JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2026

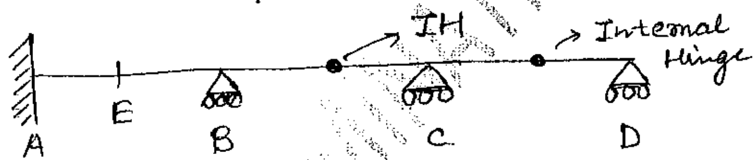
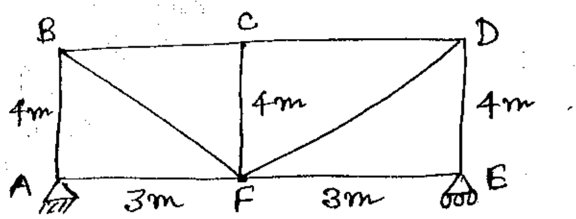
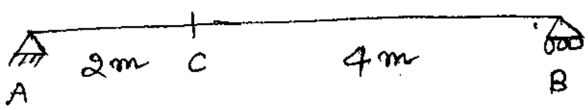
B.Tech-VI Semester (CE)

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

COURSE NAME: Advanced Structural Analysis

COURSE INSTRUCTOR: Mr. Chandra Pal Gautam MAX. TIME: 1 Hour

***Note:*** *(a) All questions are compulsory.*
*(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*
*(c) Use of calculators is allowed*

| **Q.No** | **Question** | **CO** | **Marks** |
|---|---|---|---|
| **Q1** | (i) Mention the use of Influence Line Diagram (ILD) in real life.<br>(ii) Derive the expression of ILD for bending moment at a section in simply supported beam in term of support reaction. | **CO-1** | **2** |
| **Q2** | Draw the ILD of support reactions at B and C for the given beam below. Also draw the ILD of shear force and bending moment at section 'E' by using Muller Breslau's Principle.<br> | **CO-1** | **4** |
| **Q3** | Draw the ILD for member CF, FD and FE for the given truss below.<br> | **CO-1** | **3** |
| **Q4** | Find the value of maximum shear and maximum bending moment at section 'C' of the given beam below when:<br>(i) UDL of length 8m with magnitude 30kN/m is moving<br>(ii) UDL of length 3m with magnitude 10kN/m is moving<br>Also find the absolute value of shear force and bending moment in both cases.<br> | **CO-2** | **6** |



74