

CBCS Scheme

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15CV36

Third Semester B.E. Degree Examination, June/July 2017 Building Materials and Construction

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. What are the requirements for a good quality building stone? Hence define : backing, corbel and coping of stones. (06 Marks)
- b. Briefly explain the advantages of cement concrete blocks. (04 Marks)
- c. List the different tests conducted on bricks. Explain briefly any two of them. (06 Marks)

OR

- 2 a. What are the requirements of good mortar? List the typical proportions used for cement mortar in construction industry. (04 Marks)
- b. Briefly explain the following tests on fine aggregates :
i) bulking ii) specific gravity test. (06 Marks)
- c. Differentiate natural and manufactured coarse aggregate. Briefly explain use and procedure of impact and abrasion test on coarse aggregates. (06 Marks)

Module-2

- 3 a. What do you understand by "bearing capacity" of soil. Define : ultimate bearing capacity and safe bearing capacity of soil. (04 Marks)
- b. Sketch and explain following types of foundations :
i) Isolated footing ii) combined footing iii) strap beam footing. (06 Marks)
- c. With a neat sketch, explain the features of English bond and Flemish bond with respect to brick masonry. List their merits and demerits. (06 Marks)

OR

- 4 a. Define : i) Bevelled closer ii) Mitred closer iii) King closer and iv) Queen closer. (04 Marks)
- b. Explain different classification of stone masonry with neat sketches, wherever necessary. (06 Marks)
- c. Compare and contrast brick work to stone work. (06 Marks)

Module-3

- 5 a. Define lintel. What are the different types of lintels used? (04 Marks)
- b. With a neat sketch, explain the components of a segmental arch. (06 Marks)
- c. Write short notes on : Cement flooring and Mosaic flooring. (06 Marks)

OR

- 6 a. What are the factors to be considered while selecting a roof covering? (04 Marks)
- b. Enumerate the advantages and disadvantages of flat roofs over a pitched roof. (06 Marks)
- c. With neat sketches, write an explanatory note on different types of roof trusses. (06 Marks)

Module-4

- 7 a. List the guide lines to be followed while locating doors and windows. (04 Marks)
b. Draw a neat sketch showing all the components of following types of door :
i) Fully paneled door ii) revolving door. (06 Marks)
c. With neat sketches, differentiate :
i) fixed window and pivoted window
ii) corner window and bay window. (06 Marks)

OR

- 8 a. Define a stair. With a neat sketch explain the following terms : i) Thread and Riser ii) Flight and landing. (04 Marks)
b. Plan a doglegged stair for a building in which vertical distance between the floors is 3.6m. The stair hall measures 3m × 5m (internal dimensions). (06 Marks)
c. Write explanatory note on : shoring and underpinning formwork. (06 Marks)

Module-5

- 9 a. What are the objectives of plastering? Explain the requirement of a good plaster. (04 Marks)
b. Explain the method of applying : Stucco plastering and Lathe plastering. (06 Marks)
c. Discuss the defects in plastering. (06 Marks)

OR

- 10 a. What are the causes of dampness in building? Hence what do you understand by damp proof course. (06 Marks)
b. Mention the objectives of painting and point out the characteristics of an ideal paint. (06 Marks)
c. Explain the method of varnishing wood works. (04 Marks)

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