

December 2016

BUILDING MATERIAL & CONSTRUCTION

Time Allowed: 3 Hours

Full Marks: 70

**Answer to Question No.1 is compulsory and to be answered first.
This answer is to be made in separate loose script(s) provided for the purpose.
Maximum time allowed is 45 minutes, after which the loose answer scripts will be collected and
fresh answer scripts for answering the remaining part of the question will be provided.
On early submission of answer scripts of Question No.1,
a student will get the remaining script earlier.**

Answer any five questions from the rest.

1. A. Choose the correct answer (any ten): 10×1
- i) The bottom horizontal part of an opening is called _____.
 - ii) The bottom horizontal part of an opening is called _____.
 - iii) One of the essential part of the substructure is a. lintel b.chajja c. plinth d. cornice e. Parapet.
 - iv) A building built with column beam network with interior load bearing wall is called _____.
 - v) The vertical enclosures in a building defining various part of floor area on the basis of functional utility and protection is called _____.
 - vi) To conceal junction of roof and wall the vertical enclosure above roof level is called _____ if it is not meant for protection but the same will be treated as _____ if it is meant for protection of roof truss as well.
 - vii) The horizontal member/element of a building that divides its height to generate more utility space is called _____.
 - viii) The horizontal member/element in al building structure to be used for the simultaneous purposes of protection and terrace is called _____.
 - ix) Framed structure basically consists of two types of members: one for transmitting transverse load and the other for axial compression vertically.
 - x) The members transmitting the load of the part above opening under the ceiling be bending is called _____.
 - xi) Identify the odd member among the followings: a. lintel b. Foundation c. column d. Beam.
 - xii) Basalt is a _____ type of igneous rock formed by solidification of _____.
- B. Write the correct answer in one or two sentences (any five): 5×2
- i) What do you mean by substructure and superstructure?
 - ii) Explain load bearing, framed and composite structure.

- iii) State briefly the functions of following items: foundation, plinth, wall, parapet, beam, column.
- iv) What are the bases of rock classification?
- v) Briefly illustrate the classification of rocks with at least one example.
- vi) What are the requirements of good building stones?
- vii) Write short notes on the following: dressing of stones, quarrying of stone, artificial stone.
2. a) Name the laboratory tests for bricks and briefly describe any one of them.
b) What do you mean by knots associated with timber? How many types of it do you know? 5+5
3. a) Write short notes on – (i) shoring (ii) timbering.
b) Write short notes on – (i) coffer dam (ii) under reamed pile. 5+5
4. a) Discuss regarding the requirement of good stair.
b) What is scaffolding? Show different components of a scaffolding with a neat sketch. 5+5
5. a) What do you mean by damp proofing and water proofing treatment?
b) What do you mean by special plaster? State any two of them with their purposes. 5+5
6. a) What are the necessities of painting? Explain with surface preparation.
b) What are the remedial measures of crack eliminations? State any two of them. 5+5
7. a) What do you mean by fixing of rebar? Illustrate with sketch.
b) What are the general recommendations for water and damp proofing? 5+5
8. a) Distinguish between stone and brick masonry.
b) State briefly about the precautionary measures to be taken for underpinning. 5+5
9. a) What do you mean by foundation? What is the basic difference between shallow and deep foundation?
b) Briefly state about requisite properties of good mortar. 5+5
10. a) What is the difference between wood and timber? Mention at least two of its uses for construction purposes.
b) Describe briefly about excavations for foundation. 5+5

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