

Seat No. : _____

TX-103

B. Arch./ID/BCT Sem.-IV

May-2013

Building Construction – IV, Code : AR-402

Time : 3 Hours]

[Max. Marks : 100

Instructions : (1) Use separate answer book for each section.

(2) Figures to the right indicate full marks.

(3) Assume suitable data, if necessary.

(4) Neat proportionate sketches are necessary to explain theories.

1. Design a Jack arch floor for a hall size 5.0 m × 10.0 m. Draw its plan and cross section with appropriate details. **20**

2. Attempt any **two** : **20**

(1) Which are the three types of shores ? Where are they used ? Explain with sketches.

(2) How dampness causes defects in a building ? What is the function of damp-proofing course ?

(3) How water proofing treatment is given to a different building elements which are affected by rain water ? Explain with proportionate sketches.

(4) Explain thermal insulation of a building and its advantages.

3. Attempt any **two** : **40**

(1) What is termite proofing ? Explain following methods of termite treatment in a building :

(a) Treatment for masonry foundation.

(b) Treatment of brick fill earth.

(c) Treatment to top structure of plinth filling.

(2) Explain different types of R.C.C. slab with neat proportionate sketches.

(3) Draw formwork for r.c.c. slab with beam and square column.

(4) Define retaining wall. Explain different types of retaining wall with neat proportionate sketches.



4. Give the following answers : (any **four**)

20

- (1) Give a location of main reinforcement in the slab construction.
 - (a) Top
 - (b) Centre
 - (c) Bottom
 - (d) None
 - (2) In the Jack arch floor construction which type of steel section is used ?
 - (a) Channel section
 - (b) I-section
 - (c) T-section
 - (d) Angle section
 - (3) In the construction of a R.C.C. slab and beam, which technique is adopted on site ?
 - (a) scaffolding
 - (b) shoring
 - (c) formwork
 - (d) none
 - (4) Which element is used in the design of a waffle slab ?
 - (a) Ribs
 - (b) Beams
 - (c) Arches
 - (d) Trusses
 - (5) Due to more heat gain by the structure which treatment is essential to provide ?
 - (a) sound insulation
 - (b) Thermal insulation
 - (c) damp proofing
 - (d) termite treatment
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