



Name :

Roll No. :

Invigilator's Signature :

CS/B.ARCH/SEM-1/ARCH-105/2012-13

2012

MATERIALS AND CONSTRUCTION-I

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) Potash-lime glass contains
 - a) Potassium silicate
 - b) Sodium silicate
 - c) Aluminium phosphate
 - d) None of these.

- ii) A process of slow homogenous cooling of glass is
 - a) rolling
 - b) spinning
 - c) annealing
 - d) drawing.

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- iii) Nature of plasticisers is
 - a) solid
 - b) oily
 - c) gaseous
 - d) none of these.
- iv) Impure crude iron extracted from ores is called
 - a) wrought iron
 - b) pig iron
 - c) cast iron
 - d) alloy.
- v) Steel is a compound of iron and
 - a) sulphur
 - b) phosphorous
 - c) lead
 - d) carbon.
- vi) Layer of sap between inner bark and sapwood is called
 - a) Cambium
 - b) Pith
 - c) Heartwood
 - d) Crust.
- vii) Process of removal of sap/moisture from wood is called
 - a) drying
 - b) seasoning
 - c) charring
 - d) dehumidifying.
- viii) Good clay for brick manufacturing shall not contain
 - a) Alumina
 - b) Alkalies
 - c) Silica
 - d) Iron oxides.
- ix) A good example of metamorphic rock is
 - a) Granite
 - b) Sandstone
 - c) Coal
 - d) Marble.
- x) Calcareous rocks contain
 - a) clay
 - b) mud
 - c) sand
 - d) calcium carbonate.



GROUP – B

(Short Answer Type Questions)

Write short notes on any *three* of the following.

3 × 5 = 15

2. Structural glass and its uses
3. Fibre reinforced plastic and its use
4. M 15 grade of concrete
5. Wrought iron and its use
6. Artificial seasoning of timber
7. Process of manufacturing of clay bricks.

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

8. a) What is meant by dressing of stones ? 2
b) What are the objectives of dressing ? 3
c) Draw neat labelled sketches of five different stone surface dressings. 10
9. Elaborate on various testing methods of bricks.
10. Differentiate between the following (any *three*) : 3 × 5
 - a) Cast iron and wrought iron
 - b) Load bearing structure and frame structure
 - c) Coarse aggregate and fine aggregate
 - d) King closer and queen closer.



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11. a) What is plywood and how is it used ? 5
- b) What are blockboards and what types are available ? 5
- c) Mention a few important characteristics of a good timber preservative. 5
12. a) What is steel and how is it used in the building industry ? 8
- b) What are alloy steels and how are they different in property from carbon steels ? 7
13. Enumerate general properties of plastics.

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