B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2006.

Fourth Semester

Civil Engineering

CE 237 — CONCRETE AND CONSTRUCTION TECHNOLOGY

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Explain the early age behaviour of high grade cements.

2. List any four non-destructive testing methods of concrete.

3. Name the methods of mix design of High Strength concrete.

4. What is meant by shoring?

5. Name the components of a Scaffolding.

6. Explain the various stages of construction of pressure pile.

7. What are the merits and demerits of hollow block masonry?

8. What is the purpose of expansion joints?

9. Define a 'defect'.

10. What are the operations that can be performed by a scraper?

PART B — (5 × 16 = 80 marks)

11. (i) Explain in detail about the principle, method of operation and limitations of ultrasonic pulse velocity testing of hardened concrete.   (12)

    (ii) Explain the advantages and disadvantages of High grade cements.   (4)

12. (a) (i) Write clearly about the 'acceptance criteria'.

     (ii) Explain the step by step procedure of mix design of concrete as per IS.

Or

     (b) Draw a simple sketch and explain about a Raking shore. Also give the points to be considered while erecting a Raking shore.

13. (a) (i) What are the purposes of underpinning? (4)

     (ii) Explain the pit method and pile method of under pinning. (12)

Or

     (b) Name, draw and give the purpose of atleast eight tools used for stone dressing.

14. (a) Discuss in detail any two methods of waterproofing

Or

     (b) Discuss in detail about the possible defects in concrete structures.

15. (a) Discuss in detail with flowchart about a typical concrete mixing plant.

Or

     (b) (i) Explain the factors you would consider while selecting a equipment for earth work. (8)

     (ii) Explain the process of dewatering of concrete. (8)

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