



## The Hong Kong College of Anaesthesiologists

### Intermediate Fellowship Examination January/March 2000

#### Physiology Questions

- Q1. What is the composition of gastric juice? Briefly write an account of the factors that control the composition and volume of gastric juice.*
- Q2. Write a brief account of the factors that determine myocardial oxygen demand and supply.*
- Q3. Outline the physiological effects and compensatory changes in a patient with metabolic acidosis.*
- Q4. Outline the factors that determine intracranial pressure and explain the physiological mechanisms that control it.*
- Q5. List the hormones that increase blood sugar concentration, and briefly describe the mechanisms for their effects on glucose metabolism.*
- Q6. State Poiseuille's law, and discuss the limitations of this law when applied to blood flow in an artery.*
- Q7. Describe the renal factors that affect urinary sodium excretion.*
- Q8. Discuss the maternal and foetal factors that facilitate oxygen transfer to the foetus.*
- Q9. Explain the effects of a decrease in plasma oncotic (colloid osmotic) pressure on the microcirculation. Also outline the effects on lung functions.*
- Q10. Explain the physiologic factors that prevent regurgitation of gastric contents.*
- Q11. Describe the role of nitric oxide in the modulation of vascular tone.*
- Q12. Define ventilation-perfusion inequality. Explain how ventilation-perfusion inequality occurs in a normal person and discuss the consequences.*

