

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

**CLASS: B. ARCH  
BRANCH: ARCHITECTURE**

**SEMESTER: 7th  
SESSION: MO/2022**

**SUBJECT: AR404 DISASTER MANAGEMENT AND RESILIENT STRUCTURES**

**TIME: 2 HOURS**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The total marks of the questions are 25.
  2. Candidates attempt for all 25 marks.
  3. Before attempting the question paper, be sure that you have got the correct question paper.
  4. The missing data, if any, may be assumed suitably.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL	
Q1 (a)	Differentiate between Acceptable Risk and Residual risk.	[2]	2	1,2
Q1 (b)	Give examples from any three cases for the equation of: Disaster = Vulnerability + Hazard.	[3]	2	3
Q2 (a)	Distinction between Structural Elements and Non-Structural Elements of buildings.	[2]	3	4
Q2 (b)	Discuss typical adverse effect, possible risk reduction measure and specific preparedness measure for: i) Desertification. ii) Environmental pollution iii) Deforestation	[3]	1	1,2
Q3 (a)	Evaluate role of seismic dampers.	[2]	3	5
Q3 (b)	Explain the disaster crunch model and discuss various underlying causal factors of disaster.	[3]	5	2,4
Q4	Evaluate significance of ductile detailing in construction of earthquake resilient RCC buildings. Make neat sketches of the vulnerable parts of structure secured through relevant ductile detailing.	[5]	4	3,5
Q5 (a)	Explain seismic design philosophy of the building with relevant examples.	[2]	3	1
Q5 (b)	Discuss role of horizontal bands in a masonry building with the aid of sketches.	[3]	4	2

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