國立高雄應用科技大學
107學年度研究所碩士班招生考試
模具工程系碩士班
靜力學

注意：a. 本試題共5題計算題，須詳列計算過程或敘明理由。每題20分，總共100分。

b. 作答時不必抄題，可以用中文或英文方式作答。

c. 考生作答前請詳閱答案卷之考生注意事項。

1. The link in **Fig.1** is subjected to two forces F_1 and F_2.Determine the magnitude and direction of the resultant force.
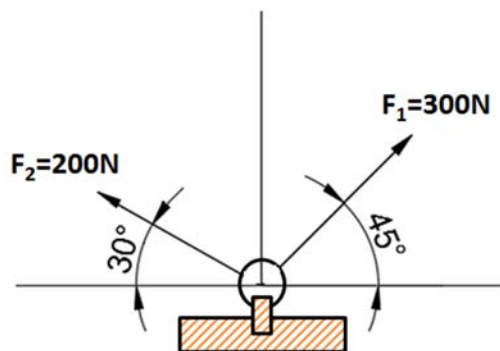

Fig.1

2. Determine the horizontal and vertical components of reaction on the beam caused by the pin at **B** and rocker at **A** as shown in **Fig.2** Neglect the weight of the beam.
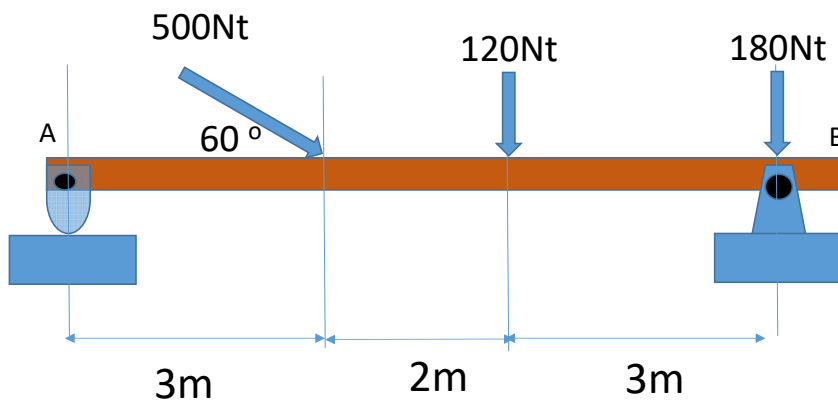

Fig.2

3. Determine the force in each member of the truss shown in **Fig.3** and indicate whether the members are in tension or compression.
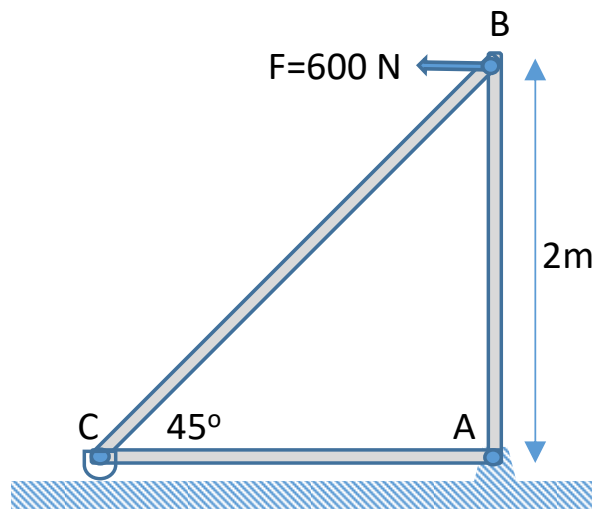

Fig.3

4.Draw the shear and moment diagrams for the overhang beam in **Fig.4**
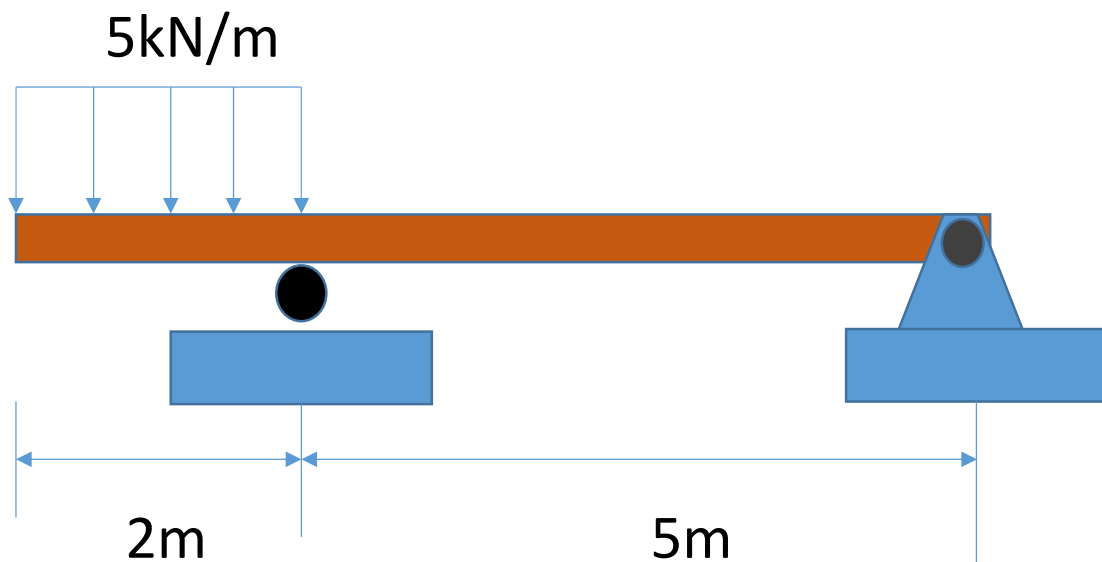
5kN/m

2m   5m

Fig.4

5. Blocks **A** and **B** have a mass of 4kg and 12kg,respectively,and are connected to the weightless links shown in **Fig.5**.Determine the largest vertical force **P** that can be applied at the pin C without causing any movement. The coefficient of static friction between the blocks and the contacting surfaces is $\mu_s = 0.4$.
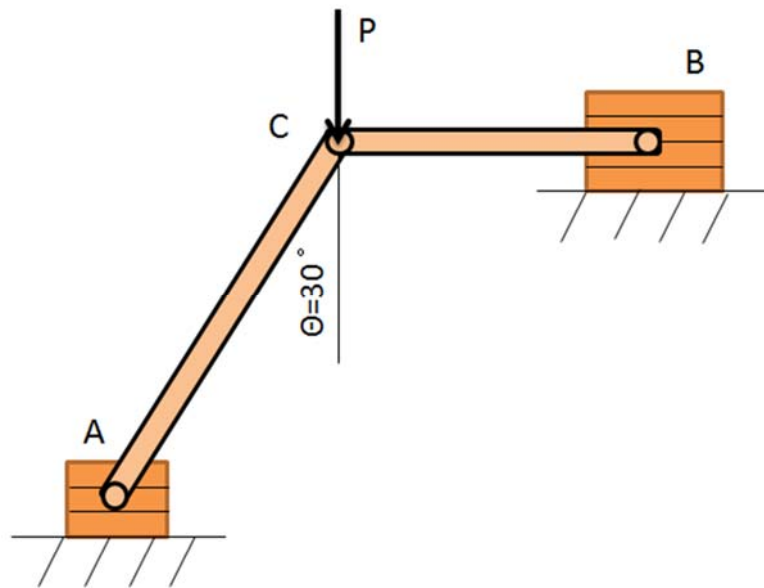

Fig.5