

**The Open University of Sri Lanka**  
**B.Sc./B.Ed Degree Programme -Level 05 -2016/17**  
**BOU3104/BOE 5104 – Soils and Plant Growth**  
**Assessment Test II(No Book Test)**



00138

*[Handwritten signature]*

**Duration – One (01) hour**

**Reg.No. ....**

**Date: 30<sup>th</sup> September 2017**

**Time: 2.30 p.m. – 3.30p.m.**

**Answer all questions on this paper itself.**

**There are four (04) questions and five (05) pages in this question paper.**

1. a. What is the most abundant group of microorganisms in soil?

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b. Distinguish between indigenous and invader microorganisms seen in soil.

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c. Why do soil algae find either on the surface or just below the soil surface?

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d. List the factors that affect on the rate of organic matter decomposition.

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e. What are the three major reactions that take place during organic matter decomposition in soil?

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2. a. The Cation Exchange Capacity(CEC) of humus has been considered very high. Give possible reasons.

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- b. Name two negative effects of soil organic matter in soil.

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- c. How does detritus food chain differ from grazing food chain?

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d. With the help of your knowledge on the cycling of Nitrogen in nature, explain how an atmospheric molecule of Nitrogen can be seen in a protein molecule of an animal(cow) cell.

3. a. What is farm manure?

b. How does farm manure affect on the physical properties of soil?

c. Explain briefly how leaching due to heavy rain fall could give rise to acidity in soil.

d. What are the conditions leading to develop saline soils?

e. What are the four principles that are being considered in developing erosion control methods?

4. a. Define the term "Agroforestry".

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- b. Indicate how plantation crop combinations and multistorey tree gardens (two agroforestry practices) could control soil erosion.

Plantation crop combination:

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Multistorey tree garden:

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- c. List five (05) properties which would make woody plants suitable for soil fertility improvement/maintenance.

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