



MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

FIRST YEAR SECOND SEMESTER

**SCHOOL OF NATURAL RESOURCES, TOURISM
AND HOSPITALITY**

**BACHELOR OF SCIENCE IN ANIMAL HEALTH
AND PRODUCTION**

COURSE CODE: AHP 1205-1

COURSE TITLE: ANIMAL PHYSIOLOGY II

DATE: 16/5/2024

TIME: 1430-1630 HRS

INSTRUCTIONS TO CANDIDATES

Answer ALL questions.

This paper consists of 3 printed pages exclusive of this cover page.

Please turn over

QUESTION ONE

- a) Regarding mechanical digestion:**
- i) Explain what it entails and its significance** (6 marks)
 - ii) Name TWO activities/processes that enable the digestive system to achieve mechanical digestion** (4 marks)
- b) Define deglutition** (2 marks)
- c) Briefly describe the changes in the following structures during the pharyngeal phase of deglutition and explain the essence of each:**
- i) Soft palate** (4 marks)
 - ii) Epiglottis** (4 marks)

QUESTION TWO

- a) State the secretions from the following cells of the oxyntic gastric glands:**
- i) Parietal cell** (2 marks)
 - ii) Chief cell** (2 marks)
- b) A goat and a pig sneaked into the family's food store and ate the maize flour (unga). Highlight the difference in the digestion process at the stomach between the two animals** (6 marks)
- c) Briefly explain the role(s) played by the liver in digestion** (6 marks)
- d) Briefly explain how glucose is absorbed from the small intestine** (4 marks)

QUESTION THREE

- a)** Why is it necessary for the body to maintain acid-base homeostasis? (2 marks)
- b)** Name the buffer systems involved in the maintenance of acid-base homeostasis (6 marks)
- c)** Briefly explain the involvement of antidiuretic hormone in the regulation of plasma osmolarity (8 marks)
- d)** State the actions of the following:
- i)** Aldosterone (2 marks)
 - ii)** Renin (2 marks)

QUESTION FOUR

- a)** Using a well-labeled sketch, illustrate the functional structure of a nephron (10 marks)
- b)** Regarding renal physiology, briefly describe tubular reabsorption, stating its essence (4 marks)
- c)** Regarding micturition:
- i)** State the TWO phases of micturition (2 marks)
 - ii)** State what elicits its voiding phase (2 marks)
 - iii)** Name the effectors and state their response(s) upon elicitation of the voiding phase (2 marks)

QUESTION FIVE

- a)** Briefly explain the essence of:
- i)** Descend of testis to scrotum in domestic mammals (4 marks)
 - ii)** Blood-testis barrier (4 marks)
- b)** Androgen-binding protein is secreted in the testis.
- i)** Name the cell that secretes it (2 marks)
 - ii)** Explain the purpose/role it plays and its significance (4 marks)
- c)** Outline the difference(s) between the TWO phases of ejaculation (6 marks)

QUESTION SIX

- a)** In about 24 hours before ovulation, mature females of most domestic mammals exhibit a rapid increase in the plasma levels of luteinizing hormone.
- i)** What is the phenomenon referred to as? (2 marks)
 - ii)** State the effects/outcomes of the phenomenon (4 marks)
- b)** Explain why spermatozoa require some time in the female genital tract before they acquire full fertilizing capability (4 marks)
- c)** Name TWO main hormones produced by the ovary and for each, name the ovarian structure from where it is produced (4 marks)
- d)** Define 'lung compliance' (2 marks)
- e)** Briefly explain the effect of lung fibrosis on lung compliance (4 marks)

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