

Total No. of Questions—12]

[Total No. of Printed Pages—4+2

**[4062]-102**

**S.E. (Civil) (I Sem.) EXAMINATION, 2011**

**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.
  - (vi) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.
  - (vii) Assume suitable data, if necessary.

**SECTION I**

1. (a) Comment, if no foundation is provided to the building. [4]
- (b) Define Plinth. Explain step by step procedure of plinth filling with sketch. [6]

P.T.O.

- (c) Explain the following terms with sketches : [6]
- (i) Queen Closer
  - (ii) Corbel
  - (iii) Through Stone
  - (iv) Tothing.

*Or*

2. (a) Comment, if foundation is provided above the ground level. [4]
- (b) Differentiate between shallow foundation and deep foundation with definition sketches. [6]
- (c) State functions of Bond in masonry. Explain Flemish Bond. [6]
3. (a) Explain laying of concrete block with sketch. [4]
- (b) Write short notes on the following : [6]
- (i) Reinforced Brick Column
  - (ii) Cavity Wall.
- (c) Define formwork. State the essential requirements of formwork to be provided for bridge construction. [6]

*Or*

4. (a) Define hallow concrete block. Explain detailed procedure of manufacturing of concrete blocks. [6]
- (b) Explain different combinations of composite masonry with sketches. [4]
- (c) Draw the sketch of beam formwork. Give names of maximum parts, also mention their sizes. [6]
5. (a) Explain with a neat sketch the construction of concrete flooring. [6]
- (b) Explain with neat sketches the following terms : [6]
- (i) Skirting
- (ii) Dado
- (iii) Bed Plates
- (iv) Gable end.
- (c) Write a short note on Lean to Roof. [6]

*Or*

6. (a) State the different brand names of flooring tiles available in market. Also state their sizes available in market. [6]
- (b) Explain step by step procedure of fixing A.C. sheet with sketches. [6]

- (c) Draw sketch of sloping roof truss and show on it principal rafter, common rafter, Ridge cover, Effective span. [6]

## SECTION II

7. (a) Draw neat and labelled sketch of paralld door. Show different parts with dimensions. [6]
- (b) Explain casement window with sketch. [6]
- (c) State the functions of weather shed. Explain defects in painting. [6]

*Or*

8. (a) Define the following technical terms : [6]
- (i) Meeting style
- (ii) Hold fast
- (iii) Chajja
- (iv) Scaffolding.
- (b) Write down the methods of construction of arches and describe how the arch opening is constructed in Residential building. [6]
- (c) Explain objectives of plastering. State market names of paints. [6]

9. (a) Explain step by step procedure of Design of doglegged staircase. [6]
- (b) Explain safety measures to be adapted in construction of Residential building. [4]
- (c) State the types of shoring. Describe ranking shores. [6]

*Or*

10. (a) Write short notes on Escalators. [4]
- (b) Explain the following technical terms with sketches : [6]
- (i) Newel Post
- (ii) Tread
- (iii) Nosing
- (iv) Balustrade.
- (c) Which safety measures will be suggest in case of high rise building in crowded area ? [6]
11. (a) What is timber ? Explain the defects in timber with sketches. [6]
- (b) Write short notes on : [6]
- (i) Thatch
- (ii) Glass Cladding.

- (c) Write down Engineering properties of : [4]
- (i) Timber
  - (ii) Gypsum.

*Or*

- 12.** (a) What is seasoning of timber ? Explain any *one* method of it. [6]
- (b) State different types of Glasses and Plastics used in construction. [6]
- (c) Write a short note on ceramic product. [4]