

S.E. (CIVIL) (I Semester) EXAMINATION, 2010

BUILDING MATERIALS AND CONSTRUCTION

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— (i) Answer **3** questions from Section I and **3** questions from Section II.

- (ii) Answers to the two Sections should be written in separate answer-books.
- (iii) Figures to the right indicate full marks.
- (iv) You are advised to attempt not more than **6** questions.
- (v) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.
- (vi) Assume suitable data, if necessary.

SECTION I

1. (a) Enlist the various classification of buildings as per National Building Code (NBC) of India, 2005. Explain the educational building. [6]
- (b) Differentiate between dry rubble masonry and ashlar chamfered masonry. [6]
- (c) What are the points to be considered while supervising brick masonry ? [4]

Or

2. (a) Explain : [6]
- (i) Uncoursed random rubble masonry
 - (ii) Ashlar fine masonry.
- (b) Explain the residential building as per National Building Code (NBC) of India, 2005. [6]
- (c) Differentiate between stone masonry and brick masonry. [4]
3. (a) What are the types of composite masonry ? Explain in detail stone composite masonry. [6]
- (b) What do you understand by joints in concrete work ? Explain the expansion and contraction joint in concrete work. [6]
- (c) Explain the casting procedure for the reinforced concrete column. [4]

Or

4. (a) What are the important features of the cavity walls ? [6]
- (b) Explain the curing of concrete. [6]
- (c) What are the merits and demerits of precast concrete ? [4]
5. (a) Enlist the materials used for the flooring. Explain marble flooring. [6]
- (b) What are the types of roofs ? Explain queen post roof truss. [6]
- (c) Write a short note on asphalt flooring. [6]

Or

6. (a) Enlist the types of steel sloping roof truss. Explain north light roof truss. [6]
(b) Write a short note on mosaic flooring. [6]
(c) Explain in detail laying of A.C. sheets. [6]

SECTION II

7. (a) Show clearly the following parts with a sketch of window :
(i) Horn
(ii) Holdfast
(iii) Head
(iv) Sill
(v) Meeting style
(vi) Panel [6]
(b) Enlist the types of windows. Explain louvered window. [6]
(c) Explain R.C.C. lintel. What are the merits of lintel over the arch ? [6]

Or

8. (a) Enlist the types of doors. Explain rolling door. [6]
(b) Explain the installation of the door frame. [6]
(c) Show clearly the following parts with a sketch of arch :
(i) Span
(ii) Rise
(iii) Crown
(iv) Key
(v) Voussoirs
(vi) Extrados [6]

9. (a) Design a R.C.C. dog-legged staircase and draw a detailed plan for an office building, a staircase room available is 5m × 3m with the outer wall thickness of 230 mm. Floor to floor height of room is 3000 mm. The thickness of R.C.C. slab is 150 mm. [6]
- (b) Write a short note on Escalators. [4]
- (c) What are the general measures of fire safety in buildings ? [6]

Or

10. (a) Write a short note on Elevators. [6]
- (b) What are the requirements of a good stair ? [4]
- (c) What are the classification of stairs ? Explain R.C.C. staircase. [6]
11. (a) Explain in detail water closets. [6]
- (b) Write a short note on plastic. [6]
- (c) Explain cork flooring. [4]

Or

12. (a) Write a short note on glass. [4]
- (b) What do you understand by the Linoleum flooring ? [6]
- (c) What is seasoning of timber ? What are the methods of seasoning ? [6]