

GUJARAT TECHNOLOGICAL UNIVERSITY

B.ARCH. – SEMESTER– I EXAMINATION – SUMMER 2019

Subject Code: 1015004

Date:01/06/2019

Subject Name: Structure-I

Time: 10:30 AM TO 12:30 PM

Total Marks:50

Instructions:

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

		Mark
Q.1	(a) Briefly explain any five important mechanical properties.	05
	(b) List out various structural members in building and explain following with neat sketch: 1) Foundation 2) Beam 3) Column 4) slab	05
Q.2	(a) Write a short note on importance of Structures in the field of Architecture.	05
	(b) Explain the Lami's Theorem.	05
Q.3	Calculate centre of gravity of a T-section having flange of 20cm x 2cm and web of 30cm x 2cm.	10
Q.4	(a) Define force system. Explain various types of forces in a force system.	05
	(b) State and explain law of Parallelogram of forces.	05
Q.5	A simply supported beam AB is having a span of 5 m carrying one point load of 20 KN acting at a distance of 2 meter from the left end A and UDL of 15 KN/m intensity over the entire span. Find the support reactions	10
Q.6	(a) Explain Types of beam and types of supports with neat sketches	05
	(b) Differentiate between Load bearing and Frame structure buildings	05
Q.7	A simply supported beam AB of span 6 m is subjected to two point loads of 20 KN & 20 KN acting at 2 m from each support. Find the reactions at the support.	10
