

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

CLASS: B.Arch
BRANCH: Architecture

SEMESTER : VIIth
SESSION : MO/2023

SUBJECT: AR404 DISASTER MANAGEMENT AND RESILIENT STRUCTURES

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data handbook/Graph paper etc. to be supplied to the candidates in the examination hall.
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Q.1(a)	Environmental degradation promotes vulnerability? Give some examples to discuss the phenomenon in context of disaster management.	[5] 1	1,4
Q.1(b)	Differentiate between compound and complex disaster with examples.	[5] 1	2,3
Q.2(a)	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
Q.2(b)	State seismic design philosophy of buildings and its effect on economy of building design.	[5] 2	2,5
Q.3(a)	Draw construction details/sketches for cyclone resistant housing: a. Connection of roof frame to wall frame b. Fixing of corrugated sheeting to purlin	[5] 3	3
Q.3(b)	Discuss codal provisions for locating suitable site of cyclone resistant buildings.	[5] 5	4
Q.4(a)	Draw a neat sketch to highlight design and detailing faults causing failure of bricks or random stones laid in mud mortar due to heavy rain or flood.	[5] 3	3,5
Q.4(b)	Discuss byelaws for buildings in Flood Prone Areas.	[5] 5	1,4
Q.5(a)	Draw a neat hierarchical sketch of disaster management governance at Central, State, District and local level administration.	[5] 2	5
Q.5(b)	Discuss similarities and difference in outcome of Hyogo Framework for Action and Sendai Framework for Disaster Risk Reduction.	[5] 3	6

:24/11/2023 M: