

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE Arch. – SEMESTER – I • EXAMINATION – WINTER 2013**

**Subject Code: 1015003****Date: 17-12-2013****Subject Name: Building Construction - I****Time: 10:30 am - 01:30 pm****Total Marks: 40****Instructions:**

1. Attempt any four questions.
2. Question 1 & 2 are compulsory questions
3. Make suitable assumptions wherever necessary.
4. Make suitable sketches wherever required.
5. Figures to the right indicate full marks.
6. Each question carry equal marks (20 marks)

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|-------------|-----|---|-----------|
| <b>Q.1</b>  | (a) | Draw a 230 mm thick wall section of a single storied building and denote all the parts from top to bottom | <b>05</b> |
|             | (b) | Draw an isometric view of Rat trap bond and Header bond   | <b>03</b> |
|             | (c) | Draw isometric view of 3/4 <sup>th</sup> Bat and Double Bullnose brick                                    | <b>05</b> |
| <b>Q.2</b>  | (a) | Write short note on any two:  | <b>15</b> |
|             |     | 1) Qualities of good brick  |           |
|             |     | 2) Characteristics of bamboo  |           |
|             |     | 3) Macro-structure of a tree  |           |
|             |     | 4) Adobe technique of mud construction  |           |
|             | (b) | Give classification of rocks with examples of types of stones   | <b>03</b> |
|             | (c) | Define a brick bond and enlist various types of brick bonds   | <b>02</b> |
| <b>Q.3</b>  | (a) | Draw plans and elevation of 230 mm thick brick wall in English bond                                       | <b>15</b> |
|             | (b) | Sketch different types of joinery between bamboos   | <b>03</b> |
|             | (c) | Sketch details of stone cladding  | <b>02</b> |
| <b>Q.4</b>  | (a) | Write a short note on Manufacturing process of brick  | <b>15</b> |
|             | (b) | Write a short note on Seasoning of timber   | <b>03</b> |
|             | (c) | Write a short note on Treatments for bamboo   | <b>02</b> |
| <b>Q.5</b>  | (a) | Sketch elevations of any 5 types of un-coursed stone masonry  | <b>15</b> |
|             | (b) | Define any 3 of the following:  | <b>03</b> |
|             |     | 1) Ashlar masonry   |           |
|             |     | 2) Stonework  |           |
|             |     | 3) Natural stone  |           |
|             |     | 4) Mason  |           |
|             | (c) | Sketch any 2 types of the coursed stone masonry   | <b>02</b> |
| <b>Q. 6</b> | (a) | Draw widening and angled joinery details of timber  | <b>15</b> |
|             | (b) | Explain with sketches Sawing of timber  | <b>03</b> |
|             | (c) | Write short note on Defects in timber   | <b>02</b> |
| <b>Q. 7</b> | (a) | Draw isometric view of 350mm thick wall in Double Flemish bond  | <b>15</b> |
|             | (b) | Define following (any 3)  | <b>03</b> |
|             |     | 1) Veneer   |           |
|             |     | 2) Masonry  |           |
|             |     | 3) Course   |           |
|             |     | 4) Framed Structure   |           |
|             |     | 5) Pointing   |           |
|             | (c) | Sketch & explain precautions required for Mud construction  | <b>02</b> |

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