

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 2130607****Date: 7/12/2019****Subject Name: Building Construction****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define 'Building'. Explain its components. **03**
 (b) Define "Shallow foundation". Enlist various types of shallow foundation. **04**
 (c) Enlist the various methods of sub-soil exploration. Explain wash boring with Sketch. **07**
- Q.2** (a) What are the purposes of site Exploration? **03**
 (b) What do you understand by "Raft Foundation"? **04**
 (c) What are the causes of failure of foundation? What remedial measures would you adopt? **07**
- OR**
- (c) What are the characteristics of Black cotton soils? Explain with sketch under-Reamed pile foundation. **07**
- Q.3** (a) Define mortar. Explain cement and lime mortar. **03**
 (b) Write the difference between Rubble masonry and Ashlar masonry. **04**
 (c) Draw the typical sketches, showing the following and define them: **07**
 a) Corbel, b) Jambs, c) Frog, d) Queen closer
 e) King closer, f) Coping, g) Stretcher
- OR**
- Q.3** (a) What you understand by "Composite Masonry"? **03**
 (b) Define Cavity wall. What are its advantages? **04**
 (c) Explain with sketch: **07**
 a) RCC Lintel
 b) Semi- Circular arch
- Q.4** (a) Explain various properties of concrete. **03**
 (b) Differentiate between Fixed and Pivoted windows. **04**
 (c) Differentiate between pre-cast and cast in situ concrete construction. Write advantages and disadvantages of pre-cast cast construction. **07**
- OR**
- Q.4** (a) Define the following with figure in relation to stair: **03**
 a) Tread, b) Riser, c) Landing
 (b) Describe essential requirements of floor. **04**
 (c) What are the factors affecting the selection of size, shape, location and number of windows in a room? **07**
- Q.5** (a) What is difference between plastering and pointing? **03**
 (b) Describe the king post roof truss with figure. **04**
 (c) Define Shoring and underpinning. Explain any one method of each. **07**
- OR**
- Q.5** (a) Write a note on needle scaffolding. **03**
 (b) Briefly explain Thermal insulation of exposed walls. **04**
 (c) Explain about principle and construction of green building. **07**
