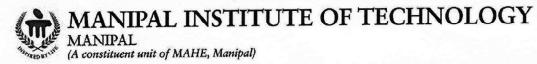
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VI SEMESTER B.TECH. END SEMESTER EXAMINATIONS MAY/JUNE 2023 SUBJECT: Building Code and Requirements [CIE 4052]

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 | | | 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 | | | 4 |
| 3A. | List the criteria to determine location and depth of foundation as per codel provisions | 3 | CO3 | 4 |
| 3B. | Calculate the wind forces using gust factor approach on a RCC multi-storey building $10m \times 22 \text{ m} \times 75 \text{ m}$ 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 | | CO4 | 6 |
| 4B. | Discuss the seismic strengthening of masonry structures with relevant examples | | 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. | | CO5 | 6 |
| 5C. | Explain with neat sketch single duct system for air conditioning | 4 | CO5 | 5 |