

**MASTER OF ARCHITECTURE EXAMINATION, 2019**  
(M. Arch. 2<sup>nd</sup> Semester)

**SUBJECT: BUILDING TECHNOLOGY**

Time : Three hours

Full Marks: 100

Instructions: Answer for 100 marks

Use sketches wherever necessary.

01. In light of advancements in materials and methods of construction, discuss in brief the history of development in construction technology. 25
02. Discuss how various ingredients of concrete are mixed in a concrete mixing plant. Discuss how RMC is transported and poured at site. 25
03. Describe a few structural typologies adopted in construction of tall buildings. Describe the methodologies suggested and practiced by Dr. Fazlur Rahaman Khan in respect of design of skyscrapers. 25
04. Describe 'Vibrofloatation' (or Vibrocompaction) as a method for compaction of non-cohesive soil for ensuring higher bearing pressure. Using suitable sketches, also please explain the method adopted for 'Vibrofloatation'. 25
05. Describe the principles of 'setting out' in construction. Using suitable sketches, describe a typical set of form works for construction of long trenches. Draw and describe the construction of 'sheet piling'. Describe its advantages as an earth retention mechanism. 25
06. Draw plan and sections of a well-foundation for bridges across a small river. Describe the method of sinking of well for such foundation. Draw, label and describe a counterfort wall. Discuss its benefits under certain situations. 25
07. Describe any use of 'Pre-stressing' and 'Post-tensioning'. Using appropriate sketches, describe the methodology adopted in Segmental Bridge construction technique using pre cast post-tensioned types of structural units. 25
08. Write short notes on (any five): (5 X 5) 25
  - (i) Diagonal bracing
  - (ii) Pumped concrete
  - (iii) Slip form
  - (iv) Caisson
  - (v) Pay loader
  - (vi) Dumper
  - (vii) DMC
  - (viii) Pile cut-off level