Roll No .....

CE - 404

B.E. IV Semester Examination, December 2014

Construction Materials And Techniques

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each questions are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Define stratified stones and unstratified stones.
   b) Give geological classification of rocks.
   c) Draw cross section of an exogenous tree.
   d) What are the different tests applied to test the suitability of stones for structural use and what are the factors affecting the durability of stones?

   OR

   Discuss the relative advantages and disadvantages of bricks as compared with stone as a building material.

2. a) Discuss use of fly ash in mortars.
   b) What do you understand by the term "Non-erodible mud plinth".
   c) Explain the use of agricultural waste as building material.
   d) Discuss various advance materials for flooring.

   OR

   Explain interior materials for plumbing and sanitation.

3. a) What do you understand by a shallow and Deep foundation?
   b) Differentiate between 'strip footing' and 'pad footing'.
   c) Explain various repairs techniques for foundation.
   d) Enumerate various methods of dewatering foundation excavations. Explain in detail any one of them.

   OR

   Explain in detail the procedure for proportioning a trapezoidal combined footing for two columns carrying unequal loads.

4. a) Draw sketches for the following bricks. i) Bull nose brick ii) Cant brick
   b) What do you understand by attached piers?
   c) What is plastering? What are the objects of plastering.
   d) What do you understand by an encasement window? Sketch the details.

   OR

   State briefly the requirements of a good stair case. How are the treads and risers proportioned?

5. a) What do you understand by ribbed floor?
   b) Specify optimum reverberation time for i) Cinema theatres ii) Lecture halls.
   c) Explain how do you achieve thermal insulation of walls.
   d) Draw a neat sketch of jack arch floor of bricks. Explain its method of construction.

   OR

   Write notes on: i) Lean to roof ii) Queen post truss.

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