

**PARUL UNIVERSITY**  
**FACULTY OF ARCHITECTURE & PLANNING**  
**B.Arch. Winter 2019-20 Examination**

Semester: 7

Subject Code: 01101402

Subject Name: Advance Building Materials &amp; Construction

Date: 09/12/2019

Time: 02:00 pm to 05:00 pm

Total Marks: 50

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever required.
4. Draw suitable sketches wherever required.

- Q.1** Explain Long Span Structures and High-Rise Structures with suitable examples. Detail out their construction techniques and special elements with relevant sketches. (10)
- Q.2** Attempt any five out of the following six: (20)
- 1) Write the importance of the building finishes used in Interior & Exterior surfaces of building.
  - 2) Explain the Following: (any four)
 

a) Partition wall & Paneling	d) Structural Glazing
b) False Ceiling & False Flooring	e) Under—Deck Insulation
c) External Cladding of Frames Structure	
  - 3) Write Short Note on: Bundled frame tube structure in High rise with sketches.
  - 4) Define the Following: (any four)
 

a) Steel Ropes	d) Synclastic
b) Ball Joints	e) Spider Joints
c) Travellators	
  - 5) Explain the methods of Installation and techniques of construction for the following: (any two)
 

1. Service Duct	3. A.C. Duct
2. Electrical Duct	4. Lift Well
  - 6) Explain various components used for the internal finishes of the building.
- Q.3** Write a Short Note on: (any five) (10)
- |                              |                                       |
|------------------------------|---------------------------------------|
| 1. Tensile Structure         | 4. Space Frame                        |
| 2. Free Form Shell Structure | 5. Geodesic Dome                      |
| 3. Role of Purlins           | 6. Long Span structures (RRC & Steel) |
- Q.4** a) Explain the building behavior during earthquake and its retrofitting analysis. (10)  
 b) Advantages and Disadvantages of Long Span Structures.
- Or
- Q.4** a) Explain the construction process of swimming pool and enlist the various types of swimming pools. Draft the calculation of water capacity in gallon. (10)  
 b) Justify how Pre-cast construction techniques are different from other construction technique.