Disaster Management

Course Code	23CE2601	**Year**	III	**Semester**	II
Course Category	OE- II	**Offering Branch**	CE	**Course Type**	Theory
Credits	3	**L-T-P**	3-0-0	**Prerequisites**	Environmental Science
Continuous Internal Evaluation	30	**Semester End Evaluation**	70	**Total Marks**	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		**BL**
CO1	**Define** the fundamental concepts of Disaster Management, types of natural hazards, the disaster management cycle, and key terminologies related to man-made disasters, risk, vulnerability, technology use, and community preparedness.	L2
CO2	**Explain** the causes, characteristics, and impacts of natural disasters and man-made disasters along with their case studies and post-disaster effects.	L3
CO3	**Apply** disaster preparedness principles, building codes, land-use planning, and basic mitigation strategies and technological tools to assess hazards and manage post-disaster situations.	L3
CO4	**Analyze** risk and vulnerability using environmental, social, and economic indicators, and examine the effectiveness of technological tools such as Remote Sensing, GIS, and multimedia systems in disaster assessment.	L4
CO5	**Analyze** multi-sectoral disaster management approaches and design community-based preparedness frameworks, resilience strategies, and education modules for sustainable disaster risk reduction.	L4

Mapping of course outcomes with Program outcomes (CO/ PO/PSO Matrix)

Note: 1- Weak correlation 2-Medium correlation 3-Strong correlation

* - Average value indicates course correlation strength with mapped PO

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**PO10**	**PO11**	**PSO1**	**PSO2**
CO1	3	2				2				2	2		
CO2	3	2	2			2				2	2		
CO3	2	3	3	2		2			2	2	2		
CO4	2	3	2	3	2	3			3	2	2		
CO5	2	3	3	2	2	3		2	3	3	2		
Average	2	3	3	2	2	2		2	3	2	2		

Syllabus		
Unit No.	**Contents**	**Mapped CO**
1	Natural Hazards and Disaster Management: Introduction of DM – Inter disciplinary nature of the subject– Disaster Management cycle – Five priorities for action. Case study methods of the following: Vegetal Cover floods, droughts – Earthquakes – landslides – global warming, cyclones &	CO1, CO2

	Tsunamis – Post Tsunami hazards along the Indian coast.	
2	Man made Disaster and their management along with case study methods of the following: Fire hazards – transport hazard dynamics – solid waste management – post disaster – bio terrorism -threat in mega cities, rail and aircraft accidents, ground water, industries - Emerging infectious diseases and Aids and their management.	CO1, CO2
3	Risk and Vulnerability: Building codes and land use planning – Social Vulnerability – Environmental vulnerability – Macro-economic management and sustainable development, Climate change risk rendition – Financial management of disaster – related losses.	CO1, CO3, CO4
4	Role of Technology in Disaster Managements: Disaster management for infra structures, taxonomy of infra structure – treatment plants and process facilities-electrical substations- roads and bridges- mitigation programme for earth quakes – flowchart, geospatial information in agriculture drought assessment - Multimedia Technology in disaster risk management and training - Transformable Indigenous Knowledge in disaster reduction – Role of RS & GIS	CO1, CO3, CO4
5	Multi-sectional Issues, Education and Community Preparedness: Impact of disaster on poverty and deprivation - Climate change adaptation and human health - Exposure, health hazards and environmental risk-Forest management and disaster risk reduction -The Red cross and red crescent movement - Corporate sector and disaster risk reduction- Education in disaster risk reduction- Essentials of school disaster education - Community capacity and disaster resilience-Community based disaster recovery - Community based disaster management and social capital-Designing resilience- building community capacity for action.	CO1, CO3, CO5

Learning Recourses

Text Books

1. S.Vaidyanathan: An Introduction of Disaster Management- Natural Disasters & Vulnerable Hazards–CBS Publishers& Distributors Pvt.Ltd.
2. RB Singh Natural Hazards & Disaster Management, Vulnerability and Mitigation - Rawat Publications
3. Tushar Bhattacharya ‘Disaster Science & Management’, Tata McGraw Hill Education Pvt. Ltd., New Delhi.
4. Jagbir Singh, ‘Disaster Management – Future Challenges and Opportunities’, I K International Publishing House Pvt.Ltd, 2007

References

1. H K Gupta , ‘Disaster Management’ Universities press. 2003
2. Rajib shah & R R Krishnamurthy ‘Disaster Management – Global Challenges and Local Solutions’, Universities press. 2009
3. R. Nishith, Singh AK, “Disaster Management in India: Perspectives, Issues and strategies” New Royal Book Company.”