

Roll No.: .....

## SGT UNIVERSITY

### END TERM THEORY EXAMINATION JULY-2022

<b>Faculty/College of Study:</b>	Engineering & Technology	<b>Year/Semester:</b>	6 <sup>th</sup> Semester 4 <sup>th</sup> Semester
<b>Program:</b>	B.Tech. (CE)/ B.Tech. (CSE)	<b>Duration:</b>	03:00 Hrs
<b>Course/Subject:</b>	Natural Disaster Mitigation and Management	<b>Maximum Marks:</b>	60
<b>Course/Subject Code:</b>	13010611 B.Tech. (CE) 13020403 B.Tech. (CSE)	<b>Batch:</b>	2019 2020

**Instructions:-**

1. Write Your Roll No. on the Question Paper.
2. Candidate should ensure that they have been provided correct question paper. Complaint(s) in this regard, if any should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. All Questions are compulsory. Marks are indicated against each question.
4. Illustrate your answer with diagram wherever required.

### SECTION-A

#### (Very Short Answer Type Questions)

**Note: All Questions are compulsory: -**

**[12X1=12 Marks]**

S. No.	Question	Marks Allotted
1	Define disaster	1
2	Define hazard	1
3	Define vulnerability	1
4	Define divergent boundary	1
5	Define convergent boundary	1
6	Define transformational boundary	1
7	Define flood	1
8	Define drought	1
9	Define cyclone	1
10	Define risk	1
11	Define GPS	1
12	Define GIS	1

**SECTION-B**  
**(Short Answer Type Questions)**

**Note: All Questions are compulsory: -**

**[4X2=8 Marks]**

S. No.	Question	Marks Allotted
13	Differentiate (write difference) between hazard and disaster	2
14	Describe liquefaction	2
15	a) What happens when a low rainfall is received in a region- a flood or a drought? b) What happens when a low rainfall is received in a region- a flood or a drought?	2
16	What is the role of a Tsunami Service Provider (TSP)?	2

**SECTION-C**  
**(Descriptive Answer Type Questions)**

**Note: All Questions are compulsory: -**

**[4X4=16 Marks]**

S. No.	Question	Marks Allotted
17	Describe three constituents of mitigation (preparedness, response and recovery) <b>OR</b> Describe difference between preparedness, response and recovery	4
18	Describe any 2 mitigation techniques for earthquake hazard <b>OR</b> Describe any 2 mitigation techniques for landslide hazard	4
19	Describe any 2 mitigation techniques for flood hazard <b>OR</b> Describe any 2 mitigation techniques for drought hazard	4
20	Describe Tsunami Service Providers (TSPs) and the main equipment used by TSPs <b>OR</b> Describe with schematics, the action of buoys, seabed monitoring equipment and space satellite systems in a typical TSP	4

**SECTION-D**  
**(Long Answer Type Questions)**

**Note: All Questions are compulsory: -**

**[4X6=24 Marks]**

S. No.	Question	Marks Allotted
21	<p>Describe the following mitigation techniques pertaining to the landslide:</p> <ol style="list-style-type: none"> <li>1) Surface Drainage</li> <li>2) Subsurface drainage</li> <li>3) Removal of unstable slope material</li> <li>4) Construction of pile foundation and retaining walls</li> <li>5) Installation of rock screens</li> <li>6) Drill and Bolt</li> </ol> <p style="text-align: center;"><b>OR</b></p> <p>Discuss the following mitigation techniques pertaining to the Earthquake:</p> <ol style="list-style-type: none"> <li>1) Diagonal Bracing</li> <li>2) Retrofitting</li> <li>3) Base Isolation</li> </ol>	6
22	<p>Evaluate the following three cases for possible landslide conditions, and also comment</p> <ol style="list-style-type: none"> <li>a) What is a tornado and its type</li> <li>b) Define cyclone and the mechanism of its formation and effects of cyclone</li> </ol> <p style="text-align: center;"><b>OR</b></p> <p>Describe the following modes of landslide:</p> <ol style="list-style-type: none"> <li>1) Rockfall</li> <li>2) Rockslide</li> <li>3) Rock slump</li> <li>4) Earthflow</li> <li>5) Soil creep</li> <li>6) Complex slide</li> </ol>	6
23	<p>Describe hydrological cycle, and the disasters that originate from the different elements</p> <p style="text-align: center;"><b>OR</b></p> <p>Discuss the effect of following activities on flood hazard</p> <ol style="list-style-type: none"> <li>1) Urbanization (occupying flood plains)</li> <li>2) Fires, logging and overgrazing</li> <li>3) Mining</li> <li>4) Levee failure</li> </ol>	6
24	<ol style="list-style-type: none"> <li>i) Describe the role of GPS and GIS in hazard mitigation</li> <li>ii) Describe the process of risk assessment and risk modeling</li> </ol> <p style="text-align: center;"><b>OR</b></p> <p>Describe the following governmental organizations for managing disasters in India</p> <ol style="list-style-type: none"> <li>1) National Disaster Management Authority (NDMA)</li> <li>2) National Executive Committee</li> <li>3) National Institute of Disaster management (NIDM)</li> <li>4) National Disaster Response Force</li> <li>5) State Disaster Management Authority (SDMA)</li> <li>6) District Disaster Management Authority (DDMA)</li> </ol>	6