

Master of Construction Engineering 2<sup>nd</sup> Semester Examination 2019

**DISASTER MITIGATION ENGINEERING Part -I**

Assume any relevant data not provided. Total Marks 50

Answer any Two Questions

- |   |  |   |
|---|--|---|
| 1 | a) Define and distinguish between <b>Disaster and Hazard</b> .   | 4 |
|   | b) Write Down <b>different disasters</b> and indicate the reason for the <b>increasing trend</b> of disasters throughout the world.  | 5 |
|   | c) What do you mean by <b>Disaster Mitigation</b> and mention <b>Mitigation Cycle</b> ?  | 5 |
|   | d) Differentiate between Mandates of <b>Disaster Manager &amp; Mitigation Engineer</b>   | 5 |
|   | e) Discuss the <b>Philosophies of Disaster Mitigation and its Preparedness</b> and indicate the <b>role of Engineers</b> to achieve those philosophies.                    | 6 |
| 2 | a) What are the <b>important characteristics of Earthquake</b> ?   | 5 |
|   | b) Discuss the <b>basic objective of Seismic Isolation</b> for Disaster mitigation   | 6 |
|   | c) Distinguish between <b>Near field &amp; Far field effect</b> of earthquake.   | 5 |
|   | c) Discuss on <b>favourable structural features for Seismic Disaster Mitigation</b>  | 4 |
|   | d) What are the <b>Basic Safety Objectives</b> against Seismic Hazard ?<br>Define <b>Ductility</b> and discuss the <b>role of ductility</b> in achieving the objectives.   | 5 |
| 3 | a) Discuss the effect of <b>Cyclone</b> on Structures along its height   | 5 |
|   | b) Discuss the <b>similarities</b> between the effects of <b>Earthquake &amp; Cyclone Hazards</b> on Tall buildings and discuss on the common <b>Mitigation approaches</b> | 5 |
|   | c) What are the common <b>contradictions</b> between the mitigations against earthquake and cyclone hazards.   | 4 |
|   | d) What are the <b>conventional measures</b> for <b>disaster mitigation</b> of structures.   | 5 |
|   | e) Discuss Isolation system for mitigating structural distress and the significance of its optimum criterion selection for mitigating multiple hazards.                    | 6 |

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M.E. CONSTRUCTION ENGINEERING FIRST YEAR SECOND SEMESTER - 2019

Subject : DISASTER MITIGATION ENGINEERING

Part -II

Full Marks -25

Use Separate Answer scripts for each Group and answer any TWO questions from part-II

Q-1. Illustrate road accident as manmade disaster with special reference to Kolkata. [12.5]

Q-2 Describe the remedial measures to be adopted to restrict the loss due to landslide with special reference to west Bengal and Sikkim. [12.5]

Q-3. Illustrate the basic principles to mitigate disaster due to flood in south Bengal. [12.5]

Master of Construction Engineering 1<sup>st</sup> year 2<sup>nd</sup> semester Examination - 2019

Subject: Disaster Mitigation Engineering

Time : Three hours

Full Marks: 100

*Part-III(Full Marks-25)**Use separate Answer Sheet for Each Part*

Answer any one Five questions from the following [5X5=25]

- [1] Distinguished between natural and man-made disaster.
- [2] Write the name of different types natural disaster.
- [3] Write a short notes on Hazard reduction programme.
- [4] Write a short notes on prevention, control and mitigation of flood.
- [5] Write the names of important factors responsible for landslide occurrence
- [6] How can we minimize or control the Man-made disasters.
- [7] How can we make the Disaster free structure?