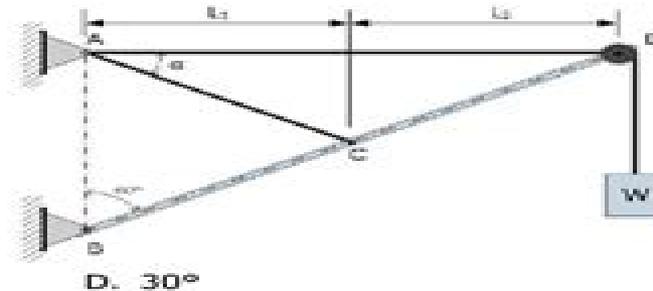


**STRUCTURAL ENGINEERING & CONSTRUCTION
(NOVEMBER 2011)**

Situation 1 – A load of $W = 30 \text{ kN}$ is lifted through a boom BCD as shown in the figure. The boom makes an angle of 60° with the vertical. Neglect the weight of the boom and for this problem, $L_1 = L_2 = 2 \text{ m}$. The pulley at D is frictionless.



1. Determine the angle α .
 A. 40°
 B. 35°
 C. 45°
2. What is the tension in cable AC in kN ?
 A. 51.96
 B. 25.36
 C. 34.89
 D. 43.21
3. What is the total reaction at B in kN ?
 A. 54.77
 B. 43.21
 C. 17.32
 D. 51.96

Situation 2 – The strut shown in the figure carries an axial load of $P = 148 \text{ kN}$.



4. Determine the bearing stress between the pin and the strut:
 A. 463 MPa
 B. 345 MPa
 C. 285 MPa
 D. 563 MPa
5. Determine the shearing stress in the pin.
 A. 286 MPa
 B. 368 MPa
 C. 321 MPa
 D. 341 MPa

Civil Engineering Practice Problems

JL Elias



Civil Engineering Practice Problems:

Civil Engineering Practice Problems Book Review: Unveiling the Magic of Language

In a digital era where connections and knowledge reign supreme, the enchanting power of language has become more apparent than ever. Its ability to stir emotions, provoke thought, and instigate transformation is truly remarkable. This extraordinary book, aptly titled "**Civil Engineering Practice Problems**," written by a very acclaimed author, immerses readers in a captivating exploration of the significance of language and its profound effect on our existence. Throughout this critique, we will delve into the book's central themes, evaluate its unique writing style, and assess its overall influence on its readership.

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