

系所組別： 土木工程學系在職專班

考試科目： 土木工程學（專班）

考試日期： 0307，節次： 3

※ 考生請注意：本試題 可 不可 使用計算機

1. A rigid bar is pinned at A and supported by two 1-mm diameter aluminum wires (with elastic modulus $70 \times 10^9 \text{ N/m}^2$) at B and C (Fig. 1). The bar weighs 200N. If the wires are attached when the bar is in the horizontal position, the bar will deflect when released. Anticipating this problem, the designer equipped wire C with a turnbuckle. If the turnbuckle shortens the wire by 1mm/turn, how many turns will be necessary to level bar ABC? (20%)

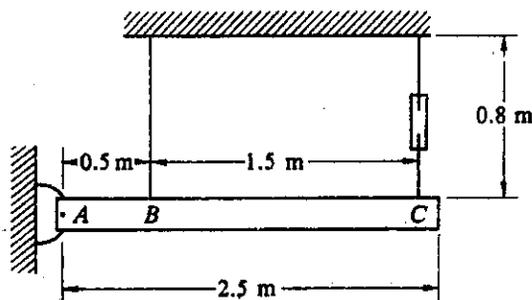


Fig. 1

2. 試分別以土石壩構築於飽和正常壓密黏土層上及飽和過壓密黏土層上兩案例剖析安全係數隨工程進度之變化情形。(20%)
3. 何謂改質瀝青？其特性及優點各為何？(20%)
4. 試說明粒料〈骨材，aggregate〉在土木工程上的應用；如何品管？涉及哪些試驗？(20%)
5. 鋼筋混凝土中的鋼筋具有哪些功用？吾人於設計及施工時需注意哪些事宜？(20%)