

SIR ARTHUR LEWIS COMMUNITY COLLEGE

DIVISION OF AGRICULTURE

A40

SUMMER 2009 EXAMS

ANIMAL STUDIES- ANS 10

Duration: 2 hrs

Thursday, 2nd July 2009

9:00 a.m.



INSTRUCTIONS:

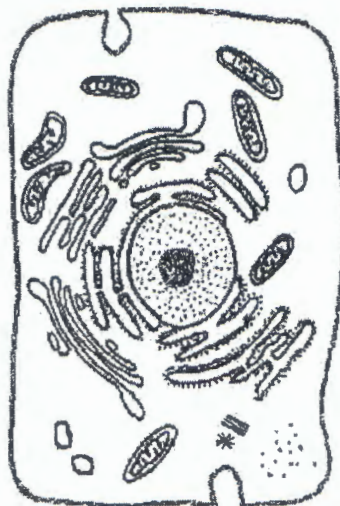
This paper consists of six (6) COMPULSORY questions.

Where possible, you should answer the questions on this paper. When this is not possible, you will respond on the paper provided.

1. (a) With the aid of diagrams, describe the cell cycle of a germ line cell. (15 marks)
- (b) List THREE (3) differences between mitosis and meiosis. (5 marks)

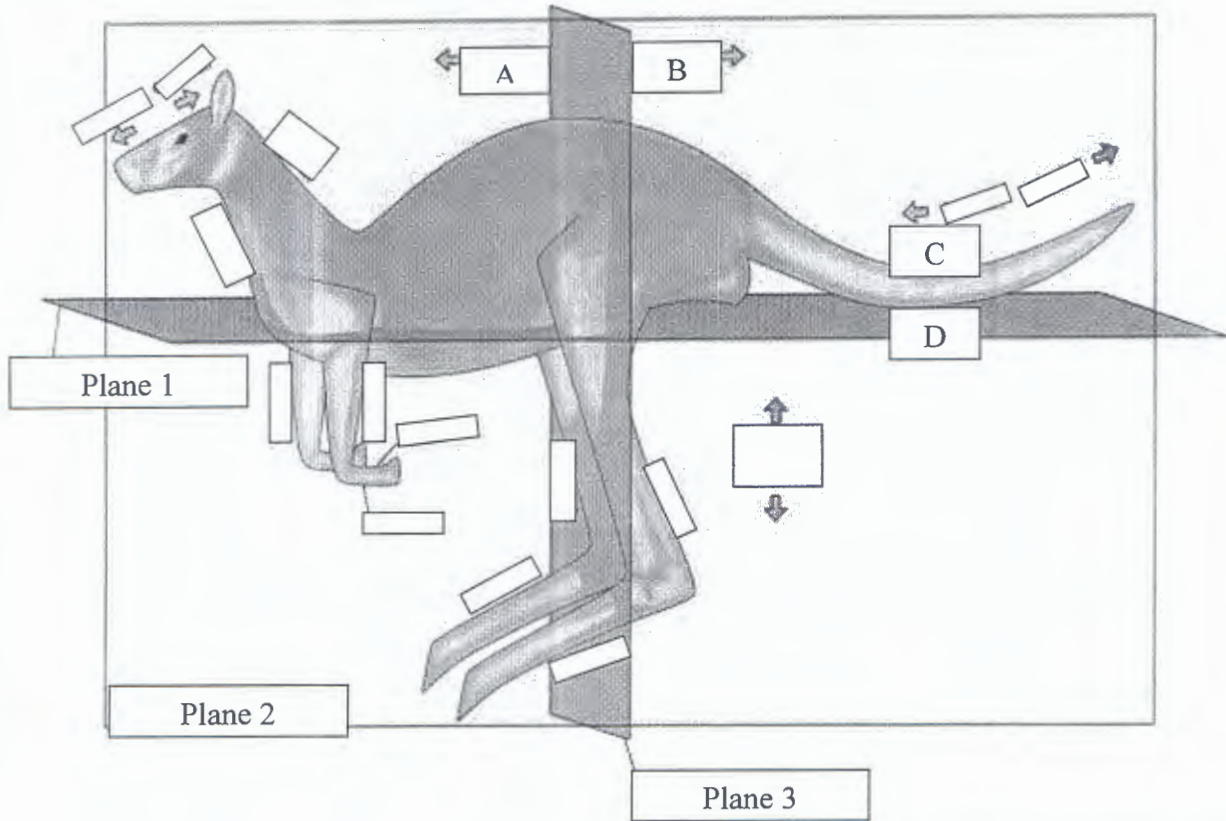
2. (a) Label the parts of the cell in the diagram. (8 marks)

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



- (b) Give **ONE** function of **ANY TWO** named parts of the cell. (2 marks)
- (c) List 5 mechanisms by which molecules pass through the plasma membrane, and for **ANY THREE**, state whether these mechanisms are passive or active. (8 marks)
- (d) On the diagram which follows, letters A, B, C and D 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, B, C and D?

What planes do EACH plane 1; plane 2 and plane 3 represent? (7 marks)



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3. (a) Indicate whether the following parts of the nervous system belong to the central nervous system or the peripheral nervous system. (5 marks)

Brain _____

Autonomic nervous system _____

Spinal nerves _____

Spinal cord _____

Cranial nerves _____

- (b) Correctly identify the following diagram and label it using the given terms. (7 marks)
cell body, nucleus, axon, dendrites, myelin sheath, muscle fibres

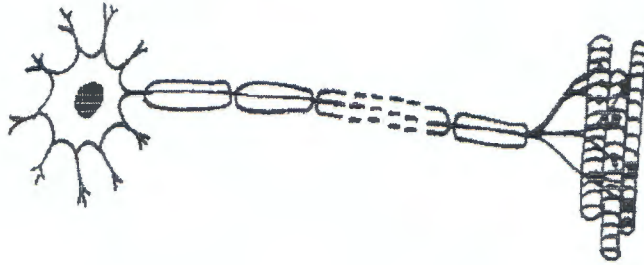


Diagram of _____

- (c) Each statement below describes the function of one type of neuron. Write the name of the correct neuron next to its function. (3 marks)

- (i) _____ the nerve cell that carries impulses from a sense receptor to the brain or spinal cord.
- (ii) _____ the nerve cell that connects sensory and motor neurons.
- (iii) _____ the nerve cell that transmits impulses from the brain or spinal cord to a muscle or gland.

4. (a) Which hormone is described in each statement below? (6 marks)

- i) This hormone stimulates the growth of the follicles in the ovary _____
- ii) This hormone converts the empty follicle into the corpus luteum and stimulates it to produce progesterone _____
- iii) This hormone is produced by the cells of the follicle _____
- iv) This hormone is produced by the corpus luteum _____

v) This hormone causes the mammary glands to develop_____

vi) This hormone prepares the lining of the uterus to receive a fertilised ovum_____

(b) Next to each hormone, write the name of the gland in which it is produced. (8 marks)

(i) Insulin_____

(ii) Progesterone_____

(iii) Oestrogen_____

(iv) Growth hormone_____

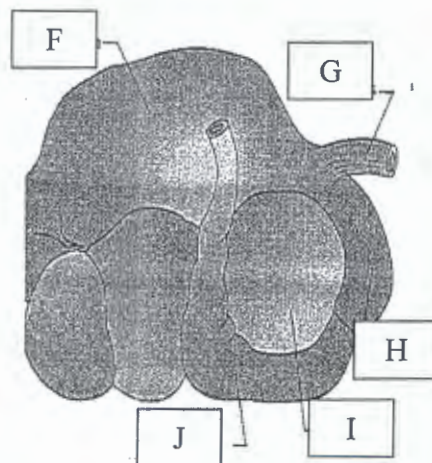
(v) Testosterone_____

(vi) Melatonin_____

(vii) Oxytocin_____

(viii) Thyroxine_____

5. (a) The following diagram illustrates the digestive systems of one class of livestock.



Name the class of livestock_____

(1 marks)

(b) Name the parts labelled F-I. (5 marks)

(c) Explain how food is digested in the stomach of a goat. (8 marks)

6. (a) Match the following descriptions with the choices given in the list below. (12 marks)

accessory glands, vas deferens or sperm duct, penis, scrotum, fallopian tube, testes, urethra, vagina, uterus, ovary, vulva

i) Organ that delivers semen to the female vagina _____

ii) Where the sperm are produced _____

iii) Passage for sperm from the epididymis to the urethra _____

iv) Carries both sperm and urine down the penis _____

v) Glands that produce secretions that make up most of the semen _____

vi) Bag of skin surrounding the testes _____

vii) Where the foetus develops _____

viii) This receives the penis during copulation _____

ix) Where fertilisation usually occurs _____

x) Ova travel along this tube to reach the uterus _____

xi) Where the ova are produced _____

xii) The external opening of the vagina _____

END OF TEST