B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

February / March 2023 Semester End Main Examinations

Programme: B.E.   **Semester: V**
Branch: Civil Engineering   **Duration: 3 hrs.**
Course Code: 20CV5PEDMM   **Max Marks: 100**
Course: Disaster Management and Mitigation   **Date: 03.03.2023**

Instructions:

1. Answer 5 full questions choosing one full question from Units 2 and 3
2. Answer all parts of the questions together

UNIT - I

1. a) Explain hazard-vulnerability mapping and its significance in disaster management. **05**

   b) Explain the framework of capacity building for disaster management. **07**

   c) Effective planning is essential for a community to successfully prepare for, respond to, and subsequently recover from a disaster event. In this context discuss the principles on which disaster management must be based on. **08**

UNIT - II

2. Case study: India's land is undergoing degradation. Land degradation is the reduction or loss of biological or economic productivity of the land resulting from over use of the land, or from a process, or combination of processes including human activities. Almost 90 percent of the states in India are experiencing an increase in the land degradation rate.

   a) Identify the hazard risk and the hazard vulnerability in the above case. **05**

   b) Identify the potential impact of the disaster in this case. **07**

   c) Suggest appropriate mitigation measures to reduce the disaster impact in this case. **08**

OR

3. a) Identify any (one) natural hazard causing threat to your area, discuss the characteristics of the hazard, and suggest the actions required to enhance the disaster preparedness for the threat identified. **10**

   b) In India, road, rail and air accidents cause maximum loss of life compared to any other natural or manmade disasters. Discuss the mitigation measures that can be adopted to reduce these accidents. **10**

UNIT - III

4. a) Distinguish between evacuation and migration. **05**

   b) Discuss the benefits and drawbacks of crowd sourcing of information in case of disasters. **07**

c) Differentiate between disaster mitigation and preparedness. List the important tasks in both the phases. **08**

OR

5 a) Discuss the vision, structure and responsibilities of NDMA. **10**

b) Discuss the general structural and non-structural measures for disaster mitigation. **10**

UNIT - IV

6 a) Illustrate the institutional structure for disaster management in India. **10**

b) Explain the role of communities and NGOs in effective disaster management. **10**

UNIT - V

7 a) Even with a scientific disaster management policy and a well-structured institutional arrangement, various disasters continue to cause damage to properties, lives and livelihood with devastating impact. Identify the major challenges in disaster management in this context. **10**

b) Discuss the significance of UNFCC, Kyoto protocol and Paris agreement in climate change mitigation. **10**

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