

科目：材料力學 適用：土木所一結構與應力組

編號：442

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

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- (1) The rigid rod ABC is suspended from three wires of the same material as shown in Figure 1. The cross-sectional area of the wire at B is equal to half of the cross-sectional area of the wires at A and C . Determine the tension in each wire caused by the load P . (24%, 8% for each wire)

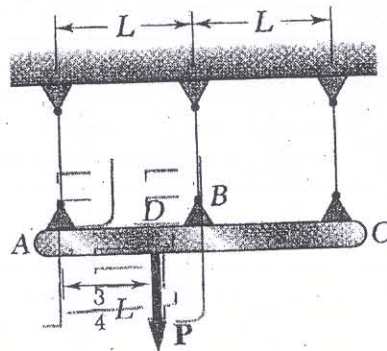


Figure 1

- (2) For the timber beam and loading shown in Figure 2, (a) draw the bending-moment diagram (13%), and (b) determine the maximum normal stress due to loading (13%).

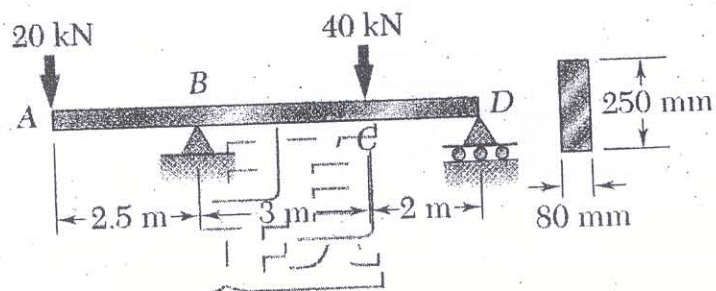


Figure 2

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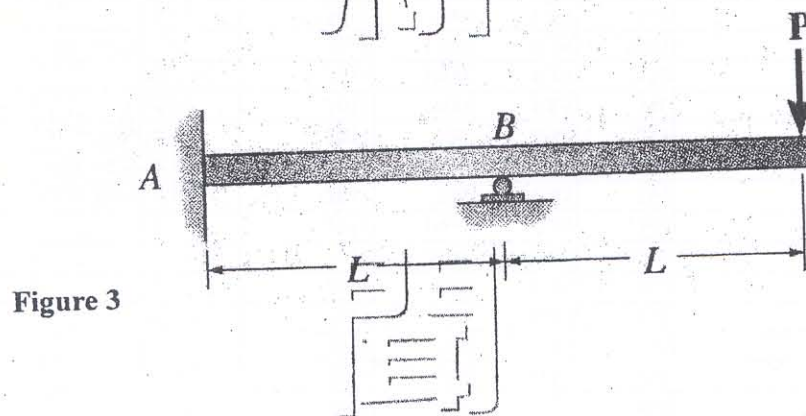
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(3) The beam is subjected to the concentrated loading shown in Figure 3.

Determine (a) the reactions at the supports, EI is constant (12%), (b) the deflection curve of the beam (13%).



(4) Determine (a) the reactions for the beam shown in Figure 4, EI is constant (12%), (b) the deflection curve of the beam (13%).

