

SIR ARTHUR LEWIS COMMUNITY COLLEGE  
DIVISION OF AGRICULTURE  
CERTIFICATE IN GENERAL AGRICULTURE  
END OF SEMESTER ONE EXAMS



**ANIMAL STUDIES- ANS 104**

Duration: 2 ½ hrs

Monday, 8<sup>th</sup> December 2008

9:00 a.m.

# A35

**INSTRUCTIONS:**

This paper consists of two sections, sections A and B. Section A consists of two compulsory questions and section B consists of 4 questions, of which you must do any three.

You are to answer the questions on the paper provided.

Answer each question on a separate sheet of paper.

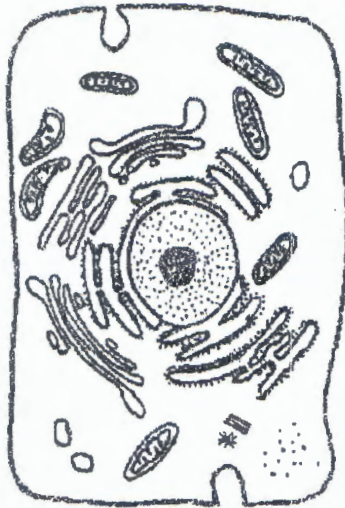


## SECTION A

This section consists of two (2) questions, questions 1 and 2. You **MUST** answer **BOTH** questions. Each question is worth a total of 20 marks, but marks allocated to each part of a question are indicated in brackets at the end of each part.

1. (a) With the aid of diagrams, describe the cell cycle of a germline cell. (15 marks)
- (b) List THREE (3) differences between mitosis and meiosis. (5 marks)
  
2. (a) Label the parts of the cell in the diagram. (4 marks)

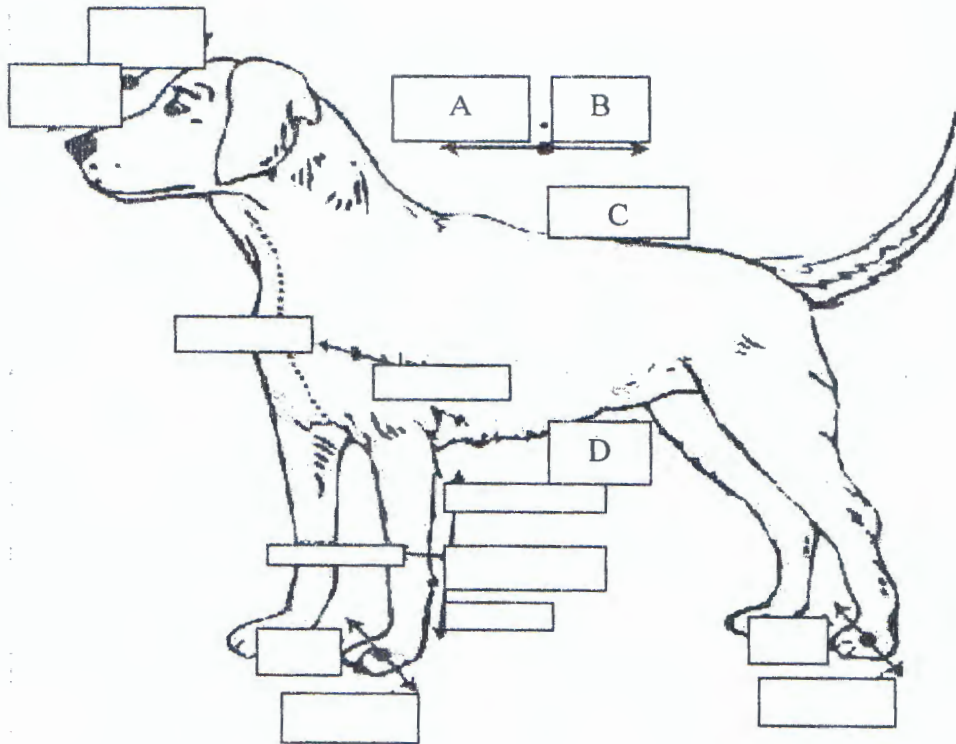
Use the following labels; *Nucleus, plasma membrane, nuclear membrane, rough endoplasmic membrane, smooth endoplasmic membrane, mitochondria, nucleolus, centrioles.*



- (b) Give **ONE** function of **ANY FOUR** named parts of the cell. (4 marks)
- (c) Place the following list of taxonomic categories in their correct sequence beginning with the largest unit of classification and ending with the smallest.

genus                  phylum,                  family,                  species,                  order,                  class  
(3 marks)

- (d) Name a genus of insects. (1 mark)
- (e) What does the term "bilateral symmetry" mean? (2 marks)
- (f) Several terms are used to describe the anatomy of animals. On the diagram which follows, letters A, B, C and D have been used to indicate some parts of a dog's body. What anatomical terms are used to describe each of the parts labelled A, B, C and D? (4 marks)



## SECTION B

*This section consists of FOUR (4) questions. You are to answer ANY THREE. Each question is worth a total of 20 marks; however marks allocated to each part of a question are indicated in brackets at the end of each part.*

1. a. Match each hormone (left hand column) with its effect on target cells (middle column) and the gland where it is produced (right hand column). (8 marks)

|                         |                                |                        |
|-------------------------|--------------------------------|------------------------|
| 1. thyroxine            | a. lowers blood glucose        | p. pineal gland        |
| 2. insulin              | b. stimulates ovaries          | q. testes              |
| 3. FSH                  | c. triggers "flight or fright" | r. parathyroid gland   |
| 4. melatonin            | d. promotes male traits        | s. adrenal medulla     |
| 5. epinephrine          | e. regulates metabolism        | t. posterior pituitary |
| 6. parathyroid hormone  | f. related to daily rhythm     | u. pancreas            |
| 7. antidiuretic hormone | g. raises blood calcium level  | v. anterior pituitary  |
| 8. androgen             | h. boosts water retention      | w. thyroid gland       |

- b. Using **ANY FOUR (4)** of the following categories, compare the endocrine and nervous systems.

general function

reaction to stimuli

duration of effects

target tissues

chemical messenger

messenger producing cells

(8 marks)

- c. Draw and correctly label a diagram of a neuron. Indicate, using an arrow, the direction of the nervous impulse. (4 marks)

2. (a) What is meant by the term "cellular respiration"? (2 marks)
- (b) What is the equation for cellular respiration? (1 mark)
- (c) Cellular respiration takes place in three stages.
- (i) Name each stage (3 marks)
- (ii) In what part of the cell does each stage take place? (3 marks)
- (iii) Briefly explain what happens at each stage. (9 marks)
- (iv) Differentiate between aerobic and anaerobic respiration. (2 marks)
3. (a) There are five stages of the oestrus cycle, name them. (5 marks)
- (b) With the aid of a suitable diagram, explain the development of the ovum. (15 marks)
4. (a) The following diagrams illustrate the digestive systems of two classes of livestock.

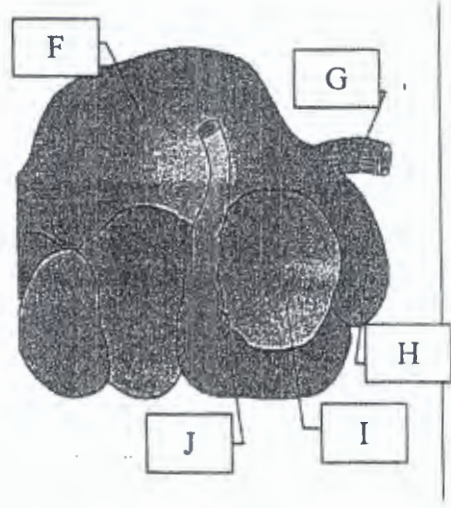
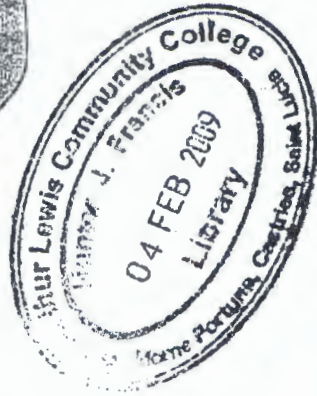
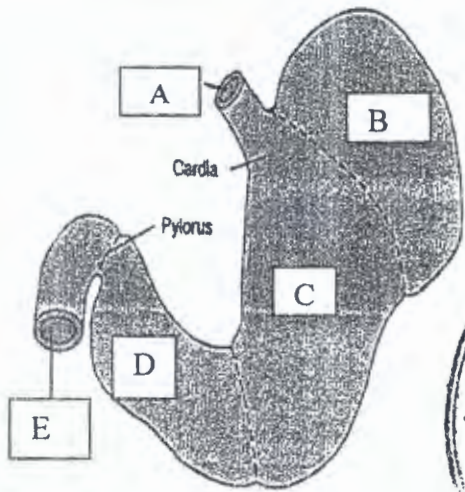


Diagram A \_\_\_\_\_

Diagram B \_\_\_\_\_

- (a) Label each diagram. (2 marks)
- (b) Name the parts labelled A-J. (10 marks)
- (c) Explain how food is digested in the stomach of a goat. (8 marks)

END OF TEST

Animal Studies Semester 1 2008/2009 December 8<sup>th</sup>, 2008