NATIONAL INSTITUTE OF TECHNOLOGY CALICUT Department of Civil Engineering

Test-II, First Semester B. Tech., Winter Semester, 2012-13

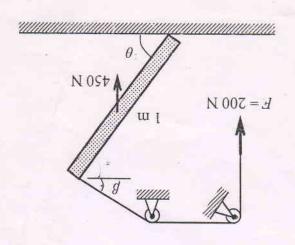
ZZ1001 ENCINEERINC MECHANICS

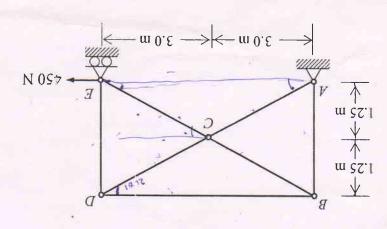
Duration: I Hour 15 Minutes

Maximum Marks: 20

[5]

I. Using method of joints, determine the force in each member of the truss shown in Fig. 1.



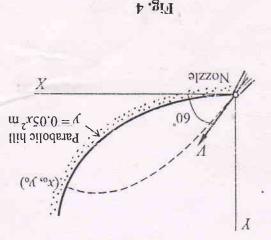


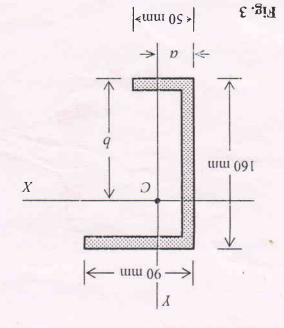
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Fig. 1

[5] and the floor is 0.4? The rod is I m in length. Assume that the pulleys are frictionless. what is the maximum angle θ that the rod can be placed if the coefficient of static friction μ_s between the rod λ . A rod is held by a cord at one end as shown in Fig. 2. If the force F = 200 M, and if the rod weighs 450 M,

[5] section has a uniform width of 10 mm. and (ii) the second moments of area Ixx, Iyy and the product of area Ixy about the centriodal XY- axes. The 3. For the unequal-leg rolled channel section shown in Fig. 3 determine (i) the location of the centroid C(a,b)





[2] hill? What is the speed at that point? Neglect air friction. 4. A jet of water shown in Fig. 4 has a speed at the nozzle of 20 m/s. At what position does it hit the parabolic