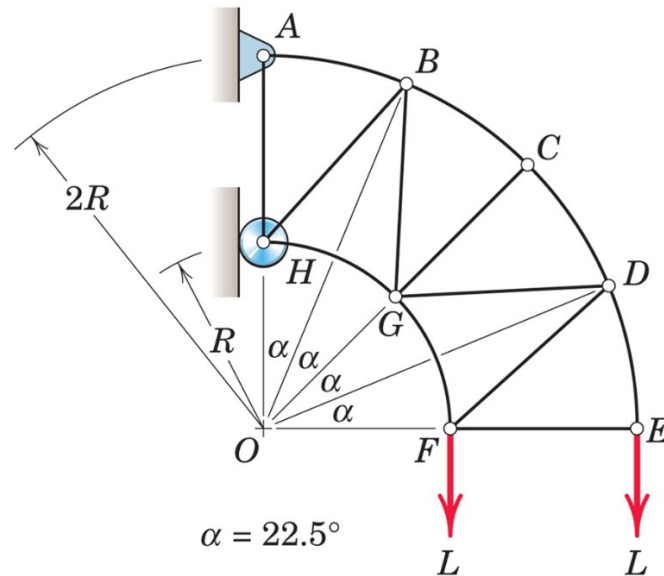


114 學年度秋季班機械工程學系機械產業碩士專班 筆試題目

系所：機械工程學系 考試科目：靜力學 考試日期：0412 第1頁，共1頁

※ 考生請注意：本試題可使用計算機。請於答案卷作答，於本試題紙上作答者，不予計分。

1. The simple truss shown supports the two loads, each of magnitude L . Determine the forces in members DE, DF, DG, and CD. (50%)



2. In the particular position shown, the excavator applies a 20-kN force parallel to the ground. There are two hydraulic cylinders AC to control the arm OAB and a single cylinder DE to control arm EBIF. (a) Determine the force in the hydraulic cylinder AC and the pressure p_{AC} against their pistons, which have an effective diameter of 95 mm. (50%) (b) Also determine the force in hydraulic cylinder DE and the pressure p_{DE} against its 105-mm-diameter piston. Neglect the weights of the members compared with the effects of the 20-kN force. (50%)

