

THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF ZOOLOGY
BSc DEGREE PROGRAMME
FINAL EXAMINATION 2024/2025
COURSE TITLE: HUMAN BIOLOGY
COURSE CODE: ZYU5305
DURATION: TWO HOURS



DATE: 19 May 2025

TIME: 9.30 a.m. – 11.30 a.m.

ANSWER ANY FOUR (4) QUESTIONS.

ILLUSTRATE ANSWERS WITH LABELLED DIAGRAMS WHERE NECESSARY.

1. Compare between the following types of immune responses.
 - i) Primary and secondary immune responses. [50 marks]
 - ii) Active and passive immunity. [50 marks]
2. Explain how the body would adjust through physiological mechanisms in the following situations.
 - i) An American living in an extreme dry heat environment while on a three-month field visit to the Sahara Desert. [50 marks]
 - ii) A Sri Lankan on a one month expedition to the North Pole exposed to a very cold environment. [50 marks]
3. A newly married couple seeks your advice on birth control options available to postpone having a baby for one year. Write an account on the information you would provide on the physical and chemical barrier methods available for their use. [100 marks]

4. Write on the following.
- i) Pectoral girdle of human. [50 marks]
 - ii) Adaptations of the human foot for bipedalism. [50 marks]
5. A young man is shown to have the following features: No facial hair, underdeveloped testes, partially developed breasts, long legs and arms, and somewhat feminine musculature. On genetic testing, he is found to have an extra X chromosome in his cells.
- i) Identify the genetic abnormality. [05 marks]
 - ii) Explain the process by which this genetic abnormality arises, illustrating the answer with suitable diagrams. [50 marks]
 - iii) Outline the tests available to detect such a genetic disorder in a foetus. [45 marks]
6. Write notes on two (02) of the following.
- a) Oxygen-haemoglobin dissociation curve. [50 marks]
 - b) Taste buds and sense of taste. [50 marks]
 - c) Glomerular ultrafiltration. [50 marks]
