No. of Printed Pages : 4 220263
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6th Sem. /Architectural Assistantship, Architectural
(For Speech and Hearing Impaired)
Sub.: Structure Systems - II

Time : 3 Hrs. **M.M. : 60**

SECTION-A

Note: Multiple type Questions. All Questions are compulsory. (6x1=6)

Q.1 Unit weight of R.C.C. in kN / m^3 is.

a) 23 b) 24

c) 25 d) 26

Q.2 Minimum number of piles used under a colomn is

a) One b) Two

c) Three d) Four

Q.3 For RCC works minimum grade of concrete is

a) M20 b) M15

c) M10 d) M25

Q.4 Minimum number of longitudinal bars required for circular column are

a) 4 b) 6

c) 8 d) 12

Q.5 For moderate conditions, the nominal concrete cover (in mm) in beams should not be less than

a) 20 b) 30

c) 45 d) 50

Q.6 For deflection control, the ratio of span to depth for a simply supported one way slab is

a) 7 b) 20

c) 26 d) 35

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Plain cement concrete is _____ in tension.

Q.8 The lowest part of a structure which transmits the load to the soil is known as _____.

Q.9 Columns shall be designed as per limit state of collapse in _____.

Q.10 Wooden columns are generally termed as _____.

Q.11 In singly reinforced beams _____ zone is below the neutral axis.

Q.12 In two way slabs bending takes place in _____ directions.

SECTION-C

Note: Short answer type Questions. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 What are the advantages of R.C.C.?

Q.14 What are the properties of mild steel?

Q.15 Differentiate between Shallow and Deep foundations.

Q.16 Why long columns have less load carrying capacity as compared to short Columns?

Q.17 What are the functions of transverse reinforcement in column?

Q.18 What do you mean by design of column?

Q.19 Write a short note of positive moment reinforcement.

Q.20 What are Doubly reinforced beams? Why they are required?

Q.21 Give comparisons between one way and two way slabs.

Q.22 Why special tensional reinforcement is provided at corners of a two way slab?

SECTION-D

Note: Long answer questions. Attempt any two questions out of three Questions. (2x8=16)

Q.23 Which are the various factors affecting depth of shallow foundation? Discuss them.

Q.24 Design a rectangular R.C.C. beam supported on two walls 600 mm thick having a clear span of 6.6 m. Use M20 concrete grade and Fe 415 steel. The loading is as under:

Live load on the beam = 15 KN/m

Super - imposed load of walls on the beam = 20 KN/m.

Assume any other missing data.

Q.25 Design a simply supported R.C.C. one way slab to carry a factored load of 16 KN/m^2 (Including self weight) on an effective span of 3.1 m. Bearing on wall = 300 mm. Use M20 grade of concrete and Fe-415 grade of steel. Assume any other missing data