

THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF ZOOLOGY
B.Sc. DEGREE PROGRAMME
FINAL EXAMINATION 2017 / 2018
COURSE TITLE: HUMAN BIOLOGY
COURSE CODE: ZLU3185
DURATION: TWO HOURS



DATE: 6th April 2019

TIME: 1.30 pm – 3.30 pm

ANSWER ANY FOUR (4) QUESTIONS.

ILLUSTRATE ANSWERS WITH LABELLED DIAGRAMS WHERE NECESSARY.

1. Explain the following processes.

- i) Main catabolic and anabolic processes involved in the metabolism of triglycerides in the human diet.
- ii) Regulation of water level by human kidney.

2. Compare between the following types of immune responses.

- i) Immune response that develops when a child is vaccinated against Chickenpox with the immune response that develops if this person is later naturally exposed to the Chickenpox virus.
- ii) Immunity developed when a person is given the Polio vaccine with the immunity developed when a person is given an injection of Tetanus antibodies.

3. Explain how the body would adjust through physiological mechanisms in the following situations.

- i) A Sri Lankan undergraduate on a one month expedition to the North Pole, exposed to a very cold environment
- ii) A British researcher living in an extreme dry heat environment, whilst on a three-month field visit to the Sahara Desert

Contd.

4. A baby girl is shown to have the following features: Flattened face, protruding tongue and upward slanting eyes. On genetic testing, she is found to have three copies each of a particular chromosome in cells.
- i) Identify the genetic abnormality.
 - ii) Explain the process by which this genetic abnormality arises, with suitable diagrams to illustrate the answer.
 - iii) Outline the tests available to detect such a genetic abnormality in a foetus.
5. 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.
6. Write notes on two (02) of the following.
- (a) Adaptations of the human foot for bipedalism.
 - (b) *Homo erectus*.
 - (c) Sensory and motor domains of the cerebral cortex.
