Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BA – SEMESTER – 1 - EXAMINATION – SUMMER 2018

Subject Code: 1025004   **Date:18-May-2018**
Subject Name: Structure – II
Time: 10:30 AM TO 012:30 PM   **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 Seven)   [7]
1. Stress
2. Strain
3. Modulus of Elasticity.
4. Elasticity
5. Principle of superposition
6. Shear Stress
7. Bending Moment
8. Shear Force
9. Hook's law

(b)Explain trusses and their classification with sketch.   [8]

Q.2 (a) Describe the following Terms (any Two – With the help of sketches)   [5]
I. Enlist the Basic Assumptions for Analyses of Truss
II. Enlist of the various Types of Truss as per Stability [with the help of the equation]
III. Enlist the Types of the END Support [with the help of Sketches]

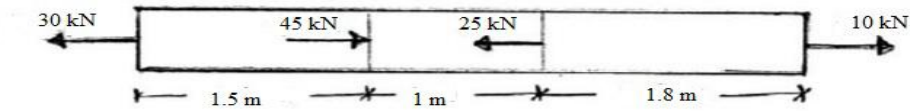(b) Draw the Shear force and Bending moment diagram for a Cantilever Beam shown in   [10]
figure.
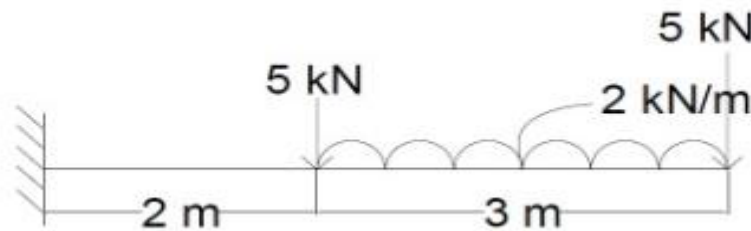
OR

Q.2 A 6 m span cantilever beam is shown in figure. Draw shear force and bending moment   [10]
diagrams.
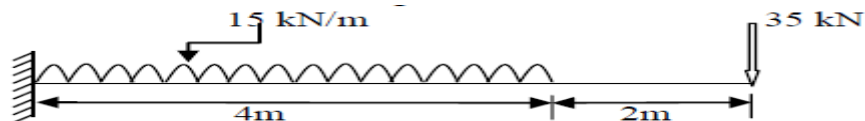
Q.3 (a) A brass rod having 2 cm diameter is subjected to axial forces as shown in figure. Find the total elongation of the rod. Take E= 2 x 105 N/mm2. **[10]**

(b) Define the following terms. **[5]**
1. Redundant truss
2. Deficient truss

OR

Q.3 (A) Draw the stress v/s strain curve of mild steel and Concrete also Explain all points. **[10]**

(b) Differentiate between truss and frame. **[5]**

Q.4 Describe the following body part as a example for type beam , support or load **[5]**
1. Widen Hand is _____ type of beam.
2. Area of chest to stomach is _____ type of beam.
3. Elbow is _____ type of support.
4. Flooring is example of _____ load.
5. Standing pole is example of _____ load.

OR

Q.4 Explain the equilibrium condition of a beam and the types of beam. **[5]**