

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – IV • EXAMINATION – WINTER 2012****Subject code: 140602****Date: 28/12/2012****Subject Name: Building Construction****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

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

Q.1 (a) What are the purposes of sub-soil exploration? Explain in brief, following methods of site exploration: (i) Auger boring, (ii) Wash boring. **07**
 (b) What are the causes of failure of foundation? What remedial measures would you adopt? **07**

Q.2 (a) What is bond in brick masonry? What is its significance? What are the rules for bonding? **07**
 (b) Explain with sketch Plate Load Bearing Test. **07**
OR
 (b) What are the problems of foundations on black cotton soils? Explain with sketch Under-reamed pile foundation. **07**

Q.3 (a) Describe with neat sketch different types of rubble masonry. **07**
 (b) Explain with sketches the details of cavity wall at the following locations: (a) Foundation level, (b) Parapet level, (c) At openings. **07**
OR

Q.3 (a) Distinguish between lintel & an arch. Draw a neat sketch of an arch and show on it various technical terms used in its construction. **07**
 (b) Explain with sketches the following types of stairs:
 (1) Open-well stair (Half & Quarter turn), (2) Bifurcated stairs, (3) Spiral stairs. **07**

Q.4 (a) Explain in brief the essential requirements of a floor. Describe the following with sketches & mention the situations under which they are used?
 (a) Reinforced brick flooring, (b) Ribbed floor. **07**
 (b) What are the essential requirements of a good roof? Compare merits & demerits of flat & pitched roof? **07**
OR

Q.4 (a) Explain the methods of mixing, placing, compacting and curing of concrete. **07**
 (b) What is the importance of reinforcement in concrete? Describe various types of reinforcements used in reinforced concrete. **07**

Q.5 (a) What are the points to be kept in view, while locating doors & windows in a room? Explain with sketches: (1) Revolving door, (2) Dormer window. **07**
 (b) What are the objects of plastering? Describe in brief: (i) Cement Plastering, (ii) Acoustical plaster. **07**
OR

Q.5 (a) What do you understand by under-pinning? When do you require it? Explain with sketches its method. **07**
 (b) Briefly explain: (i) Thermal insulation of exposed walls, (ii) Post-construction anti-termite treatment. **07**
