



**The Hong Kong College of Anaesthesiologists
Intermediate Fellowship Examination**

**Written Paper in Physiology
Friday, 10 February 2006, 09:00 h. – 11:00 h.**

The questions carry equal marks. Answer ALL of them.

- 1. Describe the ionic fluxes during an action potential of a neuron.**
- 2. Describe how the body handles lactic acidosis after strenuous exercises.**
- 3. Briefly explain what would happen to the content of a unit of 30 days old stored whole blood.**
- 4. Describe the second messenger systems and their importance in cellular physiology.**
- 5. Define compliance. Describe a method to measure the static compliance of the respiratory system in a spontaneous breathing person and briefly state its problems.**
- 6. Briefly comment on the factors affecting the peak inspiratory pressure during positive mechanical ventilation.**
- 7. Discuss the factors that determine myocardial oxygen supply.**
- 8. Outline the non-respiratory functions of the lung.**
- 9. Briefly illustrate with diagrams the devices that are available for measuring expired gas volumes.**
- 10. Describe the compensatory mechanisms that come into play following significant haemorrhage of acute onset.**
- 11. Give an account of the physiological actions of insulin.**
- 12. Give an account of the regulation of renal blood flow.**