10CT763

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020
Alternative Building Materials and Technologies

Time: 3 hrs.

Max. Marks:100

Note: *1. Answer any FIVE full questions, selecting*
atleast TWO questions from each part.
2. Use of IS 1905 – 1987 is permitted.

PART – A

1   a. Explain in detail the energy in building materials and buildings. **(10 Marks)**
    b. Discuss the various environmental issues related to building materials. **(10 Marks)**

2   a. Write a note on stabilized mud block. Explain about its concept, raw materials and manufacturing process. **(10 Marks)**
    b. What are the different types of burnt bricks that are available in India? Explain their production process. **(10 Marks)**

3   a. Discuss the different sources of limestone. **(05 Marks)**
    b. What is Pozzolana? Explain about its raw materials and manufacturing process of Pozzolana. **(10 Marks)**
    c. List the different types of agrowastes and industrial waste. **(05 Marks)**

4   a. What are the primary functions of a roof? **(05 Marks)**
    b. What is ferrocement? Explain the method of Ferrocement construction. **(07 Marks)**
    c. Write a note masonry vaults and domes. **(08 Marks)**

PART – B

5   a. List the factors affecting compressive strength of masonry. Explain any two in detail. **(10 Marks)**
    b. Explain the methods of testing of masonry for strength. **(10 Marks)**

6   a. Write the procedure for design of masonry wall under vertical gravity loads. **(08 Marks)**
    b. Determine the allowable compressive stress of a 230 mm thick brick masonry wall constructed in 1 : 6CM using bricks 230 × 100 × 75mm. The height of wall between thick plinth wall and slab is 3.5m. The wall is continuous and its length between crosswalls is 5m. The strength of unit may be considered to be 15MPa. Take e/t = 0. **(12 Marks)**

7   Explain how the economy can be achieved in building for the following factors :
    a. Foundation
    b. Role of transportation
    c. Roofs
    d. Walls. **(20 Marks)**

8   a. What are different moulds used for production of precast element. **(10 Marks)**
    b. Explain about concrete mixers and concrete vibrators. **(10 Marks)**

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