Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BArch- SEMESTER– 2 EXAMINATION – SUMMER 2016

Subject Code: 1025004 **Date: 30/05/2016**

Subject Name: Structure – II

Time:10.30AM – 12.30PM **Total Marks: 50**

Instructions:

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

Q.1 **(a)** Define the following terms: (Any Six) **06**

1. Stress
2. Strain
3. Modulus of Elasticity.
4. Elasticity
5. Principle of superposition
6. Shear Stress
7. Bending Moment
8. Shear Force

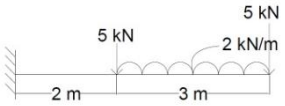
(b) Explain trusses and their classification with sketch. **08**

OR

(b) Draw the stress v/s strain curve of mild steel and mention all points. **08**

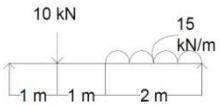
Q.2 **(a)** Explain the equilibrium condition of a beam and the types of beam. **08**

(b) Draw the Shear force and Bending moment diagram for a Cantilever Beam shown in figure. **10**

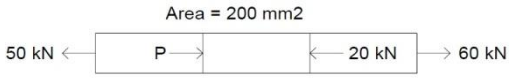


OR

(b) Find the Shear force and Bending moment of figure. Draw the diagram for the same and find the point of contra flexure. **10**



Q.3 **(a)** Solve figure and find the stress at each part of the bar. Take E = 2 x 10^5 N/mm^2. **08**



(b) Explain with a neat sketch the load distribution act on trusses. Explain type of load. **10**

OR

(b) An axial tension of 50 kN is applied to a rod of 4 m length and 500 mm^2 cross-sectional areas. The increase in length is found to be 2mm. Calculate the values of stress, strain and Modulus of Elasticity. **10**

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