



# **The Hong Kong College of Anaesthesiologists**

## **Intermediate Fellowship Examination**

**Written Paper in Physiology**  
**Friday, 6 February 2004, 09:00 h. – 11:00 h.**

Answer ALL questions

- 1) Define osmosis and describe its role in two body systems.
- 2) Draw a set of arterial blood gases for a pregnant woman at term. Describe the reasons for these values.
- 3) Describe the factors that determine intracranial pressure.
- 4) What factors determine the composition and volume of glomerular filtrate in a normal person?
- 5) Describe the production of carbon dioxide in the body and the physiological reasons why the PaCO<sub>2</sub> may be raised.
- 6) Describe the change in functional residual capacity (FRC), and the possible causes and consequences of this change, in a supine healthy adult patient under general anaesthesia.
- 7) Outline the pathway of pain perception and describe all the mechanisms that would modulate the perception of pain.
- 8) Outline the functions of the liver
- 9) Give an account of synthesis, storage, release and regulation of thyroid hormones.
- 10) Give an account of the non-respiratory role of the lung.
- 11) Define preload of the heart. Discuss the use of central venous pressure for the assessment of preload of the heart.
- 12) Describe the effects of inadequate potassium intake and the subsequent compensatory changes.