



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

PAPER ID : 100404

Roll No.

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B. Tech.

(SEM. IV) THEORY EXAMINATION, 2014-15
BUILDING MATERIAL CONSTRUCTION

Time : 3 Hours]

[Total Marks : 100

- Note :**
- (1) Attempt all questions. Each question contains equal marks.
 - (2) Take help of neat and labelled sketches wherever required.

1 Attempt any four of the following : **4×5=20**

- (a) What are the geological, physical and chemical classification of rock ? Discuss the criteria for selection of stones for various civil engineering works.
- (b) What are the three types of classification of common clay bricks ? Explain the engineering properties of each one of them.
- (c) What are the field tests performed to find the suitability of clay bricks ? Describe at least three of the above tests.

- (d) Give brief account of the different pozzolanic materials available for use in India. Explain the advantages of addition of pozzolanas in the manufacture of cement.
- (e) Name the common industrial products of timber used in construction industry.
Explain the following :
- (i) Veneers and Veneer plywood
 - (ii) Particle board
 - (iii) Hand board
- (f) What is Lime ? Explain the mechanics of setting and cementing action of lime ? Explain.
- (i) Quicklime
 - (ii) Hydraulic lime

2 Attempt any two of the following : **10×2=20**

- (a) Write short note on
- (i) Laminated glass
 - (ii) Obscured glass
 - (iii) Float glass
 - (iv) Sheet glass
 - (v) Testing of glass
- (b) Give a brief account of different types of steel bars used in reinforced concrete work. Describe two important tests which are specified for steel reinforcement bars.
- (c) Describe the main desirable properties of plastics. Classify plastic according to mechanical property.

3 Attempt any two of the following : **10×2=20**

- (a) State the basic requirements of a building. Give the typical layout plan of a
 - (i) Two bed room house
 - (ii) an industrial building
- (b) Explain the causes of dampness in the building. What are the adverse effects of dampness in the building ? What are the requirements of ideal material for damp proofing.
- (c) Define the term 'termite proofing' of building. Explain the following types of termite proofing.
 - (i) Pre construction treatment
 - (ii) Post-construction treatment

4 Attempt any two of the following :

- (a) Give sketches of the following doors and state where they are used.
 - (i) Battened door
 - (ii) Collapsible door
 - (iii) Revolving door
 - (iv) Glazed door
- (b) Give sketches of following types of windows with their uses.
 - (i) Corner window
 - (ii) Skylight window
 - (iii) Dormer window
 - (iv) Clear storey window
- (c) State the requirements of good roof. What are the advantages and disadvantages of flat roofs ? Explain the precautions to be taken in drainage and water proofing of flat roofs.

5 Attempt any two of the following : **10×2=20**

- (a) Draw neat sketches of following stair cases and indicate where they are used.
- (i) Open newel stair
 - (ii) Quarter turned stair
 - (iii) Dog-legged stair
 - (iv) Geometric stair
- (b) Explain why plastering is necessary for building with brick masonry. Explain briefly the materials used for plastering work.
- (c) What is meant by natural ventilation ? How do you provide such ventilation in building ? Explain different system of mechanical ventilators.
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