

## CBCS SCHEME

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|------|--|--|-----|--|---------|
| USN  |  |  |     |  | 15CV743 |
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## Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 **Design Concepts of Building Services**

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

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|----------|-----|--|-----------------|--|--|--|--|--|--|--|--|
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| i        |     | Module-1   |                 |  |  |  |  |  |  |  |  |
| 1        | a.  | Explain different methods of removal of impurities in domestic water.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | Explain onsite solid waste processing and disposal methods.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     |  |                 |  |  |  |  |  |  |  |  |
| •        |     | OR   |                 |  |  |  |  |  |  |  |  |
| 2        | a.  | Explain briefly pipe networks and pipe sizes for rain water harvesting.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | Explain different types of sewers used in sewage disposal methods.   | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     |  |                 |  |  |  |  |  |  |  |  |
|          |     | Module-2   |                 |  |  |  |  |  |  |  |  |
| 3        | a.  | Explain the behavior of heat propagation.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | Discuss the factors affecting ventilation.   | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     |  |                 |  |  |  |  |  |  |  |  |
|          |     | OR   |                 |  |  |  |  |  |  |  |  |
| 4        | a.  | Briefly explain the terms humidification and dehumidification.   | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | Give a summary on central and unitary air conditioning systems.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     |  |                 |  |  |  |  |  |  |  |  |
| _        |     | Module-3   | (00 % ( - 1 - ) |  |  |  |  |  |  |  |  |
| 5        | a.  | Mention the usual provisions made in the rules of fire resisting buildings.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | Describe the various types of fire protection systems.   | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     | O.D.   |                 |  |  |  |  |  |  |  |  |
| ,        | 8   | OR OR  | (00 N/L 1 )     |  |  |  |  |  |  |  |  |
| 6        | a.  | What are the characteristics of ideal fire resisting material?   | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | What are the objectives of Earthing and what are the guidelines for the same?  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     | Module   |                 |  |  |  |  |  |  |  |  |
| 7        | 0   | Module-4 Bring out the codal provisions for fire and life safety.  | (08 Marks)      |  |  |  |  |  |  |  |  |
| /        | a.  | With a neat sketch explain the working of a smoke detector.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | with a neat sketch explain the working of a shoke detector.  | (00 Marks)      |  |  |  |  |  |  |  |  |
|          |     | OR   |                 |  |  |  |  |  |  |  |  |
| 8        | a.  | Explain the causes and spread of fire.   | (08 Marks)      |  |  |  |  |  |  |  |  |
| O        | b.  | State the general principles of thermal insulation.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | 0.  | State the general principles of thermal insulation.  | (00 Marks)      |  |  |  |  |  |  |  |  |
| Module-5 |     |  |                 |  |  |  |  |  |  |  |  |
| 9        | a.  | Bring out the different classification and types of lifts.   | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | With a neat sketch explain working principle of reciprocating pump.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | ٠.  | A Property of the second property of the seco |                 |  |  |  |  |  |  |  |  |
|          |     | OR   |                 |  |  |  |  |  |  |  |  |
| 10       | a.  | Summarize the importance of MIS in buildings.  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          | b.  | Explain the codal provisions for escalators and staircases?  | (08 Marks)      |  |  |  |  |  |  |  |  |
|          |     |  |                 |  |  |  |  |  |  |  |  |

Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.