

**I B. Tech II Semester Regular/Supplementary Examinations, July/August-2023**  
**BUILDING MATERIALS AND CONCRETE TECHNOLOGY**

(Only for Civil Engineering)

Time: 3 hours

Max. Marks: 70

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*Answer any FIVE Questions One Question from Each Unit*  
*All Questions Carry Equal Marks*

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**UNIT - I**

1. a) How are building stones prevented from deterioration? Explain the finishing process of stone work. [7M]
- b) What are the field and laboratory tests to determine the strength of bricks? Explain in detail. [7M]

**(OR)**

2. a) What are the requirements of good floor tiles and how they are achieved? [7M]
- b) Explain the need for seasoning of wood and what are various methods used for seasoning. [7M]

**UNIT - II**

3. a) Explain the importance of size, shape, texture of grading, and other physical properties of coarse aggregates. [7M]
- b) Explain the different tests conducted to evaluate the physical properties of cement. [7M]

**(OR)**

4. a) Explain the process of sieve analysis and how is it used to determine fineness modulus and gradation curve characteristics. [7M]
- b) What are mineral and chemical admixtures generally used in civil engineering? Explain their role and process of usage in detail. [7M]

**UNIT - III**

5. a) Explain the process of making concrete for different works. What are various factors that affect the fresh concrete? [7M]
- b) What is ready mix concrete and shotcrete concrete? How they are different from fresh concrete and explain the process of making them? [7M]

**(OR)**

6. a) Explain different methods to measure the workability of a fresh concrete. [7M]
- b) Explain the effect of time, temperature, and the quality of water on the workability of the fresh concrete. [7M]

**UNIT - IV**

7. a) Explain the factors influencing the strength of hardened concrete. [8M]
- b) What is maturity concept? Describe the relation between the compressive and tensile strength of concrete. [6M]

**(OR)**

8. a) Explain the types of shrinkage in concrete. [7M]
- b) What are different types of curing? Explain in detail. [7M]



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**R20**

**SET - 1**

**UNIT - V**

9. a) What are the factors effecting the properties of hardened concrete? Discuss. [7M]  
b) Explain different tests performed to determine compressive strength of concrete. [7M]

**(OR)**

- 10 a) What are non-destructive testing methods for concrete testing? List out the codal procedures for NDT. [7M]  
b) Explain rebound hammer testing procedure. [7M]

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2 of 2

