DAQ-8194

Seat No. _____

B. Arch. (Sem. VI) Examination

May - 2022

Structure-VI

Time : **3** Hours] [Total Marks : **120**

Instructions : (1) Attempt All questions.
(2) Make suitable assumption wherever necessary.
(3) Figures to the right indicate full marks.
(4) IS 456 is permitted
(5) Calculator is permitted

1 Write brief note. (any three) **30**

(1) Under, Over & Balanced Reinforced Beams
(2) Ingredients of cement concrete
(3) Curing of Concrete
(4) R. C. C. Building Structural design methods - LSM & WSM

2 Answer any two. **30**

(a) Design a simply supported slab for residential building having 3.25 mt. centre to centre span carrying U. D. L. (working lad) 6.75 KN/m. (DL+FFL+LL). Concrete M-20, reinforcement steel Fe 500D and thickness of slab is 120 mm. Also draw bending moment and shear force diagrams.

(b) Calculate safe load carrying capacity of 300 mm x 600 mm rectangular column, with 6 bars 20 mm dia. Fe-500D and concrete M-25.

(c) A building structure has column size 300 mm x 450 mm. Design footing sizing dimension by approximate method. Grade of column concrete M20, reinforcement 80% and S.B.C. 250 KN/Sq. mt. Draw the sketch showing all dimensions.

3 (a) Explain different types of footings in Building structure with neat sketches. **15**

(b) Draw neat sketch showing Reinforcement deatiling of R.C.C. Footing. **15**

4 (a) Describe analyses and structural design procedure with neat sketches. **15**

(b) What do you understand by Load Path in R.C.C. framed building structure ? Explain it with neat sketches. **15**

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