



RAN-5957

B.Arch-III (Sem-VI) Examination

March / April - 2019

Structural Design & System-VI 'D' Syllabus

Time: 2 Hours]

[Total Marks: 30

સૂચના : / Instructions

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

B.Arch-III (Sem-VI)

Name of the Subject :

Structural Design & System-VI 'D' Syllabus

Subject Code No.:

5

9

5

7

Seat No.:

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Student's Signature

- (1) Assume Suitable data & specifically mention it.
- (2) Figures to the right indicate full marks.
- (3) Use of Nonprogrammable scientific calculator is permitted
- (4) Use of IS - 456, 2000 is permitted.

- Q-1** a. Design a short RCC column subjected to 2250 KN axial ultimate load. **08**
Use M 20 & Fe-415 grades of materials. Draw your designed details showing reinforcement detail in plan & section.
- b. Draw sectional plan, elevation and side view of beam to column stiffened seated connection. **02**

OR

- Q-1** Design an RCC isolated sloped footing for 800 mm X 800 mm size of column, subjected to 2000 KN load. Safe Bearing capacity of soil is 150 KN/m², Use M20 & Fe -415 grades of materials. Draw sectional plan & section showing reinforcement detailing. **10**

Q-2 Attempt all questions :

6

1. Explain behavior of on ground circular flexible water tank, draw reinforcement detailing in sectional plan & sectional elevation showing main & distribution steel.
2. Explain load transfer & action in a circular dome. Draw reinforcement detailing of the same.
3. It is required to provide castellated girder , in high seismic zone area. Give your comments whether you will provide or not, why ?

Q-3 Attempt any two out of following :

14

1. Explain load transfer in slab beam type raft foundation. Draw deformation & typical reinforcement detailing for its various parts in required structural plan, elevation & sections.
 2. Explain load transfer for on ground rectangular water tank, show deformation & steel detailing for short & long walls . Draw required plan & sections showing main & distribution steel
 3. Which are the various stiffeners used in plate girder ? why it is needed ? explain with sketch.
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