

※ 考生請注意：本試題 可 不可 使用計算機

本科目共八題問答題，配分皆標示於題後。答題時，請註明題號，否則不予計分。

1. Mr. Wang is a 20 years old professional basketball player. He suffered from right anterior cruciate ligament rupture during the game season and received the reconstruction surgery last month. His goal is returning to the game next year. Based on the latest knowledge please discuss your physical therapy plan and how will it progress to achieve the treatment goal in details. (10 points)
2. A patient is diagnosed as low back pain and referred to physical therapy. How do you perform your differential diagnosis as a physical therapist? (5 points) Based on the injury mechanisms please discuss and explain the rationales of different therapeutic exercises for low back pain. (10 points)
3. 請問規劃高血壓患者有氧運動訓練計畫時的原則 (2%) 及應注意的事項 (5%)
4. 試比較有氧運動訓練後在 (1) 休息時和 (2) 最大運動時
  - a. 心率、心搏量、心輸出量、血壓、攝氧量、動靜脈氧差的改變 (12%)
  - b. 呼吸系統功能的改變 (6%)
5. 請敘述本體感覺在動作控制中的功能性角色，並說明在運動治療中如何運用本體感覺特性促進動作的控制？ (10%)
6. 請說明何謂動作學習 (motor learning)，並列舉影響動作學習的因素以及可能造成的影響。(15%)
7. 請從 dynamical systems theory 的觀點，說明兒童動作發展的限制 (constraints)。(15%)
8. 請說明目前應用跑步機懸吊系統增進腦性麻痺兒童步行功能的理論基礎。(10%)