RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (General) Degree in Applied Sciences
Second Year – Semester I Examination – Sep/Oct 2019

ZOO 2201 – ANIMAL HISTOLOGY AND PHYSIOLOGY

Index Number: **Time: Two (02) hours**

This question paper consists of sections A and B. Answer ALL questions in section A and TWO (02) questions from section B.

For official use Only					
Marks					
Question 1	Question 2	Question 3	Question 4	Question 5	Total

Section A
(Answer ALL questions)

1. a)

i. What is meant by "complete digestive tract/system"?

.....

.....

.....

(03 marks)

Index No.

ii. What is the first phylum in evolution showing a complete digestive tract?

.....

(2.5 marks)

iii. Name the special structure in the mouth of gastropods that aids in feeding.

.....

(2.5 marks)

iv. Explain briefly the feeding mechanisms used by Cnidarians/Coelenterates.

.....

.....

.....

.....

.....

(10 marks)

v. Explain the following terms using an example.
Saprotrophic organisms –

.....

.....

.....

Holozoic organisms –

.....

Index No.

.....

.....

Parasitic organisms –

.....

.....

.....

(15 marks)

b)

i. What are the **five (05)** main activities of the human digestive system?

.....

.....

.....

.....

.....

(10 marks)

ii. Name the four basic layers of the walls of the human alimentary tract.

.....

.....

.....

.....

(08 marks)

iii. In which part of the human alimentary canal are the smooth muscle layer most developed?

Why?

.....

Index No.

.....

.....

.....

(5.5 marks)

iv. Name the main type of tissues found in the submucosa of the alimentary canal.

.....

(2.5 marks)

v.Explain how the liningof the small intestine is adapted forincreased nutrient absorption?

.....

.....

.....

.....

(10 marks)

vi. What is the function of the Brunner's glands?

.....

(2.5 marks)

vii. State **three (03)** functions of the human gastric juice other than digestion.

.....

.....

.....

(7.5 marks)

Index No.

viii. What is "peristalsis"?

.....

.....

.....

(03 marks)

ix. What is the role of theparasympathetic nervous system in peristalsis?

.....

.....

(03 marks)

x. Name the accessary organs that are linked to the human digestive tract and state their major function.

accessory	**organ function**
.....	
.....	
.....	
.....	

(15 marks)

(Total = 100 marks)

2. a)

i. What are sensory receptors?

.....

.....

.....

(2.5 marks)

Index No.

ii. Name **two (02)** groups of sensory receptors and state their main function.

.....

.....

.....

.....

(08 marks)

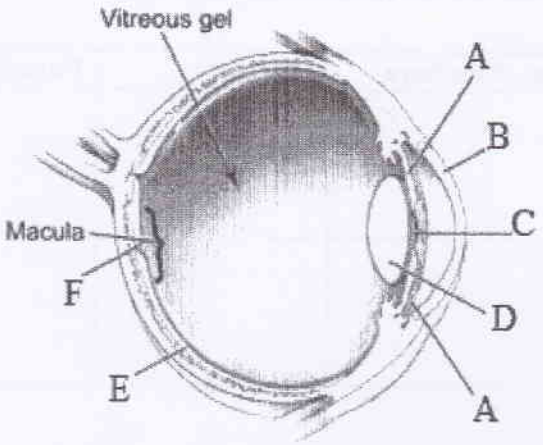
iii. Complete the following table. First row has been done as an example.

Stimulus	**Receptor**	**Location**
Eg:- Taste	Taste bud cells	Mouth
Smell		
Hearing		
Vision		
Muscle stretch		
Blood pressure		

(25 marks)

Index No.

b) Questions in part (b) are based on the following diagram.



i. Name the structures labelled A to F in the above diagram.

A - ..... B - .....

C - ..... D - .....

E - ..... F - .....

(12 marks)

ii. State the functions of A and B.

A – .....

B – .....

(05 marks)

iii. Describe briefly the importance of the region labelled as F.

.....

.....

.....

.....

.....

(03 marks)

Index No.

iv. Name the **two (02)** types of cells found in E and state their approximate numbers, the pigments found in them and the functions of these cells

cells	app. Numbers	pigments	Function

(20 marks)

v. Describe briefly the mechanisms of the following.
Close vision

.....

.....

.....

.....

.....

.....

Distant vision

.....

.....

.....

.....

.....

(14 marks)

Index No.

vi. State the function of the lacrimal apparatus.

.....

.....

(03 marks)

vii. What is "colour blindness"?

.....

.....

.....

.....

(7.5 marks)

(Total = 100 marks)

Index No.

78

Section B
(Answer any<u>TWO (02)</u> questions)

3. a) Describe briefly the structure of the respiratory system of man. **(50 marks)**
   b) Explain the mechanism of lung ventilation in man. **(50 marks)**

4. "Endotherms achieve metabolic homeostasis for unstable thermal environment by employing different strategies". Discuss the above statement.

(100 marks)

5. Write short notes on **<u>any two (02)</u>** of the following.
   a) Male reproductive system
   b) Action potential
   c) Structure of a compact bone
   d) Regulation of blood glucose levels

(100 marks)

---END---