



## SECOND EXAMINATION FOR MEDICAL DEGREES

## PHYSIOLOGY II

June 2011

TIME: THREE HOURS

Answer all questions. Answer each question in a separate book.

1.
  - 1.1 List **five** transport mechanisms in the cell membrane with examples (25 marks)
  - 1.2 Describe **two** of the above mentioned transport mechanisms. (50 marks)
  - 1.3 Explain how resting membrane potential is generated. (25 marks)
  
2.
  - 2.1 Define puberty. (10 marks)
  - 2.2 Describe the hormonal and physical changes that occur during puberty of a
    - 2.2.1 girl. (50 marks)
    - 2.2.2 boy. (40 marks)
  
3. Explain the physiological basis of the following.
  - 3.1 Physiological changes that occur in the body are more severe in tension pneumothorax than those of open pneumothorax. (40 marks)
  - 3.2 Arterial partial pressures of O<sub>2</sub> and CO<sub>2</sub> are lower than normal in diffusion defects of alveolar capillary membrane. (30 marks)
  - 3.3 Orthopnoea is a clinical feature seen in left ventricular failure. (30 marks)
  
4. A 25 year old patient with anaemia complained of tiredness on exertion. On examination she was found to have tachycardia and a systolic murmur. Her blood picture showed microcytic, hypochromic red cells.
  - 4.1 State **three** possible causes for anaemia in this patient. (20 marks)
  - 4.2 Describe the changes that occur in this patient that facilitate delivery of O<sub>2</sub> to tissues. (40 marks)
  - 4.3 Compare the changes that occur during mild exercise in this patient and in a healthy person. (40 marks)
  
5. Write short notes on
  - 5.1 secretin. (25 marks)
  - 5.2 the role of macrophages in immunity. (25 marks)
  - 5.3 glomerular filtration. (25 marks)
  - 5.4 stretch reflex. (25 marks)

===== The End =====