

THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF ZOOLOGY
B.Sc. DEGREE PROGRAMME
FINAL EXAMINATION 2019 / 2020
COURSE TITLE: HUMAN BIOLOGY
COURSE CODE: ZLU3185
DURATION: TWO HOURS



DATE: 2nd November 2020

TIME: 1.30 pm – 3.30 pm

ANSWER ANY FOUR (4) QUESTIONS.

ILLUSTRATE ANSWERS WITH LABELLED DIAGRAMS WHERE NECESSARY.

1. Justify the following statements.
 - i) Heart rate of human can be regulated by nervous control.
 - ii) Human vertebral column and foot are adapted to facilitate bipedal locomotion.

2. A newly married couple seeks your advice on birth control options available for them to postpone having a baby for one year. Write an account on the information you would provide on the barrier methods available for their use.

3. 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.
 - ii) Explain the process by which this genetic abnormality arises, illustrating the answer with suitable diagrams.
 - iii) Outline the tests available to detect such a genetic abnormality in a foetus.

4. Compare between the following:
 - i) Active and Passive immunity.
 - ii) Humoral and Cellular immune responses.

5. Jayanthi Kuru-Uthumpala and Johann Peries are the only Sri Lankans to summit Mount Everest. Explain the adjustments likely to have occurred in their body during the climb to face the high altitude conditions of the surrounding environment.
6. Write notes on two (02) of the following:
- a) Glomerular ultrafiltration
 - b) *Homo erectus*
 - c) Olfactory receptors
