



MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

THIRD YEAR SUPPLEMENTARY EXAMINATION FOR

BACHELOR OF SCIENCE IN BIOLOGY

SZL 306: HUMAN BIOLOGY

DATE: 17/3/2022

TIME :8:30 – 10:30 AM

Instructions

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

SECTION A

Question 1. – Compulsory (30 marks)

- a) Outline the importance of each of the following in the human body (i) Magnesium (ii) Islets of Langerhans (iii) Heparin. (3 marks)
- 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 amoebiosis. (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) Man is superior than any other animal. Explain. (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 TWO QUESTIONS (40 MARKS)

QUESTION TWO

- a) Describe the effects of drug and alcohol abuse to human life. (10 marks)
- b) The male's reproductive role requires four different structures. Name and briefly explain their functions (10 marks)

QUESTION THREE

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

QUESTION FOUR

- 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

Discuss the role of hormones in the human reproductive process (20 marks)