

Roll No.

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Total No. of Questions: 09

Total No. of Pages: 02

B. Tech. (CE) (Sem. 3)
BUILDING MATERIALS & CONSTRUCTION
Subject Code: BTCE-305
Paper ID: A1117

Time: 3 Hrs.

Max. Marks: 60

INSTRUCTIONS TO CANDIDATES:

1. Section A is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. Section B contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. Section C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION A

1.
 - a) List any four characteristics of good building stone.
 - b) What are artificial stories?
 - c) What are the constituents of good brick earth?
 - d) List any two tests to determine workability of concrete.
 - e) What is meant by seasoning of timber?
 - f) What is the significance of bonding in brickwork?
 - g) Distinguish between white washing and distempering.
 - h) Define Glass flooring? What are the situations in which it is used?
 - i) What is the purpose of providing traps in house plumbing?
 - j) List two methods of providing acoustics and insulation in buildings

SECTION B

2. What are the different classes of bricks? Compare the properties.
3. What are the raw materials used in manufacturing of cement? How do the varieties of cement differ with respect to raw materials and manufacturing process?
4. Design a concrete mix when voids in sand and aggregate are 30% and 40%, respectively.

5. What are the advantages and disadvantages of stone masonry over brick masonry?
6. Describe methods of damp prevention along the plinth.

SECTION C

7.
 - a) What are the suitable foundations for (i) isolated RCC column (ii) isolated steel column
 - b) What are combined footings? Sketch and how an external RCC column can be combined with an internal RCC column through the footings
8. Describe the importance of the following in Cement Concrete work
 - a) Water Cement Ratio
 - b) Compaction of concrete
 - c) Curing of the Concrete
 - d) Strength of concrete
 - e) Bulking of Sand
9.
 - a) Explain the Fire Proof Construction methods adopted in buildings
 - b) What are the different types of roofs used in buildings? Indicate their suitability.