



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

**Written Paper in Physiology
Friday, 15 February 2008, 09:00 – 11:00**

The questions carry equal marks. Answer ALL of them.

1. Explain briefly how general anaesthesia affects the body temperature of a healthy adult.
2. Explain the principles of pulse oximetry. List the common sources of error.
3. List the functions of the placenta. Explain how it affects the pregnant woman.
4. Describe the effects of ageing on respiratory function.
5. Explain, with the aid of a diagram, the sequence of events constituting the pacemaker potential in the sino-atrial node. What is the influence of stimulation of parasympathetic and sympathetic nerves to the nodal tissues?
6. Explain the mechanisms involved in exercise-induced increase in cardiac output in a healthy adult.
7. Describe the liver blood flow and its regulation.
8. Briefly outline the structure and the functions of cell membrane.
9. Compare and contrast the respiratory system of the neonate to that of the adult.
10. Outline the different ways the human cells communicate to one another.
11. Outline the changes in volume and osmolarity of different body fluid compartments when 250ml 20% mannitol (molecular weight of 182) is infused intravenously into a 70 kg man.
12. List the functions of iron in human body. Outline how it is absorbed into the body.

END OF PAPER