

工學院專班精密與自動化組 96 年度入學考試「機械概論」試題

1. 比較二行程與四行程引擎的優劣點。(20分)
2. Determine the reactions at A and B , and the internal normal force, shear force and moment at midpoint of member AC for the frame shown in Fig. 2. Set $F = 200\text{ N}$. (20分)

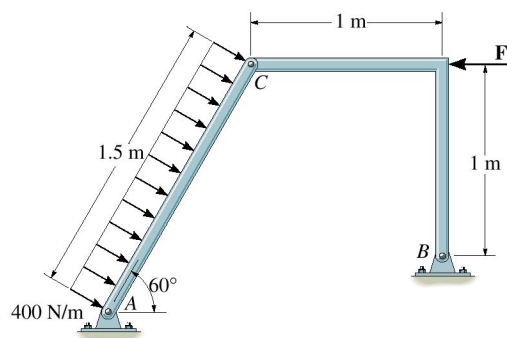
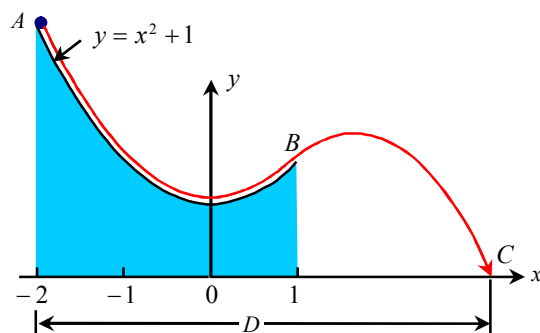


Fig. 2

3. A particle is released at rest at A and slides on the smooth parabolic surface to B , where it flies off as shown. Determine
 - (a) the speed at which it strikes the ground at C , (10%)
 - (b) the total horizontal distance D that it travels from A to C . (10%)



4. (a) 請問何謂飛輪(Flywheel)? 其作用為何? 在設計上必須考慮的參數有那些?
 (b) 請比較正齒輪(Spur Gear)與螺旋齒輪(Helical Gear)在製造上和應用上各有何不同?
 (20分)
5. 請比較直接擠製(Direct extrusion; 又稱前方擠製)與間接擠製(Indirect extrusion; 又稱後方擠製)兩者在製程、設備以及加工特性上的差異。(20分)