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Total No. of Printed Pages: [01]

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B. Tech (Civil Engg) (Semester – 4th)
CONCRETE CONSTRUCTION TECHNOLOGY
Subject Code: BCIED1-453
Paper ID: [19110715]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Discuss the functions of admixtures with examples.
- b. Explain permeability and durability in concrete.
- c. Discuss the importance of curing in concrete construction.
- d. List the uses of fibre reinforced concrete.
- e. Explain shot-Crete and grouting.
- f. Differentiate between hot and cold weather concrete.
- g. Discuss the principle of prestressed concrete.
- h. List various methods of prestressed concrete construction.
- i. List various stages of inspection of concrete for quality control.
- j. Discuss the importance of inspection of concrete construction

Section – B

(5 marks each)

- Q2. List various types of admixtures, commonly used in concrete. Explain the advantages and disadvantages of using admixtures.
- Q3. Define workability of concrete. List and discuss various factors that affect the workability of concrete.
- Q4. Explain the properties of light weight concrete and discuss its uses with advantages.
- Q5. Discuss the construction techniques for reinforced concrete elements.
- Q6. Discuss in details the equipments used in prestressed concrete construction.

Section – C

(10 marks each)

- Q7. Discuss the design steps of mix design of concrete mix as per IS: 10262-2009.
- Q8. a) Discuss the properties of high performance concrete. Discuss its advantages and uses.
b) Explain the methods of curing concrete, in details. 2x5 = 10
- Q9. Explain the following:-
a) Discuss the procedure to inspect and check the quality control of concrete construction.
b) Discuss the various factors causing variation in quality of concrete. 2x5 = 10