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10C V81

Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019
Advanced Concrete Technology

Time: 3 hrs.

Max. Marks:100

Note: 1. *Answer any FIVE full questions, selecting atleast TWO questions from each part*
 2. *Use of IS 10262 - 2009 permitted.*

PART - A

1.
 - a. Name the Bogue's compounds. Explain their role in strength development. (08 Marks)
 - b. Explain the importance of transition zone in concrete. (06 Marks)
 - c. How do Bingham's parameters help to ascertain rheology of concrete? (06 Marks)
2.
 - a. What are mineral admixtures? Explain the effect of flyash on hardened state of concrete. (06 Marks)
 - b. Explain the method of 'Marsh Cone test' for optimum dosage of super plasticizer. (08 Marks)
 - c. Explain the role of : i) Accelerators and ii) Retarders. (06 Marks)
3.
 - a. List the salient features of the revised IS 10262 - 2009 for concrete mix design. (08 Marks)
 - b. What are the basic consideration for Mix proportioning of concrete? (06 Marks)
 - c. Explain the properties affect in the mix design of concrete. (06 Marks)
4.
 - a. What is Carbonation of concrete? How does it influence the corrosion of steel? (08 Marks)
 - b. Discuss in brief Alkali - aggregate reaction and what precautions are necessary to minimize. (06 Marks)
 - c. What are the factors influencing sulphate attack on concrete? (06 Marks)

PART - B

5.
 - a. What is RMC? Explain briefly methods of concreting and advantages of RMC. (08 Marks)
 - b. What is high volume of flyash concrete? Mention its applications. (06 Marks)
 - c. Enumerate the need for self compacting concrete and mention its applications. (06 Marks)
6.
 - a. What are the factors affecting the properties of fibre reinforced concrete (FRC)? (06 Marks)
 - b. What are the different types of fibres used in concrete and mention its applications. (08 Marks)
 - c. What is Ferrocement? List the various applications of ferro cement. (06 Marks)
7.
 - a. Explain the properties of High strength and High density concrete. (10 Marks)
 - b. Discuss in brief the properties of high performance concrete in fresh and hardened state. (10 Marks)
8.
 - a. Why Non - destructive Testing is required? Explain the the Ultrasonic pulse velocity method. (10 Marks)
 - b. What are the factors affecting the strength of test specimen under test? Explain the effect of H/D ratio on strength. (10 Marks)