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53 (CE 304) BMAC

2017

**BUILDING MATERIALS
AND CONSTRUCTION**

Paper : CE 304

Full Marks : 100

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

Answer ***any five*** questions.

1. (a) How are rocks physically and chemically classified? 6
- (b) At what situation raft foundation is adopted? How raft foundation is different from grillage foundation? 5
- (c) What are the requirements of a good stair? What do you understand by half turn stair? 9

Contd.

2. (a) What are the *two* basic components of building? How foundation is playing an important role on reduction of load intensity and in providing a level surface with lateral stability? 6
- (b) What are the characteristics of a good tile? What is meant by the terms ceramics and clay? 6
- (c) What is meant by dressing of a stone? Describe *any three* of its varieties. 8
3. (a) What are the basic requirements of a good formwork? With the help of a suitable diagram show all the component parts of formwork for columns. 10
- (b) Explain the tests to which bricks are generally subjected. 10
4. (a) What is meant by calcination and slaking of lime? Enumerate the sources of lime. 6
- (b) Compare brickwork and stonework. What are the constituents of good brick earth? 6

- (c) What are the various rules adopted in brick bonding? 8
5. (a) Explain the functions of cement ingredient? 10
- (b) What are pitched roofs? Briefly describe the following elements of pitched roof:
 (i) Pitch (ii) Ridge (iii) Eaves (iv) Valley
 (v) Purlins (vi) Common rafter (vii) Span 10
6. (a) For what purpose curing of concrete is done? Describe the various methods of curing. 10
- (b) Under what circumstances cantilever scaffolding is provided? What are standards, ledgers, putlogs, braces and boardings? 10
7. Differentiate between — 20
- (i) Lintel and arches
- (ii) Caisson and pier foundation
- (iii) English bond and Flemish bond
- (iv) Distemper and Varnish
- (v) Seasoning and Preservation of timber.
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