



<b>FACULTY</b>	<b>FACULTY OF AGRICULTURE, ENGINEERING AND NATURAL SCIENCES</b>		
<b>DEPARTMENT</b>	<b>GEOGRAPHY, HISTORY AND ENVIRONMENTAL STUDIES</b>		
<b>SUBJECT</b>	<b>PEDOLOGY</b>		
<b>SUBJECT CODE</b>	<b>GHE 3662</b>		
<b>DATE</b>	<b>November 2022</b>		
<b>DURATION</b>	<b>2 Hours</b>	<b>MARKS</b>	<b>70</b>

### **SUMMER EXAMINATION**

**Examiner:** Dr R. N. Shikangalah, University of Namibia  
**Internal Moderator:** Ms N. F. Nakanyete, University of Namibia  
**External Moderator:** Prof. M.D. Simatele, University of Witwatersrand

#### **INSTRUCTIONS**

1. Present your work as neatly as possible.
2. This paper consists of 2 pages; **including** this cover page.
3. **Answer all the questions.**
4. Use your Examination Answer Book for all the notes you are taking during your examination.

1. What is soil? 1
2. List any five soil suborders of the following soil orders:
  - a. Entisols. 5
  - b. Inceptisols. 5
3. Define the following terms:
  - a. Ammonification. 2
  - b. Immobilization. 2
4. Describe five factors that promote the gain of organic matter. 10
5. Explain the phosphorus cycle. 10
6. Explain any five basic strategies that plant roots may employ to enhance their uptake of various forms of phosphorus from soils. 10
7. Discuss the ecological solutions needed for managing phosphorus nutrient in the following landscapes:
  - a. Adjusting solubility/availability of in-field soil nutrient pools. 6
  - b. Controlling nutrients input to watershed/agroecosystem/ farm. 4
8. Erosion:
  - i. Write down the ULSE equation for wind erosion. 1
  - ii. What are the factors in the USLE equation (in brackets) for wind erosion? 5
  - iii. Control of wind erosion:
    - a. Briefly suggest three factors you can use to control wind erosion. 3
    - b. Explain how each one (named in "6 iii a") control wind erosion. 6

**TOTAL MARKS: 70**