Reg. No.

A

B.Arch. Degree III Semester Supplementary Examination
November 2024

AR 1302 BUILDING MATERIALS AND CONSTRUCTION - II
(2014 Scheme)

Time: 4 Hours   Maximum Marks: 100

Instructions: (i)   *Illustrate answers with sketches wherever necessary.*
               (ii)   *Candidates will be supplied with one drawing sheet of approximate A2 size.*

PART A
(Answer ALL questions)

(8 × 5 = 40)

I.   Write short notes on the following

(a)   ISSCS.
(b)   Field test for cement.
(c)   Major functions of foundations.
(d)   Different type of two-way slab.
(e)   Water cement ratio in making of concrete.
(f)   RCC lintels.
(g)   Waist slab.
(h)   Curved stairs.

(2 × 10 = 20)

II.   Discuss on the composition and properties of cement.
                                        OR
III.   Explain briefly about the mix proportioning and batching of concrete.

IV.   What is deep foundations and explain any one of them in detail using diagrams?
                                        OR
V.   What are the different types of concrete staircases? Explain the factors to be considered while designing these staircases.

PART B

(2 × 20 = 40)

VI.   Draw to suitable scale, the plan, section and view of an isolated column footing for a R.C.C column of 30 cm diameter with all steel reinforcement detail. Assume any other data required.
                                        OR
VII.   Draw a section of an R.C.C lintel and sunshade with reinforcement details above a wooden window of 1500 mm wide and 1800 mm high.

VIII.   Draw to a suitable scale, detailed plan and section of dog-legged RCC staircase. Floor to floor height is 3000 mm and stairway width of 1100 mm. Assume necessary details required for the drawing.
                                        OR
IX.   Draw to a suitable scale, detailed plan and section of an RCC cantilevered stair for a mezzanine floor at height of 240 cm. Consider the staircase as cantilevering from 230 mm thick masonry wall. Assume any other data required.

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