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17CV36

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020 Building Materials and Construction

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What are the requirements for the following good quality:
i) Building stones
ii) Bricks (10 Marks)
- b. List the different tests conducted on bricks. Explain any two of them. (10 Marks)

OR

- 2 a. Explain the importance of size, shape and texture on coarse aggregates. (10 Marks)
- b. Briefly explain the following tests conducted on aggregates:
(i) Bulking
(ii) Specific gravity
(iii) Sieve analysis (10 Marks)

Module-2

- 3 a. Briefly explain various methods of sub soil exploration. What are the factors on which the choice of a particular method depends? (10 Marks)
- b. Draw neat labeled sketches of the following types of foundations and explain where they are adopted:
(i) Raft foundation
(ii) Strap footing (10 Marks)

OR

- 4 a. Sketch the plan and elevation of a brick wall built in: (i) English bond (ii) Flemish bond. Compare the merits and demerits of English and Flemish bond. (10 Marks)
- b. Draw neat sketches of the following and explain:
(i) Ashlar masonry
(ii) Rubble masonry (10 Marks)

Module-3

- 5 a. Briefly explain classification of arches, and explain stability of an arch. (10 Marks)
- b. Define Lintel. Draw a neat labeled diagram of a reinforced concrete lintel Chajja projection showing the positions of reinforcement. (10 Marks)

OR

- 6 a. Write the requirements of good roof. Compare the advantages and disadvantages of flat roof and pitched roof. (10 Marks)
- b. What are the factors affecting choice of flooring material? Mention various types of materials used for flooring. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.



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Module-4

- 7 a. List the factors in fixing the size and location of doors and windows. And draw a neat labeled sketch of a fully paneled door. (10 Marks)
- b. Explain the following windows with neat labeled sketches:
- (i) Bay window
 - (ii) Corner window
- (10 Marks)

OR

- 8 a. Write the requirements of good stair, and briefly explain classification of stairs. (10 Marks)
- b. Plan and sketch a dog legged stair for a building in which vertical distance between floors is 3.6m. The stair hall measures 3m × 5m (internal dimensions). (10 Marks)

Module-5

- 9 a. What are the objectives of plastering? Discuss the defects in plastering. (10 Marks)
- b. Explain the method of applying
- (i) stucco plastering
 - (ii) lathe plastering.
- (10 Marks)

OR

- 10 a. Briefly explain the constituents of a paint, and defects in painting. (10 Marks)
- b. Explain damp proofing. What are the causes of dampness? (10 Marks)

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