



UNIVERSITY OF RUHUNA – FACULTY OF ALLIED HEALTH SCIENCES

DEPARTMENT OF PHARMACY

18

FIRST BPHARM PART II EXAMINATION – JANUARY 2019

PH 1254 HUMAN BIOLOGY II (SEQ)

TIME: THREE HOURS

INSTRUCTIONS

- There are four (06) questions in Parts A, B, C, D, E and F of the SEQ paper.
- Answer each part in separate booklet provided.
- No paper should be removed from the examination hall.
- Do not use any correction fluid.
- Use illustrations where necessary.

Part A

01.

- 1.1 State five actions of thyroxin hormone. (10 marks)
- 1.2 Describe the regulation of thyroxin secretion. (20 marks)
- 1.3
  - 1.3.1 What is cretinism? (10 marks)
  - 1.3.2 Briefly describe features of cretinism. (20 marks)
- 1.4 Briefly describe features of Graves' disease. (20 marks)
- 1.5
  - 1.5.1 What is a goiter? (10 marks)
  - 1.5.2 List the causes for goiter. (10 marks)

02.

- 2.1 Briefly describe the water content of human body. (10 marks)
- 2.2 Briefly describe the distribution of water in different body fluid compartments. (20 marks)
- 2.3 Briefly describe the distribution of ions in different body fluid compartments. (20 marks)

## Part B

- 2.4 List the phases of female reproductive cycle (menstrual cycle). (10 marks)
- 2.5 Describe the changes in pituitary gonadotropins and female sex hormones during the phases mentioned in 2.4. (30 marks)
- 2.6 Name the sources of the following hormones. (10 marks)
- 2.6.1. Estrogen
- 2.6.2. Progesterone

## Part C

03.

- 3.1 Describe the ion movements during an action potential of a nerve. (30 marks)
- 3.2 Describe the mechanism of release of neurotransmitters in synapses. (30 marks)
- 3.3 What is the difference between an excitatory post synaptic potential and an inhibitory post synaptic potential? (20 marks)
- 3.4 Briefly describe the withdrawal reflex. (20 marks)

04.

- 4.1 Name **three** buffering mechanisms of  $H^+$  in the renal tubule. (20 marks)
- 4.2 Name **three** hormones produced by the kidney. (10 marks)
- 4.3 Describe the regulation of release of **one** of the hormones mentioned in 4.2. (20 marks)

## Part D

- 4.4 Explain the role of  $Ca^{++}$
- 4.4.1 at the neuromuscular junction. (10 marks)
  - 4.4.2 in excitation-contraction coupling. (15 marks)
- 4.5 Explain the difference between absolute refractory period and relative refractory period in a skeletal muscle. (10 marks)
- 4.6 Explain how neostigmine improves the symptoms of myasthenia gravis. (15 marks)

**Part E**

- 05.
- 5.1 Briefly describe the structure of different parts of the urinary system using labeled diagrams. (30 marks)
  - 5.2 State the functions of the each part of the urinary system mentioned above. (20 marks)
  - 5.3 Describe **two** types of immunity. (30 marks)
  - 5.4 State the structure of a lymph node and explain its function. (20 marks)

**Part F**

- 06.
- 6.1. How will you classify the nervous system? (20 marks)
  - 6.2. Name the cranial nerves. (25 marks)
  - 6.3. State the sensory organs found in the head region and the type of sensations perceived by them. (15 marks)
  - 6.4. Name the cranial nerves that innervate the sensory organs above stated. (10 marks)
  - 6.5. State the pulses that can be felt in the lower limb and the upper limb with the sites where these pulses are felt? (30 marks)

@@@@@@@@@@