UNIVERSITY OF JAFFNA, SRI LANKA
FACULTY OF MEDICINE
SECOND EXAMINATION FOR MEDICAL DEGREES –August 2009

Physiology: Paper II

ANSWER ALL THE TEN QUESTIONS
Date: 19.08.2009.
Time: 03 hours

1.		Blood sample was obtained from a patient for haematological analysis	
	1.1.	Give the normal values for MCV, MCH, MCHC and % of Basophil	(20 Marks)
	1.2.	List 3 conditions which may be responsible for increase in MCV	(15 Marks)
	1.3.	Briefly write a laboratory method by which you may determine MCV	(65 Marks)
2.		Write short notes on the following	
	2.1.	A person passes alkaline urine after a heavy meal	(35 Marks)
	2.2.	Secretary control of saliva	(35 Marks)
	2.3.	Secretin	(30 Marks)
3.	3.1.	Define action potential	(10 Marks)
	3.2.	Draw and indicate the different phases of action potential	(30 Marks)
	3.3.	Briefly write the mechanisms responsible for the different phases mentioned in 3.2.	(60 Marks)
4.		A patient was admitted at the hospital with low blood pressure and hyper pigmentation in the skin and the mucus membranes.	
	4.1.	Explain the mechanism which led to hyper pigmentation in this patient	(40 Marks)
	4.2.	Briefly write the mechanism for low blood pressure in this patient	(40 Marks)
	4.3.	List three hormones with their origins which participate in the maintenance of blood pressure	(30 Marks)
5.	5.1.	Define the term “contraceptives”	(15 Marks)
	5.2.	Briefly write the mechanism of action of “pill” as contraceptive	(60 Marks)
	5.3.	List 5 contraceptive methods which are adopted in females	(25 Marks)
6.		Describe cardiac cycle and correlate it with heart sounds	(100 Marks)
7.	7.1.	Define cardiac output	(10 Marks)
	7.2.	Describe the factors that affect cardiac output	(90 Marks)
8.		Describe the physiological basis of the following	
	8.1.	Patients with left ventricular failure find it difficult to breathe when lying on bed.	(50 Marks)
	8.2.	Respiratory rate and depth of a patient with reduced insulin secretion are increased.	(50 Marks)

9.	9.1.	Define glomerular filtration rate (GFR).	(10 Marks)
	9.2.	Describe briefly the measurement of GFR	(45 Marks)
	9.3.	Describe briefly the mechanism of concentration of urine	(45 Marks)
10.	10.1.	Describe the withdrawal reflex	(25 Marks)
	10.2.	List the features of Upper Motor Neuron Lesion	(20 Marks)
	10.3.	Describe visual acuity	(30 Marks)
	10.4.	Describe the transmission of sound across middle ear	(25 Marks)