

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

CLASS: B.Arch
BRANCH: Architecture

SEMESTER : VII/ADD
SESSION : MO/2025

SUBJECT: AR404 DISASTER MANAGEMENT AND RESILIENT STRUCTURES
TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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Q.1	Discuss the relationship between disaster and development with the help of examples and a Cartesian coordinate diagram.	[5]	1	1,2
Q.2(a)	Define compound and complex disaster and provide short example.	[2]	2	1,2
Q.2(b)	Give examples from any three cases for the equation of: Disaster = Vulnerability + Hazard.	[3]	2	3
Q.3(a)	Evaluate the impact of liquefaction on buildings.	[2]	3	5
Q.3(b)	Explain the concept of soft story with illustrations.	[3]	4	3,5
Q.4	Explain the disaster crunch model and discuss various underlying causal factors of disaster.	[5]	5	2,4
Q.5	Evaluate the significance of ductile detailing in the construction of earthquake-resilient RCC buildings. Make neat sketches of the vulnerable parts of structure secured through relevant ductile detailing.	[5]	4	3,5

:::22/09/2025:::M