

Chanderfal Gantam

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- Feb-2019

B.Tech. IV<sup>th</sup> Semester

COURSE CODE: 10B11CE413

COURSE NAME: Structural Analysis

COURSE CREDITS: 04

MAX. MARKS: 15

MAX. TIME: 1 Hour

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q.1 (i) Differentiate between determinate and indeterminate structures. Discuss their advantages and disadvantages.

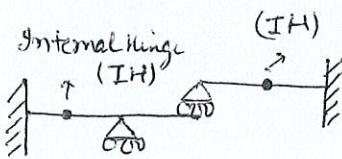
(ii) Differentiate between force method and displacement method.

(iii) Define Indeterminacy and their types. How indeterminacy is used to find stability and instability of a structure.

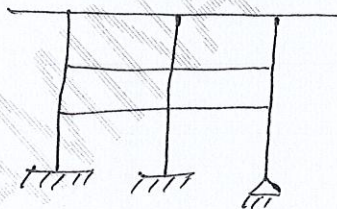
Q.2. Find the Static and kinematic indeterminacy of the following structures. Also mention all the assumptions used to find the indeterminacy.

(2+1+2 = 5)

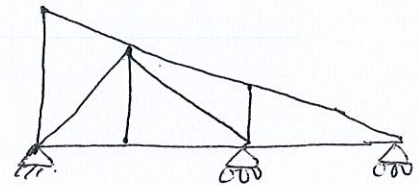
(2+2+1 = 5)



(i) Beam



(ii) Frame



(iii) Truss

Q.3. For the given beam find all support reaction, draw bending moment and deflection of beam by using force method. Assume EI of the beam is constant.

(5)

