

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION)**

**CLASS: B.ARCH
BRANCH: ARCHITECTURE**

**SEMESTER: III
SESSION : MO/2019**

SUBJECT : AR202 BUILDING CONSTRUCTION

TIME: 2:00 HOURS

FULL MARKS: 25

INSTRUCTIONS:

1. The total marks of the questions are 25.
2. Candidates may attempt for all 25 marks.
3. Before attempting the question paper, be sure that you have got the correct question paper.
4. The missing data, if any, may be assumed suitably.

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- Q1 (a) What do you mean by Safe Bearing Capacity of Soil? Explain the Concept of Soil Bearing Capacity. [2]
- Q1 (b) Differentiate between Shallow & Deep Foundations on distinct parameters. Sketch and explain different types of Isolated Spread Footings. [3]
- Q2 (a) "A Multi-storied structure is proposed in a Site where the soil is compressible at shallow Depth and is near to a river bed." Give at least two different proposals for the "Type of Foundation" for the structure. Sketch & explain their mechanism. [2]
- Q2 (b) What are the causes of Foundation Failures? Explain any three causes with their remedial measures. [3]
- Q3 (a) Explain Shoring & its significance. How Shoring is accomplished? [2]
- Q3 (b) "Significant settlement is identified by a group of experts in an existing structure" What could be the remedial measure for the same? Explain two different methods of doing it. [3]
- Q4 (a) What is "Formwork"? What are the requirements of a good Formwork? Sketch details of Formwork (Timber/Steel) for a RCC Column. [2]
- Q4 (b) Define "Tall Buildings" as per International & Indian Standards. What are the characteristics of Tall Buildings? Explain the Classification of tall building structural system and discuss any one system with relevant example. [3]
- Q5 (a) Explain "High Performance Concrete" & "Aerated Concrete" as a smart construction material. [2]
- Q5 (b) Explain the principle, manufacturing process, properties, advantages and disadvantages of "Light Transmitting Concrete". [3]

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