一、請用英文回答下列問題：(共 65 分)

(1) 你認為一位科學家應具有何種的特質。(10 分)

(2) 你認為一位統計學家應具有何種的特質。(10 分)

(3) 為什麼統計學家具有科學家的精神？(15 分)

(4) 身為一位統計學家如何介紹中央極限定理使沒有數理統計背景者得以理解？詳述解說方式與過程。(15 分)

(5) 透過電腦模擬實驗方法來證明「弱大數法則」，詳述模擬過程與演算步驟。(註：「弱大數法則」：當自同一母體取得一組隨機樣本其樣本數接近無限大時，則此隨機樣本之樣本平均數會趨近於母體平均數。)(15 分)

二、英翻中(共 15 分)

(1) As far as the discipline of statistics is concerned, there are at least two schools for the underlying theory pertaining to statistical hypothesis and interval estimation. (3 分)

(2) Normal distribution is not discrete distribution. Neither is beta distribution. The range of the former is distinct from that of the latter. (3 分)

(3) Statistics has been deemed recondite in the province of health care science. However, it's dogged that does it. (3 分)

(4) We reckon sixty subjects are too few to detect the difference of outcome of interest in the two arms in randomized controlled trial. (3 分)

(5) We were afraid lest his opinion should be at odds with our consensus that has already been reached. (3 分)

三、中翻英(共 20 分)

(1)統計檢定假說涉及第一型及第二型誤差，此二種誤差互為消長。(5 分)

(2)在迴歸分析中最小平方法是被用來估計迴歸係數的一種方法。(5 分)

(3)在給定 5%統計顯著水準之下，以樣本平均值進行 t 分佈檢定母體平均值為某一數值之虛無假說，所得結果其 p-value 為 0.02，因此拒絕虛無假說。(5 分)

(4)Mr. A: 是否柯西 (Cauchy) 分佈之尾部分佈較常態分佈平坦，不是嗎？(5 分)

試題隨卷繳回