

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## May 2023 Semester End Main Examinations

**Programme: B.E.**

**Branch: CIVIL ENGINEERING**

**Course Code: 19CV3PCBMC**

**Course: Building Materials and Construction**

**Semester: III**

**Duration: 3 hrs.**

**Max Marks: 100**

**Date: 08.05.2023**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data if any, may be suitably assumed.

### UNIT - I

- |   |    |  |    |
|---|----|--|----|
| 1 | a) | Describe the mechanical and physical properties of a building material used in construction. | 06 |
|   | b) | Explain annealing and its uses.  | 05 |
|   | c) | Briefly explain the working of Hoffman's kiln for the burning of bricks with a neat sketch   | 09 |

### OR

- |   |    |  |    |
|---|----|--|----|
| 2 | a) | What is safe bearing capacity of soil? Mention the methods of improving the SBC of soil.   | 05 |
|   | b) | Describe two artificial timber products along with their uses  | 05 |
|   | c) | With a flow chart, explain the manufacturing process of cement in a dry state along with the compounds of silicates and aluminates that are formed | 10 |

### UNIT - II

- |   |    |  |    |
|---|----|--|----|
| 3 | a) | Explain briefly friction pile with a neat sketch.  | 05 |
|   | b) | Explain safe bearing capacity of soil. Mention its importance in the design of foundation. | 05 |
|   | c) | Discuss the method of providing anti termite treatments.                                   | 05 |
|   | d) | Differentiate between English and Flemish bond with a neat sketch.                         | 05 |

### UNIT - III

- |   |    |  |    |
|---|----|--|----|
| 4 | a) | Explain reinforced masonry and cavity walls.   | 05 |
|   | b) | What are the effects of dampness? Explain any one method of preventing it                | 05 |
|   | c) | Explain with a neat sketch random rubble masonry, ashler masonry and their applications. | 10 |

### UNIT - IV

- |   |    |  |    |
|---|----|--|----|
| 5 | a) | Draw a neat sketch of (i) North light window (ii) Dormer window  | 06 |
|   | b) | Draw the neat sketch of a semicircular arch and label its parts and explain the function of its major parts. | 06 |
|   | c) | Briefly describe jack arch roof and prefabricated roof with neat sketches.                                   | 08 |

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

**OR**

- |   |   |           |
|---|---|-----------|
| 6 | a) With a neat sketch, list different components of a Battened and Lugged door. | <b>06</b> |
|   | b) Explain how sound proofing is done to walls and floors.                      | <b>08</b> |
|   | c) Explain the function of a Lintel and Chejja with a neat sketch.              | <b>06</b> |

**UNIT - V**

- |   |  |           |
|---|--|-----------|
| 7 | a) What type of plastering do you provide for an auditorium and X-ray room?<br>Explain   | <b>05</b> |
|   | b) Enumerate different reasons for the peeling of plastering and efflorescence   | <b>05</b> |
|   | c) Design a dog legged stair case for a room of size 3.2m x 5.8m. The room is of clear height 3.2m between floors. Sketch the details. | <b>10</b> |

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B.M.S.C.E. - ODD SEM 2022-23