

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



**ANIMAL STUDIES- ANS 104**

# A42

Duration: 2 ½ hrs

Monday, 7<sup>th</sup> December 2009

9:00 a.m.

INSTRUCTIONS:

This paper consists of 5 questions of which you must do ANY FOUR.

You are to answer the questions on the paper provided.

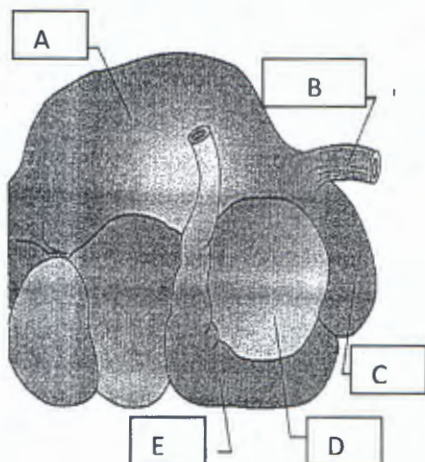
Answer each question on a separate sheet of paper.

1. (a) Match each hormone (left hand column) with the gland where it is produced (middle column) and its effect on target cells (right hand column). (18 marks)

HORMONE	ORIGIN (where produced)	FUNCTION
Follicle Stimulating hormone	Parathyroid gland	Controls blood glucose levels.
Testosterone	Anterior pituitary	Prepares the lining of the uterus for pregnancy.
Insulin	Corpus luteum	Stimulates the growth of long bones.
Progesterone	Thyroid	Stimulates development of the ovarian follicle.
Thyroxine	Pancreas	Influences sexual development and breeding cycles.
Growth hormone	Posterior pituitary	Influences of growth and development of young animals.
Antidiuretic hormone	Pineal gland	Regulate blood calcium levels.
Parathyroid hormone	Anterior pituitary	Stimulates the development of the male sexual characteristics.
Melatonin	Testes	Stimulates absorption of water from the kidney tubule

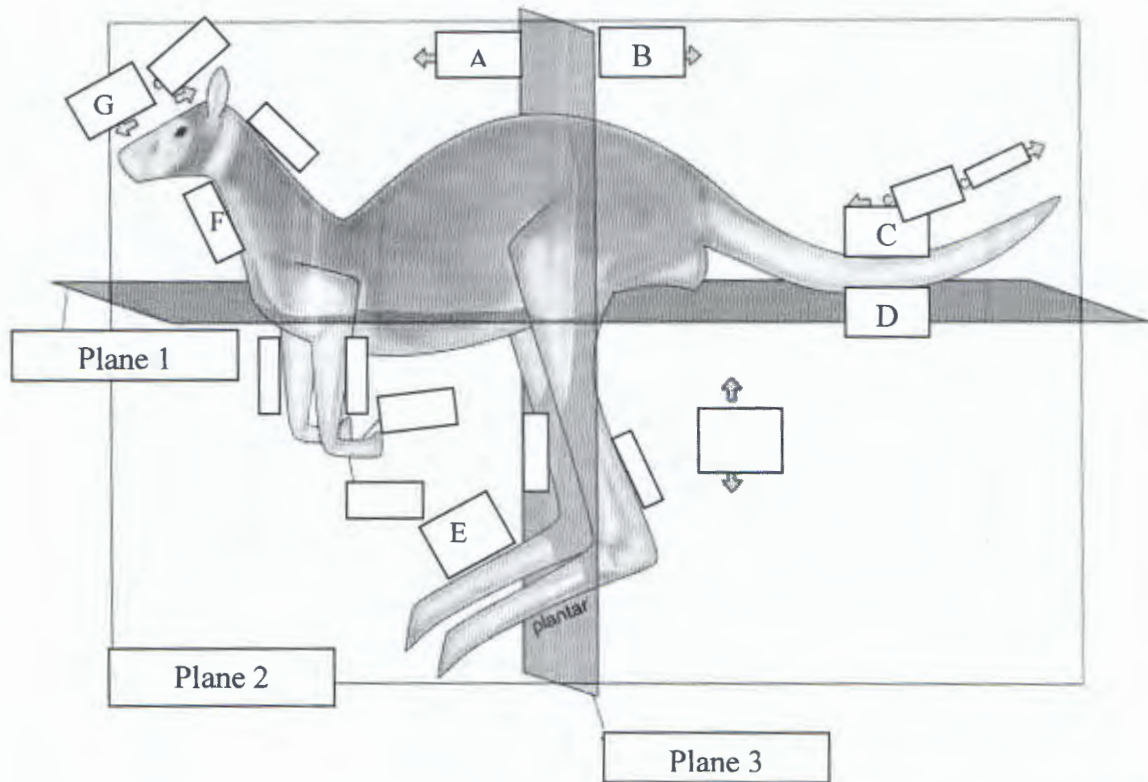
- (b) Give **ONE** way in which the endocrine is similar to the nervous system and **ONE** ways in which they are different. (2 marks)

2. (a) Give **THREE** (3) basic functions of the digestive tract. (3 marks)  
 (b) What structure does the following diagram represent? (1 mark)



- (c) Correctly name the parts labelled A-E. (5 marks)

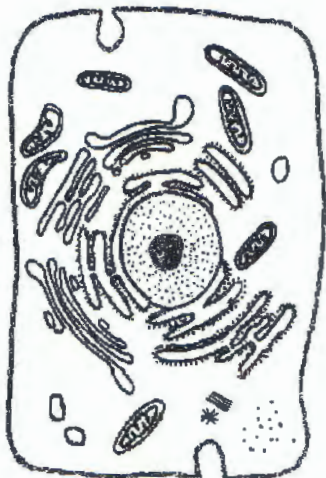
- (d) Which structure is considered the honeycomb? (write the name NOT the letter) (1 mark)
- (e) Explain the process of digestion in the stomach of a goat. (10 marks)
3. (a) List **FIVE** (5) mechanisms by which molecules pass through the plasma membrane. For **EACH** process or mechanism state whether it is passive or active (i.e use energy or not). (10 marks)
- (b) Identify which of the processes that you named in (a) above correspond to **EACH** of the following statements. (6 marks)
- i. uses no energy and results in an even distribution of molecules.
  - ii. uses no energy, and occurs across a semi-permeable membrane.
  - iii. occurs across the membrane of red blood cells causing them to swell and burst when placed in distilled water.
  - iv. uses energy and allows the cell to take into itself particles and bacteria.
  - v. moves substances across the plasma membrane from a low to a high concentration.
  - vi. uses a carrier molecule to help substances across a membrane but does not require energy.
- (c) Name the 4 different types of organic molecules to be found in the cell. (4 marks)
4. (a) Give **THREE** functions of the nervous system. (3 marks)
- (b) Draw and correctly label a diagram of a typical neuron. (7 marks)
- (c) On the diagram which follows, letters have been used to indicate some parts of an animal's body. What anatomical terms are used to describe each of the parts labelled A-G? (7 marks)
- (d) What plane does **EACH** plane 1; plane 2 and plane 3 represent? (3 marks)



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5. (a) Label the parts of the cell in the diagram. (8 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) List **THREE** (3) differences between mitosis and meiosis. (6 marks)
- (d) Differentiate between **SOMATIC** and **GERMLINE** cells. (2 marks)

END OF TEST