

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 3130607****Date: 28/11/2019****Subject Name: Building Construction Technology****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) Explain the water-cement ratio and the workability of concrete. **03**  
(b) What is meant by Green Building? Explain in brief. **04**  
(c) What are the causes of the failure of the foundation? What remedial measures would you adopt? **07**

- Q.2** (a) Explain about pre-cast and cast-in situ construction. **03**  
(b) Draw a sketch of the Cavity wall & give its purposes. **04**  
(c) What do you understand by scaffolding? What are the components of a scaffold? **07**

**OR**

- (c) What is meant by the “Shallow foundation”? Explain the various types of shallow foundations. **07**
- Q.3** (a) Enlist various points to be remembered during any building construction site visit as a Civil Engineer. **03**  
(b) Explain the classification of windows and discuss any one of them with a neat sketch **04**  
(c) Give a pointwise comparison between stone masonry and brick masonry. **07**

**OR**

- Q.3** (a) Draw a neat sketch of one brick thick English bond and describe the characteristics of the English bond. **03**  
(b) Discuss anti-termite treatment for a building. **04**  
(c) Explain the following in relation to roof (with a figure): **07**  
(a) Rise (b) Ridge (c) Common rafter (d) Principal rafter (e) Cleat (f) Purlin (g) Pitch

- Q.4** (a) Draw a label diagram of a typical door. **03**  
(b) Give the difference between plastering and pointing in brief. **04**  
(c) Define underpinning. Explain the pit method of underpinning with the sketch. **07**

**OR**

- Q.4** (a) Explain in brief the essential requirements of a good floor. **03**  
(b) What is meant by the tilting of caissons? What are its reasons? **04**  
(c) Write a short note on ‘Termites and their attack on building’. **07**
- Q.5** (a) I. Sketch three types of joints in stone masonry **03**  
(b) II. Write in brief about Acoustical construction **04**  
(c) Enlist various methods of subsurface investigation. Explain any two in brief with neat and clean sketches. **07**

**OR**

- Q.5** (a) Explain any one case study of Green Building. **03**  
(b) Explain with sketch: (a) Segmental arch (b) RCC Lintel **04**  
(c) Draw a neat sketch: (a) Framed and Panelled Door **07**  
(b) Dog-legged stairs

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-III (NEW) EXAMINATION – WINTER 2020****Subject Code:3130607****Date:10/03/2021****Subject Name:Building Construction Technology****Time:10:30 AM TO 12:30 PM****Total Marks:56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	<b>Short Questions</b>	<b>14</b>
1	Give the standard and nominal size of brick.	
2	Explain cornice and corbel with figure.	
3	Explain the purpose of providing cavity wall	
4	Explain water cement ratio and state its range	
5	Exposed portions of a vertical surface at right angles to the door or window frame are known as	
	(a) Jambs (b) lintels	
	(c) Reveals (d) Soffits	
6	The vertical sides of door and window openings provided in a wall are known as	
	(a) Jambs (b) lintels	
	(c) Reveals (d) Soffits	
7	The Filling in cavities with cement slurry is known as	
	(a) Coping (b) Beam Filling	
	(c) Grouting (d) Gunniting	
8	Enumerate various defects in plastering.	
9	Differentiate between shoring and underpinning.	
10	Enlist the materials used for damp-proofing.	
11	Explain the purposes of sub-surface investigation.	
12	Define the term Mortar.	
13	Enlist the different types of cement.	
14	Define the given terms:- A) Mullion B) Jamb	
<b>Q.2</b>	(a) What are the advantages of Green building material?	<b>03</b>
	(b) Explain with neat sketch "Combined footing".	<b>04</b>
	(c) What precaution is to be taken for foundation in Black cotton soil? Explain Under-reamed pile foundation.	<b>07</b>
<b>Q.3</b>	(a) Define cavity wall. Enlist its advantages?	<b>03</b>
	(b) Give classification of Lintel and explain any one in detail.	<b>04</b>
	(c) What is the difference between pre cast & cast in situ concrete? Explain the process of manufacturing pre cast products.	<b>07</b>
<b>Q.4</b>	(a) Define mortar. Explain cement and lime mortar.	<b>03</b>
	(b) Write the difference between Rubble masonry and Ashlar masonry.	<b>04</b>
	(c) Draw the typical sketches, showing the following and define them:	<b>07</b>
	a) Corbel, b) Jambs, c) Frog, d) Queen closer	
	e) King closer, f) Coping, g) Stretcher	

<b>Q.5</b>	<b>(a)</b> Describe the requirements of Good plaster.	<b>03</b>
	<b>(b)</b> Describe various precaution measures to minimize the danger of fire.	<b>04</b>
	<b>(c)</b> Enlist various types of shores. Explain Raking shore in detail with neat sketch.	<b>07</b>
<b>Q.6</b>	<b>(a)</b> What is the difference between plastering and pointing?	<b>03</b>
	<b>(b)</b> Describe essential requirements of floor.	<b>04</b>
	<b>(c)</b> Enlist Types of Scaffolding and explain any two in detail.	<b>07</b>
<b>Q.7</b>	<b>(a)</b> Discuss cause of fire and its precautionary measures.	<b>03</b>
	<b>(b)</b> Discuss various principles to be followed for providing Damp proofing.	<b>04</b>
	<b>(c)</b> Write short note on (1) Thermal insulation (2) Anti-termite treatment	<b>07</b>
<b>Q.8</b>	<b>(a)</b> Explain in brief (1) Sub Surface investigation	<b>03</b>
	<b>(b)</b> Draw the Sketch (1) Brick Jack arch Flooring (2) Concrete jack arch flooring (3) Ribbed Flooring (4) Flag stone Floor	<b>04</b>
	<b>(c)</b> Define shoring and under pinning. Explain any one method of each	<b>07</b>

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) EXAMINATION – WINTER 2021****Subject Code:3130607****Date:19-02-2022****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.

**MARKS**

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|------------|--|-----------|
| <b>Q.1</b> | (a) Enlist types of buildings.   | <b>03</b> |
|            | (b) Distinguish between shallow foundations and deep foundations.  | <b>04</b> |
|            | (c) Suggest and briefly explain the method of soil investigation when the depth of exploration is substantial and speed of investigation is of prime importance. | <b>07</b> |
| <b>Q.2</b> | (a) Explain chemical grouting method to control ground water.  | <b>03</b> |
|            | (b) Draw a neat sketch showing component of scaffolding.   | <b>04</b> |
|            | (c) Enlist types of coffer dam and explain any two with neat sketch.   | <b>07</b> |
|            | <b>OR</b>  |           |
|            | (c) Describe factors to be consider in order to limit fire spread.   | <b>07</b> |
| <b>Q.3</b> | (a) Define: Racking back, Parapet, Coping  | <b>03</b> |
|            | (b) Discuss precautions to be taken during construction of cavity wall.  | <b>04</b> |
|            | (c) Draw a neat sketch of double flemish bond and discuss it's important features.   | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.3</b> | (a) Define lintel and draw a neat sketch showing RCC lintel.   | <b>03</b> |
|            | (b) Explain uncoursed rubble masonry.  | <b>04</b> |
|            | (c) Discuss the method of applying cement plaster.   | <b>07</b> |
| <b>Q.4</b> | (a) Draw a neat and labelled sketch of door shutter.   | <b>03</b> |
|            | (b) Describe the procedure of constructing marble flooring.  | <b>04</b> |
|            | (c) Enlist types of upper floors and describe any one with neat sketch.  | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.4</b> | (a) Draw a neat and labelled sketch of casement window.  | <b>03</b> |
|            | (b) Define : 1) Scotia 2) Winders 3) Landing 4) Going  | <b>04</b> |
|            | (c) Classify pitched roof and explain king post truss with neat and labelled sketch.   | <b>07</b> |
| <b>Q.5</b> | (a) Define workability of concrete and list out tests to measure it.   | <b>03</b> |
|            | (b) Compare the precast concrete with cast in situ concrete.   | <b>04</b> |
|            | (c) Describe the concept and important features of Green Building.   | <b>07</b> |
|            | <b>OR</b>  |           |
| <b>Q.5</b> | (a) Describe the application of 3D printing in Civil Engineering.  | <b>03</b> |
|            | (b) Explain the causes of failure of falsework.  | <b>04</b> |
|            | (c) Draw a neat sketch of shuttering for RCC slab.   | <b>07</b> |

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– III EXAMINATION – SUMMER 2020****Subject Code: 3130607****Date: 28/10/2020****Subject Name: Building Construction Technology****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) Give names of various methods of demolition of structures. **03**  
(b) Explain friction pile with neat sketch. **04**  
(c) Differentiate between stone masonry and brick masonry. **07**
- Q.2** (a) Explain combined footing with neat sketch. **03**  
(b) Discuss about pile cap and pile shoes. **04**  
(c) Enumerate various methods of soil exploration and discuss any one with neat sketches. **07**
- OR**
- (c) Write brief note on seismic refraction method and electrical resistivity method. **07**
- Q.3** (a) Explain English bond with its use. **03**  
(b) Which are the remedial measures to prevent caisson diseases? **04**  
(c) Differentiate between stone masonry and brick masonry. **07**
- OR**
- Q.3** (a) Define Intrados, Rise and Springer in connection with arch. **03**  
(b) Draw neat sketch of RCC lintel with chhaja. **04**  
(c) Enumerate various types of cement and discuss about sulphate resistance cement. **07**
- Q.4** (a) Draw form work for RCC footing with nomenclature. **03**  
(b) Define the terms: Nosing, Newel post, Winder, Soffit **04**  
(c) Write short notes on Glazed door and Flush door. **07**
- OR**
- Q.4** (a) Enlist various roofing material. **03**  
(b) Discuss clear storey window with neat sketch. **04**  
(c) Explain dog legged stair, Open well stair and bifurcated stair with its suitability. **07**
- Q.5** (a) What is cofferdam? What is its use? **03**  
(b) Write brief note on double scaffolding. **04**  
(c) Discuss various causes of fire and its precautionary measures. **07**
- OR**
- Q.5** (a) Explain rating system of green building used in India and Globally. **03**  
(b) Which factors are considered for deciding the method of demolition? **04**  
(c) Discuss and explain with proper figure single and double flying shore. **07**

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (NEW) EXAMINATION – SUMMER 2021****Subject Code:3130607****Date:08/09/2021****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 meant by Green Building? Explain in brief. **03**  
 (b) Define 'Building'. Explain its components. **04**  
 (c) What are the causes of failure of foundation? What remedial measures would you adopt? **07**

- Q.2** (a) Explain the water-cement ratio and the workability of concrete. **03**  
 (b) Enlist various points to be remembered during any building construction site visit as a Civil Engineer. **04**  
 (c) Enlist the various methods of sub-soil exploration. Explain wash boring with sketch. **07**

**OR**

- (c) Give a point-wise comparison between stone masonry and brick masonry. **07**  
**Q.3** (a) Draw a sketch of Cavity wall & give its purposes. **03**  
 (b) Describe briefly Hollow Tiled Ribbed flooring with sketch. **04**  
 (c) What do you understand by scaffolding? Describe Single scaffolding with sketch. **07**

**OR**

- Q.3** (a) Which are the remedial measures to prevent caisson diseases? **03**  
 (b) Draw neat sketch of RCC lintel with chhaja. **04**  
 (c) Explain the classification of windows and discuss any one of them with a neat sketch. **07**
- Q.4** (a) Draw a label diagram of a typical door. **03**  
 (b) Describe Jack arch flooring with sketch. **04**  
 (c) Describe the following staircase with sketch. **07**  
 a) Doglegged staircase, b) Geometrical stair

**OR**

- Q.4** (a) Enlist various roofing material. **03**  
 (b) Sketch three types of joints in stone masonry **04**  
 (c) Define underpinning. Explain the pit method of underpinning with the sketch. **07**
- Q.5** (a) Explain with sketch: (a) Segmental arch, (b) Framed and Panelled Door **03**  
 (b) Give classification of Lintel and explain any one in detail. **04**  
 (c) Draw the typical sketches, showing the following and define them: a) Corbel, **07**  
 b) Jambs, c) Frog, d) Queen closer e) King closer f) Coping, g) Stretcher

**OR**

- Q.5** (a) What is the difference between plastering and pointing? **03**  
 (b) Discuss various precautionary measures of fire. **04**  
 (c) What is the difference between pre cast & cast in situ concrete? Explain the process of manufacturing pre cast products. **07**

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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– III (NEW) EXAMINATION – SUMMER 2022****Subject Code:3130607****Date:28-07-2022****Subject Name:Building Construction Technology****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.
4. Simple and non-programmable scientific calculators are allowed.

		<b>MARKS</b>
<b>Q.1</b>	(a) Give names of various methods of demolition of structures.	<b>03</b>
	(b) What is meant by Green Building? Explain in brief.	<b>04</b>
	(c) What are the causes of the failure of the foundation? What remedial measures would you adopt?	<b>07</b>
<b>Q.2</b>	(a) Explain about pre-cast and cast-in situ construction.	<b>03</b>
	(b) Differentiate between stone masonry and brick masonry.	<b>04</b>
	(c) Suggest and briefly explain the method of soil investigation when the depth of exploration is substantial and speed of investigation is of prime importance.	<b>07</b>
	<b>OR</b>	
	(c) What precaution is to be taken for foundation in Black cotton soil? Explain Under-reamed pile foundation.	<b>07</b>
<b>Q.3</b>	(a) Explain chemical grouting method to control ground water.	<b>03</b>
	(b) Which are the remedial measures to prevent caisson diseases?	<b>04</b>
	(c) Describe factors to be consider in order to limit fire spread.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Explain in brief the essential requirements of a good floor.	<b>03</b>
	(b) Discuss various principles to be followed for providing Damp proofing.	<b>04</b>
	(c) Write a short note on 'Termites and their attack on building'.	<b>07</b>
<b>Q.4</b>	(a) What is the difference between plastering and pointing?	<b>03</b>
	(b) Draw a neat and labelled sketch of casement window.	<b>04</b>
	(c) Explain the methods of mixing, placing, compacting and curing of concreting.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Define Intrados, Rise and Springer in connection with arch.	<b>03</b>
	(b) Explain Raking shores with a neat sketch. What are the various points to be noted, while constructing raking shores?	<b>04</b>
	(c) Draw a neat sketch: (a) Framed and Panelled Door (b) Dog-legged stairs	<b>07</b>
<b>Q.5</b>	(a) Enlist various roofing materials.	<b>03</b>
	(b) Discuss precautions to be taken during construction of cavity wall.	<b>04</b>
	(c) Enumerate various types of cement and discuss about sulphate resistance cement.	<b>07</b>

**OR**

- Q.5** (a) Enlist various points to be remembered during any building construction site visit as a Civil Engineer. **03**
- (b) Draw the Sketch (1) Brick Jack arch Flooring (2) Concrete jack arch flooring (3) Ribbed Flooring (4) Flag stone Floor **04**
- (c) Classify pitched roof and explain king post truss with neat and labelled sketch. **07**

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