S.No. : 440 AR 403

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Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 00119 Roll No.

B. Arch. Examination 2021-22

(Even Semester)

ARCHITECTURAL STRUCTURES - IV

Time : Three Hours] *[Maximum Marks : 50*

Note :– (i) Marks are indicated against each question or part thereof.

(ii) Quenstion No. 1 is compulsory. Attempt any three out of remaining four.

(iii) Use of IS 456 : 2000 is allowed.

1. Write short notes on any four of the following : 8

(a) Design mix and nominal mix

(b) Effect of sea water on concrete

(c) Durability of concrete structures

(d) One way slab

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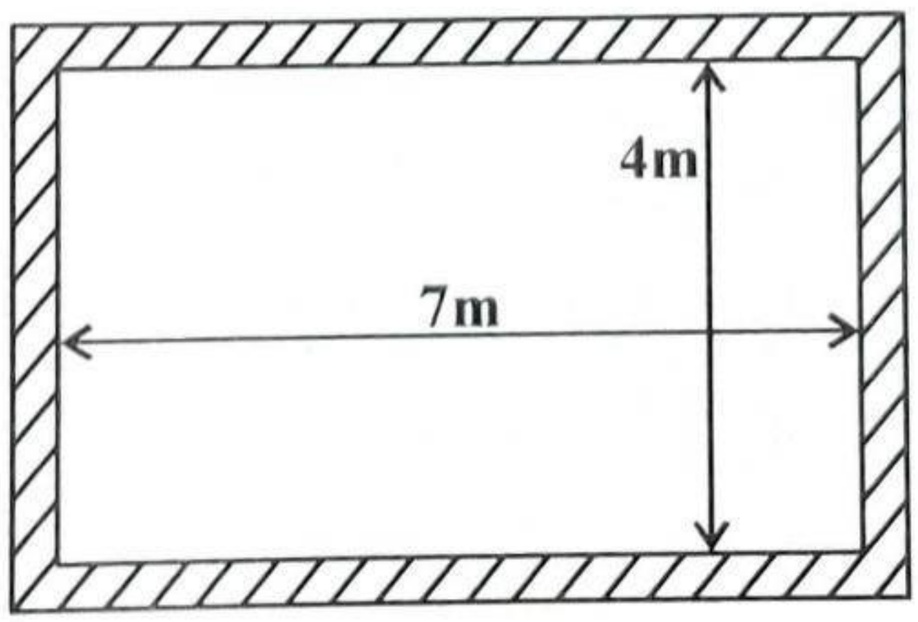
(c) Working stress method

(f) Isolated footing

2. (a) Find moment of resistance of given section for M 20 and Fe 415 for beam of cross section 200 mm width and effective depth 300 mm take cover as 50 mm. It is reinforced with 4 bars of 20 mm. 9

(b) Define balanced section and calculate its steel required for M 20 and Fe 415 for single reinforced beam : 5

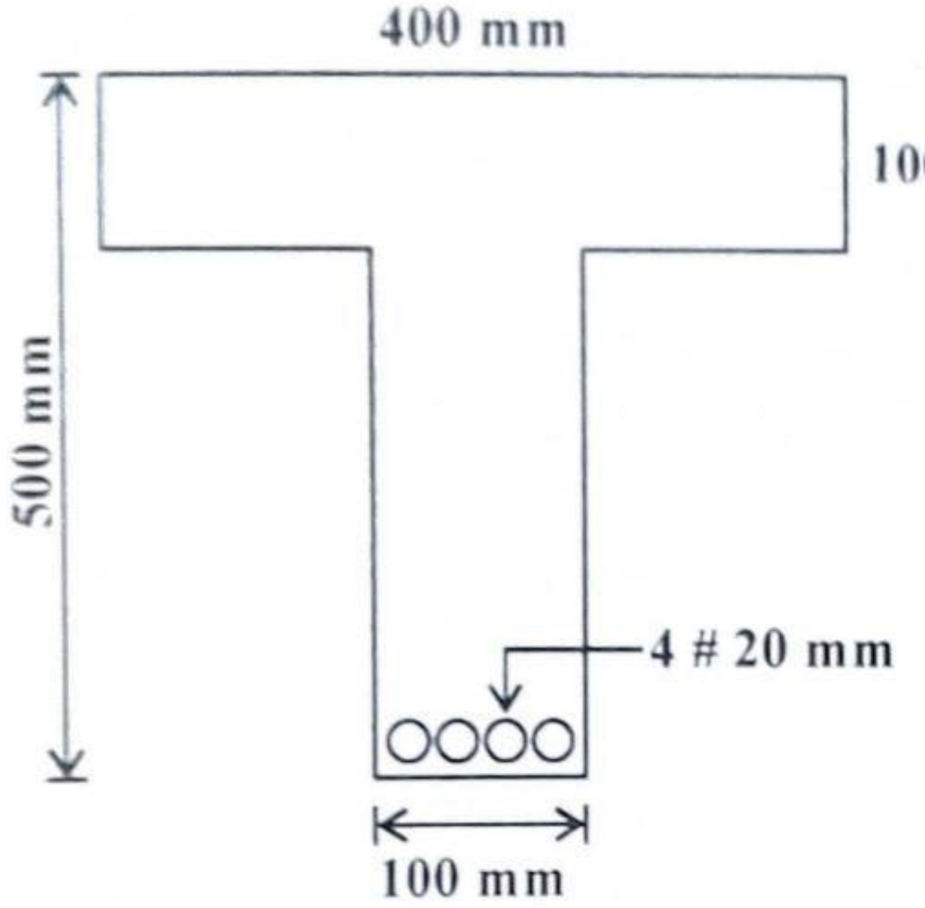
3. (a) 8



7 m × 4 m RCC slab is resting on 9" brick wall use M 20 and Fe 415. Design and detail RCC slab.

(b) Differentiate between balanced section, over reinforced section, under reinforced section. 6

4. (a) How will you find moment of resistance of flanged beam : 7



Take nominal cover as 20 mm, M 20 and Fe 415.

(b) Draw reinforcement diagram of one way slab. 7

5. (a) Design foundation of a brick wall 350 mm thick which is transmitting a load of 90 kN per metre length. The net bearing capacity of the soil is 100 kN/m^2. 9

(b) Draw the cross section of the wall foundation designed above. 5

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