



SECOND EXAMINATION FOR MEDICAL DEGREES

PHYSIOLOGY II

April 2006

TIME: THREE HOURS

2

*Answer all five questions
Answer part A and B in separate answer books*

PART A

- 1.0 Explain**
- 1.1 how impulse transmission occurs in nerve fibres. (30 marks)
- 1.2 impulse transmission at neuromuscular junctions using a clearly labelled diagram. (30 marks)
- 1.3 the following in relation to neurophysiology:
- 1.3.1 EPSP (20 marks)
- 1.3.2 Convergence (20 marks)
- 2.0**
- 2.1 Explain the term 'hypothalamo-hypophyseal tract'. (20 marks)
- 2.2 Describe the
- 2.2.1 role of ADH in conservation of body water (20 marks)
- 2.2.2 difference between cranial diabetes insipidus and nephrogenic diabetes insipidus. (20 marks)
- 2.3 Describe the effects of oxytocin on:
- 2.3.1 parturition. (20 marks)
- 2.3.2 lactation. (20 marks)
- 3.0**
- 3.1 Describe, using labeled diagrams,
- 3.1.1 the Starlings' law of the heart. (25 marks)
- 3.1.2 the concept of myocardial contractility. (25 marks)
- 3.2 Explain the physiological basis on which 3.1.1 and 3.1.2 above increase cardiac output during exercise. (50 marks)

PART B

- 4.0 Explain the role of kidney in**
- 4.1 acid-base balance of the body. (50 marks)
- 4.2 Ca^{+2} homeostasis. (50 marks)
- 5.0 Write short notes on**
- 5.1 Gas exchange in the alveolar capillary membrane. (25 marks)
- 5.2 Lymphoedema. ✓ (25 marks)
- 5.3 Gastrin. ✓ (25 marks)
- 5.4 B Lymphocytes. (25 marks)

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