

CBGS SCHEME  
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15CV653

PAinc--

**Sixth Semester B.E. Degree Examination, Dec.2018/Jan.2019****Alternative Building Materials**

Time: 3 hrs.

Max. Marks: 80

Note: 1. Answer any FIVE full questions, choosing one full question from each module.  
2. Missing data can be assumed suitably.

**Module-1**

- 1 a. Explain different categories of energy consumption in a building. (06 Marks)
- b. What are the environmental issues related to the building materials. (06 Marks)
- c. Write a note on green building ratings. (04 Marks)

**OR**

- 2 a. Explain role of transportation in building constructions. (06 Marks)
- b. Explain rain water harvesting in building. (05 Marks)
- c. Discuss building in different climatic regions. (05 Marks)

**Module-2**

- 3 a. Discuss the properties and requirements of mortars. (08 Marks)
- b. Explain manufacture of stabilized mud blocks. (08 Marks)

**OR**

- 4 a. A brick masonry prism is made up of 5 bricks joined by mortar of thickness 2cm. The brick is 7.5cm in thickness. The prism is subjected to a uniform vertical stress of 4MPa. The brick has a modulus of 500MPa and the mortar has a modulus of 8000MPa. Determine the horizontal lateral stress in brick and mortar. Assume the Poisson's ratio of brick and mortar is 0.1. (05 Marks)
- b. List out the factors influencing compressive strength of masonry. Explain any two. (07 Marks)
- c. Write down the characteristics of a good brick. (04 Marks)

**Module-3**

- 5 a. Explain the processing of lime. (04 Marks)
- b. Explain the techniques to blend lime pozzolana by dry and wet process. (04 Marks)
- c. List out matrix materials and reinforcing materials in fiber reinforced cement composites and explain behaviour of FRC in compression. (08 Marks)

**OR**

- 6 a. Explain typical agro wastes and other biomass resources in construction. (08 Marks)
- b. List out the applications of FRC in construction. (04 Marks)
- c. How do you produce Rice husk Ash in rice husk burner. (04 Marks)

**Module-4**

- 7 a. Write a note on: i) Hollow concrete block walls ii) Cavity wall iii) Rammed earth. (09 Marks)
- b. Explain various types of filler slabs along with materials. (07 Marks)

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**OR**

- 8 a. Explain the construction of masonry domes and masonry vaults. (08 Marks)  
b. Explain different materials to be used in production of ferro cement products. (08 Marks)

**Module 5**

- 9 a. Explain various machines for manufacture of concrete. (06 Marks)  
b. Write a note on mivan shuttering. (04 Marks)  
c. Explain the methods of production of precast elements. (06 Marks)

**OR**

- 10 a. Explain cost saving techniques in construction. (08 Marks)  
b. Write a note on global warming and construction industries. (08 Marks)

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