Total No. of Questions : 4]

SEAT No. :

P1336

[Total No. of Pages : 2

[5157] - 4001
S. Y. B. Arch. (Semester - IV)
BUILDING TECHNOLOGY AND MATERIALS -IV
(2015 Pattern)

Time : 3 Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) *All questions are compulsory.*
2) *Answer to section I to be drawn on drawing sheet only.*
3) *Answer to section II to be written on answer sheet only.*
4) *Draw neat labelled sketches wherever necessary.*
5) *Assume suitable data, wherever necessary.*
6) *Figures on right of each question indicate full marks.*

SECTION - I

Q1) A Cantilever balcony 3.0m long and 1.5m wide is to be provided for a bedroom of size 3.0m×3.5m. The balcony slab is simply supported on beams provided on its shorter sides. Draw following details to the suitable scale.

a) Analyse and Draw plan showing the above condition with reinforcement. **[10]**

b) Draw detailed section showing the reinforcement required for cantilever action of the balcony. **[10]**

OR

A toilet of size 1.5m ×2.4m is provided on the first floor of a Bungalow. This is designed as sunken RCC slab with 200mm sunk. Assume 1.5m side as external wall of the toilet. Draw the following to the scale of 1:10 showing all the required details.

a) Draw two possible alternatives. **[5]**

b) For one of the alternative above, draw the longitudinal and cross section of the toilet slab showing detailed reinforcement. **[15]**

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Q2) Draw neat labelled sketches on sheet for the following. (any three) **[15]**

a) Draw the sectional plan of Bay window.

b) Draw the entire vertical section through a lift shaft, Machine room, lift pit showing necessary structural elements for same.

c) Draw a junction between RCC Beam and Column showing reinforcement.

d) Draw a sill level detail for a window opening fitted with Alluminium Glazed sliding window.

e) Draw any two ways of supporting a doglegged RCC staircase.

SECTION -II

Q3) Answer any two with the help of sketches: **[20]**

a) Procedure of tanking method used for water proofing of a basement retaining wall.

b) Explain the working of Hydraulic lifts.

c) Explain the working of an escalator.

d) Explain the function of various extruded sections for Alluminium sliding window.

Q4) Write short notes on any three of the following: **[15]**

a) Ferro-cement technique
b) Importance of waterproofing in the basement
c) Canopy
d) Light weight concrete
e) Working of RMC plant

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