Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY B.ARCH - SEMESTER- I • EXAMINATION - SUMMER 2014

Subject Code: 1015004 Date: 29-05-2014 Subject Name: Structure-I Time: 2:30 PM to 4:30 PM **Total Marks: 50** Instructions: 1. Attempt all questions. Make suitable sketches wherever necessary. 3. Figures to the right indicate full marks. **Q.1** (a) Briefly explain important mechanical properties (any 6) 12 **(b)** Explain types of Loads 06 (a) Two tensile forces 50 kN and 40 kN acting at a point with angle 60⁰ between 07 **Q.2** them. Find magnitude and direction of the resultant. (b) Find the angle between two equal forces P when their resultant is equal to zero. 07 OR **(b)** Find the angle between two equal concurrent forces P when their resultant is 07 also equal to P. (a) Calculate centroid of a T-section having flange of 20cm X 2cm and web of Q.3 09 30cm X 2cm. **(b)** Find centroid of ISA 90X60X6mm by keeping longer leg vertical. 09 OR (i) Find Reactions of a simply supported beam having u.d.1 of 20kN/m 18 **Q.3** throughout entire span of 8m. Point load of 50kN and 100kN are applied respectively at 2m from left side support and 2m from right side support. (ii) Find Reactions of a simply supported beam having span of 8m. Point load of 8kN is applied on 2m from left side support and u.d.l of 4 kN/m is applied on 4m from right side support.
