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 PaCO2 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.