

|                             |   |                                     |
|-----------------------------|---|-------------------------------------|
| <b>Name of Faculty</b>      | : | Faculty of Engineering & Technology |
| <b>Name of Program</b>      | : | Master of Technology (M. Tech)      |
| <b>Course Code</b>          | : | 1MEE04                              |
| <b>Course Title</b>         | : | Disaster Management                 |
| <b>Type of Course</b>       | : | Programme Elective (PE)             |
| <b>Year of Introduction</b> | : | 2023-24                             |

|                         |     |  |
|-------------------------|-----|--|
| <b>Prerequisite</b>     | :   | -  |
| <b>Course Objective</b> | :   | To provide a broad overview of the knowledge and skills regarding disaster management.   |
| <b>Course Outcomes</b>  | :   | At the end of this course, students will be able to:   |
|                         | CO1 | Learn to demonstrate a critical understanding of key concepts in disaster risk reduction and humanitarian response   |
|                         | CO2 | Critically evaluate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.  |
|                         | CO3 | Develop an understanding of standards of humanitarian response and practical relevance in specific types of disasters and conflict situations  |
|                         | CO4 | Critically understand the strengths and weaknesses of disaster management approaches, planning and programming in different countries, particularly their home country or the countries they work in |

### Teaching and Examination Scheme

| Teaching Scheme (Contact Hours) |   |   | Credits | Examination Marks |     |                 |     |             |
|---------------------------------|---|---|---------|-------------------|-----|-----------------|-----|-------------|
|                                 |   |   |         | Theory Marks      |     | Practical Marks |     | Total Marks |
| L                               | T | P | C       | SEE               | CIA | SEE             | CIA |             |
| 3                               | 2 | 0 | 4       | 70                | 30  | 30              | 20  | 150         |

*Legends: L-Lecture; T-Tutorial/Teacher Guided Theory Practice; P - Practical, C - Credit, SEE - Semester End Examination, CIA - Continuous Internal Assessment (It consists of Assignments/Seminars/Presentations/MCQ Tests, etc.)*

**Course Content**

| Unit No. | Topics   | Teaching Hours | Weightage | Mapping with CO   |
|----------|--|----------------|-----------|-------------------|
| 1        | <b>Introduction Disaster:</b><br>Definition, Factors and Significance; Difference Between Hazard and Disaster; Natural and Manmade Disasters: Difference, Nature, Types and Magnitude.   | 8              | 19%       | CO1               |
| 2        | <b>Repercussions Of Disasters and Hazards:</b><br>Economic Damage, Loss of Human and Animal Life, Destruction of Ecosystem. Natural Disasters: Earthquakes, Volcanisms, Cyclones, Tsunamis, Floods, Droughts and Famines, Landslides and Avalanches, Man-made disaster: Nuclear Reactor Meltdown, Industrial Accidents, Oil Slicks and Spills, Outbreaks of Disease and Epidemics, War and Conflicts | 8              | 19%       | CO1<br>CO2        |
| 3        | <b>Disaster Prone Areas in India:</b><br>Study Of Seismic Zones; Areas Prone to Floods and Droughts, Landslides and Avalanches; Areas Prone to Cyclonic and Coastal Hazards with Special Reference to Tsunami; Post Disaster Diseases and Epidemics  | 8              | 19%       | CO1<br>CO2        |
| 4        | <b>Disaster Preparedness and Management Preparedness:</b><br>Monitoring Of Phenomena Triggering a Disaster or Hazard; Evaluation of Risk: Application of Remote Sensing, Data from Meteorological and Other Agencies, Media Reports: Governmental and Community Preparedness   | 8              | 19%       | CO2<br>CO3        |
| 5        | <b>Risk Assessment Disaster Risk:</b><br>Concept And Elements, Disaster Risk Reduction, Global and National Disaster Risk Situation. Techniques of Risk Assessment, Global Co-Operation in Risk Assessment and Warning, People's Participation in Risk Assessment. Strategies for Survival.  | 5              | 12%       | CO2<br>CO3        |
| 6        | <b>Disaster Mitigation:</b><br>Concept and Strategies of Disaster Mitigation, Emerging Trends in Mitigation. Structural Mitigation and Non-Structural Mitigation, Programs of Disaster Mitigation in India.  | 5              | 12%       | CO2<br>CO3<br>CO4 |

| Suggested Distribution of Theory Marks Using Bloom's Taxonomy |             |               |             |         |          |        |
|---|-------------|---------------|-------------|---------|----------|--------|
| Level   | Remembrance | Understanding | Application | Analyse | Evaluate | Create |
| Weightage   | 10          | 20            | 20          | 20      | 20       | 10     |

NOTE: This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.

#### Suggested List of Experiments/Tutorials

| Sr. No. | Name of Experiment/Tutorial           | Teaching Hours |
|---------|---------------------------------------|----------------|
| 1       | Introduction to Disaster Management   | 4              |
| 2       | Types of Disasters                    | 4              |
| 3       | Impact and Repercussions of Disasters | 4              |
| 4       | Disaster-Prone Areas in India         | 4              |
| 5       | Disaster Preparedness and Management  | 4              |
| 6       | Risk Assessment and Reduction         | 4              |
| 7       | Disaster Mitigation                   | 4              |

#### Suggested Learning Websites

| Sr. No. | Name of Website   |
|---------|---|
| 1       | <a href="https://www.undrr.org/">https://www.undrr.org/</a>                       |
| 2       | <a href="https://www.ifrc.org/">https://www.ifrc.org/</a>                         |
| 3       | <a href="https://ndma.gov.in/">https://ndma.gov.in/</a>                           |
| 4       | <a href="https://reliefweb.int/">https://reliefweb.int/</a>                       |
| 5       | <a href="https://disasterphilanthropy.org/">https://disasterphilanthropy.org/</a> |

#### Reference Books

| Sr. No. | Name of Reference Books   |
|---------|---|
| 1       | R. Nishith, Singh AK, "Disaster Management in India: Perspectives, issues and strategies", New Royal book Company.        |
| 2       | Sahni, PardeepEt.Al. (Eds.), "Disaster Mitigation Experiences And Reflections", Prentice Hall Of India, New Delhi.        |
| 3       | Goel S. L. , Disaster Administration And Management Text And Case Studies" ,Deep & Deep Publication Pvt. Ltd., New Delhi. |