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B.E./B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011  
CIVIL ENGINEERING BRANCH  
FOURTH SEMESTER  
CE 9252 CONSTRUCTION TECHNIQUES AND PRACTICES  
(REGULATIONS 2008)

14

Time: 3 hr

Max. Mark: 100

Instructions: Use of IS 10262 & IS 456 are permitted

Answer ALL questions

**Part – A (10 x 2 = 20 Marks)**

1. State four types of cements and their specific applications?
2. State the Laboratory tests that are performed for the cement.
3. State the significance of curing of concrete?
4. What are plinth beams and grade beams?
5. What are cavity walls? State their advantages?
6. What is pointing? State the procedure to be carried out in pointing?
7. What are the wet areas in a building? State the principles of water proofing of wet areas in a building?
8. What is meant by reverberation time? State its importance in architectural acoustics?
9. What are gunite and shotcrete?
10. What is pumpable concrete? What are its special features?

**Part – B ( 5 x 16 = 80 Marks)**

11. Design a M30 (OPC) concrete mix as per IS method for a piling work using 20 mm grade aggregate. The exposure condition shall be severe; accordingly the minimum cement content and water cement ratio shall be fixed. Proportion the mix by assuming suitable data. The specific gravity of cement, fine & coarse aggregates are viz 3.15, 2.64, and 2.80. The fine aggregate conforms to zone-II of IS383 water absorption of fine and coarse aggregates are 0.31% and 0.45% respectively. Use of super plasticizers is permitted.
12. a) i) State and explain the different types of foundations and their uses in buildings with neat sketches. (8)  
ii) Draw the details of foundations of the column and walls of a framed building for a residential flat of three storey high. (8)

(or)

- b) i) Describe the various types of bonding, including special bonds and rules with suitable sketches. (8)  
ii) Give the different classifications of stone masonry. Giving sketches, explain the differences between the various types of these stone masonry. (8)
13. a) i) Name few places where concrete floors are ideally suited. State the specifications for concrete floors. (8)  
ii) Describe the methods of placing ceramic tiles. What is the minimum curing period when tiles are laid in cement mortar? (8)

(or)

- b) i) Sketch and name the components of a double scaffolding. What are its uses? (8)
- ii) What type of roof would you select for a large span workshop? What type of roof coverings would you choose? Explain the considerations. (8)

14. a) i) What are whitewashing and colour washing? How these are carried out? (8)
- ii) Distinguish between damp proofing and water proofing. State the specifications for construction of DPC in walls and floors. (8)

(or)

- b) i) List the various factors to be taken into account in design of a conference hall.
  - ii) In which places would you install ventilators in a residential building, illustrate with sketches. (8)
15. a) i) Detail the procedure for repairing a ceiling in which a portion of roof plaster has fallen due to corrosion of steel. (8)
- ii) List any four repair techniques with suitable sketches and explain the procedures.

(or)

- b) i) Describe briefly the types of concrete batch mixers used for mixing concrete at construction sites. (8)
- ii) Write short notes on the following:
  - 1) Dozers 2) Pulleys and Chains 3) Pumps (8)