

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF APPLIED SCIENCES**

**DEPARTMENT OF ENVIRONMENTAL SCIENCE AND HEALTH**

**FINAL EXAMINATIONS**

**INTRODUCTION TO THE PHYSICAL ENVIRONMENT: ESH 1101**

**January 2013 Time Allowed: 3 Hours Total Marks 100**

**INSTRUCTIONS TO CANDIDATES:**

**Answer any FOUR questions. Each question carries 25 marks.**

**Question 1**

(a) Explain the continental drift theory and discuss the evidence given to support it.

**(12 marks)**

(b) Use Plate Tectonics theory to explain the earth's main physical features.

**(13 marks)**

**Question 2**

a) Define and explain the characteristics of a system in physical environmental studies

**(5 marks)**

b) Briefly explain the following:

(i) Morphological systems

**(5 marks)**

(ii) Cascading systems

**(5 marks)**

(iii) Process-response system

**(5 marks)**

(iv) Control system

**(5 marks)**

**Question 3**

a) Draw a diagram to illustrate the main features of a storm hydrograph. **(5 marks)**

b) Discuss factors which influence the shape of the storm hydrograph. **(20 marks)**

**Question 4**

Discuss factors that influence the type and nature of weathering.

**Question 5**

Write an essay on the nature and impacts of tropical cyclones.

**Question 6**

a) With the aid of a diagram, describe the vertical structure and composition of the atmosphere. **(13 marks)**

b) Briefly describe and explain how temperature changes with altitude from the earth's surface to the mesosphere. **(12 marks)**

**End of Question Paper**

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**SUPPLEMENTARY EXAMINATIONS**

**INTRODUCTION TO THE PHYSICAL ENVIRONMENT: ESH 1101**

**Year 2013 Time Allowed: 3 Hours Total Marks 100**

**INSTRUCTIONS TO CANDIDATES:**

**Answer any FOUR questions. Each question carries 25 marks.**

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**Question 1**

Discuss the concept of global warming paying attention to its causes, management and consequences.

**Question 2**

With the aid of a diagram, explain clearly the features of the hydrological cycle.

**Question 3**

- a) Explain the concepts of divergence and convergence in relation to plate movement with reference to formation of rift valleys and fold mountains. **(10 marks)**
- b) Explain how volcanic activities and earthquakes take place and highlight their impacts on the environment. **(15 marks)**

**Question 4**

Write an essay on the nature and impacts of tropical cyclones.

**Question 5**

- a) How are velocity, discharge and cross-sectional area of a stream related. **(7 marks)**
- b) Describe the processes involved in overbank flooding and explain why this occurs. **(10 marks)**

c) Explain clearly why river cross profiles vary so greatly from one river to the other. **(8 marks)**

**Question 6**

a) With the aid of a diagram, describe the vertical structure and composition of the atmosphere. **(13 marks)**

(b) Briefly describe and explain how temperature changes with altitude from the earth's surface to the mesosphere. **(12 marks)**

**End of Question paper**