Seat No. _____

HAI-161001010205

B. Architecture (Sem.-II) Examination

May - 2023

Structure-II

Time : **2** Hours / Total Marks : **50**

1 State whether the following statements are true or false with brief explanation: (Any **Five**) **15**

(1) Moment of Inertia of same cross sectional area for Circular section is higher than Squares Section.

(2) Shear force diagram in case of UDL has incline graph in simply supported beam.

(3) Structures with shapes derived in a way where, only a state of tension or compression is induced by the self weight are referred to as catenary structures.

(4) Maximum bending moment occurs at the center of the simply supported beam.

(5) I- section is the most efficient cross section in resisting bending moment.

(6) $WL^2/2$ is the formula for the Maximum Moment of cantilever beam having UDL.

2 Explain in brief with neat sketches or diagrams: (Any **Four**) **20**

(1) Bending moment and shear force

(2) Radius of Gyration

(3) Buckling

(4) Moment of inertia

(5) Catenary shapes

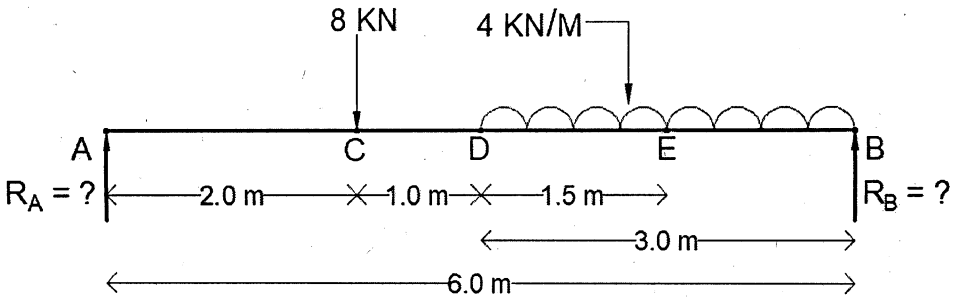
3 Find the Following: (Any **One**) **15**

(1) (a) Find the resultant force R_A and R_B

(b) Find the Bending moment at point C and E

(c) Draw, shear force, and bending moment diagram

(Note: consider Suppor 'A and B as simply supported)



(2) Discuss the following types of stability failure and suggest the appropriate measures for the same with neat sketches