

Reg. No.

**MANIPAL INSTITUTE OF TECHNOLOGY****MANIPAL***(A constituent unit of MAHE, Manipal)***VI SEMESTER B.TECH. END SEMESTER EXAMINATIONS MAY/JUNE 2023****SUBJECT: Building Code and Requirements [CIE 4052]**

Date of Exam:

Time of Exam:

Max. Marks: 50

Instructions to Candidates:

- ❖ Answer all the questions
- ❖ Any missing data may be suitably assumed

1A.	Discuss with neat sketch different types of cluster planning for housings	3	CO1	6
1B.	Discuss the provisions for Planning in low income housing in urban area	4	CO1	6
1C.	Discuss the provisions for sanitation and community development in rural housing	3	CO1	6
2A.	List the design requirements for external staircase in case of fire safety	4	CO2	4
2B.	Explain automatic sprinkler system with neat sketch	3	CO2	5
2C.	Describe the single stack system with neat sketch	3	CO5	4
3A.	List the criteria to determine location and depth of foundation as per code provisions	3	CO3	4
3B.	Calculate the wind forces using gust factor approach on a RCC multi-storey building 10m x 22 m x 75 m tall, situated in Mumbai (47m/s), in a developed commercial area. Take the average storey height as 3.0 m. Only calculate the wind forces/m ² area on base level and top floor level of the 22 m side. $K_1 = 0.95$, $k_2 = 1.24$, $k_3 = 1$, Force coefficient 1.5.	3	CO3	4
3C.	Discuss the factors influencing total and differential settlement in soil	4	CO3	6
4A.	Discuss the different building plan irregularities in a seismic prone area	3	CO4	6
4B.	Discuss the seismic strengthening of masonry structures with relevant examples	4	CO4	6
4C.	Explain different categories of seismic waves	3	CO4	5
5A.	Discuss the design requirements of artificial lighting for interiors of the building	3	CO5	6
5B.	Discuss the terminologies of relative humidity, thermal comfort and radiant shielding in ventilation system.	3	CO5	6
5C.	Explain with neat sketch single duct system for air conditioning	4	CO5	5