



CBCS SCHEME

18CV643

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2025

Alternative Building Materials

Time: 3 hrs.

Max. Marks : 100

- Note:** 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Use of IS – 1905 – 1987 is permitted.

Module-1

- 1 a. List the four categories of energy consumption in a building and explain them. (10 Marks)
b. Explain energy in building materials illustrate content in one burnt brick. (10 Marks)

OR

- 2 a. List out various environmental friendly and cost effective building technologies. Explain any one in brief. (10 Marks)
b. What are the advantages of LEED? List out five main credit categories in L – E – E – D rating system. (10 Marks)

Module-2

- 3 a. Write short notes on :
i) Fal-G block
ii) Laterite blocks
iii) Stabilized mud block. (12 Marks)
b. Discuss the properties and requirements of mortar. (08 Marks)

OR

- 4 a. List the factors influencing the compressive strength of masonry. Explain any two. (12 Marks)
b. A brick masonry prism is made up of 5 bricks joined by mortar of thickness 2 cm. The brick is 7.5 cm in thickness. The prism is subjected to :
uniform vertical stress of 4MPa. The brick has a modulus of 500 MPa and mortar has a modulus of 8000 MPa. Determine the horizontal lateral stress in mortar and brick. Assume Poisson's ratio of brick and mortar is 0.1. (08 Marks)

Module-3

- 5 a. Name different types of Pozzolona material. Explain any two in detail. (10 Marks)
b. Write a note on : i) Metallic fiber ii) Natural fiber. (10 Marks)

OR

- 6 a. List the agro wastes and mention its application in the building construction. (10 Marks)
b. What are different industrial wastes used effectively in construction industry. Explain any 3 materials. (10 Marks)

Module-4

- 7 a. Illustrate briefly any two alternative methods of wall construction adopted for conventional wall system. (10 Marks)
b. Explain the construction steps and application of ferro cement. (10 Marks)

OR

- 8 a. Explain the components used in Mivan construction technique. (10 Marks)
b. Explain the filter slab roofing technology adopted to conventional roofing system. (10 Marks)

Module-5

- 9 a. Explain the machine used for making stabilized mud blocks. (10 Marks)
b. Write short notes on :
i) Type of concrete mixers
ii) Advantages of precast elements. (10 Marks)

OR

- 10 a. List the various alternatives available for production of precast elements. (05 Marks)
b. Explain cost saving techniques in construction. (10 Marks)
c. List various alternatives available for load bearing masonry which may result in cost saving. (05 Marks)
