

The National University of Lesotho

BSc, B. Ed., URP Examination

GES 2302: Advanced Human and Physical Environmental Systems Supplementary Exam

August 2023

Duration: 3 hours

Marks: 100

Instructions:

- Answer any **four (4)** questions
 - Where applicable illustrate your answer with diagrams.
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Question 1

- a. Describe in details the vertical and horizontal variations of atmospheric pressure. (15)
- b. Describe how unequal distribution of incoming solar radiation affects the general atmospheric circulation. (10)
- (25)

Question 2

- a. What is the difference between cyclone and anticyclone? (4)
- b. Mention and explain major factors that influence air temperature. (12)
- c. Describe how location influence differences in weather conditions. (9)
- (25)

Question 3

- a. Define organic matter, where it comes from and the importance of it in the soil. (10)
- b. Mention and describe any 3 characteristics of the soil and how each portray the fertility and infertility of the soil. (15)
- (25)

Question 4

- a. Mention and describe at least 5 processes that take place in rocks transformation. (15)
 - b. Where do changes of rocks from one form to another take place? (6)
 - c. Define weathering and give example of at least one factor that influences it. (4)
- (25)**

Question 5

- a. Draw a detailed hydrological cycle showing all processes and the forms in which water exist at different locations (15)
 - b. Describe in details how clouds form. (10)
- (25)**

Question 6

- a. What is the source of energy for organisms, how does it flow from one organism to another, support your answer with an example. (10)
 - b. Draw a well labelled nitrogen cycle and describe all processes in changing from one form to another. (15)
- (25)**