

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

PAPER ID :

Roll No.

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B. Tech.

(Semester III) Odd Semester Carry Over Theory Examination, 2012-13

BUILDING MATERIAL AND CONSTRUCTION

Time : 3 Hours]

[Total Marks : 100

Note : Attempt questions from all Sections as per instructions.

Section-A

Attempt *all* parts of this question. Each part carries 2 marks.

2×10=20

1. (a) What are the engineering characteristics of a good building stone?
- (b) What is meant by preservation of timber?
- (c) Write a note on 'distempers' and 'distemping'.
- (d) Give the various types of varnishes.
- (e) What are the requirements of an ideal material for damp proofing?
- (f) Enumerate various types of upper floors.
- (g) Write a note on location of doors and windows.
- (h) How the sizes of doors and windows are fixed?
- (i) Define the term soil pipe.
- (j) What is meant by anti-siphonage pipe?

Section-B

Attempt any *three* parts of this question. Each part carries 10 marks.

10×3=30

2. (a) (i) What are the ingredients of Portland cement? Explain the functions of each in gradient.
- (ii) Describe the methods of preparing lime mortar which are commonly used in India.
- (b) Explain in brief the characteristics (i) good paint (ii) good varnish.
- (c) Describe the method of damp proofing for the following :
 - (i) foundations (ii) basement in an area having high water table (iii) floors.

- (d) Draw a neat sketch of a timber door with shutter, label various parts, and draw the details of various joints.
- (e) Explain various principles that should be kept in mind while designing a house drainage system.

Section-C

Attempt *all* questions of this Section. Each question carries 10 marks. $10 \times 5 = 50$

3. Attempt any two parts : $2 \times 5 = 10$
- (a) What are the characteristics of good timber? What is the object of seasoning it? Explain the different methods of seasoning timber.
- (b) Discuss the characteristics and classification of the following categories of bricks :
- (i) common burnt clay bricks
- (ii) engineering bricks
- (iii) burnt clay perforated building bricks.
- (c) Explain in detail about manufacturing of lime and also write down the advantages and disadvantages of lime over the other building materials.
4. Attempt any one part : $10 \times 1 = 10$
- (a) Explain various defects in painting.
- (b) Describe the constituents of paint, mentioning the specific functions of each.
5. Attempt any one part : $10 \times 1 = 10$
- (a) Explain in brief the factors that affect the selection of floor a finish.
- (b) Explain, with neat sketches, the method of constructing timber flooring.
6. Attempt any one part : $10 \times 1 = 10$
- (a) What are the functions of a ventilator? How is it different from a window? Draw details of a ventilator combined with a window.
- (b) Explain any method of providing water proof terracing on R.C.C. roof slab.
7. Attempt any two parts : $5 \times 2 = 10$
- (a) Explain, with the help of diagram, the working of a flushing cistern.
- (b) Explain, with the help of diagram, various systems of plumbing used for house drainage.
- (c) Explain the procedure of painting (i) wood surfaces (ii) plastered surfaces (iii) iron and steel surfaces.