

PARUL UNIVERSITY
FACULTY OF ARCHITECTURE & PLANNING
B.Arch. Winter 2018-19 Examination

Semester: 7**Subject Code: 01101402****Subject Name: Advance Building Materials & Construction****Date: 03/12/2018****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) Explain various components used for the external finishes of the building.
 - 2) Write Short Note on: Bundled frame tube structure in High rise with sketches.
 - 3) Write the importance of the building finishes used in Interior & Exterior surfaces of building.
 - 4) Explain the Following: (any four)
 - a) External Cladding of Frames Structure
 - b) Partition wall & Paneling
 - c) False Ceiling & False Flooring
 - d) Structural Glazing
 - e) Under—Deck Insulation
 - 5) Explain the methods of Installation and techniques of construction for the following: (any two)
 - a) Service Duct
 - b) Electrical Duct
 - c) A.C. Duct
 - d) Lift Well
 - 6) Define the Following: (any four)
 - a) Steel Ropes
 - b) Ball Joints
 - c) Travellators
 - d) Synclastic
 - e) Spider Joints
- Q.3** Explain Briefly: (any five) **(10)**
1. Space Frame
 2. Geodesic Dome
 3. Tensile Structure
 4. Free Form Shell Structure
 5. Role of Purlins
 6. Long Span structures (RRC & Steel)
- Q.4** Explain in detail.. (Any 3) **(10)**
- a) Explain the building behavior during earthquake and its retrofitting analysis.
 - b) Justify how Pre-cast construction techniques are different from other construction technique.
 - c) Explain the construction process of swimming pool and enlist the various types of swimming pools. Draft the calculation of water capacity in gallon.