



# ALAGAPPA UNIVERSITY

(A State University Established in 1985)

Karaikudi - 630003. Tamil Nadu, India



## FACULTY OF MANAGEMENT DEPARTMENT OF DISASTER MANAGEMENT



### M.B.A., DISASTER MANAGEMENT REGULATIONS AND SYLLABUS

(For the candidates admitted from the  
Academic Year 2022 - 2023)

**DEPARTMENT OF DISASTER MANAGEMENT**

**M.B.A Disaster Management**

**REGULATIONS AND SYLLABUS**

[For the candidates admitted from the Academic Year 2022–2023 onwards]



**ALAGAPPA UNIVERSITY**

(A State University Accredited with “A+” grade by NAAC (CGPA: 3.64) In the Third Cycle and Graded as Category-I University by MHRD- UGC),  
Karaikudi- 630003, Tamil Nadu.

## PANEL OF MEMBERS BROAD BASED BOARD OF STUDIES

<p><b>Chairperson:</b> Name: Dr.S.Chandramohan          Designation: Professor &amp; Head i/c          Department: Department of Disaster Management Alagappa University,          Teaching Experience:21 years, ResearchExperience:14years,          Area of Research: Finance, Marketing and Human</p>	
<p><b>Foreign Expert:</b> Name: Prof.M.V.Prasanna,          Designation: Associate Professor and Head          Department: Department of Applied Geology, Curtin University,          Teaching Experience:16years, Research Experience:16years,          Area of Research:Climate change and Water Resources, Sustainable          Management</p>	
<p><b>Indian Expert:</b> Name: Dr.SA.Senthilkumar,          Designation: Professor and Head,          Department: Department of Management, Pondicherry University          Teaching Experience: 20 years, Research Experience: 20 years,          Area of Research: Insurance and Health care Management</p>	
<p><b>Indian Expert:</b> Name: Dr.G.Muruganatham          Designation: Associate Professor and Head          Department: Department of Management Studies, National Institute of          Technology          Teaching Experience:15years, Research Experience:15 years,          Area of Research: Marketing and General management</p>	
<p><b>Industry Expert:</b> Name: Mr.R.Narayanasamy,          Designation: District President          Company name and address: Sri Sathya Sai Seva Organisations (India)          Experience:20years,          Area: Disaster Response and rescue</p>	

**ALAGAPPA UNIVERSITY**  
**DEPARTMENT OF DISASTER MANGEMENT**  
Karaikudi -630003, Tamil Nadu.

**REGULATIONS AND SYLLABUS-(CBCS-University Department)**  
[For the candidates admitted from the Academic Year 2022 – 2023 onwards]

Name of the Department	: Department of Disaster Management
Name of the Programme	: M.B.A
Duration of the Programme	: Full Time (Two Years)

### **Choice-Based Credit System**

A choice-Based Credit System is a flexible system of learning. This system allows students to gain knowledge at their own tempo. Students shall decide on electives from a wide range of elective courses offered by the University Departments in consultation with the Department committee. Students undergo additional courses and acquire more than the required number of credits. They can also adopt an inter-disciplinary and intra-disciplinary approach to learning, and make the best use of the expertise of available faculty.

### **Programme**

“Programme” means a course of study leading to the award of a degree in a discipline.

### **Courses**

‘Course’ is a component (a paper) of a programme. Each course offered by the Department is identified by a unique course code. A course contains lectures/tutorials/laboratory/seminar/project/practical training/report writing/Viva-voce, etc or a combination of these, to meet effectively the teaching and learning needs.

### **Credits**

The term “Credit” refers to the weightage given to a course, usually in relation to the instructional hours assigned to it. Normally in each of the courses credits will be assigned on the basis of the number of lectures/tutorial/laboratory and other forms of learning required to complete the course contents in a 15-week schedule. One credit is equal to one hour of lecture per week. For laboratory/field work one credit is equal to two hours.

### **Semesters**

An Academic year is divided into two **Semesters**. In each semester, courses are offered in 15 teaching weeks and the remaining 5 weeks are to be utilized for conduct of examination and evaluation purposes. Each week has 30 working hours spread over 5 days a week.

### **Medium of Instruction:**

English

### Departmental committee

The Departmental Committee consists of the faculty of the Department. The Departmental Committee shall be responsible for admission to all the programmes offered by the Department including the conduct of entrance tests, verification of records, admission, and evaluation. The Departmental Committee determine the deliberation of courses and specifies the allocation of credits semester-wise and course-wise. For each course, it will also identify the number of credits for lectures, tutorials, practicals, seminars etc. The courses (Core/Discipline Specific Elective/Non-Major Elective) are designed by teachers and approved by the Departmental Committees. Courses approved by the Departmental Committees shall be approved by the Board of Studies/Broad Based Board of Studies. A teacher offering a course will also be responsible for maintaining attendance and performance sheets (CIA -I, CIA-II, assignments and seminar) of all the students registered for the course. The Non-major elective programme, MOOCs coordinator and Internship Mentor are responsible for submitting the performance sheet to the Head of the department. The Head of the Department consolidates all such performance sheets of courses pertaining to the programmes offered by the department. Then forward the same to the Controller of Examinations.

### Programme Educational Objectives- (PEO)

<b>PEO 1</b>	To provide an in-depth understanding of the basic concepts and theories in various aspects of disaster management
<b>PEO 2</b>	To provide exposure to the national and international institutional and governance frameworks relating to disaster risk reduction and management
<b>PEO 3</b>	To familiarize approaches to risk and vulnerability analysis, and damage loss and needs assessments to the students
<b>PEO 4</b>	To facilitate the students to understand various sources of disaster finance and institutions in the larger development context
<b>PEO 5</b>	Achieving quick recovery from disaster.
<b>PEO 6</b>	Creating awareness about disaster and its mitigation process among people
<b>PEO 7</b>	To induce knowledge to create appropriate planning, preparation and response for emergency treatment in disaster situation.
<b>PEO 8</b>	To enhance awareness of Disaster Risk Management institutional processes in India
<b>PEO 9</b>	To provide a basic conceptual understanding of disasters and their relationships with development.
<b>PEO10</b>	To understand Disaster Risk Reduction (DRR) and the relationship between vulnerability, disasters, disaster prevention, and risk reduction.

### PROGRAMME SPECIFIC OBJECTIVE-(PSO)

<b>PSO 1</b>	Understand the concept of Disaster and Disaster Management.
<b>PSO 2</b>	Get acquainted with manifesting the mitigation
<b>PSO 3</b>	Understand rescue from Disaster and Relief for Disaster
<b>PSO 4</b>	To get acquainted with the Disaster Risk Reduction concept.
<b>PSO 5</b>	To know Government Policies about Disaster Management

## PROGRAMME OUTCOME-(PO)

<b>PO 1</b>	Students will learn different theoretical perspectives of disaster management
<b>PO 2</b>	They will be trained, with hands-on techniques, on various practical aspects of disaster management such as mitigation, response, and recovery
<b>PO 3</b>	Students will learn to apply interdisciplinary field research techniques
<b>PO 4</b>	Students will be able to find opportunities in disaster management sectors, government and non-government organizations, policy-making bodies, research and academic institutions, and consultancy firms
<b>PO 5</b>	Appropriate actions at all points in the cycle lead to greater preparedness, better warnings, reduced vulnerability, or the prevention of disasters during the next iteration of the cycle
<b>PO 6</b>	The complete disaster management cycle includes the shaping of public policies and plans that either modify the causes of disasters or mitigate their effects on people, property, and infrastructure
<b>PO 7</b>	Explain Emergencies and controls, with examples of industrial disasters and their consequences.
<b>PO 8</b>	Describe the elements of emergency planning and preparedness.
<b>PO 9</b>	Summarize the causes of natural disasters, mitigation of their effects, rescue, relief, and rehabilitation.
<b>PO 10</b>	Explain the disaster management mechanism and capacity-building concepts

## PROGRAMME SPECIFIC OUTCOME- (PSO)

<b>PSO 1</b>	Demonstrate a systematic understanding of the key stages of emergency planning and response, the hazards, and potential public health needs in the event of a disaster occurring.
<b>PSO 2</b>	Be able to devise, critically review and appraise an emergency plan.
<b>PSO 3</b>	Apply knowledge and understanding of the importance and value of the emergency needs assessment, and able to explain the process of how this assessment is organized and carried out.
<b>PSO 4</b>	Apply knowledge and understanding of the need for, and methods of, programme monitoring, evaluations, and impact assessments.
<b>PSO 5</b>	Critically evaluate the role and activities undertaken during the disaster recovery stage.

### Eligibility for admission

Applicants who have passed any undergraduate degree are eligible for admission to the M.B.A Disaster Management Programme. Both male and female students not exceeding 40 in number will be admitted to this Programme. Those who are waiting for the results of Final semester examination can also apply for this programme. Students will be selected based on their marks scored in the UG Programme/ entrance examination, group discussion and personal interview.

## **Minimum Duration of programme**

The programme is for a period of two years. Each year shall consist of two semesters viz. Odd and Even semesters. Odd semesters shall be from June / July to October / November and even semesters shall be from November / December to April / May. Each semester there shall be 90 working days consisting of 6 teaching hours per working day (5 days/week) exclusive of the days for the conduct of the University end- semester examination.

## **Components**

A PG programme consists of a number of courses. The term “course” is applied to indicate a logical part of the subject matter of the programme and is invariably equivalent to the subject matter of a “paper” in the conventional sense. The following are the various categories of the courses suggested for the PG programmes:

- A. Core courses (CC)-** “Core Papers” means “the core courses” related to the programme concerned including practicals and project work offered under the programme and shall cover core competency, critical thinking, analytical reasoning, and research skill.
- B. Discipline-Specific Electives (DSE)** means the courses offered under the programme related to the major but are to be selected by the students, shall cover additional academic knowledge, critical thinking, and analytical reasoning.
- C. Non-Major Electives (NME)-** Exposure beyond the discipline
  - i. Students have to undergo a total of two Non Major Elective courses with 2 credits offered by other departments (one in II Semester another in III Semester).
  - ii. A uniform time frame of 3 hours on a common day (Tuesday) shall be allocated for the Non-Major Electives.
  - iii. Non Major Elective courses offered by the departments pertaining to a semester should be announced before the end of previous semester.
- D. Registration process:** Students have to register for the Non-Major Elective course within 15 days from the commencement of the semester either in the department or NME portal (University website).
- E. Self Learning Courses from MOOCs platforms.**
  - i. MOOCs shall be on voluntary for the students.
  - ii. Students have to undergo a total of 2 Self Learning Courses (MOOCs) one in II semester and another in III semester.
  - iii. The actual credits earned through MOOCs shall be transferred to the credit plan of programmes as extra credits. Otherwise 2 credits/course be given if the Self Learning Course (MOOCs) is without credit.
  - iv. While selecting the MOOCs, preference shall be given to the course related to employability skills.
- F. Projects / Dissertation /Internships (Maximum Marks: 200)**

The duration of the Project/Dissertation/internship during the fourth semester.

## **Plan of work**

### **Project/Dissertation**

The candidate shall undergo Project/Dissertation Work during the final semester. The candidate should prepare a scheme of work for the dissertation/project and should get approval

from the guide. The candidate, after completing the dissertation /project work, shall be allowed to submit it to the university departments at the end of the final semester. If the candidate is desirous of availing the facility from other departments/universities/laboratories/organizations they will be permitted only after getting approval from the guide and HOD. In such a case, the candidate shall acknowledge the same in their dissertation/project work.

**Format to be followed for dissertation/project report**

The format /certificate for thesis to be followed by the student are given below

- i. Title page
- ii. Certificate
- iii. Acknowledgment
- iv. Content as follows:

Chapter No	Title	Page number
1	Introduction	
2	Aim and objectives	
3	Review of literature	
4	Materials and methods	
5	Result	
6	Discussion	
7	Summary	
8	References	

**Format of the title page**

**Title of Dissertation/Project work**

Dissertation/Project submitted in partial fulfilment of the requirement for the degree of Master of Science to the Alagappa University, Karaikudi -630003.

By

(Student Name)

(Register Number)

University Logo

**Department of -----**

**Alagappa University**

*(A State University Accredited with “A+” grade by NAAC (CGPA: 3.64) in the Third Cycle and Graded as Category-I University by MHRD-UGC, 2019: QS ASIA Rank- 216, QS BRICS Rank-104, QS India Rank-20)*

Karaikudi – 630003

(Year)



## Format of certificates

### Certificate –Guide

This is to certify that the **Dissertation/Project** entitled “-----” submitted to Alagappa University, Karaikudi-630 003 in partial fulfilment for the degree of Master of Science in ----- by Mr/Mis -----(Reg No ) under my supervision. This is based on the results of studies carried out by him/her in the Department of-----, Alagappa University, Karaikudi-630 003. This dissertation/Project or any part of this work has not been submitted elsewhere for any other degree, diploma, fellowship, or any other similar titles or record of any University or Institution.

Place: Karaikudi

Date:\_\_\_\_\_

Research Supervisor

### Certificate - (HOD)

This is to certify that the thesis entitled “-----“ submitted by Mr/Mis -----(Reg No: -----) to the Alagappa University, in partial fulfilment for the award of the degree of Master of -----in-----is a bonafide record of research work done under the supervision of Dr.-----, Assistant Professor, Department of-----, Alagappa University. This is to further certify that the thesis or any part thereof has not formed the basis of the award to the student of any degree, diploma, fellowship, or any other similar title of any University or Institution.

Place: Karaikudi

Date:\_\_\_\_\_

Head of the Department

### Declaration (student)

I hereby declare that the dissertation entitled “-----” submitted to the Alagappa University for the award of the degree of Master of ----- in ----- has been carried out by me under the guidance of Dr. -----, Assistant Professor, Department of ----- , Alagappa University, Karaikudi – 630 003.

This is my original and independent work and has not previously formed the basis of the award of any degree, diploma, associateship, fellowship, or any other similar title of any University or Institution.

Place: Karaikudi

(-----)

Date:\_\_\_\_\_

## Internship

The students who have opted for an Internship must undergo industrial training in the reputed organizations to accrue industrial knowledge in the final semester. The student has to find industry related to their discipline (Public limited/Private Limited/owner/NGOs etc.) in consultation with the faculty in charge/Mentor and get approval from the head of the department and Departmental Committee before going for an internship.

### i. Format to be followed for Internship report

The format /certificate for internship report to be followed by the student are given below

### ii. Title page -Format of the title page

#### **Title of internship report**

Internship report submitted in partial fulfilment of the requirement for the Master of degree in ----- to the Alagappa University, Karaikudi -630003.

By (Student Name)

(Register Number)

University Logo

Department of -----

#### **Alagappa University**

*(A State University Accredited with "A+" grade by NAAC (CGPA: 3.64) in the Third Cycle and Graded as Category-I University by MHRD-UGC, 2019:*

*QS ASIA Rank- 216, QS BRICS Rank-104, QS India Rank-20)*

Karaikudi - 630003 (Year)

#### **Certificate-(Format of certificate – faculty in-charge)**

This is to certify that the report entitled "-----" submitted to Alagappa University, Karaikudi-630 003 in partial fulfilment for the Master of Science in -----by Mr/Mis----- (Reg No ) under my supervision. This is based on the work carried out by him/her in the organization M/S--. This Internship report or any part of this work has not been submitted elsewhere for any other degree, diploma, fellowship, or any other similar record of any University or Institution.

Place:

Research Supervisor

Date:\_\_\_\_\_

### Certificate (HOD)

This is to certify that the Internship report entitled “-----” submitted by Mr/Mis.-----(**Reg No** ) to the Alagappa University, in partial fulfilment for the award of the Master of Science in ----- is a bonafide record of Internship report done under the supervision of , Assistant Professor, Department of -----, Alagappa University and the work carried out by him/her in the organization M/S ----- . This is to further certify that the thesis or any part thereof has not formed the basis of the award to the student of any degree, diploma, fellowship, or any other similar title of any University or Institution.

Place: Karaikudi

Head of the Department

Date: \_\_\_\_\_

### Certificate-(Format of certificate – Company supervisor or Head of the Organization)

This is to certify that the Internship report entitled “-----” submitted to Alagappa University, Karaikudi-630 003 in partial fulfilment for the Master of Science in -----by Mr/Mis----- (Reg No:-----) under my supervision. This is based on the work carried out by him/her in our organization M/S ----- ----- for the period of three months or ----- . This Internship report or any part of this work has not been submitted elsewhere for any other degree, diploma, fellowship, or any other similar record of any University or Institution.

Place:

Supervisor or in charge

Date: \_\_\_\_\_

### Declaration (student)

I hereby declare that the Internship Report entitled “-----” submitted to the Alagappa University for the award of the **Master of Science in-----** has been carried out by me under the supervision of , Assistant Professor, Department of----- -----, Alagappa University, Karaikudi – 630 003. This is my original and independent work carried out by me in the organization M/S ----- for the period of three months or ----- and has not previously formed the basis of the award of any degree, diploma, associateship, fellowship, or any other similar title of any University or Institution.

Place: Karaikudi

(-----)

Date: \_\_\_\_\_

➤ Acknowledgment

➤ Content as follows:

Chapter No	Title	Page number
1	Introduction	
2	Aim and objectives	
3	Organisation profile /details	
4	Methods / Work	
5	Observation and knowledge gained	
6	Summary and outcome of the Internship study	
7	References	

### **No. of copies of the dissertation/internship report**

The candidate should prepare three copies of the dissertation report and submit the same for the evaluation of examiners. After evaluation, one copy will be retained in the department library, one copy will be retained by the guide and the student shall hold one copy. The candidate should prepare one copy of the field visit/internship report and submit the same for the evaluation of examiners

### **Teaching methods**

Classroom lectures, Virtual lectures, PPT, Case studies, Role play, Quiz, Special lectures and Google Classrooms.

### **Attendance**

Students must have earned 75% of attendance in each course for appearing for the examination. Students who have earned 74% to 70% of attendance need to apply for condonation in the prescribed form with the prescribed fee. Students who have earned 69% to 60% of attendance need to apply for condonation in the prescribed form with the prescribed fee along with the Medical Certificate. Students who have below 60% of attendance are not eligible to appear for the End Semester Examination (ESE). They shall re- do the semester(s) after completion of the programme.

### **Examination**

The examinations shall be conducted separately for theory and practical's to assess (remembering, understanding, applying, analysing, evaluating, and creating) the knowledge required during the study. There shall be two systems of examinations viz., internal and external examinations. The internal examinations shall be conducted as Continuous Internal Assessment tests I and II (CIA Test I & II).

### **Internal Assessment**

The internal assessment shall comprise a maximum of 25 marks for each subject. The following procedure shall be followed for awarding internal marks.

Theory -25 marks

Sr.No	Content	Marks
1	Average marks of two CIA test	15
2	Seminar/group discussion/quiz	5
3	Assignment/field trip report/case study report	5
	Total	25

Project Work-75 Marks (assess by Guide/In-charge/HOD/supervisor)

1	Two presentations (mid-term)	50 Marks
2	Progress report	25 Marks
	Total	75 Marks

### **External Examination**

- There shall be examinations at the end of each semester, for odd semesters in the month of October / November; for even semesters in April / May.
- A candidate who does not pass the examination in any course(s) may be permitted to appear in such failed course(s) in the subsequent examinations to be held in October / November or April / May. However candidates who have arrears in Practical shall be permitted to take their arrear Practical examination only along with Regular Practical examination in the respective semester.
- A candidate should get registered for the first semester examination. If registration is not possible owing to shortage of attendance beyond condonation limit / regulation prescribed OR belated joining OR on medical grounds, the candidates are permitted to move to the next semester. Such candidates shall re-do the missed semester after completion of the programme.
- For the Project Report/ Dissertation Work / internship the maximum marks will be 100 marks for project report evaluation and for the Viva-Voce it is 50 marks (if in some programmes, if the project is equivalent to more than one course, the project marks would be in proportion to the number of equivalent courses).
- Viva-Voce: Each candidate shall be required to appear for Viva-Voce Examination (in defense of the Dissertation Work /Project/ internship).

### **Scheme of External Examination (Question Paper Pattern)**

Theory - Maximum 75 Marks

<b>Section A</b>	10 questions. All questions carry equal marks. (Objective type questions)	10 x 1 = 10 Marks	10 questions – 2 each from every unit
Section B	5 questions Either / or type like 1.a (or) b. All questions carry equal marks	5 x 5 = 25	5 questions – 1 each from every unit
Section C	5 questions Either / or type like 1.a (or) b. All questions carry equal marks	5 x 8 = 40	5 questions – 1 each from every unit

### **Project report/Internship report Scheme of evaluation**

Project report/Internship report	75 Marks
Viva voce	25 Marks

## Results

The results of all the examinations will be published through the Department where the student underwent the course as well as through University Website

## Passing minimum

- A candidate shall be declared to have passed in each course if he/she secures not less than 40% marks in the End Semester Examinations and 40% marks in the Internal Assessment and not less than 50% in the aggregate, taking Continuous assessment and End Semester Examinations marks together.
- The candidates not obtained 50% in the Internal Assessment are permitted to improve their Internal Assessment marks in the subsequent semesters (2 chances will be given) by writing the CIA tests and by submitting assignments.
- Candidates, who have secured the pass marks in the End-Semester Examination and in the CIA but failed to secure the aggregate minimum pass mark (E.S.E + C I.A), are permitted to improve their Internal Assessment mark in the following semester and/or in University examinations.
- A candidate shall be declared to have passed in the Project / Dissertation / Internship if he /she gets not less than 40% in each of the Project / Dissertation / Internship Report and Viva-Voce and not less than 50% in the aggregate of both the marks for Project Report and Viva-Voce.
- A candidate who gets less than 50% in the Project / Dissertation / Internship Report must resubmit the thesis. Such candidates need to take again the Viva-Voce on the resubmitted Project report.

## Grading of the Courses

The following table gives the marks, Grade points, Letter Grades and classifications meant to indicate the overall academic performance of the candidate.

Conversion of Marks to Grade Points and Letter Grade (Performance in Paper / Course)

RANGE OF MARKS	GRADE POINTS	LETTER GRADE	DESCRIPTION
90 - 100	9.0 – 10.0	O	Outstanding
80 - 89	8.0 – 8.9	D+	Excellent
75 - 79	7.5 – 7.9	D	Distinction
70 - 74	7.0 – 7.4	A+	Very Good
60 - 69	6.0 – 6.9	A	Good
50 - 59	5.0 – 5.9	B	Average
00 - 49	0.0	U	Re-appear
ABSENT	0.0	AAA	ABSENT

- a) Successful candidates passing the examinations and earning GPA between 9.0 and 10.0 and marks from 90 – 100 shall be declared to have Outstanding (O).
- b) Successful candidates passing the examinations and earning GPA between 8.0 and 8.9 and marks from 80 - 89 shall be declared to have Excellent (D+).
- c) Successful candidates passing the examinations and earning GPA between 7.5 – 7.9 and marks from 75 - 79 shall be declared to have Distinction (D).
- d) Successful candidates passing the examinations and earning GPA between 7.0 – 7.4 and marks from 70 - 74 shall be declared to have Very Good (A+).
- e) Successful candidates passing the examinations and earning GPA between 6.0 – 6.9 and marks from 60 - 69 shall be declared to have Good (A).
- f) Successful candidates passing the examinations and earning GPA between 5.0 – 5.9 and marks from 50 - 59 shall be declared to have Average (B).
- g) Candidates earning GPA between 0.0 and marks from 00 - 49 shall be declared to have Re-appear (U).
- h) Absence from an examination shall not be taken as an attempt.

From the second semester onwards the total performance within a semester and continuous performance starting from the first semester are indicated respectively by **Grade Point Average (GPA)** and **Cumulative Grade Point Average (CGPA)**. These two are calculated by the following formulae

$$\text{GRADE POINT AVERAGE (GPA)} = \frac{\sum_i C_i G_i}{\sum_i C_i}$$

$$\text{GPA} = \frac{\text{Sum of the multiplication of Grade Points by the credits of the courses}}{\text{Sum of the credits of the courses in a Semester}}$$

### Classification of the final result

CGPA	Grade	Classification of Final Result
9.5 – 10.0	<b>O+</b>	First Class – Exemplary*
9.0 and above but below 9.5	<b>O</b>	
8.5 and above but below 9.0	<b>D++</b>	First Class with Distinction*
8.0 and above but below 8.5	<b>D+</b>	
7.5 and above but below 8.0	<b>D</b>	
7.0 and above but below 7.5	<b>A++</b>	First Class
6.5 and above but below 7.0	<b>A+</b>	
6.0 and above but below 6.5	<b>A</b>	
5.5 and above but below 6.0	<b>B+</b>	Second Class
5.0 and above but below 5.5	<b>B</b>	
0.0 and above but below 5.0	<b>U</b>	Re-appear

The final result of the candidate shall be based only on the CGPA earned by the candidate.

- a) Successful candidates passing the examinations and earning CGPA between 9.5 and 10.0 shall be given Letter Grade (O+), those who earned CGPA between 9.0 and 9.4 shall be given Letter Grade (O) and declared to have First Class –Exemplary\*.

- b) Successful candidates passing the examinations and earning CGPA between 7.5 and 7.9 shall be given Letter Grade (D), those who earned CGPA between 8.0 and 8.4 shall be given Letter Grade (D+), those who earned CGPA between 8.5 and 8.9 shall be given Letter Grade (D++) and declared to have First Class with Distinction\*.
- c) Successful candidates passing the examinations and earning CGPA between 6.0 and 6.4 shall be given Letter Grade (A), those who earned CGPA between 6.5 and 6.9 shall be given Letter Grade (A+), those who earned CGPA between 7.0 and 7.4 shall be given Letter Grade (A++) and declared to have First Class.
- d) Successful candidates passing the examinations and earning CGPA between 5.0 and 5.4 shall be given Letter Grade (B), those who earned CGPA between 5.5 and 5.9 shall be given Letter Grade (B+) and declared to have passed in Second Class.
- i) Candidates those who earned CGPA between 0.0 and 4.9 shall be given Letter Grade (U) and declared to have Re-appear.
- e) Absence from an examination shall not be taken as an attempt.

$$\text{CUMULATIVE GRADE POINT AVERAGE (CGPA)} = \frac{\sum_n \sum_i C_{ni} G_{ni}}{\sum_n \sum_i C_{ni}}$$

$$\text{CGPA} = \frac{\text{Sum of the multiplication of Grade Points by the credits of the entire Programme}}{\text{Sum of the credits of the courses for the entire Programme}}$$

Where 'Ci' is the Credit earned for Course i in any semester; 'Gi' is the Grade Point obtained by the student for Course i and 'n' refers to the semester in which such courses were credited.

**CGPA** (Cumulative Grade Point Average) = Average Grade Point of all the Courses passed starting from the first semester to the current semester.

Note: \* The candidates who have passed in the first appearance and within the prescribed Semesters of the PG Programme are alone eligible for this classification.

### **Maximum duration of the completion of the programme**

The maximum period for completion of M.B.A in Disaster Management shall not exceed eight semesters continuing from the first semester.

### **Conferment of the Master's Degree**

A candidate shall be eligible for the conferment of the Degree only after he/ she has earned the minimum required credits for the Programme prescribed therefore (i.e. 90 credits).

### **Village Extension Programme**

The Sivaganga and Ramnad districts are very backward districts where a majority of people Lives in poverty. The rural mass is economically and educationally backward. Thus the aim of the introduction of this Village Extension Programme is to extend out to reach environmental awareness, social activities, hygiene, and health to the rural people of this region. The students in their third semester have to visit any one of the adopted villages within the jurisdiction of Alagappa University and can arrange various programs to educate the rural mass in the following areas for three day based on the theme.



1. Environmental awareness
2. Hygiene and Health.

A minimum of two faculty members can accompany the students and guide them.



**M.B.A., DISASTER MANAGEMENT  
PROGRAMME STRUCTURE**

S.No	Code	Name of the course	T/P	Credit	Hours/ Week	Marks		
						IA	EA	Total
<b>SEMESTER I</b>								
1	646101	Basic concepts of Disaster Management and Risk Governance	T	4	4	25	75	100
2	646102	Organizational Behavior	T	4	4	25	75	100
3	646103	Management Concepts	T	4	4	25	75	100
4	646104	Managerial Economics	T	4	4	25	75	100
5	646105	Information Technology for Business	P	2	6	25	75	100
6	646501	Elective1	T	2	3	25	75	100
7	646502	Elective2	T	2	3	25	75	100
		Library/ Seminar/ Spoken English		-	2	-	-	-
<b>Total</b>				<b>22</b>	<b>30</b>	<b>175</b>	<b>525</b>	<b>700</b>
<b>SEMESTER II</b>								
9	646201	Strategic Management	T	4	4	25	75	100
10	646202	Research Methodology	T	4	4	25	75	100
11	646203	Human Resource Management	T	4	4	25	75	100
12	646204	Finance Management	T	4	4	25	75	100
13	646205	Field work and Practical-I	P	3	6	25	75	100
14	646504	Elective3	T	2	3	25	75	100
15	646505	Elective4	T	2	2	25	75	100
17		Non-Major Elective-I	T	2	3	25	75	100
18	SLC-I*	Self-learning course(SLC)– MOOCs				Extra Credit		
		Library/ Yoga/ Spoken English/ Career Guidance/ Seminar		-	-	-	-	-
<b>Total</b>				<b>25</b>	<b>30</b>	<b>200</b>	<b>600</b>	<b>800</b>
<b>SEMESTER III</b>								
19	646301	Preparedness and Mitigation	T	4	4	25	75	100
20	646302	Geospatial technology in Disaster Management	T	4	4	25	75	100
21	646303	Environmental Economics	T	4	4	25	75	100
22	646304	Fieldwork and Practical- II	P	3	6	25	75	100
23	646305	Institutional Internship		3	4	25	75	100
24	646507	Elective5	T	2	3	25	75	100
25	646508	Elective6	T	2	2	25	75	100
27		Non-Major Elective-II	T	2	3	25	75	100
28	SLC-II*	Self-learning course(SLC) - MOOCs				Extra Credit		
		Library/ Seminar/ Competitive Examination Coaching			-	-	-	-
<b>Total</b>				<b>24</b>	<b>30</b>	<b>200</b>	<b>600</b>	<b>800</b>
<b>SEMESTER IV</b>								
29	646401	Adaptation and Mitigation in Climate Change	T	4	4	25	75	100
30	646402	Rehabilitation and Reconstruction	T	4	4	25	75	100
31	646403	Disaster Laws & Planning Management	T	3	4	25	75	100
32	646404	Practical in Disaster Data Processing	P	3	6	25	75	100
33	646999	Project Report and Viva-Voce		4	12	25	75	100

	Library/ Yoga/ Career Guidance/ Seminar		-	-	-	-	-
	<b>Total</b>		<b>18</b>	<b>30</b>	<b>125</b>	<b>375</b>	<b>500</b>
	<b>Grand Total</b>		<b>90+EC</b>		<b>700</b>	<b>2100</b>	<b>2800</b>
*Credits earned through Self Learning Courses (MOOCs) shall be transferred in the credit plan of the programme as extra credits.							

### List of Elective Courses

S. No	Code	Electives	Credit	Hours/ Week	Marks		
					IA	E	Total
<b>(Students has to choose two electives for each semester)</b>							
<b>Semester I</b>							
1	646501	Disaster risk Management	2	3	25	75	100
2	646502	Ecosystems and Habitat	2	3	25	75	100
3	646503	Logistics and supply chain Management	2	3	25	75	100
<b>Semester II</b>							
4	646504	Relief and Response	2	3	25	75	100
5	646505	Global Initiatives for Management	2	2	25	75	100
6	646506	NGO management and administration	2	2	25	75	100
<b>Semester III</b>							
7	646507	Disaster Economics and Financing	2	3	25	75	100
8	646508	Occupational health Management	2	2	25	75	100
9	646509	Emergency response system and Fire safety management	2	2	25	75	100

### Non- Major Elective– Courses offered to the other Department.

S. No	Paper Code	Semester	Title of the paper	Credits	Hours/ Week	Marks		
						I	E	T
1	NME1	II	Introduction to Disaster Management	2	3	25	75	100
2	NME2	III	Climate Change and Society	2	3	25	75	100

<b>Semester – I</b>					
<b>Core</b>	<b>Course code: 646 101</b>	<b>Basic Concepts of Disaster Management and Risk Governance</b>	<b>T</b>	<b>Credits: 4</b>	<b>Hours: 4</b>
<b>Unit – I</b>					
<b>Objective 1</b>	<b>To provide basic knowledge of disasters</b>				
<b>Introduction:</b> Meaning, Nature, Importance, Dimensions & Scope-Concepts- Disaster Hazard, Vulnerability, Resilience and Risks. Disaster Management Cycle stages – Disaster event, Disaster Response, Recovery—natural and Manmade disasters – types and effects.					
<b>Outcome 1</b>	<b>Students will gain insight into the basic concept of disasters.</b>				<b>K5</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>To familiarized students with the field of various natural disasters.</b>				
<b>Natural disasters:</b> Hydrological Disasters - Floods, Droughts, Cloudbursts. Geological Disasters- Earthquakes, Tsunamis, Landslides, Volcanic eruptions. Wind-related- Cyclones, Storms, Storm surges, Tidal waves, Heat and cold Waves. Climate change- Global warming- Sea level rise- Ozone Depletion. Case studies: Floods- Chennai floods 2015, Kerala floods 2018. Cyclones – Odisha 1999, Gaja 2018. Famines and drought-Great Bengal famine in the year of 1876 – 1878 and 1943, Maharashtra drought 2013. Earthquake – Nepal 2015, Gujarat, Bhuj 2001. Tsunami- Indian Ocean Tsunami 2004.					
<b>Outcome 2</b>	<b>This course will expose students to the various types of natural disasters.</b>				<b>K2</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>Students will become familiar with various manmade disasters.</b>				
<b>Man-made disasters:</b> CBRN Chemical disasters, biological disasters, radiological disasters, nuclear disasters. Fire – building fire, coal fire, forest fire, Oil fire. Pollution- air pollution, water pollution. Deforestation, Industrial waste, Desertification, Mines and Quarries. Soil erosion, groundwater depletion, saltwater intrusion, biodiversity loss and biological warfare. Case studies: Kumbakonam School fire 2004, The Bhopal Gas Tragedy 1984, Fukushima Daiichi nuclear disaster, Japan 2011. Biological disasters– Swine flu 2009. War-Atomic bombings of Hiroshima and Nagasaki 1945, Covid – 2019.					
<b>Outcome 3</b>	<b>Students will learn about different disasters and measures to reduce the risk due to these disasters.</b>				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>To teach the concept of risk and vulnerability at different stages of disaster management.</b>				
<b>Funding for Disaster Management:</b> State Disaster Mitigation fund, State Disaster response fund (SDRF), National Disaster Response Fund (NDRF), Prime Minister National Relief Fund (PMNRF), Chief Minister Relief Fund and Role. Important statutes with provisions relevant to Disaster Management.					
<b>Outcome 4</b>	<b>Students will learn about disaster risk and vulnerability at different stages.</b>				<b>K2</b>
<b>Unit – V</b>					
<b>Objective 5</b>	<b>To provide insight into sustainable development of disaster management.</b>				
<b>Capacity Building:</b> Setting up EOCs at state, district and block levels; Raising National/State Disaster Response Force; Training and Capacity building of all stakeholders, National Institute of Disaster Management (NIDM), Disaster Management Centre (DMC) in every State; Centre of Excellence. Role of NGO coordination and community processes in disaster management. Governance challenges in the context of disasters.					
<b>Outcome 5</b>	<b>As students’ progress through the course, they will become more aware of disaster planning and management.</b>				<b>K4</b>

## Suggested Readings

- Alexander, D., & Alexander, D. E. (2000). Confronting catastrophe: new perspectives on natural disasters. USA: Oxford University Press.
- Andharia, J. (2013). Vulnerability and disasters: Conceptual contours of a people-centered view. In: S. Parasuraman & Unni Krishnan (ed.) India Disaster Report II: Redefining Disasters. Delhi: Oxford University Press.
- Blaikie, P., Cannon, T., Davis, I., & Wisner, B. (2014). At risk: natural hazards, people's vulnerability and disasters. Routledge.
- Edward A. Keller and Robert. H. Blodgett. (2008). Natural Hazards. Pearson Prentice Hall. USA.
- Goel. S.L. (2007). Disaster Administration and Management, New Delhi: Deep & Deep publication, Gupta Anil K, Sreeja S. Nair. (2011). Environmental Knowledge for Disaster Risk Management, New Delhi: National Institute of Disaster Management.
- Parasuraman, S. & Unnikrishnan, (2013). India Disaster Report II: Redefining Disasters. Delhi: Oxford University Press
- Sen, A.K. (1983). Poverty and Famines: An Essay on Entitlement and Deprivation, New Delhi: Oxford University Press.
- Alemanno, A. (Ed.). (2011). Governing disasters: the challenges of emergency risk regulation Edward Elgar Publishing.
- Chakrabarty, B., & Bhattacharya, M. (Eds.). (2008). The governance discourse: a reader USA: Oxford University Press.
- Chatterjee, P. (2004). The politics of the governed: reflections on popular politics in most of the world. Columbia University Press.
- Government of India. (2005). Disaster Management Act 2005, Government of India, New Delhi.
- Government of India. (2009). National Disaster Management Policy, Government of India, New Delhi.
- Kundu, A., & Dubey, M. (Eds.). (2006). India, Social Development Report, USA: Oxford University Press.
- North, D. (1990). Institutions, institutional change and economic performance, New York: Cambridge University Press.

## ONLINE RESOURCES

- Subramanian, R. Disaster Management. Retrieved from [https://books.google.co.in/books?id=0h1DwAAQBAJ&pg=PA22&source=gbs\\_toc\\_r&cad=2#v=onepage&q&f=false](https://books.google.co.in/books?id=0h1DwAAQBAJ&pg=PA22&source=gbs_toc_r&cad=2#v=onepage&q&f=false)
- Sharma, S.C. Disaster Management. Retrieved from [https://books.google.co.in/books/about/Disaster\\_Management.html?id=OI8EEAAAQBAJ&redir\\_esc=y](https://books.google.co.in/books/about/Disaster_Management.html?id=OI8EEAAAQBAJ&redir_esc=y) COURSE MANUAL, Introduction to Disaster Management. Retrieved from <https://meghomeguards.gov.in/sites/default/files/course-manual.pdf>
- Singh, AK. Handbook on Disaster Management, Disaster Management Cell Regional Centre for Urban and Environmental Studies Lucknow University Campus, Lucknow. Retrieved from <http://rcueslucknow.org/publication/TrainingModules/Dr.A.K.Singh/HandBookDisasterManagement.pdf>
- Krishna Sankar, P. Disaster Management, Retrieved from [https://www.academia.edu/33090026/Disaster\\_Management](https://www.academia.edu/33090026/Disaster_Management)
- Uday Singh, Disaster Management. Directorate of Distance & Continuing Education, Utkal University, Retrieved from [https://ddceutkal.ac.in/Syllabus/MCOM/Disaster\\_Management.pdf](https://ddceutkal.ac.in/Syllabus/MCOM/Disaster_Management.pdf)
- Disaster Management in India. Retrieved from [https://asdma.gov.in/pdf/publication/undp/disaster\\_management\\_in\\_india.pdf](https://asdma.gov.in/pdf/publication/undp/disaster_management_in_india.pdf)
- Stephan Baas, Selvaraju Ramasamy, Jenni Edy de Pryck, Federica Battista. Disaster risk management systems analysis A guide book <https://www.fao.org/3/i0304e/i0304e.pdf>
- Melanie Gall, Susan L Cutter, Khai Hoan Nguyen Gall, Governance in disaster risk management. Retrieved from <file:///C:/Users/vasan/Downloads/Galletal2014GovernanceforDRM.pdf> Introduction to Disaster Risk Reduction. [https://www.preventionweb.net/files/26081\\_kp1conceptdisasterrisk1.pdf](https://www.preventionweb.net/files/26081_kp1conceptdisasterrisk1.pdf)

**K1-Remember**

**K2-Understand**

**K3-Apply**

**K4-Analyze**

**K5-Evaluate**

**K6-Create**

Course Designed by: Dr. S. Chandramohan

### Course Outcome VS Programme Outcomes

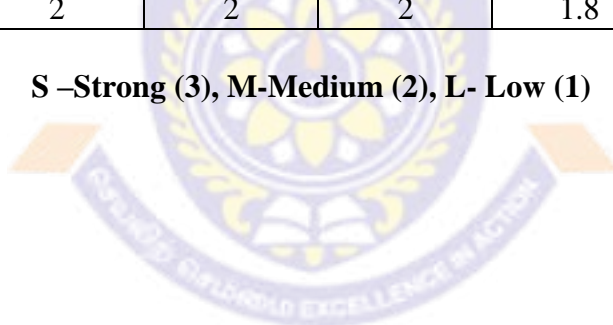
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low(1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**



I – Semester					
Core	Course Code: 646102	ORGANIZATIONAL BEHAVIOR	T	Credits:4	Hours:4
<b>Unit –I</b>					
<b>Objective 1</b>	<b>To Understand the concepts and significance of Organizational Behavior and its level.</b>				
<b>Organisational Behavior:</b> Meaning–Elements, Need and importance, Approaches, Models, Levels, Global scenario, Socio-cultural, political and economic differences and their influence on International organizational behaviour, Future of organisational behaviour (Relevant One or Two Case Studies)					
<b>Outcome1</b>	Students will acquire knowledge on the fundamentals of the organization behavior.				<b>K2</b>
<b>Unit II</b>					
<b>Objective 2</b>	<b>To Understand the Individual behaviors like personality, Learning, Attitudes, Motivation,</b>				
<b>Foundations of Individual Behaviour:</b> Individual differences, Personality Meaning, Personality factors, Learning, Components of learning process, Learning theories, Values, Significance and Types, Attitudes, Components Formation, Perception, Perceptual process, Motivation, Types, Importance Ability, Meaning, Types, Their relevance to organisational behaviour. Stress Meaning, Types, Sources, Impact and consequences of stress on behaviour, Management of stress (Relevant One or Two Case Studies).					
<b>Outcome2</b>	Learners will understand the individuals’ behavior, personality, Attitudes, Motivation,				<b>K4</b>
<b>Unit III</b>					
<b>Objective 3</b>	<b>To impart knowledge and concepts of foundations of group dynamics.</b>				
<b>Group Dynamics:</b> Group Definition, Reasons, Types, Formation and development, Group Norms Meaning, Types, Reasons for enforcement of norms, Norm variation, Norm conformity, Group Cohesiveness Meaning, Advantages, Group Conflict Meaning, Reasons, Management of group conflict, Their impact on organisational behavior, Leadership: Types and Theories, (Relevant One or Two Case Studies).					
<b>Outcome3</b>	Analyze the foundations of group behavior and group dynamics.				<b>K4</b>
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To develop positive attitude towards the power and politics.</b>				
<b>Power and Politics:</b> Power Definition, Power vs Authority, Types of powers, Sources, Characteristics, Effective use of power, Politics Definition, Political behavior and organisational politics, Factors influencing political behaviour, Techniques of managing political behavior (Relevant One or Two Case Studies).					
<b>Outcome4</b>	Students will be able to identify the Power and Politics in the organization.				<b>K2</b>
<b>Unit V</b>					
<b>Objective 5</b>	<b>To enhance the students understanding on organizational dynamics.</b>				
<b>Organisational Dynamics:</b> Organisational Design, Determinants, Forms Organisational Effectiveness Meaning, Approaches, Factors contributing effectiveness, Organisational Culture Meaning, Significance, Organisational Climate Meaning, Factors influencing climate, Implications on organisational behaviour, Organisational Change Meaning, Nature, Causes of change, Resistance to change, Management of change, Organisational Development Meaning, Need OD interventions (Relevant One or Two Case Studies).					
<b>Outcome5</b>	Analyse the foundations of Organizational Dynamics.				<b>K5</b>
<b>Suggested Readings:</b> Fred Luthans, (2011) <i>Organizational Behavior</i> , “Tata McGraw Hill”, 11th Edition, Heinz Weihrich, Mark V. Cannice, and Harold Koontz (2022)., “ <i>Management: A Global, Innovative, and Entrepreneurial Perspective</i> ”, 1 <sup>st</sup> Edition, Tata McGraw Hill. Pareek, U. (2012). <i>Udai Pareek's Understanding Organizational Behaviour</i> , 3e. OUP Catalogue.					

Ricky W Griffin (2010), “*Management*”, South-Western College Publications,  
Robbins, S. P. (2010)., “*Organizational behavior*”, 11<sup>th</sup> Edition, Pearson Education

**Online Resources**

<https://openstax.org/books/organizational-behavior/pages/references>

<https://www.coursera.org/learn/organisational-behaviour-know-your-people>

<https://www.coursera.org/learn/managing-people-iese>

***K1-Remember***

***K2-Understand***

***K3-Apply***

***K4-Analyze***

***K5-Evaluate***

***K6-Create***

**Course designed by: Dr. S. CHANDRAMOHAN**

**Course Outcome VS Programme Outcomes**

<b>646102 ORGANIZATIONAL BEHAVIOUR</b>										
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	L (1)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	L (1)	M (2)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	L (1)	M (2)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	M (2)
W.AV	1.8	1.6	1.2	1.2	1.6	3	1.6	1.6	1.4	1.6

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

<b>646102 ORGANIZATIONAL BEHAVIOUR</b>					
CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
W.AV	2	1.8	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**



I - Semester					
Core	CourseCode: 646103	MANAGEMENT CONCEPTS	T	Credits:4	Hours: 4
<b>Unit -I</b>					
<b>Objective 1</b>	<b>To help the students learn and explore the basic concepts management concepts</b>				
<b>Introduction:</b> Nature of Management, The Evolution of management, Tasks of a Professional Manager, Manager and Environment, Systems Approach to Management, Levels in Management.					
<b>Outcome 1</b>	The fundamental ideas of management will be understood by the students.			<b>K2</b>	
<b>Unit II</b>					
<b>Objective 2</b>	<b>To Understand the concepts and significance of planning and decision making.</b>				
<b>Planning &amp; Decision Making:</b> Steps in Planning Process, Scope and Limitations, Short-Term and Long, Term Planning, Flexibility in Planning, Characteristics of a Sound Plan, Management by objectives (MBO), Decision Making Process and Techniques.					
<b>Outcome 2</b>	Students will able to absorb the basic concepts of planning and making decisions.			<b>K4</b>	
<b>Unit III</b>					
<b>Objective 3</b>	<b>To Understand the nature of organizing</b>				
<b>Nature of Organizing:</b> Organisation Structure and Design, Authority Relationships, Delegation of Authority and Decentralisation, Impact of Technology on Organisational design, Mechanistic vs. Adoptive Structures, Formal and Informal Organisation. Span of control, Pros and Cons of Narrow and Wide Spans of Control, Optimum Span.					
<b>Outcome 3</b>	Students have insight into the nature of control, structure, and organisation.			<b>K4</b>	
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To understand various concept of control and applications.</b>				
<b>Control:</b> Concept of Control, Application of the Process of Control at Different Levels of Management (top, middle and first line). Performance Standards, Measurements of Performance, Remedial Action, An Integrated Control system in an Organisation, Management by Exception (MBE).					
<b>Outcome4</b>	Students will understand the methods and techniques of controlling.			<b>K2</b>	
<b>Unit V</b>					
<b>Objective 5</b>	<b>To learn the different ethics of management</b>				
<b>Business Ethics:</b> Importance of Business Ethics, Corporate Social Responsibility, Ethical Issues and Dilemmas in Business, Ethical Decision Making and Ethical Leadership, Ethics Audit, Environmental Ethics, Sustainable Business Practices.					
<b>Outcome5</b>	Students will learn about corporate ethics, be able to make ethical decisions, and recognize ethical leaders.			<b>K5</b>	
<b>Suggested Readings:</b>					
Certo, S. C. & Certo, T. (2011). Modern Management, (12th ed.), USA: Prentice Hall. DeGeorge, R. (2011). Business Ethics, (7th ed.), Pearson.					
Govindarajan, M., & Natarajan S. (2009). Principles of Management, PHI Learning Pvt. Ltd., Griffin, R. W. (2012). Management, (11th ed.), South-Western College Publication.					
Koontz, H. & Wehrich, H. (2009). Essentials of Management: An International Perspective, (8th ed.), TataMcGraw Hill Education Private Ltd.,					
Mukherjee, K. (2009). Principles of Management, (2nd ed.), Tata McGraw Hill Education Pvt. Ltd., Robbins, S & Coulter. (2011). Management, Prentice Hall, USA.					

Schmerhorn, J.R. (2012). Management, (11th ed.), Wiley. USA.  
Schmidtz, D. & Willott, E. (2011). Environmental Ethics, London: Oxford University Press.

**Online Resources**

<https://ddceutkal.ac.in/Syllabus/Management-Concepts-Practices.pdf>

<https://matsuniversity.ac.in/wp-content/uploads/2023/04/MANAGEMENT-CONCEPTS-AND-PRACTICES.pdf>

<https://www.bdu.ac.in/cde/SLM/?dir=.%2FMBA%2FMBA%20I%20Semester%2FManagement%20Concepts>

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
<b>Course designed by: Dr. S. CHANDRAMOHAN</b>					

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

I - Semester					
Core	Course Code 646104	MANAGERIAL ECONOMICS	T	Credits:4	Hours: 4
<b>Unit -I</b>					
<b>Objective 1</b>	<b>To introduce the students to the basic concepts of managerial economics.</b>				
<b>Introduction:</b> Definition, Nature and Scope of Managerial Economics, Demand Analysis: Demand Determinants, Law of Demand and its exceptions, Elasticity of Demand: Definition, Types, Measurement and Significance of Elasticity of Demand. Demand Forecasting, Factors governing demand forecasting, methods of demand forecasting.					
<b>Outcome1</b>	The students will gain an understanding of the basics of managerial economics.			<b>K2</b>	
<b>Unit II</b>					
<b>Objective 2</b>	<b>To Learn national income and models.</b>				
<b>National Income:</b> Introduction to National Income, National Income Concepts, Models of National Income Determination, Economic Indicators, Technology and Employment, Issues and Challenges, Business Cycles, Phases, Management of Cyclical Fluctuations, Fiscal and Monetary Policies, National Income and Measure of Welfare.					
<b>Outcome 2</b>	In this course, students will learn the basics of national income.			<b>K4</b>	
<b>Unit III</b>					
<b>Objective 3</b>	<b>To Acquire an understanding of public revenue market environment.</b>				
<b>Public Revenue, Expenditure &amp; Market Environment:</b> India's Public Revenue, Taxes of Union, State and Local Governments, Public Expenditure, Public Expenditure/GDP, Types of competition and Markets, Features of Perfect competition, Monopoly and Monopolistic Competition, Price-Output Determination in case of Perfect Competition and Monopoly, Pricing, Objectives and Policies of Pricing. Methods of Pricing.					
<b>Outcome 3</b>	Students can learn about Revenue, Expenditure, market environment.			<b>K4</b>	
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To understand budgeting and types.</b>				
<b>Basics of Budgeting &amp; Capital Budgeting:</b> Constitutional Basis for Budgeting, Process of Passing Finance and Appropriation Bills in the Parliament/Assembly, CAG and PAC, FRBM, Deficit, Public Debt and Monetary Management, Capital and its significance, Types of Capital, Estimation of Fixed and Working capital requirements, Methods and sources of raising capital, Trading Forecast, Capital Budget, Cash Budget.					
<b>Outcome 4</b>	Students will Understand the basics budgeting methods and types.			<b>K2</b>	
<b>Unit V</b>					
<b>Objective 5</b>	<b>To Learn about financial relationship.</b>				
<b>Centre-State Financial Relations:</b> Role of Finance Commission in Filling Vertical and Horizontal Fiscal Imbalance, Plan Transfers and Discretionary Transfers, Latest Finance Commission Report of the union and state governments.					
<b>Outcome5</b>	A financial relation to state and central course is offered to students.			<b>K5</b>	
<b>Suggested Readings:</b>					
Ahuja H.L. (2003). Advanced Economic Theory: Microeconomic Analysis, (13th ed.). New Delhi: S. Chand and Co.Ltd. Baumol W.J. (1982). Economic Theory and Operations Analysis, New Delhi: Prentice Hall of India.					
Chaturvedi, Gupta & Pal. (2002). Business Economics: Text and Cases, New Delhi: Galgotia Publishing Company.					
Damodaran, S. (2011). Managerial Economics, (2nd ed.). London: Oxford University Press.					
Hillman,					
A. L. (2003). Public Finance and Public Policy. London: Cambridge University Press.					
Jha, R. (1998). Modern Public Economics. Routledge. London.					

Koutsoyiannis, A. (1979). Modern Microeconomics, (2nd ed.), London: Macmillan Press.					
<b>Online Resources</b>					
Managerial Economics (Analysis of Managerial Decision Making), 9th Edition, H. L. Ahuja, S Chand Limited, ISBN:9789352535187, 9352535189 <a href="https://www.google.co.in/books/edition/_xiyAEAAAQBAJ?hl=en&amp;gbpv=1">https://www.google.co.in/books/edition/_xiyAEAAAQBAJ?hl=en&amp;gbpv=1</a>					
Managerial Economics, Craig H. Petersen, W. Cris Lewis, Sudhir K.Jain, ISBN:9788177583861, 8177583867 <a href="https://www.google.co.in/books/edition/Managerial_Economics/U2Ipl3h4xm4C?hl=en&amp;gbpv=1&amp;dq=managerial+economics&amp;printsec=frontcover">https://www.google.co.in/books/edition/Managerial_Economics/U2Ipl3h4xm4C?hl=en&amp;gbpv=1&amp;dq=managerial+economics&amp;printsec=frontcover</a>					
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
<b>Course designed by: Dr. S. Chandramohan</b>					

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

S –Strong (3), M-Medium (2), L- Low (1)

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

S –Strong (3), M-Medium (2), L- Low (1)

<b>I-Semester</b>					
<b>Core</b>	<b>Course Code: 646105</b>	<b>INFORMATION TECHNOLOGY FOR BUSINESS</b>	<b>P</b>	<b>Credits :2</b>	<b>Hours:6</b>
<b>Unit-I</b>					
<b>Objective 1</b>	<b>To Introduce Computing basics, evolution, operating systems, application software and network settings.</b>				
Introduction: Basics and Evolution of Computing–Operating Systems (System Software) and Application Software – Introduction to Network Setting – LAN and WAN, Internet and Intranet					
<b>Outcome 1</b>	<b>Student Acquire a comprehensive understanding of Computing, including basics, evolution, operating systems, application software, and network settings exchange.</b>			<b>K1</b>	
<b>Unit-II</b>					
<b>Objective 2</b>	<b>To educate Microsoft Office for document creation, formatting, data analysis, and manipulation, enabling enhanced productivity and streamlined reporting.</b>				
Working with Microsoft Office Suite : MSWord –Creating, Opening, Saving, and Formatting Documents – Mail Merge – Working with Spread Sheets: MS Excel–Tables– Formulas and Functions–Data Analysis using excel–Linking Work Sheets and Work books–Charts–Macros Forms–Pivot Tables.					
<b>Outcome 2</b>	<b>Predict gain practical skills in MS Word for document management and formatting, and in MS Excel for data analysis, formulas, charts, and pivot tables, enhancing their productivity.</b>			<b>K2</b>	
<b>Unit III</b>					
<b>Objective 3</b>	<b>Learners understand MS Power Point for dynamic presentations, MS Access for data base management and report generation.</b>				
MS Power-Point: Creating a Power-Point Presentation (PPT) Using Slide Master, Animation, and Graphics in PPT - MS Access – Creating and Modifying Data Bases – Report Generation – Linking Access Files with Excel Files. MS: Project: Creating Project Design, Schedules, PERT/CPM Charts, and Reports.					
<b>Outcome 3</b>	<b>Participants gain practical skills in MS PowerPoint, MS Access, and MS Project, streamlining communication, data management, and project planning, leading to improved productivity and successful project outcomes.</b>			<b>K1</b>	
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To know more Internet and E-Commerce, mastering E-Mail Etiquette, web-based communication tools, Wi-Fi environment, and E-Business models.</b>				
Internet and E-Commerce: E-Mail Etiquette – Usages of Search Engines and Portals – Website and Web-Based E-mail, FTP and Net Meeting – Wi-Fi Environment in Modern Offices – Basic Models of E-Business: B2B, B2C, C2C, and Mobile Commerce(M-Commerce).					
<b>Outcome 4</b>	<b>Summaries the Participants effectively utilize online resources, demonstrate proficiency in E-Mail Etiquette, search engines, and web-based tools.</b>			<b>K4</b>	
<b>Unit V</b>					
<b>Objective 5</b>	<b>Explore concepts of online buying and selling, including E-Payment, Payment Gateway, Security Systems, Online Stores, Internet Banking, Smart cards, and Plastic Money.</b>				
Buying and Selling through the Internet: E-Payment and Electronic Fund Transfer – Payment Gateway and Security Systems–On-Line Stores–Internet Banking– Smart cards and Plastic Money - .					

<b>Outcome 5</b>	<b>Familiarize online transactions, utilize digital payment methods, access online stores and internet banking and e-commerce experiences.</b>	<b>K3</b>
<b>Suggested Readings:</b> Goel, R. (2003)., “Computer Applications In Management”, New Age International. Rayudu, C.S(2010)., “E-Commerce, and E-Business”, Himalaya Publishing Company. Sudalaimuthu & Anthony Raj(2015)., “Computer Applications in Management”, Himalaya Publishing House. Vijayaraghavan, G(2015)., Computer Applications for Management, Himalaya Publishing Company.		
<b>Online Resources:</b> <a href="https://www.w3schools.com/excel/index.php">https://www.w3schools.com/excel/index.php</a> <a href="https://www.geeksforgeeks.org/e-commerce/">https://www.geeksforgeeks.org/e-commerce/</a> Pivot Tables in Excel (In Easy Steps) (excel-easy.com)		
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>
<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
<b>Course designed by Dr. S. Satish</b>		

### Course Outcomes (COs) Vs Programme Outcomes (POs)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S(3)	L(1)	S(3)	M(2)	M(2)	L(1)	M(2)	M(2)	S(3)	M(2)
CO2	M(2)	M(2)	L(1)	S(3)	M(2)	M(2)	M(2)	L(1)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	L(1)	M(2)	L(1)	M(2)	M(2)	M(2)	L(1)
CO4	M(2)	M(2)	M(2)	L(1)	L(1)	L(1)	M(2)	L(1)	L(1)	L(1)
CO5	M(2)	M(2)	M(2)	M(2)	M(2)	L(1)	M(2)	L(1)	L(1)	M(2)
<b>W.Avg</b>	<b>2.2</b>	<b>1.8</b>	<b>2</b>	<b>1.8</b>	<b>1.8</b>	<b>1.2</b>	<b>2</b>	<b>1.4</b>	<b>1.8</b>	<b>1.6</b>

S–Strong (3),M-Medium(2), L-Low(1)

### Course Outcome(COs)Vs Programme Specific Outcome (PSOs)

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	L(1)	M(2)	S(3)
CO2	S(3)	M(2)	M(2)	M(2)	M(2)
CO3	S(3)	M(2)	L(1)	M(2)	L(1)
CO4	M(2)	M(2)	M(2)	M(2)	M(2)
CO5	M(2)	M(2)	M(2)	M(2)	L(1)
<b>W.Avg</b>	<b>2.4</b>	<b>2.2</b>	<b>1.4</b>	<b>1.8</b>	<b>1.8</b>

S–Strong(3),M-Medium(2), L-Low(1)

Semester – I					
DSE	Course code: 646 501	DISASTER RISK MANAGEMENT	T	Credits: 2	Hours: 3
<b>Unit – I</b>					
<b>Objective 1</b>	<b>Providing basic information about risk management.</b>				
<b>Introduction:</b> Understanding Risk: Concept and Elements, Strategies of Risk Reduction, International Mobilization of Risk Reduction, Risk Reduction- Mainstreaming “Risk”, Role of Science and Technology in Disaster Risk Reduction, Strategies of Risk reduction, International Mobilization of Risk Reduction					
<b>Outcome 1</b>	<b>A basic understanding of risk management will be gained by students</b>				<b>K5</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>To Educate students about risk reduction.</b>				
<b>Risk Reduction:</b> Participatory risk assessment - Rationale for people’s participation, Role of civil society organizations, Impact of Globalization, Activities and roles for the community action Risk reduction, Participatory risk assessment methods					
<b>Outcome 2</b>	<b>Students will learn about the risk reduction techniques</b>				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>Students will learn about risk assessment and analysis.</b>				
<b>Risk Assessment and Analysis:</b> Risk analysis techniques; Process of Risk assessment, Analytical systems for risk assessment, Natural hazard/ risk assessment, understanding climate risk, Mapping of risk assessment and analysis by Use of GIS, multi hazard risk analysis using GIS, Decision making for risk reduction, Problems in risk assessment.					
<b>Outcome 3</b>	<b>Students will gain knowledge of risk assessment and analysis.</b>				<b>K2</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Present the concept and prevention of risk.</b>				
<b>Prevention of Risk:</b> Medical Preparedness Plan, Logistics Management, Remote Area Planning, Education and Training in Health Management of Disasters, Disaster Site Management.					
<b>Outcome 4</b>	<b>Risk prevention will be discussed at various stages.</b>				<b>K5</b>
<b>Objective 5</b>	<b>Insights into the different case studies.</b>				
<b>Case studies:</b> Risk reduction mapping and planning for vulnerable areas, Risk in Urban areas, Issues in urban planning, Initiatives for risk reduction in India, Disaster Management in India.					
<b>Outcome 5</b>	<b>It will be the goal of the case studies to make students more aware of disaster planning and management as they progress through it.</b>				<b>K4</b>
<b>Suggested Readings:</b>					
Carter, W.N. Disaster Management: A Disaster Management Handbook, Asian Development Bank, Bangkok, 1991.					
Disaster Management in India, Ministry of Home Affairs, Government of India, New Delhi, 2011. National Policy on Disaster Management, NDMA, New Delhi, 2009.					
Disaster Management Act. (2005), Ministry of Home Affairs, Government of India, New Delhi, 2005. District Disaster Management Plan-Model Template, NIDM, New Delhi, 2005.					
A Global Report - Reducing Disaster Risk, A Challenge for Development; UNDP Publication, 2004. Good practices in community-based disaster risk management; GoI-UNDP Disaster Risk Management Programme; 2002 – 09.					
Chakrabarty, U. K. Industrial Disaster Management and Emergency Response, Asian Books Pvt.Ltd., New Delhi 2007.					
Parasuraman, S & Unnikrishnan, P. V. (ed.), India Disasters Report Towards a policy initiative. Oxford, 2000.					

**Online Resources**

Stephan Baas Selvaraju Ramasamy Jenny Dey DePryck Federica Battista. Disaster Risk Management Systems Analysis A guide book

[https://www.unisdr.org/files/3769\\_ai504e00.pdf](https://www.unisdr.org/files/3769_ai504e00.pdf)

Prashant K. Srivastava, Sudhir Kumar Singh, U. C. Mohanty, Tad Murty. Techniques for Disaster Risk Management and Mitigation.

<https://www.kobo.com/in/en/ebook/techniques-for-disaster-risk-management-and-mitigation>

<https://www.undrr.org/terminology/disaster-risk-management>

<https://www.worldbank.org/en/topic/disaster-risk-management/overview>

<https://www.iora.int/en/priorities-focus-areas/disaster-risk-management>

Disaster Risk Management and Resilience Policy.

[https://www.isdb.org/sites/default/files/media/documents/2022-](https://www.isdb.org/sites/default/files/media/documents/2022-02/DRMR_Policy.pdf)

[02/DRMR\\_Policy.pdf](https://www.isdb.org/sites/default/files/media/documents/2022-02/DRMR_Policy.pdf)

<b><i>K1-Remember</i></b>	<b><i>K2-Understand</i></b>	<b><i>K3-Apply</i></b>	<b><i>K4-Analyze</i></b>	<b><i>K5-Evaluate</i></b>	<b><i>K6-Create</i></b>
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Course Designed by: Dr. S. Chandramohan

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	L (1)	L (1)	L (1)	S (3)	M (2)	S (3)	M (2)	S (3)	L (1)	L (1)
CO2	M (2)	M (2)	L (1)	L (1)	L (1)	L (1)	S (3)	L (1)	M (2)	M (2)
CO3	L (1)	L (1)	S (3)	M (2)	M (2)	M (2)	L (1)	M (2)	L (1)	L (1)
CO4	L (1)	L (1)	M (2)	M (2)	L (1)	L (1)	M (2)	L (1)	L (1)	L (1)
CO5	S (3)	M (2)	S (3)	L (1)	L (1)	S (3)	L (1)	S (3)	M (2)	M (2)
W.AV	1.6	1.4	2	1.8	1.4	2	1.8	2	1.4	1.4

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M (2)	M (2)	L (1)	L (1)	M (2)
CO2	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	M (2)	S (3)	S (3)	M (2)
CO4	S (3)	L (1)	S (3)	S (3)	S (3)
CO5	L (1)	S (3)	L (1)	L (1)	L (1)
W.AV	1.8	2.2	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**



Semester – I					
DSE	Course code: 646 502	ECOSYSTEMS AND HABITAT	T	Credits: 2	Hours: 3
<b>Unit – I</b>					
<b>Objective 1</b>	<b>To facilitate student's familiarity with basic concepts of ecosystem</b>				
<b>Introduction:</b> Ecosystems and habitats, definition, classification, similarities and differences. Introduction to Ecology, cycling of materials, water, carbon, nitrogen and phosphorus. Trophic pyramids and food webs, Alterations of ecosystem function, acid rain, nuclear winter, global warming and the ozone hole, the origin of life on earth, and changes in earth's atmosphere.					
<b>Outcome 1</b>	Students will be able to learn about varied types of ecosystems.				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>Students will learn about different types of ecosystems and habitats.</b>				
<b>Risk Aquatic ecosystem:</b> Habitats, Introduction to the hydrosphere, water cycle, aquatic systems, subdivisions, Freshwater (rivers and lakes), Wetlands, Estuarine and marine ecosystems.					
<b>Outcome 2</b>	Students will study the interrelationship between ecosystems and habitats.				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>This paper will introduce to the students a basic understanding of the ecosystem and its structural and functional aspects.</b>				
<b>Terrestrial Ecosystems:</b> Tropical Forest types, Rain forests and monsoon forests semi-evergreen, deciduous forests, tropical dry evergreen forests and mangroves.					
<b>Outcome 3</b>	The students will understand nature conservation in India.				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>It will explore the interconnectedness among all the biotic and abiotic components of environment</b>				
<b>Nature conservation in India:</b> Legal measures, Brief history of forest conservation in India; Forest Rights Act 2006, Wildlife Protection Act 1972, Environmental Protection Act 1986, Conservation vs. development, Coastal Regulation Zone Notification (CRZ) 1991 and subsequent amendments, CRZ Notification 2011 and CRZ Notification 2019.					
<b>Outcome 4</b>	Students will have the opportunity to learn about conservation and livelihood.				<b>K2</b>
<b>Objective 5</b>	<b>To teach students about the dynamic nature of ecological processes in maintaining equilibrium in nature.</b>				
<b>Case Conservation vs. livelihood:</b> Sea Turtle Conservation in Odisha, Gahirmatha Marine Wildlife Sanctuary, Gulf of Mannar Marine National Park and Biosphere Reserve in Tamil Nadu, Mudumalai National Park and Wildlife Sanctuary.					
<b>Outcome 5</b>	Students learn about energy level changes in different ecosystems				<b>K5</b>
<b>Suggested Readings</b>					
Chapman, J.L & M.J. Reiss. (1998). Ecology: Principles and Applications. Cambridge University Press. UK.					
Krebs, C.J. (2008). Ecology: The Experimental Analysis of Distribution and Abundance, Benjamin Cummings Publications.					
Miller. G.T. (2004). Environmental Science. Thomson, California. USA.					
Mills, D.H. (1972). An Introduction to Freshwater Ecology, Edinburg: Liver & Boyd. Russell					
K. Monson, (2014). Ecology and the Environment. New York: Springer Dordrecht, Heidelberg.					
Singh, J.S., Singh, S.P and S. R. Gupta. (2006). Ecology, Environment and Resource Conservation. New Delhi: Anamaya Publications.					

Verma & Agarwal. (1995). Environmental Biology (Principles of Ecology), New Delhi: Chand & co.,

**Online Resources:**

Ecology Principles and Applications, J. L. Chapman, M. J. Reiss, Cambridge University Press, ISBN:9780521588027, 0521588022

<https://www.google.co.in/books/edition/Ecology/PoRP0g2Jh9YC?hl=en&gbpv=1&dq=Chapman,+J.>

[L+and+M.J.+Reiss.+\(1998\).+Ecology:+Principles+and+Applications.+Cambridge+University+Press.+UK.&printsec=frontcover](https://books.google.co.in/books?id=ZHKmTh2j3eIC&newbks=0&hl=en&source=newbks_fb&redir_esc=y)

Environmental Science, G. Tyler Miller, Scott Spoolman, Cengage Learning, 2012, ISBN-1111988935, 9781111988937

[https://books.google.co.in/books?id=ZHKmTh2j3eIC&newbks=0&hl=en&source=newbks\\_fb&redir\\_esc=y](https://books.google.co.in/books?id=ZHKmTh2j3eIC&newbks=0&hl=en&source=newbks_fb&redir_esc=y)

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
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Course Designed by: Dr. S. Chandramohan

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	L (1)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	L (1)	M (2)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	L (1)	M (2)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	M (2)
W.AV	1.8	1.6	1.2	1.2	1.6	3	1.6	1.6	1.4	1.6

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
W.AV	2	1.8	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

I - Semester					
DSE	Course Code 646503	LOGISTICS AND SUPPLY CHAIN MANAGEMENT	T	Credits: 2	Hours: 3
<b>Unit -I</b>					
<b>Objective 1</b>	<b>To facilitate students' familiarity with logistics management concepts.</b>				
<b>Introduction:</b> Logistics and Competitive Strategy Competitive Strategy: Introduction gaining competitive advantage through logistics, mission of logistics, changes logistics environment.					
<b>Outcome1</b>	Students will be able to learn introduction of logistics management.				<b>K2</b>
<b>Unit II</b>					
<b>Objective 2</b>	<b>Customer service and logistics interface will be taught to students.</b>				
<b>Customer Service Dimension Marketing and logistics interface:</b> What is customer service, marketing and logistics interface. Service driven logistics system, setting service priorities, setting service standard.					
<b>Outcome2</b>	Students will learn customer service dimension marketing and logistics interface.				<b>K4</b>
<b>Unit III</b>					
<b>Objective 3</b>	<b>To Measurement of logistics cost and performance will be introduced to the students.</b>				
<b>Measuring Logistics Cost and Performance:</b> The marketing logistics interface principles of logistics costing customer profitability analysis, market and the logistics interface.					
<b>Outcome3</b>	The students will understand the measuring logistics cost and performance				<b>K4</b>
<b>Unit IV</b>					
<b>Objective 4</b>	<b>The course will explore supply chain management knowledge.</b>				
<b>Introduction to Supply Chain Management:</b> Concept, Scope, Objectives and importance of supply chain. Supply chain components, drivers of supply chain management achieving strategic.					
<b>Outcome4</b>	Students will have the opportunity to learn about the supply chain management concepts.				<b>K2</b>
<b>Unit V</b>					
<b>Objective 5</b>	<b>Students will learn about demand and supply chain planning.</b>				
<b>Planning Demand and Supply Chain:</b> Role of forecasting in supply chain forecasting methods, Aggregate Training and supply chain. Marketing supply and Demand. Models for supply chain Decision Making.					
<b>Outcome5</b>	Students learn planning demand and supply chain.				<b>K5</b>
<p><b>Suggested Readings:</b>  Bower sox. (2011). Supply Chain Logistics Management: Mc Graw Hill. Bowersox, (2000). Logistical Management: Mc-Graw Hill, Reguram G, Rangaraj N. (1999). Logistics and Supply Chain Management Cases and Concepts: Macmillan India Ltd., New Delhi.  Sahay B. S (2003). Supply Chain Management for Global Competitiveness: Macmillan India Ltd., New Delhi.  Alan Ruston, Phil Crouches, Peter Baker. (2014) The Handbook of Logistics and Distribution Management: kogan page India New Delhi.  D K Agrawal. (2007). Distribution and Logistics Management: A Strategic Marketing Approach: Macmillan publishers. India. elhi.</p>					

**Online Resources:**

Supply Chain Logistics Management, Donald J. Bowersox, David J. Closs, M. Bixby Cooper, McGraw-Hill, ISBN:9780071123068, 0071123067

[https://www.google.co.in/books/edition/Supply\\_Chain\\_Logistics\\_Management/RmlaAAAAYA\\_AJ?hl=en&gbp](https://www.google.co.in/books/edition/Supply_Chain_Logistics_Management/RmlaAAAAYA_AJ?hl=en&gbp)

[v=1&bsq=Bowersox.+\(2011\).+Supply+Chain+Logistics+Management:+Mcgraw+Hill.&dq=Bowersox.+\(2011\).](https://www.google.co.in/books/edition/Supply_Chain_Logistics_Management/RmlaAAAAYA_AJ?hl=en&gbp)

[+Supply+Chain+Logistics+Management:+Mcgraw+Hill.&printsec=frontcover](https://www.google.co.in/books/edition/Supply_Chain_Logistics_Management/RmlaAAAAYA_AJ?hl=en&gbp)

Logistical Management, Bowersox, McGraw-Hill Education (India) Pvt Limited, 2000, ISBN 0070435545, 9780070435544

[https://books.google.co.in/books?id=yfvCk-](https://books.google.co.in/books?id=yfvCk-Pd6vEC&newbks=0&hl=en&source=newbks_fb&redir_esc=y)

[Pd6vEC&newbks=0&hl=en&source=newbks\\_fb&redir\\_esc=y](https://books.google.co.in/books?id=yfvCk-Pd6vEC&newbks=0&hl=en&source=newbks_fb&redir_esc=y)

**K1-Remember****K2-Understand****K3-Apply****K4-Analyze****K5-Evaluate****K6-Create**

Course designed by: **Dr. S. CHANDRAMOHAN**

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

II - Semester						
Core	Course Code 646201	STRATEGIC MANAGEMENT		T	Credits: 4	Hours: 4
<b>Unit -I</b>						
<b>Objective 1</b>	<b>To Understand the concepts of strategy</b>					
<b>Strategy:</b> Introduction, Strategic planning and strategic management, Levels of strategic planning, Process of strategic planning, dimensions of strategic decisions, Strategic management process.						
<b>Outcome1</b>	Students will gain an understanding of strategic planning and management.				<b>K2</b>	
<b>Unit II</b>						
<b>Objective 2</b>	<b>To Understand the process of business level strategies.</b>					
<b>Environmental analysis:</b> environmental scanning, Industry analysis, Competitive analysis, Internal analysis: Resource Based view, SWOT / PEST / ETOP analysis, Value Analysis. Strategy formulation alternatives, corporate strategies: grand strategies, stability, expansion, retrenchment and combination.						
<b>Outcome2</b>	Learn about the strategic planning, dimensions of strategic decisions.				<b>K4</b>	
<b>Unit III</b>						
<b>Objective 3</b>	<b>To Students will gain the knowledge of strategic planning and management.</b>					
<b>Business level strategies:</b> acquiring core competencies, Porter's Generic Strategies Model, Functional level strategies: Production and Operations, Finance, HR, Marketing and R & D strategies.						
<b>Outcome3</b>	Students will understand and Identify the business level strategies.				<b>K4</b>	
<b>Unit IV</b>						
<b>Objective 4</b>	<b>To Knowledgeable in Environmental analysis, Product environmental scanning.</b>					
<b>Strategic analysis and choice:</b> Portfolio Analysis-BCG Growth-Share Matrix, GE Business Screen, Shell's Directional Policy Matrix, Hofer's Product Market Matrix. Strategic implementation: Steps, structural issues, behavioral issues, strategic leadership.						
<b>Outcome4</b>	Students will gain knowledge about comprehend environmental analysis.				<b>K2</b>	
<b>Unit V</b>						
<b>Objective 5</b>	<b>To Knowledge and concepts of strategic evaluation and control are provided.</b>					
<b>Strategic evaluation and control:</b> Balanced Score Card approach, EVA and MVA, ERP, Stake holder analysis, Systems thinking approach, Strategic control, operational control, process and techniques.						
<b>Outcome5</b>	Students will gain knowledge about the strategic evaluation and control.				<b>K5</b>	
<b>Suggested Readings:</b> Azhar, K. (2008). Strategic management and business policy. Srinivasan, R. (2014). Strategic management: the Indian context. PHI Learning Pvt. Ltd.. Thomson, Strickland and Pearson, (2005), —Strategic Management, Tata Mcgraw Hill, N. Delhi V.S. Ramasamy and S. Namakumari, —Strategic Planning-Formulation of corporate strategy, Macmillan IndiaLtd., N. Delhi						
<b>Online Resources</b> <a href="https://www.cbsmohali.org/course_material/fourth_semester/strategic%20management.pdf">https://www.cbsmohali.org/course_material/fourth_semester/strategic%20management.pdf</a> <a href="https://www.bdu.ac.in/cde/SLM/MBA/MBA%20III%20Semester/Core/Strategic%20Management/Strategic%20Management.pdf">https://www.bdu.ac.in/cde/SLM/MBA/MBA%20III%20Semester/Core/Strategic%20Management/Strategic%20Management.pdf</a> <a href="https://www.geektonight.com/strategic-management-notes-pdf/#google_vignette">https://www.geektonight.com/strategic-management-notes-pdf/#google_vignette</a>						
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>	
<b>Course designed by: Dr. S. CHANDRAMOHAN</b>						

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – II					
Core	Course code: 646 202	RESEARCH METHODOLOGY	T	Credits: 4	Hours: 4
<b>Unit – I</b>					
<b>Objective 1</b>	<b>Be familiar with the types, processes, and designs of research</b>				
<b>Types, Process &amp; Design of Research:</b> Meaning importance, Types of Research, Pure & Applied, Historical & Futuristic, Analytical & Synthetic, Descriptive & Prescriptive, Survey & Experimental, Qualitative & Quantitative and Case & Generic Researches, Process of research, Research problem, Identification, selection and formulation of research problem, Review of literature, Research Gaps and Techniques, Hypothesis, Types and Formulation.					
<b>Outcome 1</b>	<b>Students will learn the types, designs and process of Research</b>				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>Learn about research sampling methods.</b>				
<b>Research design &amp; Sampling:</b> Meaning, Components and Use of Research Design, Census Vs Sampling, Essentials of good sampling, Probability and non-probability sampling methods, Sample size, Factors affecting the size of the sample, Sampling and non-sampling errors.					
<b>Outcome 2</b>	<b>The students will be able to grasp the sampling techniques and research design</b>				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>Provide knowledge of sources of data.</b>				
<b>Sources and Collection of Data:</b> Primary and secondary data, observation: Types and Techniques, Interview: Types and conduct, Preparation for an interview, Effective interview techniques, Schedule: Meaning, Essentials and kinds, Questionnaire: Meaning and types, Format of a good questionnaire, Scaling techniques: Meaning, Importance, Methods of scale construction- Validity and Reliability, Pre- testing, Pilot Study.					
<b>Outcome 3</b>	<b>Students can understand the source and collection of data</b>				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Promote positive attitudes towards data processing.</b>				
<b>Processing of Data:</b> Editing, Coding, Classification and Tabulation, Analysis of Data, measures of Central Value: Arithmetic mean, Median and Mode, Measures of Dispersion: Range, Quartile Deviation, Mean Deviation and Standard Deviation, Measures of Relationship: Correlation and Regression Analysis, Association of Attributes. Multivariate analysis: Factor and cluster analysis.					
<b>Outcome 4</b>	<b>The students will learn the processing of data which improves data accuracy and efficiency</b>				<b>K2</b>
<b>Objective 5</b>	<b>Students will gain a better understanding of hypothesis testing and report writing.</b>				
<b>Hypothesis testing and reporting:</b> Parametric tests: Testing Interpretation Report Writing: Meaning, types and contents of research reports, Steps involved in drafting reports, Principles of good report writing, Lay-out and Features of a Good Research Report, Grammatical Quality, Language flow, Data Support, Diagrammatic Elucidation, References management, Clarity and Brevity of expressions, plagiarism, Inputs for Stylish Report Writing.					
<b>Outcome 5</b>	<b>Report writing and hypothesis testing will be understood to students</b>				<b>K5</b>

**Suggested Readings**

Bhandarkar, P.L. & Wilkinson, T.S. (2010). Methods and Techniques of Social Research. Mumbai: Himalaya Publishing House.

Ghosh, B.N. (2007). Scientific Method and Social Research, New Delhi: Sterling Publishers.

Gupta, S.P. (2012). Statistical Methods, New Delhi: S. Chands & Sons.

Kent, R. (2001). Data Construction and Data Analysis for Survey Research. MacMillan. London.

Kishnaswamy, O.R. and Ranganatham, M. (2011). Methodology of Research in Social Sciences. Mumbai: Himalaya Publishing House.

Nagar, A.L. & Das, R.K. (2006). Basic Statistics (2nded.). New Delhi: Oxford University Press.

Agarwal, Y.P. (2012). Statistical Methods: Concepts, Applications and Computations. New Delhi: Sterling Publishers.

Grewal, P.S. (1990). Methods of Statistical Analysis. New Delhi: Sterling Publishers.

Gujarathi, D. (2017). Basic Econometrics. New Delhi: Tata McGraw Hill.

Gupta, S.P. (2014). Statistical Methods. New Delhi: S. Chand & Company.

Gupta, C.B. & Gupta, V. (2009). An Introduction to Statistical Methods. New Delhi: Vikas Publishers.

Gupta, S.C. (2014). Fundamentals of Statistics. Mumbai: Himalaya Publishing House

**Online Resources**

Research Methodology- Methods and Techniques, C. R. Kothari, New Age International (P) Limited, ISBN:9788122415223, 8122415229  
[https://www.google.co.in/books/edition/Research\\_Methodology/hZ9wSHysQDYC?hl=en&gbpv=1&dq=research+methodology&printsec=frontcover](https://www.google.co.in/books/edition/Research_Methodology/hZ9wSHysQDYC?hl=en&gbpv=1&dq=research+methodology&printsec=frontcover)

Research Methodology: a Hand Book, Misra R P, Concept Publishing Company, ISBN:9788170222675, 8170222672  
[https://www.google.co.in/books/edition/Research\\_Methodology\\_a\\_Hand\\_Book/E6DkNGAECZkC?hl=en&gbpv=1&dq=research+methodology&printsec=frontcover](https://www.google.co.in/books/edition/Research_Methodology_a_Hand_Book/E6DkNGAECZkC?hl=en&gbpv=1&dq=research+methodology&printsec=frontcover)

<b><i>K1-Remember</i></b>	<b><i>K2-Understand</i></b>	<b><i>K3-Apply</i></b>	<b><i>K4-Analyze</i></b>	<b><i>K5-Evaluate</i></b>	<b><i>K6-Create</i></b>
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Course Designed by: Dr. S. Chandramohan

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low (1)**



### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**



II - Semester					
Core	Course Code 646203	HUMAN RESOURCE MANAGEMENT	T	Credits: 4	Hours: 4
<b>Unit -I</b>					
<b>Objective 1</b>	<b>To understand the concept of Human Resource Management</b>				
<b>Introduction:</b> Human Resource Management Definition: Objectives and functions, Role and structure of Human Resource Function in organisations, Present day Challenges of HRM, Relevant one or two case studies.					
<b>Outcome1</b>	Students will understand the concept of Human Resource management.				<b>K2</b>
<b>Unit II</b>					
<b>Objective 2</b>	<b>To Identify the purpose of employee selection.</b>				
<b>Employee Selection:</b> Process and Problems, Placement and Induction, Training and Development: Methods of Training for Operatives, Supervisors and Executives, Promotion, Demotions, Transfers, Separation and Retention, Relevant one or two case studies.					
<b>Outcome2</b>	Learners will be able to comprehend the key objectives of employee selection.				<b>K4</b>
<b>Unit III</b>					
<b>Objective 3</b>	<b>To know about the human resource planning</b>				
<b>Human Resource Planning:</b> Personnel Policy, Job analysis–Job description, Job specification, Planning for Leadership Transition and Second-line leadership, Recruitment Sources of Recruitment, Internal Vs. External sources of recruitment, Relevant one or two case studies.					
<b>Outcome3</b>	Students will learn the Human resource planning.				<b>K4</b>
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To Developing an understanding of employee compensation.</b>				
<b>Employee Compensation:</b> Wages and Salary Administration, Bonus, Fringe Benefits, Cafeteria Approach, ESOPs- Job Evaluation Systems, HR Auditing and Accounting, Relevant one or two case studies.					
<b>Outcome 4</b>	Students will understand the different types of employee compensation.				<b>K2</b>
<b>Unit V</b>					
<b>Objective 5</b>	<b>To gain a better understanding of employee maintenance and integration</b>				
<b>Employee Maintenance and Integration:</b> Welfare and Safety Provisions, Accident prevention, Employee Grievances and their Redressal, Workers Participation in Management, Human Capital and Talent Management, Relevant one or two case studies.					
<b>Outcome 5</b>	The students will learn about employee maintenance and integration.				<b>K5</b>
<b>Suggested Readings:</b> Alan Price, Human Resource Management, Cengage Learning EMEA, 2011 By Susan Jackson, Randall Schuler and Steve Werner, Managing Human Resources, Cengage Learning, 2012. Dr P Subba Rao, Personnel and Human Resource Management, HPH, Mumbai, 2007. Gary Dessler, Fundamentals of Human Resource Management, Prentice Hall, 2010. Werther William B Jr, Personnel Management and Human Resources, McGraw-Hill, 2010.					
<b>Online Resources</b> <a href="https://dde.pondiuni.edu.in/files/StudyMaterials/MBA/MBA2SemesterCommon/2HRManagement.pdf">https://dde.pondiuni.edu.in/files/StudyMaterials/MBA/MBA2SemesterCommon/2HRManagement.pdf</a> <a href="https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SBAA1205.pdf">https://sist.sathyabama.ac.in/sist_coursematerial/uploads/SBAA1205.pdf</a> <a href="https://www.uou.ac.in/sites/default/files/slm/BHM-702T.pdf">https://www.uou.ac.in/sites/default/files/slm/BHM-702T.pdf</a> <a href="https://www.geektonight.com/human-resource-management-note/">https://www.geektonight.com/human-resource-management-note/</a>					
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
<b>Course designed by: Dr. S. CHANDRAMOHAN</b>					

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

II - Semester						
Core	Course Code 646204	FINANCE MANAGEMENT			T	Credits: 4 Hours: 4
<b>Unit –I</b>						
<b>Objective 1</b>	<b>To Identify and understand the managerial and operational functions of financial management.</b>					
<b>Functions and Goals:</b> Managerial and Operative functions, Investment, Financing and Income Functions, Goals of Financial Management, Benefit Maximizing and Problem Minimizing Goals, Risk return trade off, Indian Financial System, Relevant one or two case studies.						
<b>Outcome1</b>	Learners understand the goals of financial management and evaluate the risk- return framework for financial decision making.				<b>K2</b>	
<b>Unit II</b>						
<b>Objective 2</b>	<b>To Learning about various aspects of financial management.</b>					
<b>Financing function:</b> long term financing sources and instruments, Shares and Debentures, Convertible securities & Term Loans, Foreign equity and debt securities, Working Capital: Components & Estimation, Financing, Sources and approaches, Relevant one or two case studies.						
<b>Outcome2</b>	Students understand the various functions of finance.				<b>K4</b>	
<b>Unit III</b>						
<b>Objective 3</b>	<b>To Planning your capital structure is important.</b>					
<b>Capital structure planning:</b> Cost of capital: Equity, Debt, retained earnings, Weighted average cost of capital, Capital structure theories, Net income, Net operating income, MM and Traditional Theories, Leverage, Types and significance, Relevant one or two case studies.						
<b>Outcome3</b>	Learners analyze the capital structure, cost of capital and leverage.				<b>K4</b>	
<b>Unit IV</b>						
<b>Objective 4</b>	<b>To Knowledgeable about capital investment proposals.</b>					
<b>Capital Investment Proposals:</b> Nature and types, Evaluation techniques, Payback period, ARR, IRR, NPV, Capital Rationing, Relevant one or two case studies.						
<b>Outcome 4</b>	Students critically evaluate the capital investment techniques and asset pricing model.				<b>K2</b>	
<b>Unit V</b>						
<b>Objective 5</b>	<b>To educate how dividend decisions are made.</b>					
<b>Dividend Decisions:</b> Dividend policies: Factors affecting dividend decision, Dividend theories, Graham, Gordon, Walter and MM Theories, Ploughing back of earnings for expansion, diversification and modernization.						
<b>Outcome5</b>	Students understand the Dividend policies and theories.				<b>K5</b>	
<b>Suggested Readings:</b> Chandra, P. (2010). Fund of Financial Management 5e. Tata McGraw-Hill Education. Khan, M. Y., & Jain, P. K. (2018). Financial Management: Text, Problems and Cases, 8e. McGraw-Hill Education. Kishore, R. M. (2009). Financial Management: Comprehensive text Book with case studies. Taxmann. Pandey, I. M. (1999). Financial Management–Vikas Publishing House Pvt. Ltd.						
<b>Online Resources</b> <a href="https://onlinecourses.nptel.ac.in/noc21_mg06/preview">https://onlinecourses.nptel.ac.in/noc21_mg06/preview</a> <a href="https://www.udemy.com/course/financial-management-l/">https://www.udemy.com/course/financial-management-l/</a> <a href="https://www.coursera.org/courses?query=financial%20management">https://www.coursera.org/courses?query=financial%20management</a>						
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>	
<b>Course designed by: Dr. S. CHANDRAMOHAN</b>						

### Course Outcome VS Programme Outcomes

<b>646204 FINANCE MANAGEMENT</b>										
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
W.AV	1.8	1.6	1.2	1.2	1.6	3	1.6	2	1.6	1

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

<b>646204 FINANCE MANAGEMENT</b>					
CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
W.AV	2	1.8	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester -II					
Core	Course Code: 646205	FIELDWORK AND PRACTICAL -I	P	Credits: 3	Hours: 6
<b>Unit –I</b>					
<b>Objective 1</b>	<b>To Understand the basic science of Major Natural disasters</b>				
Basic Science of Major Natural disasters, Geological Disasters, Hydrological Disasters, Meteorological Disasters, Biological Disasters					
<b>Outcome1</b>	Can the student explain ideas (or) concept Questions: classify, compare, convert, Explain, Express, Illustrate, Outline, Relate, Show, Summaries, Translate.			<b>K2</b>	
<b>Unit II</b>					
<b>Objective 2</b>	<b>To learn and practice Major types of rescue knots used during rescue operations globally and to gain firsthand knowledge</b>				
<b>Rescue Knots:</b> Butterfly knot, Auto block knot, Backup knot, Distel hitch, Bowline knot, Farmers loop, Handcuff knot, water knot, Spanish bowline					
<b>Outcome2</b>	Can the student explain ideas (or) concept Questions: classify, compare, convert, Explain, Express, Illustrate, Outline, Relate, Show, Summaries, Translate.			<b>K4</b>	
<b>Unit III</b>					
<b>Objective 3</b>	<b>To learn and practice of Major Emergency Rescue Techniques</b>				
<b>Emergency Rescue methods:</b> Single person methods – Ankle pull rescue method, Shoulder pull rescue method, blanket pull rescue method , One person lift rescue method, Fire fighter carry rescue method -Two person methods –Four handed seat, Chair carry rescue method					
<b>Outcome3</b>	Can the student explain ideas (or) concept Questions: classify, compare, convert, Explain, Express, Illustrate, Outline, Relate, Show, Summaries, Translate.			<b>K4</b>	
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To understand First aid for various types of injuries and ailments</b>				
<b>First aid:</b> Bleeding injury-Fractures- Epilepsy- Unconsciousness-Electric shock-Poison- Snake bites- dog bites- Heart attack					
<b>Outcome4</b>	Can the student use information in a new way. Question: Construct, Develop, Discover, Identify, Interview, modify, Predict, Practice, Solve.			<b>K2</b>	
The Staff who serves as practical trainer will evaluate the student performance for 25 marks and another faculty member who serves as external member of the evaluation board will evaluate the performance for 75 marks in Practical examination. It will be evaluated by the internal and external examiner as suggested by the HOD					
<b>The weightage of marks for Practical will be:</b>					
Internal Examiner Evaluation		25			
External Examiner Evaluation		75			
Total Marks		100			
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
<b>Course designed by: Dr. S. CHANDRAMOHAN</b>					

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S(3)	L(1)	S(3)	M(2)	M(2)	L(1)	M(2)	M(2)	S(3)	M(2)
CO2	M(2)	M(2)	L(1)	S(3)	M(2)	M(2)	M(2)	L(1)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	L(1)	M(2)	L(1)	M(2)	M(2)	M(2)	L(1)
CO4	M(2)	M(2)	M(2)	L(1)	L(1)	L(1)	M(2)	L(1)	L(1)	L(1)
CO5	M(2)	M(2)	M(2)	M(2)	M(2)	L(1)	M(2)	L(1)	L(1)	M(2)
<b>W.Avg</b>	<b>2.2</b>	<b>1.8</b>	<b>2</b>	<b>1.8</b>	<b>1.8</b>	<b>1.2</b>	<b>2</b>	<b>1.4</b>	<b>1.8</b>	<b>1.6</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	L(1)	M(2)	S(3)
CO2	S(3)	M(2)	M(2)	M(2)	M(2)
CO3	S(3)	M(2)	L(1)	M(2)	L(1)
CO4	M(2)	M(2)	M(2)	M(2)	M(2)
CO5	M(2)	M(2)	M(2)	M(2)	L(1)
<b>W.Avg</b>	<b>2.4</b>	<b>2.2</b>	<b>1.4</b>	<b>1.8</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – I					
DSE	Course code: 646 504	RELIEF AND RESPONSE	T	Credits: 2	Hours: 3
<b>Unit – I</b>					
<b>Objective 1</b>	<b>Introduce relief distribution</b>				
<b>Introduction:</b> Steps in relief distribution, Types of Programmes and Distribution Systems, Logistics, Problems in Relief Administration, Significance of Search and Rescue (SAR), Phases of SAR, Logistics and Methods, Behavioral Requirements.					
<b>Outcome 1</b>	Students will learn disaster relief and response				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>Develop a resource analysis and mobilization plan</b>				
<b>Resource analysis and mobilization:</b> Requirements in Shelter Provision, Requirements in Warehousing and Stockpiling, Types of Resources, New Directions for Resource Mobilization: Local Sources, Corporate Social Responsibility: An Emerging Avenue, Building Resilience Through Risk Sharing and Transfer, Civil Society Initiative for Relief, Resource Analysis.					
<b>Outcome 2</b>	Students will analyze the resources and mobilize them				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>To gain a better understanding of disaster management</b>				
<b>Disaster Manager:</b> Role and Functions, Incident Command System: A Managerial Tool, Disaster Manager: Skills and Techniques, Key Lessons for Disaster Manager, Essential Features of Damage Assessment, Types of Damages, Damage Reports,					
<b>Outcome 3</b>	Students will study how disaster managers work				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Find out what the first response is to relief and response</b>				
<b>First Response:</b> Rational and concerned Response, who is a First Responder? Understanding the Concept, People as First Responders, Role of Government in First Response, Role of Community in Disaster Management. Concept of Relief- policy, relief delivery and management. Standards and Best Practices in Relief operations-SPHERE standards.					
<b>Outcome 4</b>	Students acquire knowledge about the first response to relief and response				<b>K2</b>
<b>Objective 5</b>	<b>To determine the relief needs during a disaster and plan for their delivery</b>				
<b>Disaster Management Strategies:</b> Changing Complexion of Disaster Management, Disaster Management Strategies: An Overview, The Path Ahead, Response Management - Emergency Planning, Coordination, Information management, Resource management, Contingency planning, Business Continuity Plans.					
<b>Outcome 5</b>	Students will learn strategies for disaster management.				<b>K5</b>
<b>Suggested Readings</b>					
Aeberhard, P. (2008). “Expectations are changing for Disaster relief”, Non-Profit and Voluntary Sector Quarterly, Supplement to Vol. 37 (1): 17-24S.					
Bollin, C. & Khanna, S. (2007). “Review of Post Disaster Recovery Need Assessment Methodologies”, Report commissioned by UNDP.					
Bowersox, J.D and Closs, D.J (2008). Logistical Management: The integrated supply chain process, New Delhi: Tata McGraw Hill.					
Chopra, S., Meindl, P. and Kalra, D.V. (2007). Supply Chain Management: Strategy, Planning and Operation,					
Harvey, P.A. and Reed, R.A. (2005). “Planning environmental sanitation programmes in emergencies”, Disasters, Vol. 29(2): 129-151					
Pearson (Dorling Kindersley (India) Pvt Ltd).					
Logistics Operations Guide (Log), (2006). United Nations Joint Logistics Centre (UNJLC)					
Paul, B.K. (2006). “Disaster Relief Efforts: an update”, Progress in Development Studies, Vol. 6(3): 211-223.					
Sphere. (2011). “Humanitarian Charter and Minimum Standards in Humanitarian Response”,					



Handbook by The Sphere Project.  
Sahay, B.S., Cavale, Vasant and Mohan, Ramneesh (2003). The Indian Supply Chain Architecture, Supply Chain Management: An International Journal, Vol. 8 (2), pp. 93-106.

**Online Resources:**

Supply Chain Management Strategy, Planning, and Operation, Sunil Chopra, Peter Meindl, PearsonPrentice Hall, ISBN:9780131730427, 0131730428  
[https://www.google.co.in/books/edition/Supply\\_Chain\\_Management/MOfAAAAAMAAJ?hl=en&bpv=0&bsq=Chopra,%20S.,%20Meindl,%20P.%20and%20Kalra,%20D.V.%20\(2007\).%20Supply%20Chain%20Management:%20Strategy,%20Planning%20and%20Operation](https://www.google.co.in/books/edition/Supply_Chain_Management/MOfAAAAAMAAJ?hl=en&bpv=0&bsq=Chopra,%20S.,%20Meindl,%20P.%20and%20Kalra,%20D.V.%20(2007).%20Supply%20Chain%20Management:%20Strategy,%20Planning%20and%20Operation),  
<https://journals.sagepub.com/doi/10.1191/1464993406ps139oa>  
[https://reliefweb.int/report/world/sphere-handbook-humanitarian-charter-and-minimum-standards-humanitarian-response-2018?gad\\_source=1&gclid=CjwKCAiAivGuBhBEEiwAWiFmYauyKAL7snSH4N95oDN0ozTY8khFX-IRQoyoQrMsntY5WEQg7XapzxoCRV0QAvD\\_BwE](https://reliefweb.int/report/world/sphere-handbook-humanitarian-charter-and-minimum-standards-humanitarian-response-2018?gad_source=1&gclid=CjwKCAiAivGuBhBEEiwAWiFmYauyKAL7snSH4N95oDN0ozTY8khFX-IRQoyoQrMsntY5WEQg7XapzxoCRV0QAvD_BwE)

<i>K1-Remember</i>	<i>K2-Understand</i>	<i>K3-Apply</i>	<i>K4-Analyze</i>	<i>K5-Evaluate</i>	<i>K6-Create</i>
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Course Designed by: Dr. S. Chandramohan

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	L (1)	L (1)	L (1)	S (3)	M (2)	S (3)	M (2)	S (3)	L (1)	L (1)
CO2	M (2)	M (2)	L (1)	L (1)	L (1)	L (1)	S (3)	L (1)	M (2)	M (2)
CO3	L (1)	L (1)	S (3)	M (2)	M (2)	M (2)	L (1)	M (2)	L (1)	L (1)
CO4	L (1)	L (1)	M (2)	M (2)	L (1)	L (1)	M (2)	L (1)	L (1)	L (1)
CO5	S (3)	M (2)	S (3)	L (1)	L (1)	S (3)	L (1)	S (3)	M (2)	M (2)
W.AV	1.6	1.4	2	1.8	1.4	2	1.8	2	1.4	1.4

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M (2)	M (2)	L (1)	L (1)	M (2)
CO2	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	M (2)	S (3)	S (3)	M (2)
CO4	S (3)	L (1)	S (3)	S (3)	S (3)
CO5	L (1)	S (3)	L (1)	L (1)	L (1)
W.AV	1.8	2.2	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – II					
DSE	Course code: 646505	GLOBAL INITIATIVES FOR MANAGEMENT	T	Credits: 2	Hours: 3
<b>Unit – I</b>					
<b>Objective 1</b>	<b>Students should be made aware of the current scenario of global disasters</b>				
<b>Global Disaster Scenario:</b> Emergence and evolution of disaster research and management. Global Disasters: Continental disaster profiling. Country-wise disaster profiling with special focus on Asian countries.					
<b>Outcome 1</b>	Students will develop an understanding of global disaster scenarios				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>Learn about disaster management initiatives around the world</b>				
<b>Global Initiatives for Disaster Management:</b> IDNDR: Formulation, Priorities and Outcomes. ISDR: Formulation, Priorities and Outcomes. Hyogo Framework (HFA): Framework, Priorities for Action and outcomes.					
<b>Outcome 2</b>	Students will learn Global Disaster Management Initiatives.				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>Additionally, this course aims to increase students' understanding of disaster management organizations, both global and national</b>				
<b>Contemporary Disaster Management Framework and Future Agenda:</b> Sendai Framework: Goals, objectives and Guiding Principles. Priorities for Action in Sendai Framework. Sendai Framework.					
<b>Outcome 3</b>	The students will gain an understanding of the Contemporary Disaster Management Framework and its future implications				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Prepare a future agenda and framework for disaster management</b>				
<b>Agencies for Disaster Management:</b> Role of Stakeholders; International Cooperation and Partnership. Resource Management & Networking: Role of Disaster Response Forces and Community Based Organizations (CBO) in emergency response mechanism.					
<b>Outcome 4</b>	Students will analyze to Create agencies for disaster management and plan for them.				<b>K2</b>
<b>Objective 5</b>	<b>Learn more about international agencies</b>				
<b>International Agencies:</b> United Nations: FAO, IOM, UNDP, OHCHR, UNHCR, UNICEF, WFP, WHO. IFRC and ICRC. International Non-governmental agencies.					
<b>Outcome 5</b>	Students will understand the international agencies.				<b>K5</b>
<b>Suggested Readings</b>					
Aeberhard, P. (2008). “Expectations are changing for Disaster relief”, Non-Profit and Voluntary Sector Quarterly, Supplement to Vol. 37 (1): 17-24S.					
Bollin, C. & Khanna, S. (2007). “Review of Post Disaster Recovery Need Assessment Methodologies”, Report commissioned by UNDP.					
Bowersox, J.D and Closs, D.J (2008). Logistical Management: The integrated supply chain process, New Delhi: Tata McGraw Hill.					
Chopra, S., Meindl, P. and Kalra, D.V. (2007). Supply Chain Management: Strategy, Planning and Operation,					
Harvey, P.A. and Reed, R.A. (2005). “Planning environmental sanitation programmes in emergencies”, Disasters, Vol. 29(2): 129-151					
Pearson (Dorling Kindersley (India) Pvt Ltd).					
Logistics Operations Guide (Log), (2006). United Nations Joint Logistics Centre (UNJLC)					
Paul, B.K. (2006). “Disaster Relief Efforts: an update”, Progress in Development Studies, Vol. 6(3): 211-223.					
Sphere. (2011). “Humanitarian Charter and Minimum Standards in Humanitarian Response”,					

Handbook by The Sphere Project.  
Sahay, B.S., Cavale, Vasant and Mohan, Ramneesh (2003). The Indian Supply Chain Architecture, Supply Chain Management: An International Journal, Vol. 8 (2), pp. 93-106.

**Online Resources:**

- [https://www.preventionweb.net/files/61901\\_postdistasterrecoveryneedsassessmen.pdf](https://www.preventionweb.net/files/61901_postdistasterrecoveryneedsassessmen.pdf)
- [https://books.google.co.in/books/about/Logistical\\_Management.html?id=6nQeAQAAIAAJ&redir\\_e\\_sc=y](https://books.google.co.in/books/about/Logistical_Management.html?id=6nQeAQAAIAAJ&redir_e_sc=y)
- <https://mu.ac.in/wp-content/uploads/2021/02/Logistics-and-Supply-Chain-Management-Sunil-Chopra-1.pdf>
- <https://www.scribd.com/document/499680527/Unjlc-Log-Guide-1>

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
Course Designed by: Dr. S. Chandramohan					

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**

II - Semester					
DSE	Course Code 646506	NGO MANAGEMENT AND ADMINISTRATION	T	Credits: 2	Hours: 3
<b>Unit -I</b>					
<b>Objective 1</b>	<b>To enable the students to understand basic concept of NGO management.</b>				
<b>Introduction:</b> Nature, scope and role of NGOs, activities taken by NGO, identifying thrust area, skill required, resource as required, Advantages and disadvantages, features issues and essentials.					
<b>Outcome1</b>	Students will develop an understanding of NGO concepts				<b>K2</b>
<b>Unit II</b>					
<b>Objective 2</b>	<b>To provide knowledge about the NGO planning and design.</b>				
<b>NGO planning and design:</b> How to get an NGO started, registration and management of NGOs, Planning, designing and social service organization, Hierarchy of NGO, Personnel Management, decision making, Recruitment for NGO, administration of NGOs; meetings, minutes, training assessment, social marketing, network expansion, implementation of NGO program and projects, evaluation of projects.					
<b>Outcome 2</b>	Students will critically examine the NGO planning and design.				<b>K4</b>
<b>Unit III</b>					
<b>Objective 3</b>	<b>To gain a better understanding of NGO financial administration and management.</b>				
<b>NGO financial administration and management:</b> Financial administration and management, fund raising for the organization, how to form right proposal, accountability of NGO, Case Study, Procedural guidelines for submission of application, fund release and monitoring, funding of NGO operation (from Indian and Foreign sources), Income Tax Exemption of NGOs, Application of approval for deduction u/s 80 G.					
<b>Outcome3</b>	The students will gain an understanding about NGO financial administration and management.				<b>K4</b>
<b>Unit IV</b>					
<b>Objective 4</b>	<b>To Find out what the NGO micro finance.</b>				
<b>Introduction to NGO Micro Finance:</b> Definition of Micro finance, Evolution of Micro finance as a means of development, context of evolution and role of Micro finance institutions in poverty alleviation, food security and alternate livelihood support systems.					
<b>Outcome4</b>	Students will learn the Introduction to NGO Micro finance.				<b>K2</b>
<b>Unit V</b>					
<b>Objective 5</b>	<b>To provide hands on learning of NGO models</b>				
<b>NGO models:</b> Micro finance models, SHG- Bank linkage model, MACS (Mutually Aided Cooperative Societies), for profit MFIs, NBFCs. Role of different agencies; international agencies, ministry of rural development, state govt. agencies, RRBs and cooperatives.					
<b>Outcome5</b>	Students will understand the NGO models.				<b>K5</b>
<b>Suggested Readings:</b> Kumar. R., Goel. S.L. (2005) Administration and Management of NGOs” Text and case study Deep and Deep Publications. India Nabhi (2019) Nabhi's Handbook for NGOs Incorporating, A Nabhi Publications, India Hilhorst D., (2003) The Real World of NGOs: Discourses, Diversity and Development, London: Zed Books Salamon, L. M., and Sokolowoski, S. (2004). Global civil society: Dimensions of the nonprofit sector. Bloomfield, USA: Kumarian Press. Lewis, D., and Kanji, N. Non-governmental organizations and development. (2009). New York: Routledge.					

**Online Resources:**

[https://www.google.co.in/books/edition/Administration\\_and\\_Management\\_of\\_NGOs/xr6P6WC6Cs0C?hl=en&gbpv=1&dq=Kumar.+R.,+Goel.+S.L.+\(2005\)+Administration+and+Management+of+NGOs%E2%80%9D+Text+and+case+study+Deep+and+Deep+Publications.+India&printsec=frontcover](https://www.google.co.in/books/edition/Administration_and_Management_of_NGOs/xr6P6WC6Cs0C?hl=en&gbpv=1&dq=Kumar.+R.,+Goel.+S.L.+(2005)+Administration+and+Management+of+NGOs%E2%80%9D+Text+and+case+study+Deep+and+Deep+Publications.+India&printsec=frontcover)  
<https://www.bharatilawhouse.com/product/nabhis-handbook-for-ngos-edition-2020-9788172749644/>  
[https://www.researchgate.net/publication/261403623\\_Global\\_Civil\\_Society\\_Dimensions\\_of\\_the\\_Nonprofit\\_Sector](https://www.researchgate.net/publication/261403623_Global_Civil_Society_Dimensions_of_the_Nonprofit_Sector)

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
<b>Course designed by: Dr. S. CHANDRAMOHAN</b>					

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – III					
Core	Course code: 646 301	PREPAREDNESS AND MITIGATION	T	Credits: 4	Hours: 4
<b>Unit – I</b>					
<b>Objective 1</b>	<b>A general understanding of preparedness and mitigation should be taught to students</b>				
<b>Introduction:</b> Disaster preparedness concept, nature and significance, Disaster Preparedness Measures, Institutional Mechanism for Disaster Preparedness, Disaster preparedness with special needs/ vulnerable groups, Disaster Preparedness Policy and Programmes					
<b>Outcome 1</b>	<b>Emphasize the importance of general concepts of preparedness and mitigation</b>			<b>K2</b>	
<b>Unit – II</b>					
<b>Objective 2</b>	<b>Take a look at disaster preparedness plans</b>				
<b>Disaster Preparedness Plan:</b> Concept and Significance of Disaster Preparedness Plan, Disaster Preparedness Plan essentials, Community Based Disaster Preparedness Plan, Prediction, Early Warnings and Safety Measures of Disaster, Material, relief required, sources of relief, modes and means of transport, medical facility and communication network, Preparation of manpower, awareness of damages, perception, and reaction time. Authority: Hierarchy set-up, the direction of communication					
<b>Outcome 2</b>	<b>Understand the disaster preparedness plan</b>			<b>K4</b>	
<b>Unit – III</b>					
<b>Objective 3</b>	<b>Disaster management students learn about emerging technologies</b>				
<b>Emerging Technologies in Disaster Management</b> Remote sensing, Disaster Mapping, Aerial Photography, land use zoning, Wireless and Radio, HAM radio					
<b>Outcome 3</b>	<b>Examine emerging technologies in disaster management</b>			<b>K4</b>	
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Mitigation plans for various disasters should be prepared</b>				
<b>Mitigation:</b> Understanding disaster risk and its implication for sustainable development: Risk and linkages between social, economic and environmental vulnerabilities; Disaster risks in the rural/urban setting and trans-boundary contexts; Disaster risks and livelihood security.					
<b>Outcome 4</b>	<b>Address the mitigation process during a disaster</b>			<b>K2</b>	
<b>Objective 5</b>	<b>Get more information about mitigation strategies.</b>				
<b>Mitigation strategies:</b> Coping strategies- flood, famine, earthquake, drought, desertification. Food security and coping strategies. Livelihood, employment and coping strategies					
<b>Outcome 5</b>	<b>Develop an understanding of the key facets of mitigation strategies</b>			<b>K5</b>	
<b>Suggested Readings:</b>					
Pelling, Mark (eds). (2003). Natural Disasters and Development in a Globalizing World. Routledge. New York.					
Report of the World Commission on Environment and Development: Our Common Future. United Nations (1987). <a href="http://www.un-documents.net/our-common-future.pdf">http://www.un-documents.net/our-common-future.pdf</a>					
Environmental Guidance Note for Disaster Risk Reduction: Healthy Ecosystems for Human Security. (2009) International Union for Conservation of Nature and Natural Resources.					
Below, Regina; Emily Grover- Kopec and Maxx Dilley. (2007). Documenting Drought-Related Disasters: A Global Reassessment. The Journal of Environment Development, 16: 328					
Kundzewicz, & Zbigniew W. (2009). Non-structural Flood Protection and Sustainability, USA: Water International					
Apel, HA. H. Thieken; B. Merz, & G. Bloschl. (2004). Flood risk assessment and associated uncertainty. Natural Hazards and Earth System Sciences 4: 295–308					

Kenny, Charles. (2012). Disaster risk reduction in developing countries: costs, benefits and institutions. *Disasters*, 36(4): 559–588

Arnold, Magret. (2002). Development for disaster reduction: the role of the World Bank. *Australian Journal of Emergency Management*

### Online Resources

Dylan Sandler, Anna K. Schwab. Hazard Mitigation and Preparedness: An Introductory Text for Emergency Management and Planning Professionals

<https://www.routledge.com/Hazard-Mitigation-and-Preparedness-An-Introductory-Text-for-Emergency-Management/Sandler-Schwab/p/book/9780367635770>

Dylan Sandler, Anna K. Schwab Hazard Mitigation and Preparedness: An Introductory Text for Emergency Management and Planning Professionals.

[https://books.google.co.in/books/about/Hazard\\_Mitigation\\_and\\_Preparedness.html?id=sW1AEAAAQBAJ&redir\\_esc=y](https://books.google.co.in/books/about/Hazard_Mitigation_and_Preparedness.html?id=sW1AEAAAQBAJ&redir_esc=y)

Peace Corps. Disaster preparedness and mitigation (DPM): A Pre-Service Training Module

<https://ebookcentral-proquest-com.libproxy.westohu.hawaii.edu/lib/uhwestohu-ebooks/detail.action?docID=817484>

Roger C. Huder. Disaster Operations and Decision Making [https://www.bencana-kesehatan.net/images/referensi/ebook/E-](https://www.bencana-kesehatan.net/images/referensi/ebook/E-BOOK_Disaster%20preparedness%20and%20mitigation.pdf)

[BOOK\\_Disaster%20preparedness%20and%20mitigation.pdf](https://www.bencana-kesehatan.net/images/referensi/ebook/E-BOOK_Disaster%20preparedness%20and%20mitigation.pdf) Joseph F. Gustin. Disaster and Recovery Planning: a Guide for Facility

Managers by

<http://libproxy.westohu.hawaii.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=656552&site=ehost-live&scope=site>

**K1-Remember**

**K2-Understand**

**K3-Apply**

**K4-Analyze**

**K5-Evaluate**

**K6-Create**

Course Designed by: Dr. S. Chandramohan

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	L (1)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	L (1)	M (2)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	L (1)	M (2)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	M (2)
W.AV	1.8	1.6	1.2	1.2	1.6	3	1.6	1.6	1.4	1.6

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
W.AV	2	1.8	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – III					
Core	Course code: 646 302	GEOSPATIAL TECHNOLOGY IN DISASTER MANAGEMENT	T	Credits: 4	Hours: 4
<b>Unit – I</b>					
<b>Objective 1</b>	<b>To introduce the concepts and fundamentals of Remote Sensing, GIS and GPS.</b>				
<b>Introduction:</b> Remote sensing – definition, history & development, concept and principles, Cartography - General Cartography, Types of Maps, Technologies in Cartography, Map composition. Concept of Electromagnetic Radiation (EMR) - EMR Spectrum and its properties, EMR wavelength regions and their applications, Atmospheric windows, Interaction of EMR with matter, Spectral signatures.					
<b>Outcome 1</b>	<b>Students will learn the basic concepts and principles of remote sensing, GIS and GPS.</b>				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>This paper presents an objective view of the application of different RS and GIS techniques</b>				
<b>Data Acquisition and Analysis:</b> Platforms, types and their characteristics, Satellites and their characteristics, geo-stationery and sun-synchronous, Earth Resources Satellites - LANDSAT, SPOT, IRS, IKONOS satellite series, High-Resolution Satellites- Geoeye; Cartosat. Meteorological satellites – INSAT, NOAA, GOES. Image processing, Data pre-processing, Atmospheric, Radiometric, Geometric corrections, Basic principles of visual interpretation, and Equipment for visual interpretation.					
<b>Outcome 2</b>	<b>Students will know about data processing and data interpretation techniques.</b>				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>It starts with basic knowledge about satellite processing and different types of satellites.</b>				
<b>GIS and GPS:</b> Definition of GIS, Components of GIS, Variables, points, lines, polygon, Areas of GIS application, Advantages and Limitations of GIS, Spatial and attribute data. Global Positioning System (GPS), Definition, Development of GPS, GPS, Satellite Systems, GPS Satellite Navigation System and their Segments, Applications of GPS.					
<b>Outcome 3</b>	<b>GIS techniques will be taught to students in this course</b>				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>This paper provides different data acquisition, data analysis of RS and GIS</b>				
<b>Relationship between risk, vulnerability and hazards.:</b> Geoinformatics in disaster risk and vulnerability management, Risk identification, Risk Reduction, Risk management, and Land use planning for disaster risk reduction. Risk analysis and its components. Collaborative mapping and mobile GIS.					
<b>Outcome 4</b>	<b>Students will understand and convey the GPS techniques</b>				<b>K2</b>
<b>Objective 5</b>	<b>To know the various types of software packages used for disaster applications</b>				
<b>Multi-hazard risk assessment:</b> qualitative and quantitative approaches, Spatial Data Infrastructure (SDI), GIS-based Decision Support Systems (DSS) for disaster management. Space-based disaster management support. Case studies.					
<b>Outcome 5</b>	<b>Students will learn the multi-hazard assessments in disaster management</b>				<b>K5</b>



**Suggested Readings:**

- Drury, S.A., (1987). Image Interpretation in Geology, UK: Allen and Unwin. Gibson, P.J.(2000). Digital Image Processing. London: Routledge Publication. Gupta, R.P., (1990). Remote Sensing Geology, Germany: Springer Verlag.
- Joseph, G. (2004). Fundamentals of Remote Sensing, Hyderabad, India: Universities Press. Campbell, J. (2002). Introduction to Remote Sensing, London: Taylor & Francis.
- Anji Reddy, M. (2008). Textbook of Remote Sensing and Geographic Information System, Hyderabad: B.S. Publication,
- Paul Longley., (2005). Geographic Information Systems and Science, USA: John Wiley & Sons,
- Lo, C.P., Yeung, A.W. (2002). Concepts Techniques of Geographical Information Systems, New Delhi: Prentice-Hall of India,
- Chang, K.T. (2008). Introduction to Geographic Information Systems, New York: Avenue of the Americas.
- Orhan, R., Backhaus, P., Boccardo, S., Zlatanova. (2010). Geoinformation for Disaster and Risk Management Examples and Best Practices, Joint Board of Geospatial Information Societies and United Nations Office for Outer Space Affairs, Denmark
- Singh, R.B, (1994). Space Technology for Disaster Monitoring and Mitigation in India, International Center for Disaster-Mitigation Engineering
- ESRI. (2006). GIS and Emergency Management in Indian Ocean Earthquake/Tsunami Disaster, AnESRI® White Paper.

**Online Resources**

Raghavendra Tatipamul. Application of Geospatial Technology in Environmental and Disaster Management.

[https://www.researchgate.net/publication/336717156\\_application\\_of\\_geospatial\\_technology\\_in\\_environmental\\_and\\_disaster\\_management#fullTextFileContent](https://www.researchgate.net/publication/336717156_application_of_geospatial_technology_in_environmental_and_disaster_management#fullTextFileContent)

Sisi Zlatanova, Jonathan Li. Geospatial Information Technology for Emergency Response. <https://www.isprs.org/publications/bookseries/vol6.pdf>

Brian Tomaszewski. Geographic Information Systems (GIS) for Disaster Management. <https://www.routledge.com/Geographic-Information-Systems-GIS-for-Disaster-Management/Tomaszewski/p/book/9781138489868>

How geospatial technologies aid in effective disaster management.

<https://www.innovationnewsnetwork.com/how-geospatial-technologies-aid-in-effective-disaster-management/38841/>

RSS-Hydro: Mitigating water-based disasters with advanced geospatial technology innovations. <https://www.innovationnewsnetwork.com/ebook/mitigating-water-based-disasters-with-geospatial-technology/>

Role of GIS in Disaster Management

<https://ellipsis-drive.com/blog/how-gis-technology-aids-in-emergency-management/>

Von Zlatanova, SisiHrsg.Li, JonathanHrsg. Geospatial Information Technology for Emergency Response. <https://www.reuffel.de/ebooks/detail/ISBN-2244034630170/Zlatanova-Sisi/Geospatial-Information-Technology-for-Emergency-Response>

***K1-Remember***

***K2-Understand***

***K3-Apply***

***K4-Analyze***

***K5-Evaluate***

***K6-Create***

Course Designed by: Dr. S. CHANDRAMOHAN

### Course Outcome VS Programme Outcomes

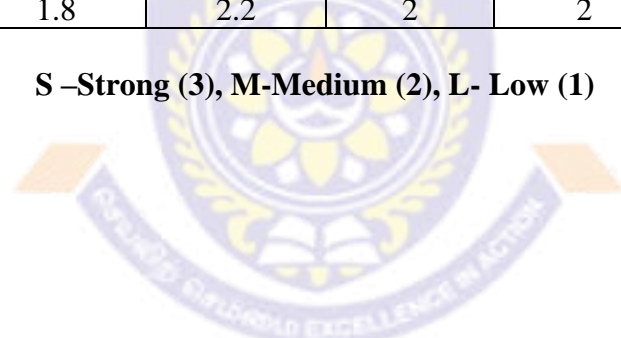
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	L (1)	L (1)	L (1)	S (3)	M (2)	S (3)	M (2)	S (3)	L (1)	L (1)
CO2	M (2)	M (2)	L (1)	L (1)	L (1)	L (1)	S (3)	L (1)	M (2)	M (2)
CO3	L (1)	L (1)	S (3)	M (2)	M (2)	M (2)	L (1)	M (2)	L (1)	L (1)
CO4	L (1)	L (1)	M (2)	M (2)	L (1)	L (1)	M (2)	L (1)	L (1)	L (1)
CO5	S (3)	M (2)	S (3)	L (1)	L (1)	S (3)	L (1)	S (3)	M (2)	M (2)
W.AV	1.6	1.4	2	1.8	1.4	2	1.8	2	1.4	1.4

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M (2)	M (2)	L (1)	L (1)	M (2)
CO2	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	M (2)	S (3)	S (3)	M (2)
CO4	S (3)	L (1)	S (3)	S (3)	S (3)
CO5	L (1)	S (3)	L (1)	L (1)	L (1)
W.AV	1.8	2.2	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**



Semester – III					
Core	Course code: 646 303	ENVIRONMENTAL ECONOMICS	T	Credits: 4	Hours: 4
<b>Unit – I</b>					
<b>Objective 1</b>	<b>Providing a basic understanding of environmental economics</b>				
<b>Introduction:</b> Meaning definition of environmental economics, importance, scope, economics and environment, Theories of optimal use of exhaustible and renewable resources, the concept of sustainable development, Economic accounting and the measurement of environmentally corrected GDP					
<b>Outcome 1</b>	Students will be able to describe the general concept of environmental economics			<b>K2</b>	
<b>Unit – II</b>					
<b>Objective 2</b>	<b>Students should be educated about externalities and market inefficiency</b>				
<b>Externalities and market inefficiency-</b> externalities as missing markets; property rights and externalities, non-convexities and externalities, Pareto optimal provision of public goods Lindhal's equilibrium, preference revelation problem and impure and mixed goods, common property resources					
<b>Outcome 2</b>	Students learn about externalities and market inefficiencies			<b>K4</b>	
<b>Unit – III</b>					
<b>Objective 3</b>	<b>A course on environmental valuation will be offered to students</b>				
<b>Approaches to Environmental Valuation:</b> valuation methods, Hedonic property values, and household production models (travel cost method and health production function), methods based on response to hypothetical markets, contingent valuation methods Natural resources accounting, concepts, methods, and empirical evidence. Environment and trade, Cost of environment, pollution, life cycle assessment, Impact of development on biodiversity, Development indicators, and human health.					
<b>Outcome 3</b>	Students will evaluate environmental valuation critically.			<b>K2</b>	
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Give an overview of India's environmental problems</b>				
<b>Environmental Problems in India:</b> Nature and sources of pollution in India, AIR pollution, water pollution, soil pollution, Marine pollution, India Environmental Policy, Efforts of the Government to control pollution and environmental protection. National Committee on Environmental Planning and Coordination (NCEPC), Department of Environment (DOE), Pollution Control Board (PCB).					
<b>Outcome 4</b>	The students will be able to analyze the environmental problems in India			<b>K5</b>	
<b>Objective 5</b>	<b>An overview of environmental movements</b>				
<b>Environmental movements and environmentalism,</b> environmentalism of the poor. Grass Root Movements, Chipko Movement, Save Silent Valley Movement, Narmada Bachao Andolan.					
<b>Outcome 5</b>	There will be a focus on environmental movements and environmentalism for students			<b>K2</b>	
<b>Suggested Readings:</b>					
Callan & Thomas. (2013). Environmental Economics and Management: Theory, Policy and Applications,(6th ed.), Cengage Learning.					
Fisher AC (1981) Resource and Environmental Economics, Cambridge University Press, Cambridge. Hamley N., J.F. Shogern and b. White (1997) Environmental Economics in Theory and Practice, Macmillan.					
Hanley, Nick & Edward Barbier. (2009). Pricing Nature: Cost-Benefit Analysis and Environmental Policy. Edward Elgar.					
Hussen, A.M. (1999) Principles of Environmental Economics, Rutledge, London Baviskar, Amita (1995). In the Belly of the River: Tribal Conflicts over Development in the Narmada Valley, New Delhi:Oxford University Press.					

Jodha, N.S. (1986). Common Property Resources and Rural Poor in Dry Regions of India. *Economic and Political Weekly* 21:1169-1181.

Kolstad (2011). *Intermediate Environmental Economics* (2nd ed.), London International: Oxford University Press.

Martinez-Alier, Joan (2002): *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation* (Cheltenham: Edward Elgar).

Menon, A and Ananda vadivelu G. (2006). Common Property Resources in Different Agro-Climatic Landscapes in India, *Conservation and Society*, 4 (1): 132-154.

NSSO. (1999). Common Property Resources in India, NSS 54<sup>th</sup> Round (January 1998-June 1998). Government of India.

Perman, R., Ma, Y., McGilvray, J., & Common, M. (2003). *Natural resource and environmental economics*. Pearson Education. Routledge. UK.

Tietenberg, Tom & Lewis, Lynne. (2011). *Environmental and Natural Resource Economics*. Venkatachalam

L. (2015). *Economic Valuation of Ecosystem Services: A Case Study of Ousteri Wetland, Puducherry*, Research Report submitted to GIZ-MoEF, Madras Institute of Development Studies, Chennai.

Wagner, Gernot and Martin Weitzman. (2015). *Climate Shock: The Economic Consequences of a Hotter Planet, USA*: Princeton University Press.

#### Online Resources

*Environmental Economics and Management: Theory, Policy, and Applications*, Scott J. Callan, Janet M. Thomas, Cengage Learning, 2013, ISBN 1285528549, 9781285528540  
[https://books.google.co.in/books?id=YSsLAAAAQBAJ&newbks=0&hl=en&source=newbks\\_fb&redir\\_esc=y](https://books.google.co.in/books?id=YSsLAAAAQBAJ&newbks=0&hl=en&source=newbks_fb&redir_esc=y)

*Principles of Environmental Economics*, Ahmed M. Hussen, Routledge, ISBN:9780415275606, 0415275601  
[https://www.google.co.in/books/edition/Principles\\_of\\_Environmental\\_Economics/fgYgfaTh6KMC?hl=en&gbpv=1&dq=principles+of+environmental+economics,+hussain&printsec=frontcover](https://www.google.co.in/books/edition/Principles_of_Environmental_Economics/fgYgfaTh6KMC?hl=en&gbpv=1&dq=principles+of+environmental+economics,+hussain&printsec=frontcover)

*Resource and Environmental Economics*, Anthony C. Fisher, Cambridge University Press, ISBN:9780521243063, 0521243068  
[https://www.google.co.in/books/edition/Resource\\_and\\_Environmental\\_Economics/tqI5AAAIAAJ?hl=en&gbpv=1&dq=resources+and+environmental+economics,+fisher&printsec=frontcover](https://www.google.co.in/books/edition/Resource_and_Environmental_Economics/tqI5AAAIAAJ?hl=en&gbpv=1&dq=resources+and+environmental+economics,+fisher&printsec=frontcover)

***K1-Remember***

***K2-Understand***

***K3-Apply***

***K4-Analyze***

***K5-Evaluate***

***K6-Create***

Course Designed by: Dr. S. Chandramohan

#### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**



Semester – III											
Core	Course code: 646 304	FIELDWORK AND PRACTICAL - II	P	Credits: 3	Hours: 6						
<b>Unit – I</b>											
<b>Objective 1</b>	<b>To understand and learn basic fire safety</b>										
<b>Basic Fire safety:</b> operation of fire extinguishers etc., Various types of Fire accidents Type A, B, C and K type fires.											
<b>Outcome 1</b>	<b>Describe the general concept of fire and safety</b>				<b>K2</b>						
<b>Unit – II</b>											
<b>Objective 2</b>	<b>To learn and practice various types of flood rescue methods</b>										
<b>Flood rescue:</b> Survival swimming lessons –rescue swimming, Dry and wet life saving techniques in swift water, motor boat operation, rescue with rescue boat, Complete first aid for aquatic emergencies											
<b>Outcome 2</b>	<b>Learn about flood rescue methods</b>				<b>K4</b>						
<b>Unit – III</b>											
<b>Objective 3</b>	<b>A learn about improvised floats</b>										
<b>Improvised Floats:</b> Types of improvised floats,											
<b>Outcome 3</b>	<b>A student can understand about floating</b>				<b>K2</b>						
<b>Unit – IV</b>											
<b>Objective 4</b>	<b>To learn and practice various types of lashings</b>										
<b>Lashings:</b> Loop lashing, Top-over lashing, straight lashing, Spring lashing, Blocking and Bracing											
<b>Outcome 4</b>	<b>It is expected that different methods of lashing</b>				<b>K5</b>						
<p>The Staff who serves as practical trainer will evaluate the student performance for 25 marks and another faculty member who serves as external member of the evaluation board will evaluate the performance for 75 marks in Practical examination. It will be evaluated by the internal and external examiner as suggested by the HOD</p> <p><b>The weightage of marks for Practical will be:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 80%;">Internal Examiner Evaluation</td> <td style="text-align: right;">25</td> </tr> <tr> <td>External Examiner Evaluation</td> <td style="text-align: right;">75</td> </tr> <tr> <td>Total Marks</td> <td style="text-align: right;">100</td> </tr> </table>						Internal Examiner Evaluation	25	External Examiner Evaluation	75	Total Marks	100
Internal Examiner Evaluation	25										
External Examiner Evaluation	75										
Total Marks	100										
<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>						
Course Designed by: Dr. S. CHANDRAMOHAN											

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S(3)	L(1)	S(3)	M(2)	M(2)	L(1)	M(2)	M(2)	S(3)	M(2)
CO2	M(2)	M(2)	L(1)	S(3)	M(2)	M(2)	M(2)	L(1)	M(2)	M(2)
CO3	M(2)	M(2)	M(2)	L(1)	M(2)	L(1)	M(2)	M(2)	M(2)	L(1)
CO4	M(2)	M(2)	M(2)	L(1)	L(1)	L(1)	M(2)	L(1)	L(1)	L(1)
CO5	M(2)	M(2)	M(2)	M(2)	M(2)	L(1)	M(2)	L(1)	L(1)	M(2)
<b>W.Avg</b>	<b>2.2</b>	<b>1.8</b>	<b>2</b>	<b>1.8</b>	<b>1.8</b>	<b>1.2</b>	<b>2</b>	<b>1.4</b>	<b>1.8</b>	<b>1.6</b>

S –Strong (3), M-Medium (2), L- Low (1)

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M(2)	S(3)	L(1)	M(2)	S(3)
CO2	S(3)	M(2)	M(2)	M(2)	M(2)
CO3	S(3)	M(2)	L(1)	M(2)	L(1)
CO4	M(2)	M(2)	M(2)	M(2)	M(2)
CO5	M(2)	M(2)	M(2)	M(2)	L(1)
W.Avg	2.4	2.2	1.4	1.8	1.8

S –Strong (3), M-Medium (2), L- Low (1)



<b>Semester – III</b>			
<b>Course code:</b> <b>646305</b>	<b>Institutional INTERNSHIP</b>	<b>Credits: 3</b>	<b>Hours: -4</b>
<b>Objective</b>	<b>To develop practical skills and provide real world experience through hands on exposure on field level dimensions of banking and financial services.</b>		
	Students are required to closely work with government, non-government organizations, research institutes and consultancy firms for a period of one month during summer vacation after the completion of second semester. The work or training shall be related to disaster management or allied activities. They are expected to submit a report at the end of the internship. The evaluation shall be based on the performance of the student during the internship which will have a total of 100 marks.		
<b>Outcome</b>	<b>Students will enhance their professional skills and foster a deeper understanding of institutional operations.</b>		
Course Designed by: Dr. S. CHANDRAMOHAN			





Semester – III					
DSE	Course code: 646 507	DISASTER ECONOMICS AND FINANCING	T	Credits: 2	Hours: 3
<b>Unit – I</b>					
<b>Objective 1</b>	To become familiar with the various economics of information				
<b>Economics of Information-</b> Impact of Disaster: Humanitarian impact; economic impact. Direct and Indirect Costs; Tangible and Intangible Costs. Damage assessment methods: Damage Loss and Needs Assessment; Risk identification and assessment					
<b>Outcome 1</b>	Students will understand the importance of general economic concepts				<b>K4</b>
<b>Unit – II</b>					
<b>Objective 2</b>	To acquire the knowledge of disaster economics manager				
<b>Disaster Economics Manager:</b> Role and Functions-Risk-Loss, Managing Organizations-Incident Command System: A Managerial Tool.					
<b>Outcome 2</b>	Students will become familiar with disaster economic managers				<b>K2</b>
<b>Unit – III</b>					
<b>Objective 3</b>	To learn about the developing physical and economic infrastructure				
<b>Developing Physical and Economic Infrastructure:</b> Environmental Infrastructure Development, Sustainable Development, Disasters and Development Processes, Need for a New Paradigm					
<b>Outcome 3</b>	Students will acquire knowledge about Disaster management which requires the development of physical and economic infrastructure				<b>K2</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	The purpose is to impart knowledge Indian disaster financing framework and policy				
<b>India's disaster financing framework and policy:</b> Disaster financing in India-Disaster and development, Finance Commission, Role and functions.					
<b>Outcome 4</b>	Students will understand Policy and framework for disaster financing in India				<b>K5</b>
<b>Objective 5</b>	Students will gain a better understanding of international financial institutions in disaster finance				
<b>The role of international financial institutions in disaster finance:</b> International Agencies including United Nations: Role and Importance in Disaster Mitigation, Important International Agencies in Disaster Mitigation, Financial and Logistical Assistance in Disaster Situations, Interaction and Coordination with Governmental and Non-Governmental Organisations, Government's Policy for International Assistance, Disaster and international finance capital in the neoliberal world.					
<b>Outcome 5</b>	Students will learn about international financial institutions involved in disaster relief				<b>K2</b>
<b>Suggested Readings</b>					
Bardhan, Pranab (1991). The Economic Theory of Agrarian Institutions, UK: Clarendon: Benson Charlotte, & Clay Edward (2004). Understanding the Economic and Financial Impacts of Natural Disasters, Disaster Risk Management Series No. 4, Chapter 3 Public Finance and Disasters, World Bank.					
Cunnins, David J and Oliver Mahul (2009). Catastrophe Risk Financing in Developing Countries: Principles for Public Action, The World Bank: Washington, D.C.					
Eric, C. Jones; Arthur, D. Murphy, A. (Ed) (2009). The Political Economy of Hazards and Disasters, Altamira Press, USA.					
Goodwin, Barry K; Vincent H. Smith (1995). The Economics of Crop Insurance and Disaster Aid. AEI Press. USA.					
Hochrainer, Stefan (2006). Macroeconomic Risk Management Against Natural Disasters Analysis focussed on Governments in Developing Countries. Dissertation Universitat Wien.					

Kern, William, S (2010). The Economics of Natural and Unnatural Disasters. W.E Upjohn Institute for Employment Research. Michigan  
 Shaw, Rajib, Koichi Shiwaku, Yukiko Takeuchi (2011). Community, Environment and Disaster Risk Management Volume 7. Emerald Group Publishing Limited  
 The Asian Tsunami: (2010). Aid and Reconstruction after a Disaster. Asian Development Bank Institute.

Zack, Naomi (2009). Ethics for Disaster. Rowman & Littlefield Publishers INC.

**Online Resources:**

<https://global.oup.com/academic/product/the-economic-theory-of-agrarian-institutions-9780198287629?cc=in&lang=en&>

<https://www.worldbank.org/en/programs/disaster-risk-financing-and-insurance-program/publication/catastrophe-risk-financing-in-developing-countries>

[https://www.academia.edu/21484568/THE\\_POLITICAL\\_ECONOMY\\_OF\\_HAZARDS\\_AND\\_DISASTERS](https://www.academia.edu/21484568/THE_POLITICAL_ECONOMY_OF_HAZARDS_AND_DISASTERS)

<b><i>K1-Remember</i></b>	<b><i>K2-Understand</i></b>	<b><i>K3-Apply</i></b>	<b><i>K4-Analyze</i></b>	<b><i>K5-Evaluate</i></b>	<b><i>K6-Create</i></b>
Course Designed by: Dr. S. Chandramohan					

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	L (1)	L (1)	L (1)	S (3)	M (2)	S (3)	M (2)	S (3)	L (1)	L (1)
CO2	M (2)	M (2)	L (1)	L (1)	L (1)	L (1)	S (3)	L (1)	M (2)	M (2)
CO3	L (1)	L (1)	S (3)	M (2)	M (2)	M (2)	L (1)	M (2)	L (1)	L (1)
CO4	L (1)	L (1)	M (2)	M (2)	L (1)	L (1)	M (2)	L (1)	L (1)	L (1)
CO5	S (3)	M (2)	S (3)	L (1)	L (1)	S (3)	L (1)	S (3)	M (2)	M (2)
W.AV	1.6	1.4	2	1.8	1.4	2	1.8	2	1.4	1.4

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M (2)	M (2)	L (1)	L (1)	M (2)
CO2	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	M (2)	S (3)	S (3)	M (2)
CO4	S (3)	L (1)	S (3)	S (3)	S (3)
CO5	L (1)	S (3)	L (1)	L (1)	L (1)
W.AV	1.8	2.2	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

III - Semester					
DSE	Course Code 646508	OCCUPATIONAL HEALTH MANAGEMENT	T	Credits: 2	Hours: 3
<b>Unit -I</b>					
<b>Objective 1</b>	<b>A brief overview of disaster health services.</b>				
<b>Health Services in disasters:</b> Public Health Issues - Mass Casualty Incidents - Psycho-social and Mental Health Issues - Institutional Mechanism for Disaster Health Care Management - National Guidelines on Medical Preparedness and Mass Casualty Management - Hospital Disaster Management Plan (HDMP).					
<b>Outcome1</b>	Students will learn and understand about disaster health service.				<b>K2</b>
<b>Unit II</b>					
<b>Objective 2</b>	<b>To gain an understanding of emergency health operations.</b>				
<b>Emergency health operations:</b> Disaster Medicine - Mandatory Components - Triage and Emergency Treatment - Protocol of First Aid					
<b>Outcome2</b>	Students will Gain knowledge about to emergency Protocol of First Aid healthservices.				<b>K4</b>
<b>Unit III</b>					
<b>Objective 3</b>	<b>To Learning how to respond medically and healthfully.</b>				
<b>Medical and health response to different disasters:</b> Medical and Health Response to Earthquakes - Medical and Health Response to Cyclones - Medical and Health Response to Floods - Medical and Health Response to Fires.					
<b>Outcome3</b>	Students can understand the medical response to various disasters.				<b>K4</b>
<b>Unit IV</b>					
<b>Objective 4</b>	<b>Disaster health planning course</b>				
Health planning during disasters: Context of Disaster Preparedness: Meaning and Concept Short-term and Long-term Planning - Role of Planner.					
<b>Outcome4</b>	Learner will able to understand Health planning during disasters will be taught to thestudents.				<b>K2</b>
<b>Unit V</b>					
<b>Objective 5</b>	<b>To Discuss the health of communities during disasters.</b>				
<b>Community health during disasters:</b> Health and Implications of Disaster-Direct Health Consequences and Indirect Health Consequences - Common Health Problems and Injuries During Disaster - Essential Medical Equipment and Stores Required - Plan for Mitigation of Disaster Health Problems - Guidelines for a Composite Longterm Disaster Health Plan.					
<b>Outcome5</b>	Students are educated about disaster-related community health.				<b>K5</b>
<b>Suggested Readings:</b>					
Assar M., Guide to sanitation in natural disasters, Geneva, WHO (1971).					
Caroline NL, Life supporting resuscitation and first aid, Geneva, League of Red Cross and Red Crescent Societies (1984).					
Disaster Prevention and Mitigation, United Nations Disaster Relief Coordination, New York(1982). Handbook for. emergencies, Geneva, United Nations High Commissioner for Refugees (1982). Health Services Organization in the event of Disaster, Washington DC, PAHO,					
PAHO, Emergency Health Management After Natural Disasters, Washington DC.					
Eric, C. Jones; Arthur, D. Murphy, A. (Ed) (2009). The Political Economy of Hazards andDisasters, Altamira Press, USA.					
Goodwin, Barry K; Vincent H. Smith (1995).The Economics of Crop Insurance and DisasterAid. AEI Press. USA.					
54					
Hochrainer, Stefan (2006). Macroeconomic Risk Management Against Natural Disasters Analysisfocused on Governments in Developing Countries. Dissertation Universitat Wien.					

Noji, Eric K., 1997, The Public Health Consequences of Disasters, OUP, New York.  
 Shaw, Rajib, Koichi Shiwaku, Yukiko Takeuchi (2011). Community, Environment and Disaster Risk Management Volume 7, Emerald Group Publishing Limited  
 The Asian Tsunami; (2010), Aid and Reconstruction after a Disaster, Asian Development Bank Institute,  
 Zack, Naomi (2009), Ethics for Disaster, Rowman & Littlefield Publishers INC.

**Online Resources:**

<https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture-notes/env-occupational-health-students/ln-occ-health-safety-final.pdf>  
<https://www.osti.gov/servlets/purl/7278484>  
[https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture\\_notes/env\\_health\\_science\\_students/ln\\_occ\\_h\\_lth\\_sfty\\_hygiene\\_final.pdf](https://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/env_health_science_students/ln_occ_h_lth_sfty_hygiene_final.pdf)  
[https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wems\\_093550.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wems_093550.pdf)

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
Course Designed by: Dr. S. Chandramohan					

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	S (3)	L (1)	M (2)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO2	L (1)	L (1)	M (2)	L (1)	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)
CO3	M (2)	M (2)	L (1)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO4	M (2)	M (2)	M (2)	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
CO5	L (1)	L (1)	-	L (1)	M (2)	S (3)	M (2)	M (2)	M (2)	L (1)
<b>W.AV</b>	<b>1.8</b>	<b>1.6</b>	<b>1.2</b>	<b>1.2</b>	<b>1.6</b>	<b>3</b>	<b>1.6</b>	<b>2</b>	<b>1.6</b>	<b>1</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	S (3)	M (2)	L (1)	L (1)
CO2	M (2)	M (2)	M (2)	M (2)	M (2)
CO3	M (2)	M (2)	M (2)	L (1)	M (2)
CO4	M (2)	L (1)	M (2)	S (3)	M (2)
CO5	M (2)	L (1)	M (2)	S (3)	M (2)
<b>W.AV</b>	<b>2</b>	<b>1.8</b>	<b>2</b>	<b>2</b>	<b>1.8</b>

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – III					
Elective	Course code:	EMERGENCY RESPONSE SYSTEM AND FIRE SAFETY MANAGEMENT	T	Credits:	Hours:
	646 509			2	3
Unit – I					
<b>Objective 1</b>	<b>An overview of emergency response systems and fire safety management</b>				
<b>Emergency Response:</b> Standard operation procedure (SOP), Information management system, Emergency Operation Center (EOC); Resource Management & Networking, Community Based Organisations (CBO) in emergency response mechanism					
<b>Outcome 1</b>	Student will understand the importance of emergency response and its awareness				<b>K5</b>
Unit – II					
<b>Objective 2</b>	<b>To gain a better understanding of the communication system</b>				
<b>Communication system:</b> Role of Communication in Disaster, - Nature and Scope of Communication, Sender and Receiver Oriented Views, Models and Processes of Communication, Normative Perspective on Disaster Communication					
<b>Outcome 2</b>	Students will learn the access of communication system				<b>K2</b>
Unit – III					
<b>Objective 3</b>	<b>Learning how to assess communication risk</b>				
<b>Communication risk assessment:</b> Risk Communication Models of Risk Communication, Theoretical Basis for Risk Communication-Risk Reduction Communication Cycle, Disaster Warnings as Risk Communication-Risk Perception, Hazard Awareness as Risk Communication					
<b>Outcome 3</b>	Students will study the communication risk assessment				<b>K4</b>
Unit – IV					
<b>Objective 4</b>	<b>This course teaches students how to prevent and control fires</b>				
<b>Fire prevention and control:</b> Active and passive fire control design of buildings- burning properties of materials and fire design - theoretical fire extinguishing mechanism and appraisal of applications of active fire protection systems, and detail fire behaviour of materials.					
<b>Outcome 4</b>	Students will learn about fire prevention and control				<b>K2</b>
<b>Objective 5</b>	<b>Management of safety should be discussed</b>				
<b>Safety Management:</b> Exposure Assessment - Ergonomics - Medical Surveillance - Industrial Hygiene - Personal Protective Equipment's - Industrial Safety acts and regulations-Case Study.					
<b>Outcome 5</b>	Students will understand about safety management course.				<b>K4</b>
<b>Suggested Readings</b>					
Calif, T. O., (2001) Effective Health Risk Messages: A Step-By-Step Guide. 1st Edition SAGE Publications, Inc.					
Singh, R. (2016) Risk Communication: A Handbook for Communicating Environmental, Safety, and Health. Oxford University Press Pvt. Ltd.					
Heinemann, B. (2014), Disaster Communications in a Changing Media World, 2nd Ed. Amsterdam. Schroll, R. C. (2002). Industrial fire protection handbook. (2nd ed.). CRC Press: Boca Raton, FL. ISBN: 1587160587					
Cote, A. & Bugbee, P (1988). Principles of fire protection. National Fire Protection Association. Schroll, R. C. (2002). Industrial fire protection handbook. (2nd ed.). CRC Press: Boca Raton, FL. ISBN: 1587160587					
Cote, A. & Bugbee, R (1988). Principles of fire protection. National Fire Protection Association. Dunn, V. (1988). The collapse of burning buildings. Fire Engineering, A Penn Well Publication, New York, NY Planer, R. G. (1979). Fire loss control, a management guide. Marcel Dekker, Inc. New York					

**Online Resources:**

[https://www.google.co.in/books/edition/Industrial\\_Fire\\_Protection\\_Handbook/uufLBQAAQBAJ?hl=en&gbpv=1&dq=Schroll,+R.+C.+\(2002\).+Industrial+fire+protection+handbook.+\(2nd+ed.\).+CRC+Press:+Boca+Raton,+FL.+ISBN:+1587160587&printsec=frontcover](https://www.google.co.in/books/edition/Industrial_Fire_Protection_Handbook/uufLBQAAQBAJ?hl=en&gbpv=1&dq=Schroll,+R.+C.+(2002).+Industrial+fire+protection+handbook.+(2nd+ed.).+CRC+Press:+Boca+Raton,+FL.+ISBN:+1587160587&printsec=frontcover)

[https://www.google.co.in/books/edition/Principles\\_of\\_Fire\\_Protection/a8jU-2xyw5EC?hl=en&gbpv=1&dq=Cote,+A.+%26+Bugbee,+P+\(1988\).+Principles+of+fire+protection.+National+Fire+Protection+Association.+Schroll,+&printsec=frontcover](https://www.google.co.in/books/edition/Principles_of_Fire_Protection/a8jU-2xyw5EC?hl=en&gbpv=1&dq=Cote,+A.+%26+Bugbee,+P+(1988).+Principles+of+fire+protection.+National+Fire+Protection+Association.+Schroll,+&printsec=frontcover)

[https://www.google.co.in/books/edition/Industrial\\_Fire\\_Protection\\_Handbook\\_Seco/rgIPnwEACAAJ?hl=en](https://www.google.co.in/books/edition/Industrial_Fire_Protection_Handbook_Seco/rgIPnwEACAAJ?hl=en)

<b><i>K1-Remember</i></b>	<b><i>K2-Understand</i></b>	<b><i>K3-Apply</i></b>	<b><i>K4-Analyze</i></b>	<b><i>K5-Evaluate</i></b>	<b><i>K6-Create</i></b>
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Course Designed by: Dr. S. Chandramohan

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – IV					
Core	Course code: 646 401	ADAPTATION AND MITIGATION IN CLIMATE CHANGE	T	Credits: 4	Hours: 4
<b>Unit – I</b>					
<b>Objective 1</b>	<b>This paper focus on the benefits of students will be able to understand the basic concepts of climate change</b>				
<b>Introduction:</b> Energy balance and climate, Greenhouse effects, Greenhouse gases, Vertical structure of the atmosphere, Global warming and its effects, The carbon cycle: ocean and biosphere, Climates in India, Adaptation and mitigation planning, Governance and policies for adaptation. IPCC modelling scenarios					
<b>Outcome 1</b>	<b>Students will know the basic knowledge of climate change</b>			<b>K2</b>	
<b>Unit – II</b>					
<b>Objective 2</b>	<b>To study the climate variability</b>				
<b>Climate variability:</b> implications on disaster risk, Climatic extreme events and disasters– global, regional and national scenario, predictions and projections. Climate change effects on disaster vulnerabilities– environmental & land/geography, social-economic, health, infrastructure, systems					
<b>Outcome 2</b>	<b>It will help in mitigate and manage the various disasters</b>			<b>K4</b>	
<b>Unit – III</b>					
<b>Objective 3</b>	<b>To orient students about the impacts of climate change</b>				
<b>Natural and anthropogenic activities:</b> Impacts of climate change: physical and biological systems, IPCC guidelines on greenhouse gas inventorying; general guidance and reporting; guidance specific to energy. Decision-making and planning for mitigation and adaptation					
<b>Outcome 3</b>	<b>Students will learn about different disasters and measures to reduce climate change due to these disasters</b>			<b>K4</b>	
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>To discuss various issues related to climate change and their impact</b>				
<b>Climate change impacts various sectors:</b> Water resources, Agricultural and Marine ecosystem. Climate Change Adaptation and Mitigation Measures: Adaptation Strategy/Options in various sectors – Water, Agriculture, coastal zones. Human Health, Tourism, Transport					
<b>Outcome 4</b>	<b>Students gain knowledge about climate change impacts</b>			<b>K2</b>	
<b>Objective 5</b>	<b>To educate students about climate sustainability and management</b>				
<b>Climate sustainability and disaster management:</b> Climate change mitigation and adaptation; Role of remote sensing and GIS in climate change studies and disaster management; Concerns and prospects of disaster management; United Nations Office for Disaster Risk Reduction (UNDRR); Disaster Management Act, 2005					
<b>Outcome 5</b>	<b>Students learn efficient suitability and management</b>			<b>K5</b>	
<b>Suggested Readings</b>					
Byravan, S. and Sudhir ChellaRajan (2012). An Evaluation of India’s National Action Plan for Climate Change, IFMR: Chennai.					
Dubash K.Navroz (ed). (2019). India in a Warming World: Integrating Climate and Development, Oxford University Press. London.					
Food and Agricultural Organisation of the United Nations (FAO) (2007). Adaptation to climate change in agriculture, forestry and fisheries: Perspective, framework and priorities. <a href="http://www.fao.org/3/a- au030e.pdf">http://www.fao.org/3/a- au030e.pdf</a> (accessed on 16 June 2020).					
Government of India (GoI) (2008). National Action Plan on Climate Change. <a href="http://www.nicra-icar.in/nicrarevised/images/Mission%20Documents/National-Action-Plan-on-Climate-Change.pdf">http://www.nicra-icar.in/nicrarevised/images/Mission%20Documents/National-Action-Plan-on-Climate-Change.pdf</a> (accessed on 16 June 2020).					
Shah, T. Deb Roy, A. Qureshi, A.S.Wang, J. (2003).Sustaining Asia’s Groundwater					

Boom: An Overview of Issues and Evidence. In: Natural Resources Forum, no. 27/2003, pp. 130-140.

### Online Resources

Urban Climate Adaptation and Mitigation

<https://shop.elsevier.com/books/urban-climate-adaptation-and-mitigation/sharifi/978-0-323-85552-5>

[https://www.activesustainability.com/climate-change/mitigation-adaptation-climate-change/?\\_adin=02021864894](https://www.activesustainability.com/climate-change/mitigation-adaptation-climate-change/?_adin=02021864894)

Adaptation and Mitigation

[https://ar5-syr.ipcc.ch/topic\\_adaptation.php](https://ar5-syr.ipcc.ch/topic_adaptation.php) Implementing adaptation

<https://climate-adapt.eea.europa.eu/en/knowledge/tools/urban-ast/step-5-4/5-4-addressing-climate-change-through-adaptation-and-mitigation>

Inter-relationships between adaptation and mitigation

<https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg2-chapter18-1.pdf>

***K1-Remember***

***K2-Understand***

***K3-Apply***

***K4-Analyze***

***K5-Evaluate***

***K6-Create***

Course Designed by: Dr. S. Chandramohan

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**



<b>Semester – IV</b>					
<b>Core</b>	<b>Course code: 646 402</b>	<b>REHABILITATION AND RECONSTRUCTION</b>	<b>T</b>	<b>Credits: 4</b>	<b>Hours: 4</b>
<b>Unit – I</b>					
<b>Objective 1</b>	<b>It is helpful to have a general understanding of rehabilitation and reconstruction</b>				
<b>Introduction:</b> Overview, Concepts of Rehabilitation and Reconstruction, Types of Rehabilitation, Guiding Principles of Rehabilitation and Reconstruction, Post- Disaster Story (Case study), Problem Areas in Disaster Recovery, Interlinkages between Recovery and Development					
<b>Outcome 1</b>	<b>This course introduces students to the basic concepts.</b>				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>The students learn how to assess their recovery</b>				
<b>Recovery assessments:</b> Vulnerability and risk assessment, Vulnerability and Capacity, Vulnerability Analysis, Risk Assessment, Conducting Risk Assessment, Risk Mapping, Recognize the different planning fundamentals. Recognize psychological impact of disasters. Disaster recovery plan (DRP).					
<b>Outcome 2</b>	<b>The students will have a basic understanding of recovery assessments</b>				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>Students learn about disaster recovery plans</b>				
<b>Elements of recovery plan:</b> Post Disaster effects and Remedial Measures, Creation of Long-term Job Opportunities and Livelihood Options, Disaster Resistant House Construction, Sanitation and Hygiene, Education and Awareness, Dealing with Victims' Psychology, Long-term Counter Disaster Planning.					
<b>Outcome 3</b>	<b>This course teaches students elements of recovery plans</b>				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>Risk mitigation during disaster recovery should be taught</b>				
<b>Mitigating disaster risk during recovery:</b> land use, livelihood, risk assessment methods; choices under uncertainty. Financing of recovery projects, Recovery management approaches- centralized versus decentralized, community as participants.					
<b>Outcome 4</b>	<b>The students will gain a better understanding of disaster mitigation during recovery</b>				<b>K2</b>
<b>Objective 5</b>	<b>Learn about the role of different rehabilitation organizations</b>				
<b>Role of different organizations in rehabilitation:</b> The Government and Disaster Recovery and rehabilitation, Disaster and Non-Governmental efforts, Role of Local Institutions; Insurance, Police, Media. Education and awareness and role of Information Dissemination, Participative Rehabilitation.					
<b>Outcome 5</b>	<b>The role of different organizations in rehabilitation will be taught to students</b>				<b>K5</b>
<b>Suggested Readings</b> Regnier, P., Neri, B., Scuteri, S. and Miniati, S. (2008). "From emergency relief to livelihood recovery Lessons learned from post tsunami experiences in Indonesia and India", Disaster					

Prevention and Management, Vol. 17(3): 410-429  
 Powell, P.J. (2011). "Post disaster reconstruction: A current analysis of Gujarat's response after the 2001 earthquake", Environmental Hazards, Vol. 10(3-4): 279-292.  
 Das, K. (2002). "Social Mobilization for Rehabilitation", Economic and Political Weekly, Vol. 37(48): 4784-4788.  
 Amaratunga, D. and Haigh, R. (2011). (eds) Post Disaster Reconstruction of the Built Environment, Wiley-Blackwell.  
 Berke, P. R. and Campanella, T.J. (2006). "Planning for Post Disaster Resiliency", The ANNALS of American Academy of Political and Social Science, Vol. 604:192  
 Chang, Y., Wilkinson, S., Brunsdon, D., Seville, E. And Potangaroa, R. (2011). "An integrated approach: managing resources for post disaster reconstruction", Disasters, Vol. 35(4): 739 - 765.  
 Pelling, M. And Dill, K. (2010). "Disaster politics: tipping points for change in the adaptation of sociopolitical regimes", Progress in Human Geography, Vol. 34(1): 21-37.  
 Allen, B. L. (2007). "Environmental Justice and Expert Knowledge in the wake of a Disaster", Social Studies of Science, Vol. 37(1): 103-110

### Online Resources

<https://egyankosh.ac.in/handle/123456789/25124>  
<https://egyankosh.ac.in/bitstream/123456789/25891/1/Unit-15.pdf>  
[https://ddceutkal.ac.in/Syllabus/MCOM/Disaster\\_Management.pdf](https://ddceutkal.ac.in/Syllabus/MCOM/Disaster_Management.pdf)

course designed by: Dr. S. Chandramohan

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
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### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	L (1)	L (1)	L (1)	S (3)	M (2)	S (3)	M (2)	S (3)	L (1)	L (1)
CO2	M (2)	M (2)	L (1)	L (1)	L (1)	L (1)	S (3)	L (1)	M (2)	M (2)
CO3	L (1)	L (1)	S (3)	M (2)	M (2)	M (2)	L (1)	M (2)	L (1)	L (1)
CO4	L (1)	L (1)	M (2)	M (2)	L (1)	L (1)	M (2)	L (1)	L (1)	L (1)
CO5	S (3)	M (2)	S (3)	L (1)	L (1)	S (3)	L (1)	S (3)	M (2)	M (2)
W.AV	1.6	1.4	2	1.8	1.4	2	1.8	2	1.4	1.4

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M (2)	M (2)	L (1)	L (1)	M (2)
CO2	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	M (2)	S (3)	S (3)	M (2)
CO4	S (3)	L (1)	S (3)	S (3)	S (3)
CO5	L (1)	S (3)	L (1)	L (1)	L (1)
W.AV	1.8	2.2	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – IV					
Core	Course code:	DISASTER LAWS & PLANNING MANAGEMENT	T	Credits:	Hours:
	646 403			3	4
Unit – I					
<b>Objective 1</b>	<b>Learn about the different types of disaster laws</b>				
<b>Disaster Management Law:</b> Act 2005, Environmental protection act 1986, Hyogo Framework for Action 2005-2015, Biosafety Cartagena protocol, Kyoto protocol, Montreal protocol, Yokohama strategies, U.N.O's International Decade for Natural Disaster Reduction					
<b>Outcome 1</b>	<b>Provide a general overview of disaster management laws</b>				<b>K5</b>
Unit – II					
<b>Objective 2</b>	<b>Learning about disasters and crisis management</b>				
<b>Disasters Issues and Crisis Management:</b> Definitions and Overview of risks and dangers, Impact of globalization on crisis and mass disasters, Discussion on selected case studies to analyze the potential impact of disasters, preparation of a foundation of a sound crisis management plan					
<b>Outcome 2</b>	<b>Discover the issues related to disasters and crisis management</b>				<b>K2</b>
Unit – III					
<b>Objective 3</b>	<b>To gain a better understanding of disaster management policy development</b>				
<b>Disaster Management Policy:</b> Concept, principles, constitutional elements, Disaster Management Policies of Different States (eg. TN, MP, Gujrat, Orissa, Uttaranchal, Delhi etc.), Countries (Japan, South Asian Countries, USA etc.)					
<b>Outcome 3</b>	<b>Disaster management policies can be understood by students</b>				<b>K4</b>
Unit – IV					
<b>Objective 4</b>	<b>Educating the public about awareness programs is the purpose</b>				
<b>Public Awareness Programmes - Beliefs and Myths Regarding Disasters - Public Awareness Programmes Through Face-To-Face Interactions, Electronics Media, Print Media/Material - Training of Trainers for Creating Awareness among Public</b>					
<b>Outcome 4</b>	<b>A public awareness program is expected to be taught to the students</b>				<b>K2</b>
<b>Objective 5</b>	<b>Students will be better prepared for disasters through training and drills</b>				
<b>Training and drills for disaster preparedness, Awareness generation program, Usages of GIS and Remote sensing techniques in disaster management, Mini project on disaster risk assessment</b>					
<b>Outcome 5</b>	<b>Students will learn how to prepare for disasters and practice drills</b>				<b>K4</b>
<b>Suggested Readings</b>					
Regnier, P., Neri, B., Scuteri, S. and Miniati, S. (2008). "From emergency relief to livelihood recovery Lessons learned from post-tsunami experiences in Indonesia and India", Disaster Prevention and Management, Vol. 17(3): 410-429					
Powell, P.J. (2011). "Post-disaster reconstruction: A current analysis of Gujarat's response after the 2001 earthquake", Environmental Hazards, Vol. 10(3-4): 279-292.					
Das, K. (2002). "Social Mobilization for Rehabilitation", Economic and Political Weekly, Vol. 37(48): 4784-4788.					
Amaratunga, D. and Haigh, R. (2011). (eds) Post Disaster Reconstruction of the Built Environment, Wiley-Blackwell.					
Berke, P. R. and Campanella, T.J. (2006). "Planning for Post Disaster Resiliency", The ANNALS of American Academy of Political and Social Science, Vol. 604:192					
Chang, Y., Wilkinson, S., Brunsdon, D., Seville, E. And Potangaroa, R. (2011). "An integrated approach: managing resources for post-disaster reconstruction", Disasters, Vol. 35(4): 739-765.					
Pelling, M. And Dill, K. (2010). "Disaster politics: tipping points for change in the adaptation of sociopolitical regimes", Progress in Human Geography, Vol. 34(1): 21-37.					
Allen, B. L. (2007). "Environmental Justice and Expert Knowledge in the Wake of a Disaster", Social Studies of Science, Vol. 37(1): 103-110					

**Online Resources**

<https://vikaspedia.in/social-welfare/disaster-management-1/policies-and-acts> The Disaster Management Act, 2005

[https://www.indiacode.nic.in/bitstream/123456789/2045/1/AAA2005\\_53.pdf](https://www.indiacode.nic.in/bitstream/123456789/2045/1/AAA2005_53.pdf)

Disaster Management Plan

<https://www.mca.gov.in/Ministry/pdf/DisasterManagementPlanMCA.pdf> The Law on Disaster Management

[https://disasterlaw.ifrc.org/sites/default/files/media/disaster\\_law/2021-03/DM%20Law%20Unofficial%20Translation.pdf](https://disasterlaw.ifrc.org/sites/default/files/media/disaster_law/2021-03/DM%20Law%20Unofficial%20Translation.pdf)

Compendium of Laws on Disaster Management

<https://ndma.gov.in/sites/default/files/PDF/COMPENDIUM-OF-LAWS-ON-DISASTER-MANAGEMENT.pdf>

<b><i>K1-Remember</i></b>	<b><i>K2-Understand</i></b>	<b><i>K3-Apply</i></b>	<b><i>K4-Analyze</i></b>	<b><i>K5-Evaluate</i></b>	<b><i>K6-Create</i></b>
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Course Designed by: Dr. S. CHANDRAMOHAN

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	L (1)	L (1)	L (1)	S (3)	M (2)	S (3)	M (2)	S (3)	L (1)	L (1)
CO2	M (2)	M (2)	L (1)	L (1)	L (1)	L (1)	S (3)	L (1)	M (2)	M (2)
CO3	L (1)	L (1)	S (3)	M (2)	M (2)	M (2)	L (1)	M (2)	L (1)	L (1)
CO4	L (1)	L (1)	M (2)	M (2)	L (1)	L (1)	M (2)	L (1)	L (1)	L (1)
CO5	S (3)	M (2)	S (3)	L (1)	L (1)	S (3)	L (1)	S (3)	M (2)	M (2)
W.AV	1.6	1.4	2	1.8	1.4	2	1.8	2	1.4	1.4

**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	M (2)	M (2)	L (1)	L (1)	M (2)
CO2	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	M (2)	S (3)	S (3)	M (2)
CO4	S (3)	L (1)	S (3)	S (3)	S (3)
CO5	L (1)	S (3)	L (1)	L (1)	L (1)
W.AV	1.8	2.2	2	2	1.8

**S –Strong (3), M-Medium (2), L- Low (1)**

Semester – IV					
Core	Course code: 646 404	PRACTICAL IN DISASTER DATA PROCESSING	P	Credits: 3	Hours: 6
<b>Unit – I</b>					
<b>Objective 1</b>	<b>To familiarize the students with the basic concepts of computer applications in disaster management</b>				
<b>Introduction:</b> Basics of computer applications in disaster management, Overview of different GIS and statistical software packages, Overview of Arc-GIS: Arc-map, Arc- catalog and Arc-tool Box and Coefficient of variation– Skewness					
<b>Outcome 1</b>	<b>Students will be able to understand and apply descriptive and inferential statistical techniques using Excel and SPSS</b>				<b>K5</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>To gain an understanding of complex processes in RS and GIS</b>				
<b>Attribute Data Collection and Input:</b> Creation of Schema, Tables, Data Definition, and Data Input, Data Updating, Use of MS-office for data creation.					
<b>Outcome 2</b>	<b>Students will know the different types of data inputs and outputs</b>				<b>K2</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>To learn the statistical processing in disaster management</b>				
<b>Statistical data input;</b> correlation, multivariate statistical analysis, chi-square $X^2$ analysis – T Test Procedure – One way ANOVA – Two-way ANOVA – Correlation – Simple Linear Regression – Factor Analysis – KMO Test					
<b>Outcome 3</b>	<b>At the end of the course, students will know about the different types of data processing techniques</b>				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>To recognize and justify the impacts of disasters with different application tools</b>				
<b>Arc GIS toolbox:</b> overview, Geo referencing Data: Coordinate Systems, Datum Conversions, Map Projections, Types, Geodatabase management - Feature Dataset, Feature Classes, Import of Data, Spatial Data Formats, Shape/Coverage Files and Layers, Data Frames, Maps.					
<b>Outcome 4</b>	<b>Students will also know the potential applications of GIS mapping and modeling in disaster management</b>				<b>K2</b>
<b>Objective 5</b>	<b>To provide practical knowledge to understand the data input and output</b>				
<b>Map processing:</b> Working with Layers in Arc map: Building Templates, Classification, Displaying Qualitative and quantitative Values, Labeling Features and Map Creation					
<b>Outcome 5</b>	<b>Students would be able to know the fundamental concept of spatial and non-spatial data</b>				<b>K4</b>
<b>Suggested Readings</b>					
Chang, K. T. (2008): Introduction to Geographic Information Systems, Avenue of the Americas, McGraw-Hill, New York					
Environmental Systems Research Institute, Inc. (1998): Understanding GIS: The ARC/INFO Method, ESRI Press, Redland					
Ahmed, E. L., Rabbany (2002): Introduction to Global Positioning System, Artech House, Boston Kresse,					
W. and Danko, D. (2002): Springer Handbook of Geographic Information, Springer Drecht, London Bao, J., Tsui, Y. (2005): Fundamentals of Global Positioning System Receivers, John Wiley Sons, Inc., Hoboken					
Rajaraman, V. (1996): Fundamentals of Computers, Prentice Hall of India, New Delhi.					

**Online Resources**

Disaster Risk Assessment for Project Preparation A Practical Guide. Asian Development Bank  
<https://www.adb.org/sites/default/files/institutional-document/388451/drm-project-preparation-practicalguide.pdf>

<https://www.mha.gov.in/sites/default/files/2022-08/NPDM-101209%5B1%5D.pdf>

<https://globalplatform.undrr.org/conference-event/data-challenges-and-solutions-disaster-risk-management>

World Bank's Climate and Disaster Risk Screening Tools

<https://climatescreeningtools.worldbank.org/about-the-tools>

***K1-Remember***

***K2-Understand***

***K3-Apply***

***K4-Analyze***

***K5-Evaluate***

***K6-Create***

Course Designed by: Dr. S. Chandramohan

**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

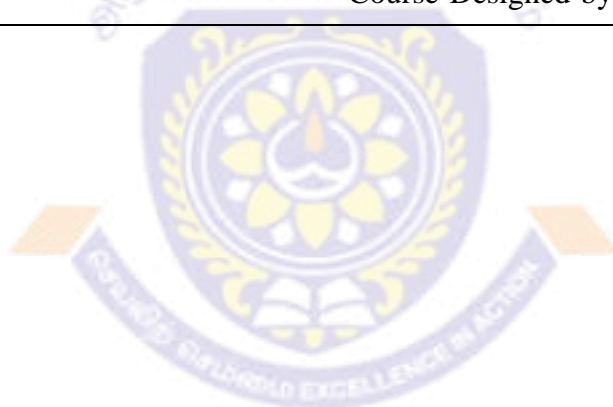
**S –Strong (3), M-Medium (2), L- Low (1)**

**Course Outcome VS Programme Specific Outcomes**

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**

<b>Semester-IV</b>				
<b>Core</b>	<b>Course code: 646 999</b>	<b>PROJECT REPORT AND VIVA-VOCE</b>	<b>Credits: 4</b>	<b>Hours: 12</b>
<b>Objective</b>	<b>To explore crucial issues in Disaster and cultivate analytical and research skills so as recommend feasible solution.</b>			
<p>Each student has to choose an issue relating to Banking / Insurance / Other Financial Institutions for the project work in consultation with the Teacher – Guide. The outcome of the research work has to be submitted in the form of a report in the specified format at the end of the final semester.</p> <p><b>Evaluation Process:</b> Project reports are to be evaluated by an Industry expert / academician and the teacher guide for 75 marks each. The average of both the valuations will be the final mark. Every student has to face the viva- voce examination for which the Project Report will form the base. For the viva voce examination, the Board comprises of Industry expert / academician, the teacher guide and the Head of the Department. All the three join together have to evaluate the student for a maximum of 25 marks. The Head of the department shall be the ex-officio Chairman for the Viva Board.</p>				
<b>Outcome</b>	<b>Students will be able to produce a well-structured project report that address the critical issues in Disaster.</b>			
Course Designed by: Dr. S. Chandramohan				



Semester – II					
NME	Course code:	INTRODUCTION TO DISASTER MANAGEMENT	T	Credits: 2	Hours: 3
<b>Unit – I</b>					
<b>Objective 1</b>	<b>To orient students about various natural and manmade disasters</b>				
Hazard, Risk, Vulnerability, Disaster; Disaster Management, Meaning, Nature Importance, Dimensions & Scope of Disaster Management, Disaster Management Cycle. National disaster management framework; financial arrangements for Disaster management, International Strategy for Disaster reduction.					
<b>Outcome 1</b>	<b>Students will learn different disasters and measures to reduce the risk</b>				<b>K2</b>
<b>Unit – II</b>					
<b>Objective 2</b>	<b>to teach the concept of Disaster management and measures</b>				
Natural Disasters- Meaning and nature of natural disasters, their types and effects , Hydrological Disasters - Flood, Flash flood , Drought, cloud burst , Geological Disasters- Earthquakes, Landslides, Avalanches, Volcanic eruptions, Mudflow, Wind related- Cyclone, Storm, Storm surge, tidal waves , Heat and cold Waves, Climatic Change, Global warming, Sea Level rise, Ozone Depletion.					
<b>Outcome 2</b>	<b>students will learn institutional frame work for disaster management at national as well as global level</b>				<b>K4</b>
<b>Unit – III</b>					
<b>Objective 3</b>	<b>to measures taken at different stages of disaster management</b>				
Man-made Disaster, CBRN – Chemical disasters, biological disasters, radiological disasters, nuclear disasters, Fire – building fire, coal fire, forest fire, Oil fire, Accidents- road accidents, rail accidents, air accidents, sea accidents, Pollution and deforestation- air pollution, water pollution, deforestation, Industrial wastewater pollution, deforestation.					
<b>Outcome 3</b>	<b>This course teaches students elements of recovery plans</b>				<b>K4</b>
<b>Unit – IV</b>					
<b>Objective 4</b>	<b>to provide insight about global, national and regional level scenario of disaster management</b>				
Disaster Determinants, 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.					
<b>Outcome 4</b>	<b>The students will gain a better understanding of disaster mitigation during recover</b>				<b>K2</b>
<b>Objective 5</b>	<b>Learn about the role of different rehabilitation organizations</b>				
Capability-Vulnerability- risk- preparedness and mitigation- Disaster management cycle; Disaster Risk Reduction and Resilience; Disaster Management Act and Policy.					
<b>Outcome 5</b>	<b>The role of different organizations in rehabilitation will be taught to students</b>				<b>K5</b>
<b>Suggested Readings</b>					
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.					



### Online Resources

Satish Modh. Introduction to Disaster Management.

[file:///C:/Users/vasan/Downloads/Disaster\\_Management\\_SatishModh\\_Chapter1.pdf](file:///C:/Users/vasan/Downloads/Disaster_Management_SatishModh_Chapter1.pdf) Damon

Coppola. Introduction to International Disaster Management

<https://www.kobo.com/in/en/ebook/introduction-to-international-disaster-management>

Brenda Phillips, David M. Neal, Gary R. Webb Introduction to emergency management and disaster science <https://discover.library.unt.edu/catalog/b7529005>

Duncan Ochieng. Introduction to Disaster Management.

[https://www.researchgate.net/publication/339310962\\_Introduction\\_to\\_Disaster\\_Management#fullTextFileContent](https://www.researchgate.net/publication/339310962_Introduction_to_Disaster_Management#fullTextFileContent)

Arun Kumar, E. Disaster Management.

<https://stsreader.cloudpub.in/?url & type=pdf>

Rajnish Ranjan. Issues and Challenges in Disaster Management

<https://ebooks.inflibnet.ac.in/geop15/chapter/issues-and-challenges-in-disaster-management/>

Jack Pinkowski. Disaster Management Handbook

<https://libguides.cbu.ca/emergencymanagement>

<b><i>K1-Remember</i></b>	<b><i>K2-Understand</i></b>	<b><i>K3-Apply</i></b>	<b><i>K4-Analyze</i></b>	<b><i>K5-Evaluate</i></b>	<b><i>K6-Create</i></b>
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Course Designed by: Dr. S. Chandramohan

### Course Outcome VS Programme Outcomes

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

S –Strong (3), M-Medium (2), L- Low(1)

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

S –Strong (3), M-Medium (2), L- Low (1)

Semester – III					
NME	Course code:	CLIMATE CHANGE AND SOCIETY	T	Credits:	Hours:
				2	3
Unit – I					
<b>Objective 1</b>	<b>To help the students learn and explore the basic concepts of climate change and its impact on society</b>				
Global climate change trends and impacts: Climate change basics, Meaning of adaptation to climate change- Observed and potential impacts of climate change- Vulnerability: From hazardous environments to man-made disasters. Extreme weather and climate events and their health impacts					
<b>Outcome 1</b>	<b>Students will gain insight into the basic concept of disasters.</b>				<b>K5</b>
Unit – II					
<b>Objective 2</b>	<b>to understand climate change and society and apply them in the context of disaster mitigation and management</b>				
Climate change, environmental conflicts, and societal stability. Adaptation at the international level - Governance and policies for adaptation - Integrating adaptation into development planning - Moving ahead on adaptation in India. Mitigation and health co-benefits					
<b>Outcome 2</b>	<b>Students will learn disaster risk and vulnerability at different stages</b>				<b>K2</b>
Unit – III					
<b>Objective 3</b>	<b>To determine the relief needs during a disaster and plan for their delivery</b>				
Adaptation in Agriculture: Climate change in agriculture sectors -Governance and policies for adaptation in agriculture-Adaptation options in agriculture - Linking adaptation and mitigation					
<b>Outcome 3</b>	<b>Analyzing resources and mobilizing them was a skill the students grasped</b>				<b>K4</b>
Unit – IV					
<b>Objective 4</b>	<b>To determine the relief needs during a disaster and plan for their delivery</b>				
Adaptation and water resources: Impact of climate change in water resources-The meaning of adaptation in water resources management- Governance and policies for adaptation in water resources management- Adaptation options in water resources management. Linking adaptation and mitigation					
<b>Outcome 4</b>	<b>Students will gain knowledge about comprehending environmental analysis</b>				<b>K2</b>
<b>Objective 5</b>					
Climate change impact in coastal zones- The meaning of adaptation in coastal zones- Governance and policies for adaptation in coastal zones- Adaptation options in coastal zones. Linking adaptation and mitigation					
<b>Outcome 5</b>	<b>Students will be able to understand climate change and society and apply them in the context of disaster mitigation and management</b>				<b>K4</b>
<b>Suggested Readings</b>					
Certo, S C. and Certo, T. 2011.Modern Management, 12th Edition, Prentice Hall. DeGeorge, R. 2011.Business Ethics, 7th Edition, Pearson.					
Govindarajan M., and Natarajan S. 2009. Principles of Management, PHI Learning Pvt. Ltd.,Griffin, R. W. 2012. Management, 11th Edition, South-Western College Publication.					
Koontz, H. and Weihrich, H. 2009. Essentials of Management: An International Perspective, 8thEdition, Tata McGraw Hill Education Private Ltd.,					
Mukherjee, K. 2009. Principles of Management, 2nd Edition, Tata McGraw Hill Education Pvt.Ltd.,Robbins, S and Coulter, 2011. Management, Prentice Hall, January 2011.					
Schmerhorn, J.R. 2012. Management, 11th Edition, Wiley.					

Schmidtz, D. and Willott, E. 2011. Environmental Ethics, Oxford University Press.

**Online Resources**

Palmer Owyong. Solving the Climate Crisis - A Community Guide to Solving the Biggest Problem on the Planet. <https://www.everand.com/book/663798975/Solving-the-Climate-Crisis-A-Community-Guide-to-Solving-the-Biggest-Problem-On-the-Planet>

Nicolae Sfetcu. Climate Change: Global Warming. <https://www.everand.com/book/387419783/Climate-Change-Global-Warming>

US Global Change Research Program. Impacts of Climate Change on Human Health in the United States: A Scientific Assessment.

<https://www.everand.com/book/396762070/Impacts-of-Climate-Change-on-Human-Health-in-the-United-States-A-Scientific-Assessment>

R. R. Kelkar. Climate Change: A Holistic View.

<https://www.everand.com/book/453507854/Climate-Change-A-Holistic-View>

Trevor Letcher. The Impacts of Climate Change: A Comprehensive Study of Physical, Biophysical, Social, and Political Issues. <https://www.everand.com/book/507472370/The-Impacts-of-Climate-Change-A-Comprehensive-Study-of-Physical-Biophysical-Social-and-Political-Issues>

Subhash Sharma, Kshipra Sharma. Environment and Society Climate Change and Sustainable Development. <https://www.routledge.com/Environment-and-Society-Climate-Change-and-Sustainable-Development/Sharma-Sharma/p/book/9781032372808>

Vladimir Jankovic. Climate Change and Society [file:///C:/Users/vasan/Downloads/Climate Change and Society pdf.pdf](file:///C:/Users/vasan/Downloads/Climate%20Change%20and%20Society.pdf) The Discovery of Global Warming. <https://www.aip.org/history/climate/bib.htm>

<b>K1-Remember</b>	<b>K2-Understand</b>	<b>K3-Apply</b>	<b>K4-Analyze</b>	<b>K5-Evaluate</b>	<b>K6-Create</b>
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**Course Outcome VS Programme Outcomes**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S (3)	L (1)	M (2)	S (3)	M (2)	S (3)	M (2)	L (1)	L (1)	L (1)
CO2	L (1)	S (3)	L (1)	M (2)	L (1)	L (1)	S (3)	M (2)	M (2)	L (1)
CO3	M (2)	L (1)	S (3)	L (1)	M (2)	M (2)	L (1)	L (1)	L (1)	S (3)
CO4	M (2)	M (2)	M (2)	S (3)	L (1)	L (1)	M (2)	L (1)	L (1)	M (2)
CO5	L (1)	L (1)	L (1)	M (2)	L (1)	S (3)	L (1)	S (3)	M (2)	S (3)
W.AV	1.8	1.6	1.8	2.2	1.4	2	1.8	1.6	1.4	2

**S –Strong (3), M-Medium (2), L- Low (1)**

### Course Outcome VS Programme Specific Outcomes

CO	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	S (3)	M (2)	L (1)	M (2)	M (2)
CO2	L (1)	S (3)	M (2)	L (1)	S (3)
CO3	M (2)	L (1)	S (3)	M (2)	M (2)
CO4	M (2)	L (1)	S (3)	S (3)	L (1)
CO5	M (2)	S (3)	L (1)	L (1)	S (3)
W.AV	2	2	2	1.8	2.2

**S –Strong (3), M-Medium (2), L- Low (1)**





## **MANAGEMENT CAMPUS**