

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

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
Q.1	Short Questions	14
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	
Q.2	(a) What are the advantages of Green building material?	03
	(b) Explain with neat sketch "Combined footing".	04
	(c) What precaution is to be taken for foundation in Black cotton soil? Explain Under-reamed pile foundation.	07
Q.3	(a) Define cavity wall. Enlist its advantages?	03
	(b) Give classification of Lintel and explain any one in detail.	04
	(c) What is the difference between pre cast & cast in situ concrete? Explain the process of manufacturing pre cast products.	07
Q.4	(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	

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

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

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**

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

- Q.3** (c) Give a point-wise comparison between stone masonry and brick masonry. **07**
 (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**

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.

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

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**
