

CS/B.Arch/SEM-2/ARCH-204/2013

2013

**MATERIALS AND CONSTRUCTION – II**

*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) Which of the following is not a principal constituent of hydraulic cement ?

- a) Lime                      b) Silica  
c) Alumina                  d) Clay.

ii) Chemical reaction triggered when water is added to cement is

- a) oxidation                  b) reduction  
c) calcination                d) hydration.

iii) Gypsum is added to clinkers to reduce chances of

- a) deep set                    b) flash set  
c) shrinkage                  d) creep.

iv) Fly ash mixed with cement helps to avoid

- a) bleeding                    b) shrinkage  
c) flash set                    d) leaching.

v) Composition of M20 Conc. ( cement : sand : coarse aggregate ) is

- a) 1 : 2 : 4                    b) 1 : 2 : 3

- c) 1 : 1.5 : 3                      d) none of these.
- vi) Concrete compaction is done with a/an
- a) compactor                      b) vibrator
- c) agitator                          d) none of these.
- vii) Which of the following is not an ingredient in linoleum flooring ?
- a) Oxidised linseed              b) Ground cork
- c) Asphalt                          d) Organic resin.
- viii) Mix proportion range of cement : lime : sand in composite plaster is
- a) 1 : 2 : 9 to 1 : 1 : 7              b) 1 : 3 : 7 to 1 : 3 : 9
- c) 1 : 2 : 9 to 1 : 3 : 7              d) 1 : 1 : 7 to 1 : 5 : 9.
- ix) A suitable example of concrete adhesive is
- a) epoxides                          b) GY250
- c) latex based mortars              d) none of these.
- x) A poor material for sound insulation is
- a) gypsum plaster                  b) asbestos
- c) cement-lime plaster              d) cellular concrete.

**GROUP – B**

**( Short Answer Type Questions )**

Write short notes on any *three* of the following.  $3 \times 5 = 15$

2. Heat of hydration.
3. Clinkering.
4. Creep in concrete.
5. I.P.S.
6. STUCCO.
7. Resilient flooring.

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.

3 × 15 = 45

8. a) What is meant by drop ceiling ? 3
- b) Mention a few advantages of drop ceiling. 5
- c) Draw a neatly labelled sketch of a drop ceiling marking various parts. 7
9. a) Elaborate on various flooring types used for buildings. 5
- b) Suggest different types of flooring for
- i) Entrance lobby of apartment
  - ii) Toilets
  - iii) Bedrooms.
- Also mention reasons for your choice. 10
10. a) What is bleeding of concrete ? 3
- b) Discuss factors affecting bleeding of concrete. 6
- c) What measures are to be adopted to reduce bleeding ? 6
11. a) What are admixtures ? 5
- b) What is Ferro cement ? 5
- c) Mention how addition of pozzolanic substances help in improving performances of cement products. 5
12. a) What are Aggregates ? 3
- b) Discuss some good characteristics of Aggregates. 5
- c) Discuss how Aggregates contribute to concrete performance. 7

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