

Total No. of Questions—12]

[Total No. of Printed Pages—4+2

Seat No.	
---------------------	--

[4162]-102

S.E. (Civil) (First Semester) EXAMINATION, 2012

BUILDING MATERIALS AND CONSTRUCTION

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— (i) Answer *three* questions from Section I and *three* questions from Section II.

(ii) Answers to the two Sections should be written in separate answer-books.

(iii) Neat diagrams must be drawn wherever necessary.

(iv) Figures to the right indicate full marks.

(v) Your answers will be valued as a whole.

SECTION I

1. (a) Define shallow foundation. Explain strap footing in detail. [6]

(b) Explain necessity of plinth in Residential Building. [6]

(c) Explain the following terms with neat sketches : [6]

(i) Header stone

(ii) Cornice

(iii) Lap

(iv) Coping.

P.T.O.

Or

- 2.** (a) State functions of foundation. Explain Raft foundation in detail. [6]
- (b) State any *four* components of building. State special function of each. [6]
- (c) Comment if no bond is provided in masonry. Explain Flemish Bond. [6]
- 3.** (a) Explain with sketch the checking of line and level of Block Masonry. [6]
- (b) Write short notes on the following : [6]
- (i) Composite Masonry
- (ii) Reinforced Brick Lintel.
- (c) Draw neat and detailed sketch of slab formwork. Name different parts. [4]

Or

- 4.** (a) Describe the detailed procedure of manufacturing of concrete blocks. [6]
- (b) What is cavity wall ? State advantages of cavity wall. [6]
- (c) Give field names of any *six* formwork parts. [4]

5. (a) State functional requirements of good flooring materials. [6]
- (b) Explain with neat sketches the following : [6]
- (i) Ridge Cover
- (ii) Tie Beam
- (iii) Dado
- (iv) Skirting.
- (c) Write a short note on King-Post Truss. [4]

Or

6. (a) Explain step by step procedure of fixing of A.C. sheet with sketches. [6]
- (b) Name with reason the flooring tiles which as an engineer you would suggest for the following rooms : [6]
- (i) Verandah
- (ii) Hall
- (iii) Kitchen
- (iv) Pooja Room.
- (c) Write a short note on Lean to Roof. [4]

SECTION II

7. (a) State different types of fixtures and fastenings used for Doors and Windows. Give sketches of any *two*. [6]

(b) Differentiate between : [6]

(i) Linted and Arch

(ii) Bay Windows and Dormer Windows.

(c) Describe any *four* types of tools used in plastering with sketches. [6]

Or

8. (a) Explain with neat sketches any *three* types of Hinges used for Doors and Windows. [6]

(b) Draw neat sketch of Arch and show on it : [6]

(i) Spring Line

(ii) Span

(iii) Extrados

(iv) Haunch.

(c) Write down the objectives of plastering. Explain defects in painting. [6]

9. (a) Explain the following terms with sketches : [6]

(i) Winder

(ii) Newel Post

(iii) Rise

(iv) Soffit.

- (b) State safety precautions to be observed during the excavation in hard strata in dense area. [6]
- (c) Differentiate between Escalators and Ramps. [4]

Or

- 10.** (a) Define circulation. State different means of vertical circulation. Explain quarter turn stair in detail. [6]
- (b) Explain safety measures to be adopted in construction of Residential Building in developed colony. [4]
- (c) What is underpinning ? Describe Needle Beam method in detail. [6]
- 11.** (a) Write short notes on : [6]
- (i) Ceramic product
- (ii) Seasoning of timber.
- (b) State different defects in timber and explain any *one* in detail. [6]
- (c) State any *four* types of Building materials. Write down their advantages and disadvantages. [4]

Or

- 12.** (a) What is seasoning of timber ? State different methods of seasoning of timber. Explain any *one* in detail. [6]

- (b) Write down engineering properties of : [6]
- (i) Timber
 - (ii) Glass
 - (iii) Plastic.
- (c) Write short notes on : [4]
- (i) Plaster of Paris
 - (ii) Glass—A building material.