

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

Semester: 4

Subject Code: 01101252

Subject Name: Building Materials &amp; Construction Technology IV

Date: 25/11/2019

Time: 10:00 am to 01:00 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** Assume a lawyer's office of 04 m inner width and 06 m inner length, and design false ceiling for the same. Draw reflected ceiling plan, sections and details of the same in an appropriate scale with material specifications. (10)

**Q.2 Attempt any five out of the following six:** (20)

1) Define the following:

- a) Shuttering                      b) Shoring                      c) Scaffolding                      d) Cavity walls

2) Fill in the Blanks:

- 1) \_\_\_ are designed for robust operation with user-friendly controls to ensure trouble-free operations.
- 2) \_\_\_\_\_ is an artificial support provided below and around the precast or cast "in-situ" concrete work.
- 3) \_\_\_\_\_ is a hoist-way through which one or more elevator cars may travel.
- 4) \_\_\_\_\_ are used in buildings to accommodate vertical movement by allowing an expansion joint to be placed beneath the angle.

3) Sketch the following:

- a) Double Skin Partition Wall                      c) Formwork of column  
b) Single flying shoring                      d) Strutting

4) Explain Cavity Wall and its details for Flat and Inclined Roof.

5) State the Advantages of the Following:

- a) Reinforced Concrete Cement.
- b) False Ceiling.

6) Mention factors to be considered for designing and locating elevators in a building.

**Q.3 Explain the following in brief: (Any five)** (10)

- 1) Partition Wall
- 2) Hydraulic lift
- 3) Escalators
- 4) Explain briefly partitions and paneling
- 5) Qualities of good Formwork
- 6) Scaffolding

**Q.4 Explain the following: (Any two)** (10)

- 1) What is Partition Wall? Mention and Elaborate different Materials Used for Light Partitions
- 2) Sketch and explain single scaffolding and double scaffolding.
- 3) Explain what is an elevator? Classify elevators based on there purpose.