

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-III (New) EXAMINATION – WINTER 2015

Subject Code: 2130607

Date: 18/12/2015

Subject Name: Building construction

Time: 2:30pm to 5:00pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	Short Questions	14
	1 Enumerates any four components of building.	
	2 Suggest the methods of sub-surface investigation for hard rock material.	
	3 Write the function of frog in brick.	
	4 Give the standard and nominal size of brick.	
	5 Define header and stretcher with figure.	
	6 Explain cornice and corbel with figure.	
	7 Give the situations under which various stone masonries are used.	
	8 Explain the purpose of providing cavity wall.	
	9 Write two advantages of hollow concrete masonry	
	10 Explain water cement ratio and state its range.	
	11 Explain the differences between pitched roof and flat roof.	
	12 Enumerate various defects in plastering.	
	13 Differentiate between shoring and underpinning.	
	14 Enlist the materials used for damp-proofing.	
Q.2	(a) Explain the purposes of sub-surface investigation.	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	
	(c) Describe with figure various precautions to be taken for foundations in black cotton soil.	07
Q.3	(a) Describe the points to be kept in mind while selecting the method of site exploration.	03
	(b) Draw a neat sketch of one brick thick English bond and describe the characteristics of English bond.	04
	(c) Describe various causes of failure of foundation and their remedies.	07
	OR	
Q.3	(a) Describe various defects in brick masonry.	03
	(b) Define composite masonry and explain any one its type with figure.	04
	(c) Describe in brief	07
	(1) Hollow concrete block masonry (2) Cavity walls	
Q.4	(a) Differentiate between precast and cast-in-situ concrete construction.	03

	(b)	Draw a neat sketch of door with all components and describe the function of each component.	04
	(c)	Describe the classification of stair and discuss any two of them in details (with figure).	07
	OR		
Q.4	(a)	Explain essential requirements of floor.	03
	(b)	Describe lean to roof with a neat sketch.	04
	(c)	Explain the following in relation of roof (with a figure) (1) Rise (2) Pitch (3) Principal rafter (4) Common rafter (5) Purlin (6) Cleat (7) Ridge	07
Q.5	(a)	Discuss in brief various roof covering materials.	03
	(b)	Define pointing and its types in brief.	04
	(c)	Define scaffolding and its component parts. Describe needle scaffolding in detail (with figure)	07
	OR		
Q.5	(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
