

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 2134002****Date: 30/11/2019****Subject Name: Building Technology & Materials****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.

		Marks
<b>Q.1</b>	(a) Justify the given statement “Black cotton soil is also known as expansive soil”	<b>03</b>
	(b) What do you understand by under-pinning? Explain with sketches anyone of its method in brief.	<b>04</b>
	(c) Describe step by step procedure of setting out of foundation for load bearing structure with neat sketch.	<b>07</b>

<b>Q.2</b>	(a) State the function of ‘Bond’ in masonry. Which type of bond of brick masonry, you will recommend for load bearing residential bungalow and its compound wall? Justify your answer with reason.	<b>03</b>
	(b) Describe various types of ‘Pointing’ used in masonry construction with neat sketch.	<b>04</b>
	(c) What is composite masonry? Write advantages of composite masonry and enlist different types of composite masonry.	<b>07</b>

**OR**

	(c) Why cavity wall are provided? What precautions to be taken during cavity wall construction?	<b>07</b>
<b>Q.3</b>	(a) Differentiate between Traditional formwork and Modern formwork	<b>03</b>
	(b) Write short note on ashlar chamfered masonry.	<b>04</b>
	(c) Discuss various factors affecting the selection of flooring material? Which type of flooring, you will recommend for a Food Industry – production building.	<b>07</b>

**OR**

<b>Q.3</b>	(a) Draw a neat sketch of ‘Casement Window’ indicating all the terms.	<b>03</b>
	(b) Discuss with neat sketch ‘double scaffolding’.	<b>04</b>
	(c) Explain Queen - post truss with neat sketch in detail.	<b>07</b>
<b>Q.4</b>	(a) Explain the objectives of protective coatings. Which type of protective coating, you will recommend for solid wooden casement doors?	<b>03</b>
	(b) What is lintel? Explain R.C.C. lintel.	<b>04</b>

- (c) Enlist various types of opening? What are the objectives for providing openings in building? Which types of door you are recommend for elevators in building and also explain it in details along with neat sketch. **07**

**OR**

- Q.4** (a) Describe various defects in plastering. **03**  
(b) Draw a neat sketch of a typical arch and show in it various technical terms used in its construction. **04**  
(c) What are the points to be kept in mind while fixing the position of windows? Explain Dormer window in details. **07**
- Q.5** (a) Write short note on 'Defects in timbers'. **03**  
(b) Explain safety measures to be adapted in construction of residential building. **04**  
(c) Draw a neat sketch of Dog-legged stair and explain step by step procedure of designing of dog-legged staircase. **07**

**OR**

- Q.5** (a) Write note on 'Glass cladding'. **03**  
(b) Which safety measures need to be taken care in case of high rise building in crowded area? **04**  
(c) Describe the following types of staircase in detail with neat sketch: **07**  
(i) Open well stair (ii) Bifurcated stair.

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