parameters of water characteristics :

(i) Turbidity

(ii) pH and Alkalinity in water

(iii) Taste and odour in water

(b) Waste water treatment generally involves three stages : Primary treatment, Secondary treatment and Tertiary treatment. Discuss membrane bio-reactor (MBR) technology for sewage treatment and briefly describe the significance of the following parameters of wastewater characters :

(i) Biochemical Oxygen Demand in wastewater

(ii) Total Kjeldahl Nitrogen in wastewater. **7½+7½=15**

Unit IV

7. Discuss traction lift using these headings :

(a) Operation mechanism

(b) Height of building/number of stories

(c) Types

(d) energy efficiency

(e) maintenance **15**

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18BB2264

M. Tech. EXAMINATION, May 2019

(Second Semester)

(C. Scheme) (Main Only)

M. Tech. (Construction and Real Estate Management)

MCRM608C

REAL ESTATE TECHNOLOGY

Time : 3 *Hours*] [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks. Use illustrations wherever required.

Unit I

1. Write short notes on any *three* of the following passive and low Energy technologies :

(a) Green houses

(b) Indirect Evaporative cooling

(c) Earth coupling

(d) Night radiant systems **5+5+5=15**

2. Explain passive heating systems and cooling systems with the help of diagrams. **15**

Unit II

3. You are involved in selecting the air-conditioning system for a shopping mall in Mumbai. Describe the criteria for selection of the system and illustrate the components of the air-conditioning system you would recommend. **15**

4. (a) Explain about fundamental goals of air conditioning. Describe various thermal loads in a building.

(b) Illustrate principles and application of mechanical ventilation. A classroom of 12 m × 25 m × 4 m requires 3 air changes per hour. At an air velocity of 2 m/s, calculate the necessary duct cross-section (in m^2). **7.5+7.5=15**

Unit III

5. (a) Explain the fire fighting techniques used in high rise buildings and its maintenance and operations. What is the minimum stair-case width to be provided in high rise buildings to meet the fire safety requirement as per National Building Code of India 2016 ?

(b) Illustrate independent roof mounted solar water heating system. **7.5+7.5=15**

6. (a) Illustrate distribution of water to a multi-storey buildings by Direct supply system from public mains and briefly describe the significance of the following

8. (a) How do we do traffic analysis and zoning of lifts in a building ? Explain principle of traffic analysis ? A 20 storied building has 5 lifts. The resulting waiting time is 30 sec and 'Return Travel Time' is 150 sec. How many numbers of lifts would be required for reducing waiting time to 25 sec., without increasing the lift speed ?

(b) Describe about intelligent traffic control in a building. **7.5+7.5=15**

8. (a) How do we do traffic analysis and zoning of lifts in a building ? Explain principle of traffic analysis ? A 20 storied building has 5 lifts. The resulting waiting time is 30 sec and 'Return Travel Time' is 150 sec. How many numbers of lifts would be required for reducing waiting time to 25 sec., without increasing the lift speed ?

(b) Describe about intelligent traffic control in a building. **7.5+7.5=15**