

The Open University of Sri Lanka
Faculty of Natural Sciences
B.Sc/ B. Ed Degree Programme



Department	: Zoology
Level	: Level 4
Name of the Examination	: Final Examination
Course Code and Title	: ZYU4300 -Animal Form and Function
Academic Year	: 2020/21
Date	: 28/03/2022
Time	: 9.30am -11.30am
Duration	: 2 hours
Index number	:

General Instructions

1. Read all instructions carefully before answering the questions.
2. This question paper consists **Part A and Part B** with **5** questions in **6** pages.
3. **Part A** , structured essay question, is **compulsory** and answers should be written in the space given in question paper.
4. Answers for **Part B** should be written in answer books/papers provided.
5. All questions carry equal marks.
6. Answer for each question should commence from a new page.
7. Draw fully labeled diagrams where necessary.
8. Having any unauthorized documents/ mobile phones in your possession is a punishable offense.
9. Use blue or black ink to answer the questions.
10. Circle the number of the questions you answered in the front cover of your answer script.
11. Clearly state your index number in each page of answer script.

Part A

Question 1

1.1.a. Human body has two defense system in order to prevent the entry of pathogen.

Name two defense systems present in human body.

i-----

ii-----

(2 marks)

1.1.b. What would be the reason to have two defense system ?

(4 marks)

1.2.a. Define the term immunity.

(4 Marks)

1.2.b. Describe the significance of immunity in living animals.

(6 Marks)

1.2.c. Immune system consist of organs, tissues and cells.

Mention types of cells, tissues and organs that are included to immune system of human body.

Components of immune system	Types
Cells	
Tissues	
Organs	

(6 Marks)

1.2.d. Name the system of network which is combine with immune system in human body.

(4 Marks)

1.2.e. Classify the organs of the system that you have mentioned in 1.1.c

Primary organs	Secondary organs

(4 Marks)

1.2.f. Name the stem cells that produce immune cells.

(2 Marks)

1.2.g. Group the stem cell that you have mentioned n 1.2.f

(4 marks)

1.2.h. What are the most active lymphoid cells that involve in immune repose in human body?

(4marks)

1.3.a. Name two specific immune responses that occur in human body.

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(4 marks)

1.3.b. Write three major differences between the immune response that you have mentioned in 1.3.a.

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(6 marks)

1.3.c. Draw a picture below to illustrate the basic structure of immunological molecules that are formed during immune response.

(10 marks)

1.3.d. Describe four different reaction methods of above immunological molecules to inactivate the harmful pathogen.

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(12 marks)

1.3.e. Classify the immunological molecules that you have mentioned in 1.3.c. into different classes.

- i ----- ii -----
iii----- iv-----
v. ----- (10 marks)

1.3.f. What is the basis of classifying the immunological molecule mentioned in 1.3.c ?

(2 marks)

1.4.a. What is meant by immunization ?

(4 marks)

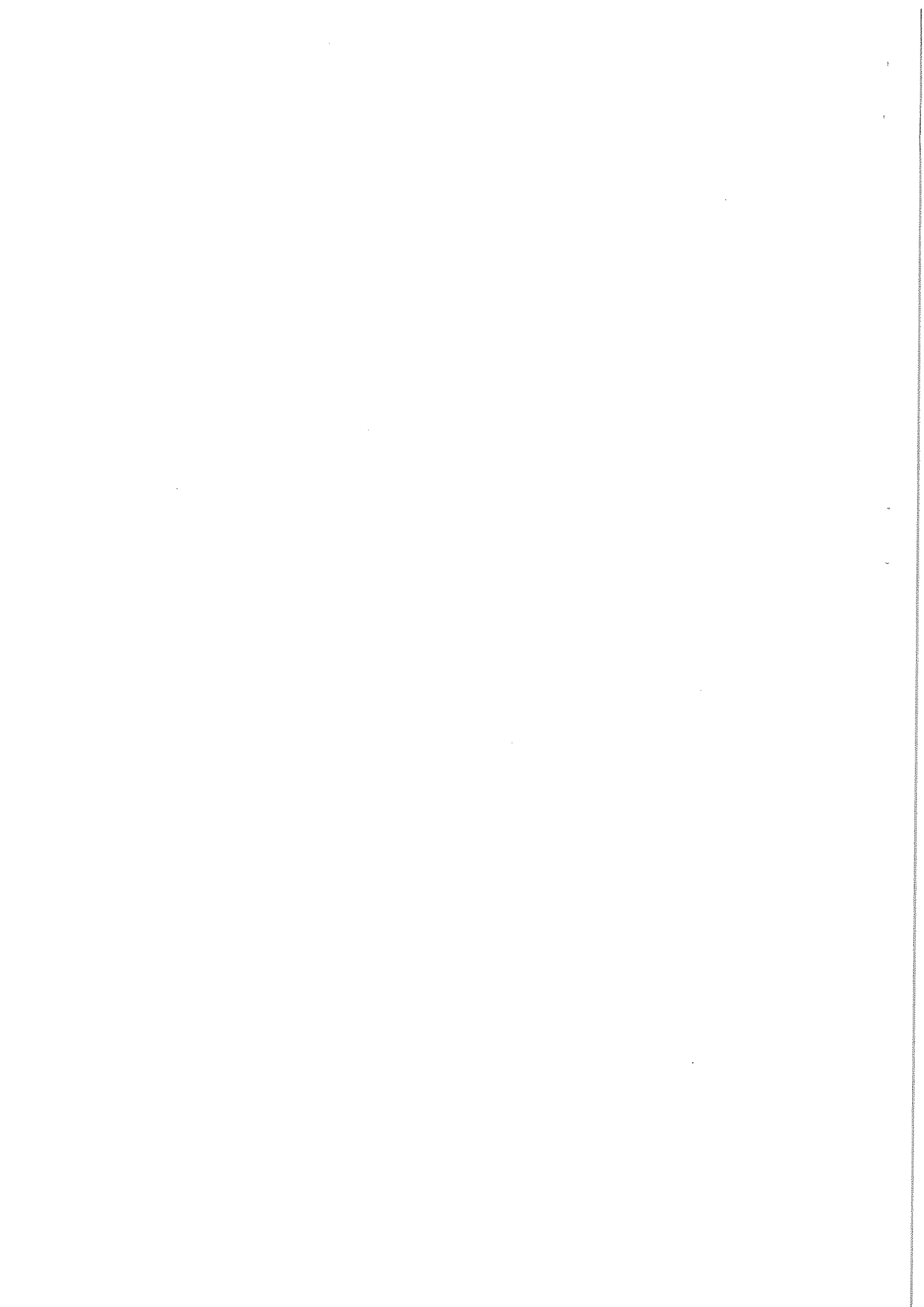
1.4.b. Explain why two doses of antigen are given for immunization.

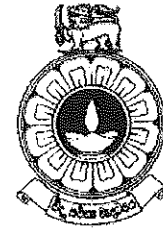
(8 marks)

1.4.c. Draw a diagram below to describe your answer, given to 1.4.b

(4 marks)







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Part B

Answer any **three (3)** questions.

2. Human body is properly maintained by homeostasis process. (5 marks)
2.a. Define the term homeostasis. (15 marks)
2.b. Describe the requirements of a homeostasis system for a living animal. (5 marks)
2.c. What are the major organs that involve in homeostasis process in human body. (75 marks)
2.d. Explain how blood glucose level in human body is controlled through homeostasis process. (20 marks)
3. Animals need food daily in correct proportion for healthy life. (20 marks)
3.a. Define the four major digestive process that are found in animals. (60 marks)
3.b. Briefly describe how the compartments of digestive tract have designed for the digestive process. (20 marks)
3.c. Explain how the digestive tract is specialized in ruminants. (10 marks)
4. Skeletal muscles in human body perform important functions in movement. (40 marks)
4.a. Describe principal characteristics of a muscle tissue. (50 marks)
4.b. Describe major properties of skeletal muscle with illustrations. (Each 50 marks)
4.c. Briefly describe how skeletal muscles work in human body .
5. Write short notes on **any two(2)** of the following.
5.a. Action potential and propagation of impulse along a neuron.
5.b. Hormonal control of female reproductive cycle.
5.c. Second messenger mechanism.
5.d. Cardiac cycle and conduction system. (Each 50 marks)

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