

# UNIVERSITY OF RUHUNA

## First Examination in BSc Agricultural Resource Management & Technology

(Part- II) –March 2019

### Agroecology & Sustainable Agriculture (CS1201) Theory

Answer all questions (4)

Time: 2 Hours

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- 1.(i) Identify the difference between Ecosystem and Agroecosystem (10 marks)
- (ii) List out five characteristics of a complex system (20 marks)
- (iii) Briefly explain the advantages of using holistic approach to solve complex problems (30 marks)
- (iv) “Ecosystems are closed systems though Agroecosystems are open”. Explain the statement using the characteristics of energy flow and nutrient recycling (40 marks)
- 2.(i) List out different strategies available for increasing species diversity of a cropping system (10 marks)
- (ii) Briefly discuss the followings
- (a) Interactions among plants and microorganisms in the Agroecosystem (30 marks)
- (b) The Competitive Production Principle (CPP) (30 marks)
- (c) Hierarchy of Ecosystem (30 marks)
- 3.(i) What is meant by Sustainable Agriculture? (10 marks)
- (ii) List out main issues associated with Sustainable Agriculture systems in Sri Lanka (20 marks)
- (iii) “Awareness on the importance of Sustainable Agricultural production systems is poor among Sri Lankan farmers”. Discuss your opinion on the above statement (30 marks)
- (iv) Develop 5 year action plan to make aware the farming community on Sustainable



- 4.(i) List out advantages and disadvantages of intercropping systems (20 marks)
- (ii) What are the characteristics of the communities in the agroecosystem? (20 marks)
- (iii) Briefly explain the application of niche concept to utilize space and soil resources in crop fields (30 marks)
- (iv) How do you apply sustainable agricultural and agroecological principles to control fall army worm infestation in Sri Lanka? Discuss your answer with the "Mind Map" (30 marks)