

※注意:答案一律寫在答案卷上,否則不予計分

- 1.用流程圖顯示 O_2 從空氣中開始至呼出成 H_2O 及 CO_2 過程之全部機轉 (mechanism)。(25%)
- 2.用流程圖顯示脂肪在食物開始至形成為體內脂肪細胞內儲存狀態過程之全部機轉。(25%)
- 3.如何去研究肌肉最大力量 (muscle strength) 和肌肉耐力 (muscle endurance) 與慢性疾病罹病率之關係?(20%)
4. Answer the following questions based on the abstract of a study provided.
 - (A) Explain whether the method (including experimental design, instruments, and measurements) used is appropriate or not in answering the research question. (10%)
 - (B) How do you apply the information obtained from this study? (10%)
 - (C) Could you generalize the conclusion of this study to other populations? Why or why not? (10%)

The present study compared the validity of visual estimations of percent fat (% fat) in lean males (mean \pm SD = 9.6 \pm 2.3% fat) to the validity of bioelectrical impedance analysis (BIA) and skinfold equations. Thirty-five Caucasian male volunteers (23 \pm 5 yr; range = 19-40) served as subjects. Visual estimations of % fat were performed by two experienced male raters. The validity (compared to underwater weighting) for each procedure was determined by examining the constant error (CE), standard error of the estimate (SEE), r, and total error (TE). The results indicated that rater 1 (TE = 2.3% fat) could visually estimate % fat as accurately as the skinfold equations (TE = 2.4% fat). However, based on the low TE, SEE, and CE values as well as considerable variability (mean difference = 2.7% fat) between the %fat estimates of the two raters, skinfold equations are recommended over visual inspection and BIA (TE = 5.0% fat) for estimating % fat in lean males.