

**II B. TECH II SEMESTER REGULAR EXAMINATIONS, AUG/SEPT 2021
CONCRETE TECHNOLOGY**

(Civil Engineering)

Time: 3 hours

Max. Marks: 60

Note: Answer **ONE** question from each Unit (**5 × 12 = 60 Marks**)

IS-10262:2019 Code provisions allowed.

UNIT - I

1. List the laboratory tests to be conducted on cement and explain in detail any two tests. [12M]

(OR)

2. What do you understand by the term admixture. Distinguish between mineral and chemical admixtures in detail with examples. [12M]

UNIT – II

3. Explain the laboratory procedure for determination of workability of concrete by using Vee-Bee consistometer test with neat diagram. [12M]

(OR)

4. Explain the terms gel space ratio, Abram's law and maturity concept of concrete. [12M]

UNIT – III

5. What are the tests conducted on hardened concrete. Explain them in detail. [12M]

(OR)

6. a) Write a short note on the factors contributing to cracks in concrete. [6M]
b) Discuss the phenomena of corrosion of reinforcement and its control. [6M]

UNIT –IV

7. a) Explain the terms Modulus of elasticity and its significance in detail. [6M]
b) What do you understand by the term Polymer concrete. List out the types and properties of polymer concrete. [6M]

(OR)

8. a) What are the different fibers used in concrete and also give brief explanation about the advantageous role of fibers in concrete. [6M]
b) Discuss the properties and uses of No-fines concrete. [6M]

UNIT –V

9. Design a concrete mix for characteristic strength of 35MPa at 28 days with a standard deviation of 4MPa. The specific gravity of FA and CA are 2.65 and 2.75 respectively. A slump of 50mm is necessary. The specific gravity of cement is 3.15. Assuming the necessary data design the mix as per IS code method. [12M]

(OR)

10. a) Explain the concept of quality control of construction activities in detail. List out the various measures to be adapted. [6M]
b) What are the factors influencing choice of the mix proportions of concrete. [6M]

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