



The Hong Kong College of Anaesthesiologists

Intermediate Fellowship Examination

Written Paper in Physiology
Friday, 29 June 2001, 09:00 h. – 11:00 h.

Answer ALL questions

1. Discuss the use of alveolar to arterial gradient in oxygen tension in the assessment of a patient with hypoxaemia.
2. Describe physiological adaptation to high altitude.
3. Describe the structure of a liver lobule. List six functions carried out by the liver.
4. List the measurements that are available to assess a patient's "nutritional status".
5. Compare a unit of freshly collected whole blood with a unit of banked packed red blood cells which is five week old.
6. Explain the causes of sampling errors when a blood sample is collected from an arterial cannula for arterial blood gases measurement.
7. Describe the cardiovascular adjustments that occur when an individual exercises for an hour on a treadmill at 70% of his maximum capacity (i.e. moderately severe exercise).
8. Outline the cardiovascular changes during normal aging.
9. What is primary hyperalgesia? Explain the mechanisms by which primary hyperalgesia develops.
10. Classify hypersensitivity reactions. Briefly compare and contrast the different types and give examples.
11. Give a brief description of plasma proteins and their functions.
12. What is sinus arrhythmia? Outline the pathways involved in this phenomenon.