

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2023

B.Tech-V Semester (CE)

COURSE CODE (CREDITS): 18B11CE513 (3)

MAX. MARKS: 15

COURSE NAME: Structural Analysis

COURSE INSTRUCTORS: Mr. Chandra Pal Gautam

MAX. TIME: 1 Hour

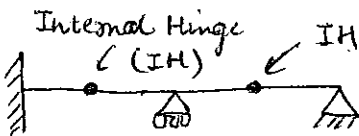
**Note:** (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

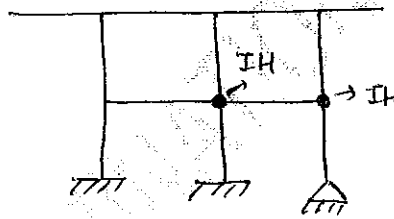
(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

**Q.1.** (a) Differentiate between determinate and indeterminate structures along with their advantages and disadvantages.

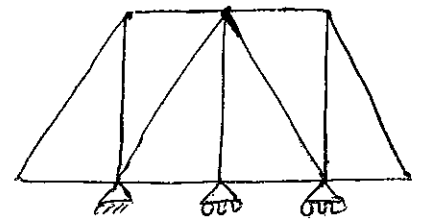
(b) Find the static and kinematic indeterminacy of the following structures. [2+3 = 5][CO - 1]



(i)



(ii)

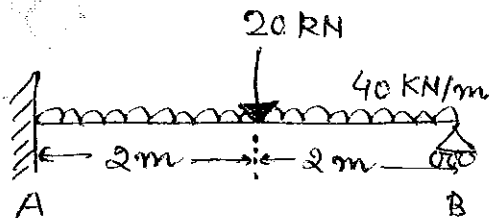


(iii)

**Q.2.** Discuss the relevance of compatibility equation in solving the indeterminate structures.

Solve the given beam by using Force Method.

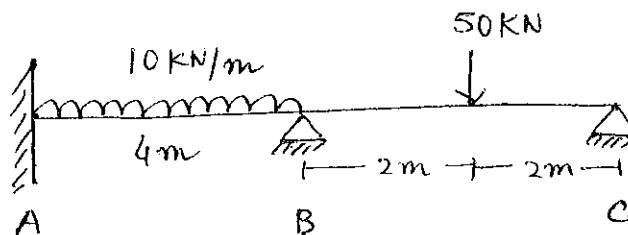
[1+5 =6][CO - 2]



EI is constant.

**Q.3.** Solve the given indeterminate beam by using Three Moment Equation.

[4][CO - 2]



EI is constant.