Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.ARCH - SEMESTER– II • EXAMINATION – SUMMER 2017

Subject Code: 1025004 **Date: 26/05/2017**

Subject Name: Structure – II

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

Instructions:

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

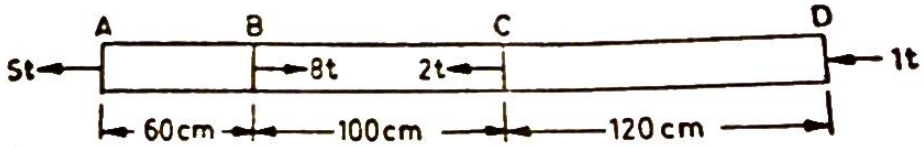
Q.1 **(a)** Write correct answers of any Five for the following. **10**

1. Differentiate between truss and frame.
2. Write conditions of equilibrium.
3. Explain truss and its classification.
4. Write assumptions in plain truss.
5. Differentiate between composite element and compound element.
6. Explain types of support conditions with neat sketch.
7. Differentiate between normal stress and tangential stress.
8. Differentiate between cantilever beam and over hanging beam with sketches.

Q.2 **(a)** Define any Five of the following terms. **10**

1. Point of contraflexure
2. Principle of superposition
3. Shear force
4. Bending Moment
5. Statically determinate truss
6. Redundant truss
7. Deficient truss

Q.3 **(a)** A brass bar having cross sectional area of 10 sq. cm is subjected to axial forces as shown in figure. Find the total elongation of the bar. Take E=0.8 x 10^3 t/cm². **10**

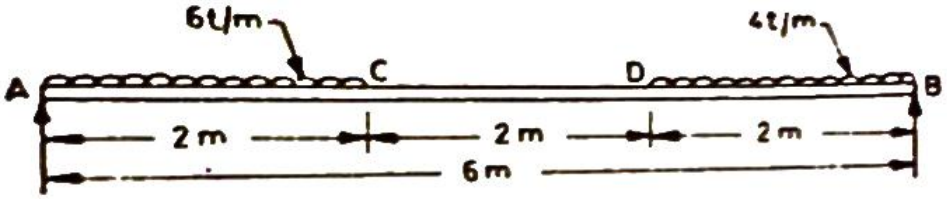


(b) A load of 5 kN is to be raised with the help of a steel wire. Find the minimum diameter of steel wire, if the stress is not to exceed 100 N/mm². **05**

or

(b) Explain with neat sketch the load distribution act on trusses. **05**

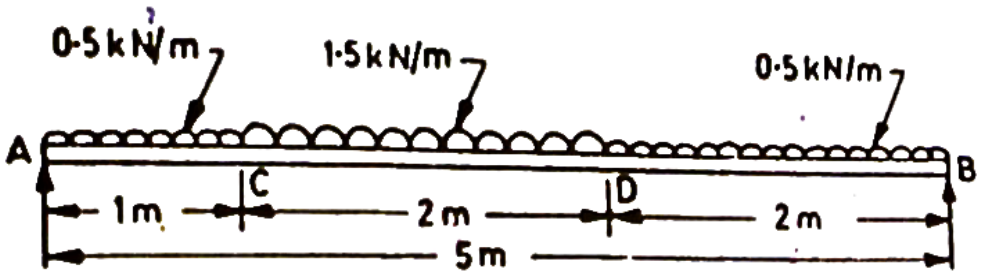
Q.4 **(a)** A 6 m span simply supported beam is shown in figure. Draw shear force and bending moment diagrams. **10**



(b) Enlist types of beams with sketches. **05**

or

Q.4 **(a)** Draw shears force and bending moment diagrams for a simply supported beam as shown in figure. **10**



(b) Enlist types of loads with sketches. **05**

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