

The Open University of Sri Lanka
 Department of Zoology
 Masters Degree in Environmental Science
 Academic Year 2017/2018



Level 9

Final Examination

Course title- Understanding the Environment

Course Code - ZYP9505 /NEP1211

Date : 1st December 2018

Time: 9.30 am- 12.30 pm

ANSWER ANY FOUR (04) QUESTIONS

1. (i) Describe the Earth's internal energy source/s? (25 marks)
- (ii) What is plate tectonics and how was it discovered? (25 marks)
- (iii) How do the interior structure of the Earth is investigated? (25 marks)
- (iv) Why is the crust under the oceans is thinner than under the continents? (25 marks)

- 2 (i) Briefly describe the various types of silicate mineral structures based on the SiO₄ tetrahedron. (25 marks)
- (ii) How does 'fracture' differ from 'cleavages'? Explain the answer with suitable Examples. (25 marks)
- (iii) "Chert, agate and pearl are considered as mineraloids". With reference to mineral definition explain why each of these are not considered as minerals. (25 marks)
- (iv) Explain the Bowen's Reaction Series with suitable a diagram. (25 marks)

- 3 (i) Define the following terms using formulae, giving units and typical values or appropriate diagrams where applicable and describe where and how the following are used.
- (a) Porosity
 - (b) hydraulic conductivity
 - (c) Pumping test *(33 marks)*
- (ii) Draw labelled diagrams to explain the difference between a confined aquifer and an unconfined aquifer *(33 marks)*
- (iii) Explain the different groundwater aquifer systems found in Sri Lanka *(33 marks)*
- 4 Give an account on the layering of the earth's atmosphere based on the vertical profile of the temperature. Use diagrams whenever possible.
5. Write an account on food and feeding relationships in ecosystems.
6. Living organisms play an important role in the recycling of many elements within an ecosystems.
- (i) With reference to nutrient cycles discuss how various types of organisms and their biochemical reactions contribute to the recycling of materials in an ecosystem. *(70 marks)*
 - (ii) Discuss the impacts of human activity on above mentioned nutrient cycles. *(30 Marks)*