Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPLAN - SEMESTER– I EXAMINATION – SUMMER 2015

Subject Code: BP1C1/1015502 **Date: 02/06/ 2015**

Subject Name: Fundamentals of Building Structure

Time: 2:30 pm to 04:30 pm **Total Marks: 50**

Instructions:

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

Q.1 (A) 1) What is unit of Stress ? **06**

a) KN X m^2
b) KN / m^2
c) KN X m
d) KN / m

2) What is unit of Strain ?

a) KN X m^2
b) KN / m^2
c) KN X m
d) None of above

3) What is unit of Stiffness ?

a) KN X m^2
b) KN / m^2
c) KN X m
d) KN / m

4) What is Shear Strength ?

a) Maximum Shear carrying capacity without failure or deformation
b) Ability to resist Shear
c) Stress / Strain
d) Maximum strain present under equilibrium condition at shear junction

5) Number of Reactions at Hinge supports will be?

a) 1
b) 2
c) 3
d) 4

6) The load which changes its magnitude with respect to time or position of action.

a) Dynamic load
b) Static load
c) Time bound load
d) Ever changing load

PTO

(B) Write types of Equilibrium and Equilibrium Conditions. **04**

Q.2 **(A)** Detail out force system. **10**

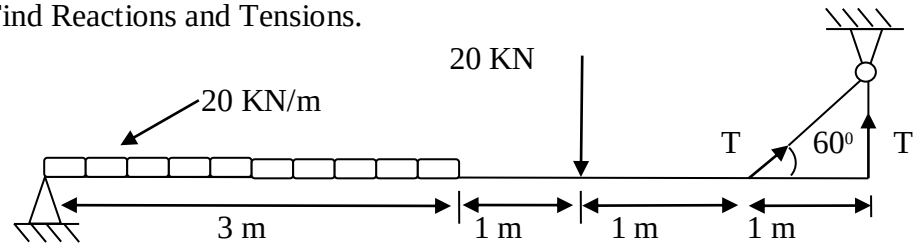
(B) Brief Types of supports. **05**

OR

(B) Explain design principles of RCC columns. **05**

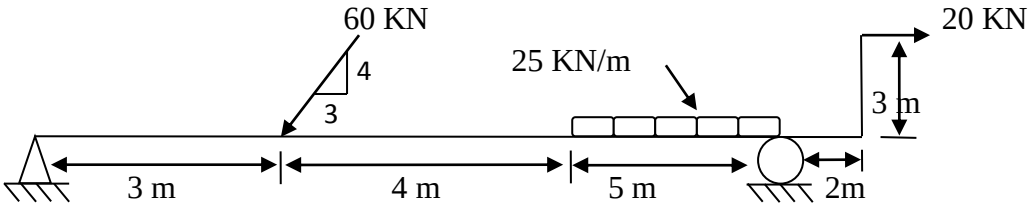
Q.3 **(A)** Explain with figures high rise structures systems. **05**

(B) Find Reactions and Tensions. **10**



OR

(B) Find Reactions. **10**



Q.4 **(A)** Draw stress vs strain graph for mild steel. **05**

(B) Explain in detail stress vs strain graph for mild steel. **05**

OR

Q.4 **(A)** Prove Varignon's theorem. **05**

(B) Find the angle between 2 equal forces of magnitude P when the resultant is 2 P. and 0 respectively ? **05**

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