



**The Hong Kong College of Anaesthesiologists  
Intermediate Fellowship Examination  
Written Paper in Physiology**

**Friday, 15 February 2013, 09:00 AM - 11:00 AM**

The questions carry equal marks. Answer ALL of them.

1. Describe the synthesis of haemoglobin and outline its fate after red cell destruction.
2. Outline the determinants and regulation of extracellular fluid volume.
3. Discuss the factors that affect afterload with respect to the cardiovascular system.
4. Discuss the factors affecting the work of breathing.
5. Outline the laboratory tests used to evaluate the synthetic functions of the liver.
6. Discuss how the human body maintains the core temperature at 37 degrees Celsius while exercising in a hot environment.
7. Outline the physiological consequences upon activation of the complement system.
8. Describe the physiological effects of thyroid hormones.
9. Write short notes, with examples, on different ways the human cells communicate with one another.
10. Discuss the limitations of serum creatinine as an indicator of glomerular filtration rate.
11. LIST out various physiological consequences of complete autonomic failure, including both parasympathetic and sympathetic systems.
12. With regard to the supply of oxygen
  - (1) Describe what is a Bourdon gauge, and how does it work?
  - (2) Describe the principles of a rotameter.What are the advantages and disadvantages of the above equipment?  
(Both parts carry equal marks)

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