

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS- 2026

B.Tech-IV Semester (CE)

COURSE CODE (CREDITS): 25B11CE414 (4)

MAX MARKS: 35

COURSE NAME: Mechanics of Solids

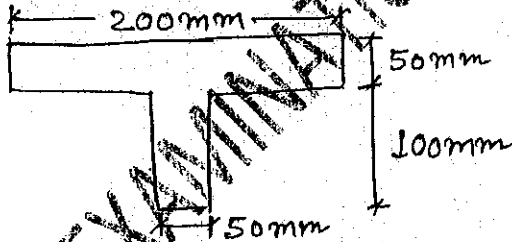
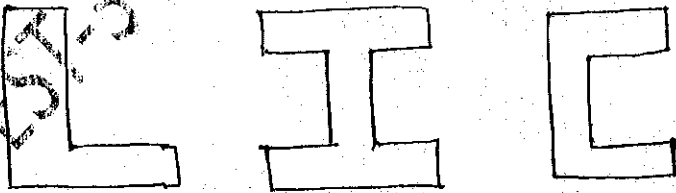
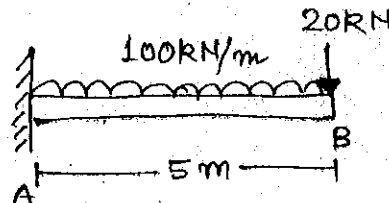
COURSE INSTRUCTOR: Mr. Chandra Pal Gautam

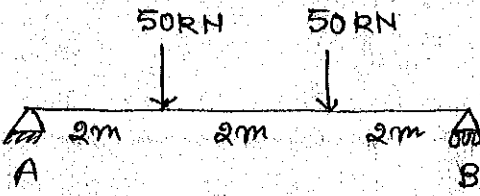
MAX. TIME: 2 Hours

Note: (a) All questions are compulsory.

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

(c) Use of calculator is allowed

Q.No	Question	CO	Marks
Q1	(i) Draw bending stress and shear stress diagram for a rectangular section beam along the depth of beam. (ii) Discuss the importance of modulus of section in design of beam. (iii) Discuss different types of cracks, their location and the reason behind the particular crack.	4	6
Q2	Find the section modulus of the given section 	4	6
Q3	Draw the shear stress diagram for the given cross sections of beam. 	4	6
Q4	Find the slope and deflection of the given beam at B, by using double integration method.  $EI = \text{Constant}$	5	6

Q5	Use Moment Area Method to find the deflection at center for the given beam.  $EI = \text{Constant}$	5	6
Q6	A shaft of 4m length is subjected to a torque of 200kNm. The internal diameter of shaft is 20mm and external diameter is 30mm. Find polar moment of inertia, maximum shear stress and angle of twist in the shaft.	5	5

JUIT TEST-3 EXAMINATIONS - MAY-2026