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**PRESIDENCY UNIVERSITY  
BENGALURU**

**SCHOOL OF ENGINEERING**

**END TERM EXAMINATION AUGUST-2024**

**Even Semester:** 2023 - 24

**Course Code:** CIV 2020

**Course Name:** Alternative Building Materials

**Program & Sem:** B.Tech – IV Sem

**Date:** 09 Aug 2024

**Time:** 9:30 AM to 12:30 PM

**Max Marks:** 100

**Weightage:** 50%

**Instructions:**

- (i) Read the all questions carefully and answer accordingly.
- (ii) Scientific and Non-programmable calculators are allowed

**Part A [Memory Recall Questions]**

**Answer any four questions. Each question carries 5 marks. (4Qx5M= 20M)**

1. List three alternate building materials and their specific applications / use. (C.O.NO: 1) [Knowledge]
2. Give four examples of industrial waste that may be re-purposed as building material? (C.O.NO: 1) [Knowledge]
3. Expand the acronym LEED and GRIHA? What is its purpose (C.O.NO: 2) [Knowledge]
4. What is embodied energy and how do you reduce it? (C.O.NO: 1) [Knowledge]
5. List three green house gases. How is it affecting our climate? (C.O.NO: 2) [Knowledge]
6. What is a mortar? Briefly explain its purpose. (C.O.NO: 3) [Knowledge]
7. Briefly explain the purpose of retarders and water reducers. (C.O.NO: 1) [Knowledge]

**Part B [Thought Provoking Questions]**

**Answer any five questions. Each question carries 10 marks. (5Qx10M=50M)**

8. What are the various types of bricks? (C.O.NO: 1) [Comprehension]
9. Write short notes on Agro wastes and their potential as building material. (C.O.NO: 1) [Comprehension]
10. What is carbon footprint. How can you reduce it? (C.O.NO: 2) [Comprehension]

11. What are the characteristics of green building materials. Give selection criteria for the same  
(C.O.NO: 2) [Comprehension]
12. What is Fal-G brick? List its advantages and disadvantages.  
(C.O.NO: 1) [Comprehension]
13. How do you prepare structural masonry mortar? What are the general requirements of it?  
(C.O.NO: 3) [Comprehension]
14. List green building certification programs or organizations? Briefly explain any two.  
(C.O.NO: 2) [Comprehension]

### **Part C [Problem Solving Questions]**

**Answer any two questions. Each question carries 15 marks. (2Qx15M=30M)**

15. Mortar is to be prepared for renovation of heritage building. Suggest the tests for mortar.  
(C.O.NO: 3) [Comprehension]
16. Ferro-cement construction method is recommended by the architect to achieve the desired dome shaped roof. Explain the construction methods for this material, as you would to your mason.  
(C.O.NO: 4) [Comprehension]
17. Explain any two alternate roofing systems in detail. (C.O.NO: 4) [Comprehension]