## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT TEST -1 EXAMINATIONS-2022

B.Tech-V<sup>th</sup> Semester (Civil)

COURSE CODE (CREDITS): 18B11CE513 (3)

MAX. MARKS: 15

COURSE NAME: Structural Analysis

COURSE INSTRUCTORS: Chandra Pal Gautam

MAX. TIME: 1 Hour

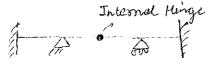
Note: All questions are compulsory. Marks are indicated against each question in square brackets.

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

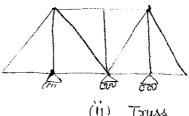
(ii) How analysis of a structure helps in designing a RCC and steel structures.

(iii) Define unstability of a structure with the help of static indeterminacy. Also give a real-life example for the same. [1+1+1=3] [CO1]

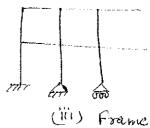
Q.2 Find the static and kinematic indeterminacy of the given structures. Also mention the assumption used to find the kinematic indeterminacy. [3] [CO1, CO2]



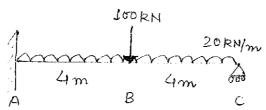
pattern of the beam.



Truss



Q.3. Solve the given beam by using force method. Also draw the bending moment and deflection [5] [CO2, CO3]



Q.4. Find the deflection of given truss at joint C, in positive x direction by using unit load method. 50 RN [4] [CO3]

