

※ 考生請注意：本試題不可使用計算機。請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

1. In the control of voluntary movements,
  - (a). Distinguish the following cerebral cortex in the motor control: primary motor cortex, premotor cortex, sensorimotor cortex, and supplementary motor cortex. (20%)
  - (b). Contrast the two major types of descending motor pathways in terms of structure and function. (10%)
  - (c). Explain the major cause that induces hypotonia and hypertonia, respectively. (10%)
  
2. Many types of stress induce an increase in cortisol secretion,
  - (a). Diagram the pathway that mediates the increased cortisol in response to stress. (15%)
  - (b). List the physiological functions of cortisol. (10%)
  - (c). List the hormones that are secreted from adrenal gland. (5%)
  
3.
  - (a). Draw and label a normal electrocardiogram (ECG). Relate the P, QRS, and T wave to a diagram of the pressure changes in the left atrium, left ventricle, and aorta during the diastolic and systolic cardiac cycle. (20%)
  - (b). Explain what mechanism does the SA node function as the pacemaker for the entire heart? (10%)