

**The Open University of Sri Lanka**  
**Department of Zoology**  
**Masters Degree in Environmental Science**  
**Academic Year 2018/2019**  
**Level 9**



**Final Examination**

**Course title – Understanding the Environment**

**Course code- ZYP9505/ NEP1211**

---

Date : 2020.02.22

Time- 9.30am - 12.30 pm

---

**ANSWER ANY FOUR (04) QUESTIONS.**

---

- 1 (i) What evidence used by Alfred Wagner to support his theory of continental drift?  
(25 marks)
- (ii) Describe the concept of 'Plate Tectonics' and how its influence the nature of the Earth's surface.  
(25 marks)
- (iii) What drives the motion of plates?  
(25 marks)
- (iv) Describe type of plate moments at the following locations using your knowledge in plate tectonics.
- (a) at Middle of the Atlantic Ocean
  - (b) in Iceland
  - (c) at East African Rift Valley
  - (d) at Red Sea
  - (e) at San Andreas Fault
- (5 marks each)

- 2 (i) Mica, amphiboles and pyroxenes are mineralogically different. Explain how these mineral groups are structurally different.  
(25 marks)

- (ii) Sulphide minerals are common 'ore' minerals. List the name and chemical formula for molybdenum, zinc, nickel, lead and copper bearing sulphide minerals. (25 marks)
- (iii) Explain the following. Use examples and diagrams define the each term and also explain the difference between the two where applicable.
- (a) Mohs scale of hardness
  - (b) Mineral vs mineraloid
  - (c) Pyroxene vs Amphibole
  - (d) Gold vs Pyrite
  - (e) Cleavage vs Fracture ((10 marks)  
*each)*
3. (i) Define porosity and permeability. Compare the porosity and permeability of clay and sand. Under what circumstances can a rock have a high porosity but not be a good aquifer? (25 points & 4 marks for each point)
4. (a) With reference to a suitable diagram explain the structure of the atmosphere based on temperature and pressure variations. (60 marks)
- (b) Explain the causes and effects of **two (02)** current atmospheric problems (40 marks)
5. (a) Describe the adaptations seen in estuarine organisms. (70 marks)
- (b) Briefly explain how mangrove flora are adapted to overcome harsh environmental conditions. (30 marks)
6. (a) Define the term "community" and write a suitable example for a named community ( 20 marks)
- (b) What is meant by the structure of a community? (10 marks)
- (c) Describe the factors that contribute to the structure of a community? (70 marks)