

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

Autonomous Institute Affiliated to VTU

December 2023 Supplementary Examinations

Programme: B.E.

Branch: Civil Engineering

Course Code: 22CV3PCBMC

Course: Building Materials and Construction

Semester: III

Duration: 3 hrs.

Max Marks: 100

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) Briefly explain the manufacturing Process of Bricks **06**
b) Describe the properties and uses of five different types of cement **06**
c) Illustrate various components of a load bearing wall with a neat sketch of its cross section. **08**

OR

- 2 a) With a neat flowchart explain manufacturing process of Dry Cement **08**
b) Describe annealing and case hardening with respect to heat treatment of steel **06**
c) As a site engineer, if you observed that the concrete was found to be too stiff during the time of placing as per the mix design. Suggest remedial measures for increasing the workability with brief explanation **06**

UNIT - II

- 3 a) Define anti-termite treatment. Explain pre and post constructional anti termite treatment to buildings **07**
b) Discuss preliminary investigation of soil and define SBC **07**
c) After the detail studies on the soil, it is found that the SBC of soil is less than the required SBC for a low rise building. Due to economic circumstances it's not feasible for a contractor to go with deep foundation. Suggest best remedies **06**

OR

- 4 a) Explain the steps for implementing water proofing and damp proofing measures in a building construction project **10**
b) Analyze the benefits of using a water proofing and damp proofing system in building construction **05**
c) Analyze the benefits and drawbacks of different types of foundation materials. **05**

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.

UNIT - III

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|---|----|---|-----------|
| 5 | a) | With neat sketches discuss salient features of one and half brick thick wall with English and Flemish bonds | 05 |
| | b) | Differentiate brick and stone masonry. | 05 |
| | c) | Explain flat arch and segmental arches with neat sketches. Mention other types of masonry arches. | 10 |

UNIT - IV

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|---|----|---|-----------|
| 6 | a) | Design doglegged staircase with the internal dimension of a stair case room in a residential building are 2.5 m x 5 m. The roof to roof height is 3.3m. Depict the features with a neat sketch. | 10 |
| | b) | Bring out the importance of providing VDF as Industrial Flooring and also highlight the details of its construction and list advantages and disadvantages over other floor systems. | 10 |

UNIT - V

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|---|----|---|-----------|
| 7 | a) | Evaluate the importance of safety protocols and regulations in the building construction process | 08 |
| | b) | Describe in detail the process of constructing a building from start to finish, using deductive reasoning | 08 |
| | c) | Compare and contrast the process of constructing a residential building versus a commercial building | 04 |
