Response: Policy & Other organization,	
	2.3	Role of multiple stakeholders in Disaster Response NDRF, SDRF, ITBP,	
	2.4	Role of multiple stakeholders in Disaster Response CRPF,SRPF,EMS	
3.0		**Quick Disaster Response**	**12**

	3.1	First responder, medical first aid, life saving techniques, Golden time	
	3.2	Search & Rescue equipments- Search & Rescue equipments for different disasters, its use, procurement, maintenance	
	3.3	Search & Rescue Teams- Warning teams, evacuation teams, medical support, logistic management & other teams	
	3.4	Individual and Group behavior, Psychological Response, Trauma & Stress Management, Rumor& Panic Management	
4.0		**Relief Measures**	**12**
	4.1	Introduction of Relief measures, concept and scope	
	4.2	Minimum standards of relief and managing relief	
	4.3	Applications of Relief measures	
	4.4	Funding relief,Recovery	
5.0		**Case Studies**	**12**
	5.1	Disaster damages and losses-(Study of different cyclones, etc)	
	5.2	Water crisis in Indian cities	
	5.3	Flood risk management	
	5.4	Climate related Health Adaptation and Resilience in India	

Reference Books:

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

Continuous Assessment (CA):

1. Two Tests: There shall be two tests of 10 marks each and must covering at least 80% of syllabus. The Average Marks of Two tests will be considered for final Internal Assessment.

2. Assignment/Tutorial: At least 05 assignments for 10 marks each covering entire syllabus must be given. The assignments should be students' centric and an attempt should be made to make assignments more meaningful, interestingand innovative.

End of Semester Examination (ESE for 4 Credit Course):

1. Question No.1 will be compulsory carrying 20 marks and shall be based on any module of the syllabus.
2. Attempt any 4 questions (from Q.2 to Q.7) carrying 15 marks eachcovering all the modules of the syllabus.
3. The students need to solve total 5 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of One Year PG Diploma in Disaster Management)

PGDDM Semester II (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Rehabilitation, Reconstruction and Recovery

Course Code: PGDDM553

Course Prerequisites:	Student should be aware of phases of disaster management cycle
Course Objectives:	1.To teach students concept of Rehabilitation Reconstruction and Recovery
	2. To understand post disaster issues in recovery and rehabilitation
	3. To narrate the importance of disaster resilient structures and safe habitat
Course Outcomes:	1. This course helped students in building safer environment through sustainable development. At the end of this course students are expected to carry out pre and post disaster damage assessment
	2. It also helped to understand disaster recovery and role of different agencies in the rehabilitation.
	3. This ensures skills and abilities to analyze potential effects of disasters and of the strategies and methods to deliver public health response to avert these effects

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme					
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks	Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks 10)	Total (Marks)			
02	--	30	--	5	5	10	40	--	50

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Rehabilitation, Reconstruction and Development**	10
	1.1	Reconstruction Rehabilitation and Development- Concept, Meaning, types of Rehabilitation and Reconstruction,	
	1.2	Importance of Disaster Mitigation, Cost – benefit analysis, relationship between vulnerability and development	
	1.3	Damage Assessment- Post Disaster Damage assessment, estimated damage assessment due to probable disasters	
	1.4	Nature and damage to houses and infrastructure due to different disasters	
2.0		**Reconstruction**	10
	2.1	Speedy Reconstructions- Essential services, social infrastructures, immediate shelters/camps, Contingency plans for reconstructions	
	2.2	Development of Physical and Economic Infrastructure- Developing Physical and Economic Infrastructure, Environmental Infrastructure development	
	2.3	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	
	2.4	Funding arrangements-Funding arrangements at state level and central level, Fiscal discipline, role of international agencies, mobilization of community for resource generation	
3.0		**Role of Different organization in Rehabilitation**	10
	3.1	The Government and Disaster Recovery and rehabilitation; Disaster and Non-governmental efforts	
	3.2	Role of Local Institutions; Insurance, Police, Media	

	3.3	Role of various agencies in Recovery Work- Monitoring and evaluation of rehabilitation work, Rehabilitation process	
	3.4	Socio- economic Rehabilitation- Temporary Livelihood Options and Socio-Economic Rehabilitation,	

Reference Books:

1. Disaster Mitigation in Asia and the Pacific (1991), Asian Development Bank, Manila ADB.
2. Goel S.L., (2007),Disaster Administration and Management, Text & Case studies, Deep and Deep Publications, New Delhi
3. Ghosh G.K, (2006),Disaster Management,6th edition, A.P.H. Publishing Corporation, New Delhi
4. Singh S.K.& Kundu S.C.,Disaster management ,William Publications, New Delhi
5. Sharma V.K. & Vinod K, (1995),Disaster Management, IIPA, New Delhi.
6. Goel S.L., (2006), Encyclopedia of Disaster Management, Deep and Deep Publications, New Delhi
7. F.Y. Cheng&Y.Y. Wang, Post-Earthquake Rehabilitation and Reconstruction, Permagon Publications.

Continuous Assessment (CA):

Two tests must be conducted which should cover at least 80% of syllabus. The marks of the average of two tests will be considered for final Internal Assessment.

End Semester Examination (ESE for 2 Credit Course):

1. Question paper will comprise of 6 questions, each carrying 10 marks.

2. Question No.1 will be compulsory and based on any module of entire syllabus.

3. Attempt any 3 questions (from Q.2 to Q.6) covering all the modules of the syllabus.

4. The students need to solve total 4 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of One Year PG Diploma in Disaster Management)

PGDDM Semester II (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Industrial Safety Management

Course Code: PGDDM554

Course Prerequisites:	The basic knowledge about Industrial hazards, Risk assessment, Hazard Identification & analysis, Health and Safety Procedures.
Course Objectives:	1. To educate students about various industrial hazards.
	2. To train students in risk assessment and hazard analysis of Industries.
	3. To train students in preparing offsite and onsite plans.
	4. To give basic knowledge to the students about safety management skills.
	5. To ensure all employees and workers more aware of the Health and Safety Procedures.
Course Outcomes:	1. The students will learn about different industrial hazards and their analysis
	2. Students will gain knowledge of safety policy and safety risk management skills.
	3. Students will train preparing offsite and onsite plans.
	4. Students will learn Fire Prevention and Protection Skills.
	5. This course will help students in making aware of Health and Safety Procedures.

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme					
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks	Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks10)	Total (Marks)			
04	--	60	--	10	10	20	80	--	100

Course Contents

Module No.	Unit No.	Topics	Teaching Hours
1.0		**Introduction of Industrial Safety Management**	12
	1.1	Concept, Need and Importance of Industrial Disaster Management	
	1.2	Role of Management in Industrial Safety, Safety Policy and Safety Principles	
	1.3	Health safety model concept, Planning, organizing, staffing, directing, controlling, motivating safety strategies	
	1.4	Safety legislation: duties and responsibilities	
2.0		**Industrial Hazards**	12
	2.1	Chemical hazards, Biological hazards, Radiological hazards,	
	2.2	Nuclear hazards, Physical hazards, Electrical hazards, Fire hazard, Gas hazards etc	
	2.3	Methods of assessment, permissible standards and prevention and control measures of physical hazards	
	2.4	Hazardous Wastes Management	
3.0		**Risk Assessment & Hazard Identification**	12

	3.1	Checklist procedure, Preliminary hazard analysis, What if analysis, Failure mode effect analysis, Hazard and operability (HAZOP) studies,	
	3.2	Hazard analysis techniques: Fault tree analysis, Event tree analysis, General outline of DOW index, Risk estimation and management, Major hazard control	
	3.3	Identification of hazard, Categorization methods for elimination of hazard, Mechanical hazards;	
	3.4	Machine guarding, safety with hand tools/ portable power tools, Pressure vessel hazards and their control, Safety in material handling: hazards and safe Practices, safety with storage of materials	
4.0		**Disaster Management Plans**	**12**
	4.1	Onsite Plans **:** Standard operating procedures, control room, safety officer,	
	4.2	Different committees for Disaster management, rescue team, training, exercises and mock drills	
	4.3	Offsite Plans**:** Dissemination of information, identification of vulnerable locations,	
	4.4	Need and damage assessment, rescue and relief plans, compensation	
5.0		**Fire Prevention and Protection**	**12**
	5.1	Introduction to Industrial Fire Protection: Fire prevention Vs Fire Protection,	
	5.2	Importance of Fire Safety Management,	
	5.3	Reasons for Fire, Sources of Heat,	
	5.4	Fire hazards of materials ,Major Fire Accidents in India	

Reference Books:

1. Goel S.L., (2007), Disaster Administration and Management, Text & Case studies, Deep and Deep Publications, New Delhi.
2. Talwar A., Hazardous Materials Disaster Management, Commonwealth Publisher, New Delhi.
3. Heinrich H.W. (1980), Industrial Accident Prevention, McGraw-Hill Company, New York.
4. Krishnan N.V. (1996),Safety in Industry, JaicoPublishery House, New Delhi.

Continuous Assessment (CA):

1.Two Tests: There shall be Two tests of 10 marks each and must covering at least 80% of syllabus. The Average Marks of Two tests will be considered for final Internal Assessment.

2. Assignment/ Tutorial: At least 05 assignments for 10 marks each covering entire syllabus must be given. The assignments should be students' centric and an attempt should be made to make assignments more meaningful, interestingand innovative.

End of Semester Examination (ESE for 4 Credit Course):

1. Question No.1 will be compulsory carrying 20 marks and shall be based on any module of the syllabus.
2. Attempt any 4 questions (from Q.2 to Q.7) carrying 15 marks eachcovering all the modules of the syllabus.
3. The students need to solve total 5 questions.

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of One Year PG Diploma in Disaster Management)

PGDDM Semester II (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Community Engagement Program

Course Code: PGDDMCP551

Course Prerequisites:	Student should have knowledge of disaster management, disaster issues in the community etc.
Course Objectives:	1. To make student aware about community issues
	2. To guide students in identifying disaster issues in the community
	3. To train students in community welfare work
	4. To address disaster vulnerable groups problems
	5. To develop social aptitude among students
Course Outcomes:	1. Students will be exposed to social issues
	2. Students will be able to identify disaster related issues in the community
	3. Students will be involved in community welfare activities
	4. Students will work on vulnerable groups of community for disaster risk reduction
	5. Social skills of students will be developed

Course Teaching and Evaluation Scheme

Teaching Scheme				Evaluation Scheme				
Credits Assigned		Teaching Hours		Continuous Assessment			End of Semester Exam Marks Practical/ Oral Exam Marks	Total Marks
Theory	Practical	Theory	Practical	Average of Two Tests (Each Test of 10 Marks)	Assignments (Marks10)	Total (Marks)		
--	08	-	120	--	40	40	60	100

Students will identify disaster related issuesand develop a community engagement program on it. Student should submit the proposal of community engagement program at the beginning of semester. This course module will be completely a field-based activity where students can conduct/organise awareness programs (lectures, talks, road shows etc.), seminars, workshops, trainings, mock drills, capacity building programs, participate in disaster response activities, rehabilitation activities, vulnerable group risk reduction, gender disaster management aspectsetc.

Continuous Assessment (CA): 40 Marks

1. Field reports: Students shall submit two field activities progress reports

2.Report: Student shall conduct at least ten programs and submit a detailed report on the field activities along with field photographs referring research methodology.

End of Semester Examination (ESE for 4 Credit Course):

End of Semester Exam Marks/Practical/ Oral Exam Marks - 60 Marks

Swami Ramanand Teerth Marathwada University, Nanded

(R-23Syllabus of One Year PG Diploma in Disaster Management)

PGDDM Semester II (Level 6)

Subject: Disaster Management

Under Faculty of Commerce and Management

Effective from Academic Year 2023 – 2024 (As per NEP-2020)

Course Title: Project Work

Course Code: PGDDMFP551

Course Prerequisites:	Student should have basic knowledge of research methodology , disaster management , disaster vulnerability etc
Course Objectives:	1. To identify disaster related recent issues
	2. To conduct research on recent disaster issues
	3. To suggest solution on issues
	4.To connect students to regional socio-economical problems
	5. To enhance students field work skills
Course Outcomes:	1.Students will learn to identify problems in the society
	2. This module will develop research aptitude among students
	3.Stuednts will learn group skills and leadership skills
	4.It will develop social quotient among students
	5. Field work skills will be developed

Course Teaching and Evaluation Scheme

Teaching Scheme				**Evaluation Scheme**					
Credits Assigned		**Teaching Hours**		**Continuous Assessment**			**Practical Project Work Book**	**Practical Viva Voce /Oral Exam**	**Total Marks**
Theory	**Practical**	**Theory**	**Practical**	**Progress Report**	**Project Report**	**Total (Marks)**			
--	**08**	**--**	**120**	**20**	**20**	**40**	**30**	**30**	**100**

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

Standard Guidelines for the Preparation of Research Project Report Submission

Every Report/Dissertation should contain the following documents in the described sequence and format:

1. Front cover page of glossy photo paper or hard bound rexin cover, which should have printed or embossed descriptions.
2. The First inner cover page should contain the same description printed as in Appendix – 1 but on glossy paper if the cover page is rexin bound and embossed otherwise of on plain paper/ coloured paper
3. The Second inner page must contain the Certificate issued by the supervisor(s) endorsing the originality of the work and the declaration that this piece of work has been carried out under his/her/their supervision and at the deputed place, time, etc. and the endorsement of the HOD /Director to these statements .
4. The Third inner page is the certificate page as issued by the authority, where the student has undertaken the research or practical etc.
5. The Fourth inner page is the page of Acknowledgement, which the student has to write and acknowledge the thanks, gratitude, obligation etc. for the successful completion of the assignment due to these individuals, authorities or institution or organization etc.

6. The Fifth inner page is the page for dedication in honour, like to - Parents/Teacher/Friend/Wife/Husband /Organization etc. But this page is not a compulsion.
7. The Sixth page is Index/Contents page, which must contain the Serial number, Title of each Chapter/part/programme and the page number.
8. The Seventh page should contain the Index of Graphs/supporting documents/survey samples/ tables/pictures/photographs etc., which are used as a part of the report. Each item has to have a title so that these can be prepared in the same manner as the Sixth page (Index/Contents page).
9. Each Chapter should be separated by a Partition page marked/printed with the CHAPTER NO. and CHAPTER TITLE as described in the Index/Contents page above (Point 7).
10. The Report/Dissertation must contain the References/Bibliography pages at the end of the last chapter. The references also should be noted, sequenced and described as per a standard format and cannot be placed in any personally chosen order or description. It is very significant part of the report/dissertation for evaluation by the examiner. A standard pattern of References' page.
11. Each page should be numbered from the writing page of Chapter – I. Pages of Certificate of the supervisor till partition page of Chapter – I should be numbered in Roman digits (I, ii, iii,…ix,.. xiii etc.).
12. Avoid making underlines for each heading especially to the Capital letters. All headings should be with capital letters and sub-headings with bold small letters. Avoid use of Italics until unless it is required. Similarly, do not use different types of markers/symbols for explaining the content in points; rather follow 1-2 types of these only in consistence.
13. Follow a logical placement of facts, figures and analysis to explain the findings for a Layman understands of your report and accordingly you spell out/order/design the chapters.
14. One must use comprehensive English words to describe the Title of the work and the Chapters. Hence, avoid long expressions for these.
15. It is advisable to take support/help from a good English knowing person to correct the grammatical errors and construction of Active/Passive sentences, use of Phrases/Idioms in your report writing etc.
16. The printing pages should be of uniform page layout conditions and fonts for the total report (Font Size: Times New Roman 12 and for heading- Times New Roman 14; Line spacing 1.5; Page Margin : Left 1.1'' and right 1'')