

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 :

10X1 = 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.

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.

3X5 = 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.

3X15 = 45

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| 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 <i>three</i>) : | 3X5 |
| 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. | |
| 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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