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10CV81

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 Light Weight concrete 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)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.