

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

OR

6 a) With a neat sketch, list different components of a Battened and Ledged door. **06**

b) Explain how sound proofing is done to walls and floors. **08**

c) Explain the function of a Lintel and Chejja with a neat sketch. **06**

UNIT - V

7 a) What type of plastering do you provide for an auditorium and X-ray room? **05**
Explain

b) Enumerate different reasons for the peeling of plastering and efflorescence **05**

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. **10**
