

國立高雄科技大學 108 學年度碩士班 招生考試 試題紙

系所別：模具工程系碩士班

組別：不分組

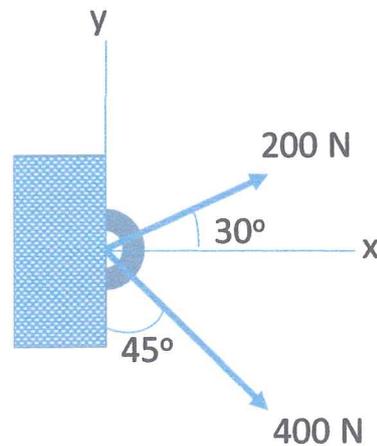
考科代碼：1041

考科：靜力學

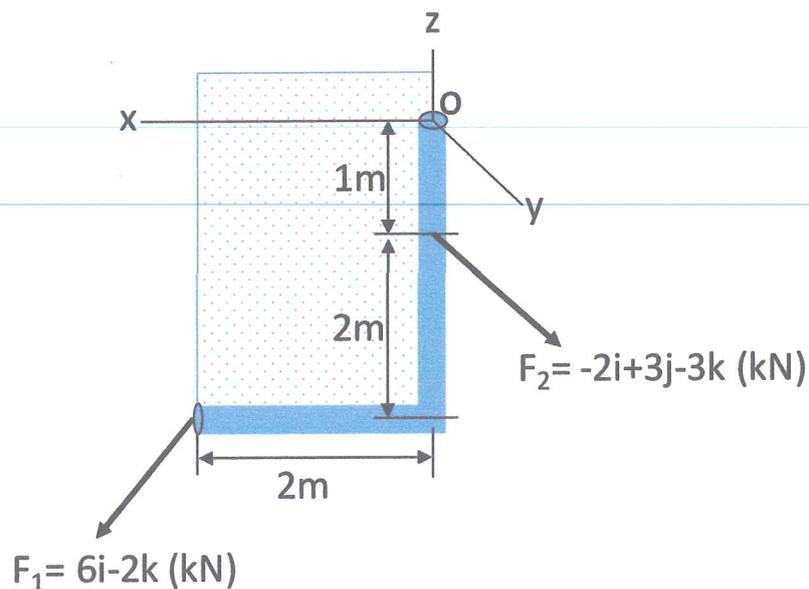
注意事項：

- 1、各考科一律可使用本校提供之電子計算器，考生不得使用自備計算器，違者該科不予計分。
- 2、請於答案卷上規定之範圍作答，違者該題不予計分。

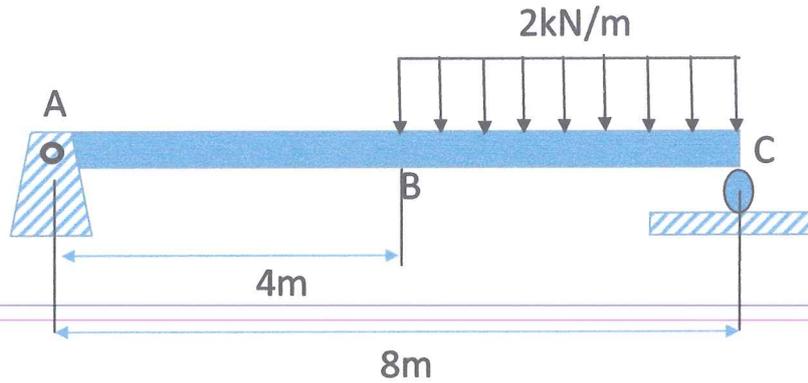
1. Please determine the magnitude of the resultant force and its direction, measured clockwise from the positive x axis. (20%)



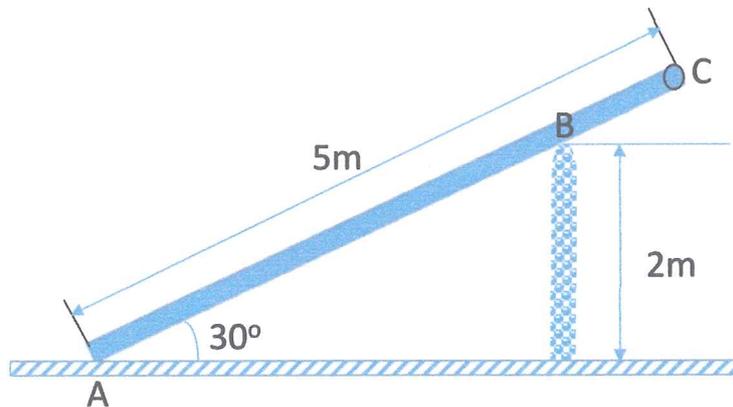
2. Please replace the loading by an equivalent resultant force and couple moment at point O. (the rod structure is in the x-z plane) (20%)



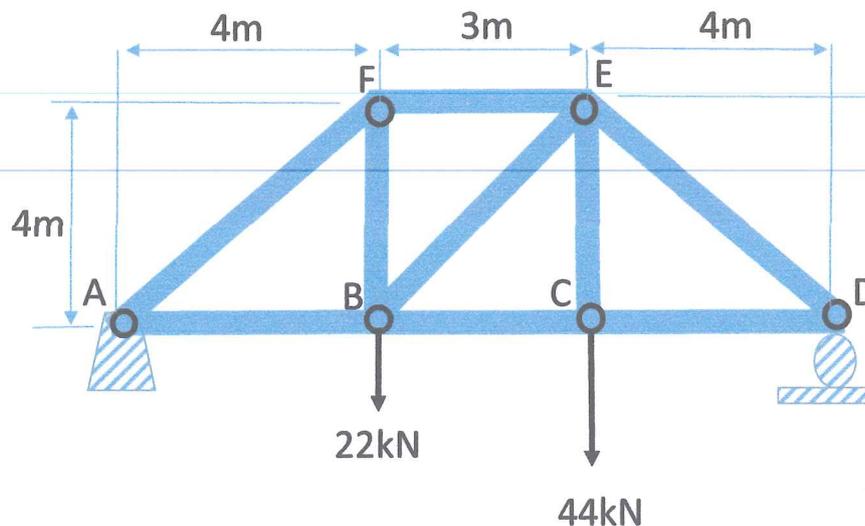
3. Please draw the shear and moment diagrams for the beam. (20%)



4. The uniform rod has a mass of 20 kg and rests on the smooth contact at B and on the ground at A. If the rod is on the verge of slipping, please determine the coefficient of static friction between the rod and the ground. (20%)



5. Please determine the force developed in members FE, EB and BC of the truss and state if these members are in tension or compression. (20%)



三角函數參考值

$$\cos 30^\circ = 0.866$$

$$\cos 45^\circ = 0.707$$

$$\sin 30^\circ = 0.5$$

$$\sin 45^\circ = 0.707$$

合力角度 θ 請用 $\tan^{-1}(a/b)$ 表示，不須算出