Code No. : 22015

VASAVI COLLEGE OF ENGINEERING (*Autonomous*), HYDERABAD
B.E. (Civil Engg.) II Year II-Semester Main & Backlog Examinations, May-2017

Concrete Technology

Time: 3 hours   Max. Marks: 70

Note: 1. Answer ALL questions in Part-A and any FIVE from Part-B
2. Answers to the questions in Part-A must be at one place and in the same order as they occur in the question paper.
3. Missing data, if any may suitably be assumed.

Part-A (10 × 2 = 20 Marks)

1. Distinguish between Rapid Hardening Cement and Quick Setting Cement.
2. List out the causes of segregation.
3. State Abram's law.
4. What is the importance of curing of concrete?
5. Write the criteria for selecting the w/c ratio in the mix design of concrete.
6. Explain the significance of target strength in the mix design.
7. Mention the workability agents used in fresh concrete.
8. What is pozzolanic reaction?
9. What is the role of fibres in Fibre Reinforced Concrete?
10. Name a few tests to measure the fresh properties of SCC.

Part-B (5 × 10 = 50 Marks)

11. a) What is Bulking of Sand?   [2]
    b) Discuss the various factors effecting workability of concrete.   [8]

12. a) Explain the concept of maturity of concrete.   [5]
    b) Write short notes on durability of concrete.   [5]

13. a) Discuss the factors that influence the design of concrete mix.   [5]
    b) Compare concrete mix design by IS and ACI methods.   [5]

14. a) Discuss the applications of various chemical admixtures.   [7]
    b) Explain the role of recycled aggregate in the development of sustainable concrete.   [3]

15. a) What is Ferro cement? Discus the applications.   [6]
    b) List out the advantages of self compacting concrete.   [4]

16. a) Discuss the suitability of Slump test and Compaction factor test for the given concrete.   [5]
    b) Draw the stress-strain curve of concrete and explain.   [5]

17. Write short notes on any *two* of the following:
    a) Basic considerations in the design of concrete mix   [5]
    b) Ready mix concrete   [5]
    c) Fibre shotcrete.   [5]

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