



The Hong Kong College of Anaesthesiologists Intermediate Fellowship Examination

Written Paper in Physiology
Friday, 23 Feb 2007, 09:00 h. – 11:00 h.

The questions carry equal marks. Answer ALL of them.

1. List the physiological factors that determine intracranial pressure. Explain briefly how intracranial pressure is regulated.
2. Explain the metabolic effects associated with perioperative fasting *from solids* for 5 days.
3. Outline the compensatory mechanisms in tissue hypoxia.
4. Contrast the action potential of the Sinoatrial (SA) node to that of the ventricular muscle fibre.
5. List the values that can be obtained from blood gas analysis and briefly explain the principle of how these are derived.
6. Outline the functions of the hepatic circulation.
7. Define ejection fraction. Describe the factors that oppose Left Ventricle ejection.
8. Briefly explain the factors determining the movement of Na^+ and K^+ at renal tubules during *hypovolemic* shock.
9. Give an account of the substances secreted by the endothelium that may influence the caliber of blood vessels.
10. Describe the cardiovascular changes associated with the Valsalva manoeuvre. List the conditions that may affect these changes.
11. Briefly describe the posterior pituitary hormones with specific reference to their structure, function, site of release, and regulation.
12. Define innate immunity and list the components. Give a brief description of the complement system.

END OF PAPER