JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- FEB-2023

COURSE CODE(CREDITS): 18B1WCE631(3) MAX. MARKS: 15

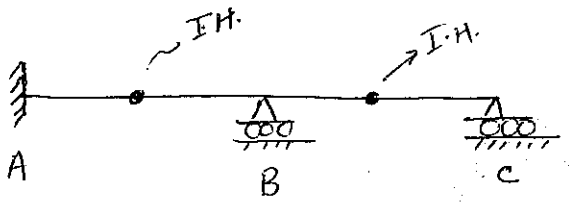
COURSE NAME: ADVANCED STRUCTURAL ANALYSIS

COURSE INSTRUCTORS: Mr. CHNADRAPAL GAUTAM X. TIME: 1 Hour

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

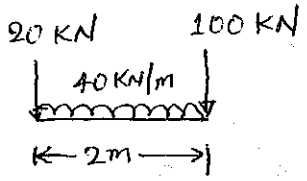
Q1. Define Influence Line Diagram and its uses in structure analysis. *CO-1, CO-2* **[2]**

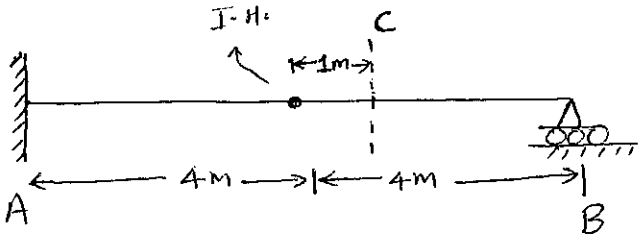
Q2. Draw the influence line diagram for support reaction at B and bending moment at support A and B for the given beam by using Muller Breslau Principle. *CO-1, CO-2* **[3]**



I.H. → Internal Hinge.

Q3. For the given combination of loading moving from left to right, find the maximum value of shear force and bending moment at section C. *CO-1, CO-2* **[5]**





Q4. A triangular load is moving from left to right on the given beam. Find the maximum value of $\mathbf{R_B}$, $\mathbf{R_D}$ and bending moment at section C. *CO-1, CO-2* **[5]**