

Uganda Martyrs University

Faculty of Agriculture

Final Examination 2021-2022

Bachelors of Science in Agriculture Year Four

Bachelors of Science in Ecological Organic Agriculture Year Four

Module: BSAG 4226: Agro- Forestry Management
BSEOA 4228: Agro-Forestry Ecological Management

Time: 09:30 am – 12:30 pm

Date: Sunday 07th August 2022

Instructions:

- **Answer any four questions.**
 - **Questions carry equal marks**
 - *Read and understand each question before you attempt it.*
 - *Do not write anything on the question paper*
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1. Forest farming if managed very well can increase the economic value of forest property and provide short- and long-term benefits to the landowner. Discuss the various economic benefits farmers/landowners can get from forest farming.
(25 Marks)

2. Preserving vital ecosystem services from agricultural lands is a critical issue for Uganda and has become increasingly important globally. Discuss how the element of Agroforestry incorporated in the farming system can help farmers achieve this objective. **(25 Marks)**

3. As an agricultural management option, agroforestry is unique in that it is tree based, adding strategic diversity at various scales in ways that can reduce threats and build resiliency under changing conditions however this option has various challenges that have led to its slow growth. As an agriculture specialist discuss the various challenges faced by farmers when practicing Agroforestry.
(25 Marks)

4. a) Mycorrhizae form a network of filaments that associate with plant roots and draw nutrients from the soil where the root system would not be able to access them. Apart from getting nutrients to the levels where other plants cannot get

them, discuss the other benefits associated with Mycorrhizae **(10 Marks)**

b) Explain how Mycorrhizae affect soil structure? **(15Marks)**

5. Discuss the various ecosystem services provided by agroforestry and explain how they have led to agriculture productivity. **(25 Marks)**

6. "Agroforestry systems and practices have been proposed by different scholars as a means to reboot tropical agriculture". Discuss **(25 Marks)**

7. Identify the existing traditional agroforestry practices in your country/area and explain how you can assist different farmers develop them further with improved agriculture technologies. **(25 Marks)**

8. Describe the below- and above-ground interactions in a given agroforestry practice and explain how these interactions affect the trees and crop productivity. **(25 Marks)**

9. As a multifunctional management strategy, agroforestry provides an intentional blending of forestry and agricultural practices that can address food security and stability in managing for other ecological and environmental services provided by these landscapes. Discuss the various ways through which agroforestry can contribute to sustainable agricultural systems. **(25 Marks)**