

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

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E.

Branch: CIVIL ENGINEERING

Course Code: 20CV5PEABM

Course: Alternative Building Materials and Technologies

Semester: V

Duration: 3 hrs.

Max Marks: 100

Date: 25.09.2023

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) Explain Life Cycle Energy with the help of a diagram.
b) List any four agro-wastes that can be used in building industry.
c) List any four factors that affect the compressive strength of masonry.
d) List any four alternatives for natural coarse aggregates.
e) List any four applications of FRPs. | 20 |
|---|--|----|

OR

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|---|---|----------------|
| 2 | a) Discuss the green building rating as per IGBC and LEED manuals.
b) What are the environmental issues with regard to building materials?
c) Mention and explain any 2 factors influencing global warming. | 10
05
05 |
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UNIT - II

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| 3 | a) What are Stabilized Mud Blocks (SMBs)? Briefly explain the steps involved in production of SMBs.

b) The following are the wastes accumulated near the respective industries and landfills. Suggest how these misplaced resources can be effectively utilized by the construction sector.
i) Fly ash ii) Blast furnace slag iii) Granite fines iv) Demolition wastes v) Iron ore tailings. | 10

10 |
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OR

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|---|---|----------|
| 4 | a) Explain the process of making lime pozzolana cement.
b) Explain i) Steam cured blocks ii) Fal-G blocks iii) Hollow clay blocks. | 10
10 |
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UNIT - III

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|---|---|----------------|
| 5 | a) Discuss the applications of fiber reinforced concrete.
b) Enlist the properties of polypropylene and steel fibers.
c) Discuss the utilization of crumb rubber and C and D wastes in the construction industry. | 05
05
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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 - IV

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|---|----|---|-----------|
| 6 | a) | Explain the various constituent materials of ferro-cement. Sketch a typical ferro-cement element. | 10 |
| | b) | Explain the manufacturing process of artificial aggregates. | 10 |

UNIT - V

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|---|----|--|-----------|
| 7 | a) | What is a filler slab roof? Mention some typical filler materials that can be used in a filler slab construction. Draw a typical cross-section of SMB filler slab. | 10 |
| | b) | Explain briefly Corrugated roof and Jack arch roof with diagrams. | 10 |

SUPPLEMENTARY EXAMS 2023