

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) EXAMINATION – WINTER 2023****Subject Code:3130607****Date:16-01-2024****Subject Name:Building Construction Technology****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What is foundation? When should we provide a shallow foundation? Under which circumstances the deep foundation is provided? **03**
- (b) Define with the sketch: Header, King closer, Quoin, and Bevelled bat. **04**
- (c) Differentiate between pre-cast and cast-in-situ concrete construction. **07**
- Q.2** (a) Explain the concept and requirements of a green building. **03**
- (b) Describe various types of termites. **04**
- (c) Write a short note on Pivoted windows and Bay windows with figures. **07**
- OR**
- (c) What are the requirements of a god stair? **07**
- Q.3** (a) Draw a chart showing the classification of arches. **03**
- (b) How different types of rocks are formed in nature? **04**
- (c) Explain a brick bond with the figure which is similar to an English bond. **07**
- OR**
- Q.3** (a) Explain the specific circumstances under which timbering, shoring, and underpinning are provided. **03**
- (b) Describe with figure the Electro-osmosis process for the elimination of groundwater flow. **04**
- (c) What are the uses of a coffer dam? How to prevent leakage from a coffer dam? **07**
- Q.4** (a) Under which circumstances the pile foundation is required? Enlist various types of piles. **03**
- (b) Explain caisson sicknesses. **04**
- (c) Describe with the sketch, the method of setting out foundation trenches. **07**
- OR**
- Q.4** (a) Define Horn, Panel, and Rebate. **03**
- (b) Explain the Glaze and sash door with a figure. **04**
- (c) Define with figure: Trade, Going, Nosing, Scotia, Rise, Riser, and Landing. **07**
- Q.5** (a) What are the essential requirements of a good roof? **03**
- (b) What are the merits and demerits of a Flag-stone flooring? **04**
- (c) Explain different types of pointing with the figure. **07**
- OR**
- Q.5** (a) What are the advantages of 3D printing technology in building construction? **03**
- (b) Explain various defects in painting. **04**
- (c) Explain with neat sketches, the formwork for the RCC beam. **07**

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