UNIVERSITY OF RUHUNA



FACULTY OF MEDICINE

SECOND EXAMINATION FOR MEDICAL DEGREES

PHYSIOLOGY II

November 2005

TIME: THREE HOURS

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

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1.0	/	PART A	
1.0	1.1	Explain the mechanisms by which membrane potential is established in	
		a living cell.	(30 marks)
	1.2	Draw a clearly labelled diagram of an action potential of a nerve cell.	(20 marks)
	1.3	Describe the ionic changes that occur during an action potential of	
		a nerve cell.	(30 marks)
	1.4	Describe the events that occur when a nerve impulse reaches a synapse.	(20 marks)
2.0			
	2.1	Define circulatory shock.	(10 marks)
	2.2	List 3 causes of hypovolaemic shock.	(15 marks)
	2.3	Describe the following in hypovolaemic shock.	ŧ
		2.3.1 Rapid compensatory reactions.	(50 marks)
		2.3.2 Long-term compensatory reactions.	(25 marks)
3.0	Describe how haemostasis is affected in		
	3.1	severe thrombocytopènia.	(25 marks)
	3.2	von Willebrand disease.	(25 marks)
	3.3	haemophilia B.	(25 marks)
	3.4	increased fibrinolytic activity.	(25 marks)
		PART B	
4.0	Explain why		
	4.1	there are features of hyperpigmentation in a patient with	
		primary hypoadrenocorticism.	(30 marks)
	4.2	a lactating mother will secrete milk on hearing the crying of a baby.	(35 marks)
	4.3	goitre is a feature of both hyperthyroidism and hypothyroidism.	(35 marks)
5.0	Write short notes on		
	5.1	achalasia cardia	(25 marks)
	5.2	respiratory failure	(25 marks)
	5.3	water reabsorption in the collecting ducts. Or Section of the collecting ducts.	(25 marks)
	5.4	testosterone.	(25 marks)