JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST–1 EXAMINATIONS–2022

M.Tech.– I Semester (Structural Engineering)

COURSE CODE (CREDITS): 13M1WCE131(3)   MAX. MARKS: 15

COURSE NAME: Finite Element Method

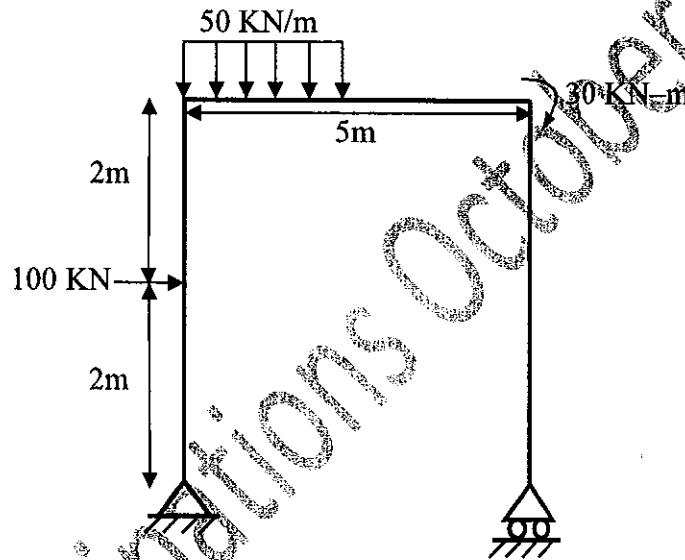COURSE INSTRUCTOR: Dr. Sugandha Singh   MAX. TIME: 1 Hour

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

1. State and prove the Maxwell's Law of Reciprocal Deflections.   [6]
2. Draw the free body diagram of the following frame.   [4]

3. In the following spring assembly, find the displacement at all nodes and forces in all elements. Assume $k = 50$ N/m.   [5]