

國立宜蘭大學
100 學年度轉學招生考試

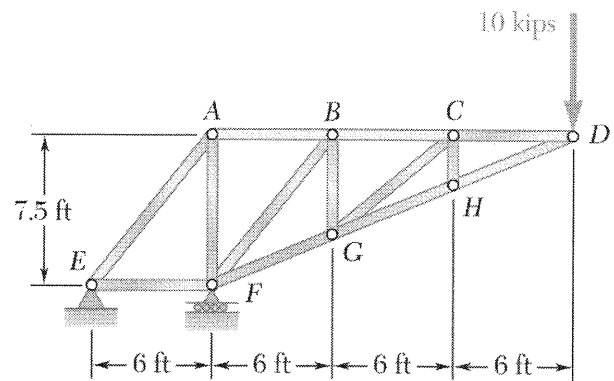
(考生填寫)
准考證號碼：

靜力學試題

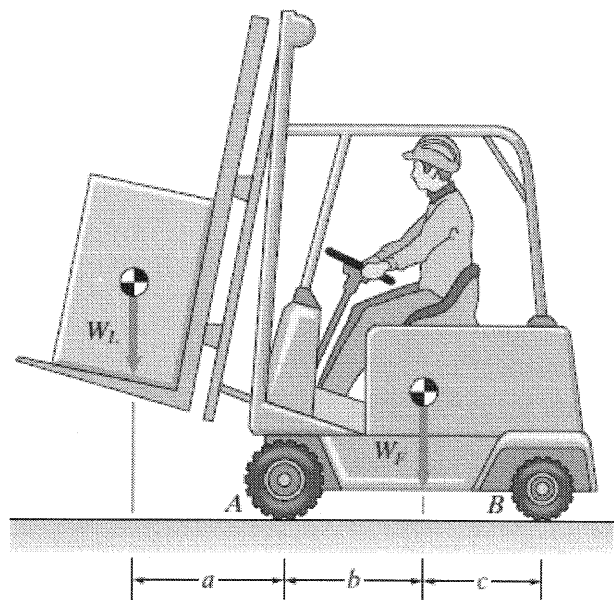
《作答注意事項》

1. 請先檢查准考證號碼、座位號碼及答案卷號碼是否相符。
2. 考試時間：80 分鐘。
3. 本試卷共有三大題，共計 100 分。
4. 請將答案寫在答案卷上。
5. 考試中禁止使用大哥大或其他通信設備。
6. 考試後，請將試題卷及答案卷一併繳交。

1. (a) Draw the free-body diagram for the truss. (10%)
- (b) Determine the support reactions. (10%)
- (c) Find the zero-force members of the truss. (10%)
- (d) Determine the forces in the non-zero-force members of the truss. State whether each non-zero-force members is in tension or compression. (10%)



2. A safety engineer establishing limits on the load that can be carried by a forklift analyzes the situation shown. The dimensions are $a = 1.25$ m, $b = 0.5$ m and $c = 1.40$ m. The combined weight of the forklift and operator is $W_F = 2$ kN. As the weight W_L supported by the forklift increases, the normal force exerted on the floor by the rear wheels at B decreases. The forklift is on the verge of tipping forward when the normal force at B is zero. Determine the value of W_L that will cause this condition. (20%)



3. (a) Draw the free-body diagram for the beam. (10%)
- (b) Determine the support reactions. (10%)
- (c) Draw the shear diagram for the beam. (10%)
- (d) Draw the moment diagram for the beam. (10%)

