



MACHAKOS UNIVERSITY

University Examinations for 2024/2025 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES

THIRD YEAR FIRST SEMESTER EXAMINATION FOR DEGREE IN
BACHELOR OF EDUCATION (SPECIAL NEEDS)
BACHELOR OF EDUCATION (SCIENCE)

SZL306: HUMAN BIOLOGY

DATE: 24TH JANUARY, 2025
AM

TIME: 8.30 AM – 10.30

INSTRUCTIONS:

- Answer question **ONE (Compulsory)** and **any other TWO** questions
- Use clean well labelled diagrams wherever appropriate

QUESTION ONE (30 MARKS)

- Describe the effects of drug and alcohol abuse to human life. (3 marks)
- Describe briefly the structure and function of the alveoli in humans. (3 marks)
- Explain the endocrine function of pancreas. (3 marks)
- Describe briefly the vertebral column. (3 marks)
- Explain two viral diseases of man and how they are combated. (3 marks)
- Describe the structure of a mammalian cell. (3 marks)
- Explain the significance of mitosis in cell division. (3 marks)
- Explain the ventricular circulation. (3 marks)
- Explain the significance of prophase 1 in human variation. (3 marks)
- Distinguish between pulse and heart beat. (3 marks)

QUESTION TWO (20 MARKS)

Describe the hormonal regulation of menstruation

QUESTION THREE (20 MARKS)

- (a) Describe the structure and function of the female reproductive system (12 marks)
- (b) Discuss the life cycle of the HIV virus (8 marks)

QUESTION FOUR (20 MARKS)

- (a) Describe the phases of cardiac cycle. (10 marks)
- (b) Discuss the mechanism of breathing in Man. (10 marks)

QUESTION FIVE (20 MARKS)

Describe the systemic and pulmonary circulation.