



The Hong Kong College of Anaesthesiologists Intermediate Fellowship Examination

Written Paper in Physiology
Friday, 12 July 2002, 09:00 h. – 11:00 h.

Answer ALL questions

1. Compare and contrast excitation-contraction coupling in skeletal and cardiac muscles.
2. Describe the regulation of liver blood flow.
3. Compare and contrast measurement of cardiac output by indicator dilution and thermal dilution.
4. Describe carbon dioxide transport in blood and explain the Haldane effect.
5. Outline the physiological effects of intermittent positive pressure ventilation.
6. What is glomerular filtration rate? Discuss the use of urinary creatinine clearance as an estimate of glomerular filtration rate.
7. Describe the physiological changes of respiratory function in the elderly.
8. What is surfactant? What are the physiological roles of surfactant?
9. Briefly describe the structure and functions of endoplasmic reticulum.
10. Discuss the role of skin as an effector in the regulation of body temperature.
11. Describe the unique features of the coronary circulation (anatomy of coronary arteries NOT required). List the determinants of myocardial oxygen supply and demand.
12. Explain the physiologic effects of drinking 1 litre of water in a normal subject.