

SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS, FEROZEPUR

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Total number of pages:[2]

B.Tech. || CE || 3rd Sem
Building Materials
Subject Code: BTCE304A
Paper ID:

Time allowed: 3 Hrs

Max Marks: 60

Important Instructions:

- All questions are compulsory
- Assume any missing data

PART A (10×2 marks)

Q. 1. Short-Answer Questions:

All COs

- What are artificial stones?
- What are the harmful ingredients in brick earth?
- Describe the characteristics of good quality lime.
- What is hydration of cement?
- How batching of concrete is done?
- What is meant by water cement ratio?
- How would you compare natural asphalt and residual asphalt?
- What do you mean by workability and factors affecting workability?
- List any four qualities of good timber.
- What are the effects of improper curing?

PART B (5×8 marks)

Q. 2. Describe the classification of bricks as per Indian standards. How do they compare on their properties? CO1

OR

What are the characteristics of cement? Discuss the properties of cement. CO1

Q. 3. Define and explain the workability of concrete. What are the various factors affecting it? List the methods for finding the workability of concrete in lab. CO2

OR

What is meant by soundness of cement? Explain the procedure of testing soundness. CO2

- Q. 4. Design a concrete mix by ACI Method for construction of an elevated water tank. The specified design strength of concrete is 30 MPa at 28 days measured on standard cylinders. Standard deviation can be taken as 4MPa. The specific gravity of FA and CA are 2.65 2.7 respectively. The dry rodded bulk density of CA is 1600kg/m³ and fineness modulus of FA is 2.80. Ordinary Portland cement(Type-I) will be used. A slump of 50 mm is necessary. CA is found to be absorptive to the extent of 1% and free surface moisture in sand is found to be 2%. Assume any essential data. CO3

OR

Explain the basic steps of ISI mix design procedure and its advantages and limitations. CO3

- Q. 5. What is seasoning of timber? Why it is required? State various methods of seasoning and explain any one. CO4

OR

Explain what is meant by felling of trees and also enumerate the various defects in timber. CO4

- Q. 6. Explain the properties and uses of various type of glass. CO5

OR

- (a) Write Short note on CO5
- (i) White washing
 - (ii) Snowcem wash
- (b) What are the ingredients of paint? Describe briefly each of them.