Seat No.: Enrolment No GUJARAT TECHNOLOGICAL UNIVERSITY BARCH – SEMESTER-I– • EXAMINATION – SUMMER 2015		
Subject Code: 1015004 Subject Name: Structure - I Time: 02:30 pm - 04:30 pm	Date: 18-05-2015 Total Marks: 50	
Important Instructions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Draw neat sketches where required. 4. Figures to the right indicate full marks. 5. If more options are attempted, then, highest scoring answers will		
 Q.1 Explain in Brief with sketches (any four) the following: (1) Importance of Structures in Architecture (2) Dead load and Live Load (3) Framed Structure Vs a Load Bearing Structure (4) Lami's Theorem (5) Equilibrium Conditions (6) Resultant of two forces. 	(4 marks each)	16
Q.2. Write a short note on Mechanical Properties.		10
Q.3. Solve (any three) of the following problems:	(8 marks each)	24
(1) Find moment of inertia of hollow triangular section given in Figu	re 1 along base BC.	

- (2) Find moment of inertia of a I-section made up of three rectangles as shown in Figure 2, along the horizontal axis passing through the center of gravity of the I section.
- (3) Find Reactions at support A and B for simply supported beam shown in Figure 3
- (4) Find Reactions at support A and B for simply supported beam shown in Figure 4
- (5) Find center of Gravity of a Channel Section 100mm x 50 mm x 15 mm as shown in Figure 5

