Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**B.ARCH. – SEMESTER– II EXAMINATION – SUMMER 2019**

**Subject Code:1025004 Date:03/06/2019**

**Subject Name:Structure-II**

**Time:10:30 AM TO 12:30 PM Total Marks:50**

**Instructions:**

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

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|---|---|---|---|
| **Q.1** | **(a)** | Enlist the different types of beams with neat sketches. | **05** |
| | **(b)** | Draw the stress v/s strain curve of mild steel and explain all the points | **05** |
| **Q.2** | **(a)** | Differentiate between truss and frame. | **05** |
| | **(b)** | Explain the basics assumptions in the analysis of trusses. | **05** |
| | | **OR** | |
| | **(b)** | Explain different types of trusses with neat sketches. | **05** |
| **Q.3** | **(a)** | An axial tension of 60 kN is applied to a rod of 5 m length and 700 $mm^2$ cross sectional areas. The increase in length is found to be 3mm. Calculate the values of stress, strain and Modulus of Elasticity | **10** |
| | | **OR** | |
| **Q.3** | **(a)** | Explain with a neat sketch the load distribution act on trusses. Explain type of load. | **10** |
| **Q.4** | **(a)** | Explain the point of contra flexure? | **05** |
| | **(b)** | Difference between composite element and compound element | **05** |
| | | **OR** | |
| **Q.4** | **(a)** | Explain the types of support condition with net sketches. | **05** |
| | **(b)** | Difference between Prismatic and Non-Prismatic Elements | **05** |
| **Q.5** | **(a)** | Draw the Shear force and Bending moment diagram for a Cantilever Beam of 8 m span subjected to a udl of 20 KN/m over the entire span and a point load of 25 KN acting at 4m from left support. | **10** |
| | | **OR** | |
| **Q.5** | **(a)** | Draw the Shear force and Bending moment diagram for a Simply supported Beam of 10m span subjected to a udl of 30 KN/m over the entire span and a point load of 15 KN and 20 KN acting at 4m and 6m from left support. | **10** |

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