

**3E1452**

Roll No. : \_\_\_\_\_

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**B.Tech. (Sem. III) (Main/Back) Examination, January - 2012**  
**Civil Engg.**  
**3CE2 Building Material & Construction**

Time : **3 Hours**[Total Marks : **80**  
[Min. Passing Marks : **24****Instructions to Candidates :**

*Attempt any five questions selecting one question from each unit. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

Use of following supporting material is permitted during examination.  
(Mentioned in form No. 205)

1. Nil 2. Nil

**UNIT - I**

- 1 (a) Discuss three important types of rocks and their formation. 8  
(b) Discuss the selection criteria and uses of any two common building stones. 8

**OR**

- 1 (a) Describe the tests performed to check the quality of bricks. 8  
(b) Describe the following tests on bricks.  
(i) Water absorption.  
(ii) compressive strength. 8

**UNIT - II**

- 2 (a) Describe with flow diagrams the dry and wet process of manufacture of cement. 8

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[Contd..

- (b) What is rapid hardening cement ? What is responsible for its high early strength ? How does it differ from ordinary portland cement.

8

OR

- 2 (a) Describe briefly how lime is manufactured. Distinguish between quick, fat and hydraulic lime.

8

- (b) What is mortar ? Briefly describe lime and cement mortar. State the function of sand in mortar.

8

### UNIT - III

- 3 (a) Discuss the principle causes of decay of timber.

8

- (b) How is seasoning done of a large scale ?

8

OR

- 3 (a) How are plastics classified ? State the role of plastic as a building materials.

8

- (b) What are the various ingredients of paints ? State the function of each of them.

8

### UNIT - IV

- 4 (a) Classify buildings as per type of construction. Describe each type in brief.

8

- (b) State the various functional requirement that it must satisfy in its design and construction.

8

OR

- 4 (a) State different types of shallow foundations. Show by sketches of each.

8

- (b) What is bearing capacity of soil ? How depth of footing is decided ?

8



## UNIT - V

- 5 (a) Name various types of stone masonry. Describe in brief the ashlar fine masonry. 8
- (b) Name the different bonds used in brick masonry. Show by sketches any two. 8

OR

- 5 (a) What are the objectives of plastering ? Name various types of plasters used. Discuss the characteristics of good plaster. 8
- (b) Describe different types of painting by means of neat sketches. 8

