

(3 Hours)

Total Marks: 80

Note:

1. Question No. 1 is compulsory.
2. Attempt any **THREE** out of the remaining **FIVE** questions.
3. Assume suitable data if necessary.

1. Attempt any four questions [20]
 - a) Explain Rehabilitation and Vulnerability.
 - b) What is Rational hazards? Also discuss possibilities of chemical spills in Mumbai.
 - c) Explain the role of various international agencies for Disaster Management.
 - d) What do you understand by early warning system? In which disasters, are early warning systems are not possible?
 - e) Explain NDVI and Palmer drought Index
 2. a) Discuss the framework for disaster management in India. [10]
2. b) Explain the role of NDMA in detail [10]
 3. a) Is rapid depletion of ground water a type of disaster? To which category does this belongs? What are the reasons for this problem? [10]
3. b) Industrialization is an essential component for the economic development of a country. However industrial disasters can have a significant social and economic impact. Explain this statement with suitable examples. [10]
 4. a) Enlist and explain various terms and concepts with respect to earthquakes. [10]
4. b) Appraise the role of Geo-informatics in disaster management [10]
 5. a) Explain in detail the design concepts involved in as well as the construction materials used for the safe construction of facilities in case of earthquakes and cyclones. Also discuss the fire resistant facilities that need to be essentially provided in a building/industry. [10]
5. b) Explain in detail, vulnerability, with reference to tsunami. List down the preparatory measures for minimizing vulnerabilities related to Tsunami. [10]
 6. a) Natural ecosystems act as a first line of defence against natural disasters. Explain this statement with suitable example. Can natural ecosystems also act as a line of defence against man-made disasters? Explain [10]
6. b) Explain various means of raising finance for mitigating and managing disasters [10]
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