



MACHAKOS UNIVERSITY

University Examinations for 2019/2020 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

DECEMBER SESSION EXAMINATION FOR

BACHELOR OF EDUCATION SCIENCE

SZL 306: HUMAN BIOLOGY

DATE: SCHOOL BASED

TIME : 2 HOURS

INSTRUCTIONS

1. Answer Question 1 (compulsory) and **any two** questions in Section B.
2. Use clean well labelled diagrams wherever appropriate.

SECTION A

QUESTION ONE (30 MARKS) – COMPULSORY

- a) Outline the importance of each of the following in the human body: (3 marks)
 - i. Magnesium
 - ii. Islets of Langerhans
 - iii. Heparin
- b) Describe one of the two main body cavities (3 marks)
- c) Explain the role of bile in humans (3 marks)
- d) List the cause, symptoms and prophylactic measures of amoebiasis (3 marks)
- e) Differentiate between immunodeficiency and autoimmunity giving one example of each (3 marks)
- f) Describe the reproductive role of the male and female organs (3 marks)
- g) Explain how the Glomerulus is adapted to its functions (3 marks)
- h) Explain why Man is superior than any other animal. (3 marks)

- i) Explain how the automatic activity of the human heart is achieved (3 marks)
- j) Explain three (3) physiological changes that occur in a female during gestation (3 marks)

SECTION B: ANSWER ANY OTHER TWO QUESTIONS(40 MARKS)

QUESTION TWO (20 MARKS)

- a) Describe the effects of drug and alcohol abuse to human life (10 marks)
- b) Explain the functions of four different structures required to perform the male's reproductive role. (10 marks)

QUESTION THREE (20 MARKS)

- a) Explain four barriers of innate immunity (8 marks)
- b) Discuss the life cycle of the HIV virus (12 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss the medical implications of tradeoffs in human life history (10 marks)
- b) Describe the level of structural organization of the body from the micro structure to complete organism. (10 marks)

QUESTION FIVE (20 MARKS)

Discuss the role of hormones in the human reproductive process