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CE404

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 100404 Roll No. 1303200915

B.Tech.**(SEM. IV) THEORY EXAMINATION 2013-14
BUILDING MATERIAL CONSTRUCTION***Time : 3 Hours**Total Marks : 100***Note : Attempt all Sections.****SECTION-A**

1. Attempt all parts, Write in brief: **(2×10=20)**
- Scope of study of building material.
 - Define Hydraulic Lime.
 - What do you mean by Lime bursting ?
 - What do you mean by hollow block construction ?
 - Floor to floor height is 3.5 m and the rise is 14 cm. Find the total number of treads if the staircase has 3 flights.
 - What do you mean by Grid Slab ?
 - Draw a neat sketch of RCC lintel with chajja projection.
 - What do you mean by elastomers ?
 - Explain the term 10 DS 20.
 - Explain the term Dry Rot.

SECTION-B

2. Attempt any six parts of the following : **(5×6=30)**
- Explain with neat sketch various defects of timber.
 - What is Pozzolana ? Explain the various pozzolonic materials

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- (c) Describe the different types of ferrous metals.
- (d) Explain the construction procedure of Marble flooring.
- (e) Briefly describe the properties and uses of thermal insulating materials.
- (f) Explain the term Natural Ventilation.
- (g) Discuss, being a civil engineer how would you select the site for building construction.
- (h) Compare English and Flemish bond used in brick masonry Also draw $1\frac{1}{2}$ brick thick English and Flemish bond.

SECTION-C

3. Attempt any two parts of the following : (5×2=10)
- (a) Explain with neat sketch the working of a Bull's Trench kiln.
 - (b) Explain how you will test the durability of natural building stone.
 - (c) Explain the properties and various uses of Gypsum.
4. Attempt any two parts of the following : (5×2=10)
- (a) What are Varnishes ? Discuss its common constituents.
 - (b) What are sound insulating materials ? Discuss its desirable properties.
 - (c) Describe the mechanical property of plastics ? Discuss its uses in construction.
5. Attempt any two parts of the following : (5×2=10)
- (a) Explain the term damp proofing and describe the various methods of damp proofing.
 - (b) Plan a dog legged staircase in the space 6 m × 3 m. Floor to floor height is 4.0 m. Also draw a suitable sketch of your proposed plan.
 - (c) Enlist the general principles to be observed in Brick masonry construction.

6. Attempt any two parts of the following : (5×2=10)
- (a) Enlist the various types of windows and explain any four of them in detail giving their sketches.
 - (b) Explain the various types of Flat roofs.
 - (c) Discuss the principles of planning the building.
7. Attempt any two parts of the following : (5×2=10)
- (a) What do you mean by HVAC and also explain its function.
 - (b) What do you mean by Acoustics ? As an engineer what are the probable solutions for treating the acoustical defects of a building.
 - (c) Explain the different types of maintenance that need to be done in a building.