

*Note: All questions are compulsory. Marks are indicated against each question in square brackets.*

Q1. (i) Differentiate between Force Method and Displacement Method.

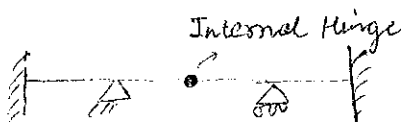
(ii) How analysis of a structure helps in designing a RCC and steel structures.

(iii) Define instability of a structure with the help of static indeterminacy. Also give a real-life example for the same.

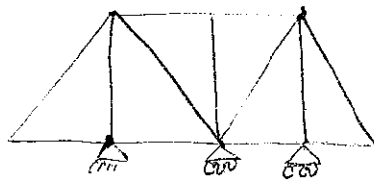
[1+1+1 = 3] [CO1]

Q.2 Find the static and kinematic indeterminacy of the given structures. Also mention the assumption used to find the kinematic indeterminacy.

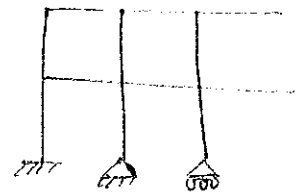
[3] [CO1, CO2]



(i) Beam



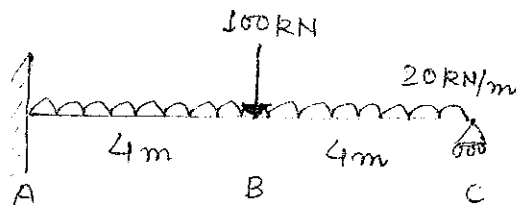
(ii) Truss



(iii) Frame

Q.3. Solve the given beam by using force method. Also draw the bending moment and deflection pattern of the beam.

[5] [CO2, CO3]



Q.4. Find the deflection of given truss at joint C, in positive x direction by using unit load method.

[4] [CO3]

