



SECOND EXAMINATION FOR MEDICAL DEGREES

PHYSIOLOGY II

March 2012

TIME: THREE HOURS

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

1.
 - 1.1 Define anaemia. (05 marks)
 - 1.2 State the basis of morphological classification of anaemia. (20 marks)
 - 1.3 State the basis of having more haemoglobin concentration in
 - a. neonates than in adults (25 marks)
 - b. males than in females (25 marks)
 - c. non-pregnant women than in pregnant women (25 marks)

2. 'Pituitary controls the endocrine system of the body'. Discuss the above statement highlighting the facts for and against, comparing the regulatory mechanisms of three adrenal hormones—aldosterone, cortisol and adrenaline. (100 marks)

3.
 - 3.1 Draw a clearly labeled diagram of a
 - a. monosynaptic reflex arc (15 marks)
 - b. muscle spindle (20 marks)
 - 3.2 Explain the mechanism of stretch reflex (15 marks)
 - 3.3
 - a. State two causes for absent/ diminished stretch reflex (10 marks)
 - b. Explain the physiological basis for diminished stretch reflex in one of the above mentioned conditions. (15 marks)
 - c. State two causes for exaggerated stretch reflex. (10 marks)
 - d. Explain the physiological basis for exaggerated stretch reflex in one of the above mentioned conditions. (15 marks)

4. Using your knowledge on Physiology, explain the following.
 - 4.1 Arterial blood pressure is maintained around 80 mmHg even during ventricular diastole. (40 marks)
 - 4.2 Urine output is reduced during circulatory shock. (40 marks)
 - 4.3 Transplanted hearts show a rise in heart rate during exercise. (20 marks)

5. Write short notes on
 - 5.1 measurement errors and how to minimize them. (25 marks)
 - 5.2 osmotic diuresis. (25 marks)
 - 5.3 physiological adjustments to high altitude. (25 marks)
 - 5.4 functions of colon. (25 marks)