



The Open University of Sri Lanka

Faculty of Engineering Technology

Industrial Studies Programme Diploma/Degree (Agriculture)

Final Examination- 2012/2013

AEI3234 Agricultural Biology I

**Date** : 19-08-2013  
**Time** : 0930 – 1230 hours  
**Duration** : Three (03) hours

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**Section 2: Answer any four (04) questions. All questions carry equal marks.**

1. (a.) Describe the structure of a eukaryotic plant cell. Indicate the ways in which a non photosynthetic prokaryotic cell differ in structure from a generalized eukaryotic plant cell.  
 (b.) Briefly mention the fluid mosaic model of a cell membrane.
2. (a.) Discuss Mendel's laws of segregation and independent assortment.  
 (b.) Explain how the events of meiosis I account for the observations that led Mendel to formulate these laws.
3. (a.) What do you understand by a climacteric fruit and non climacteric fruit.  
 (b.) List the major changes incurred during fruit ripening?  
 (c.) Discuss the given statement.  
 'Environment factors affects on the quality of fresh produce'
4. (a.) Discuss the biochemical pathway of light reaction in C3 and C4 plants by using suitable illustrations.  
 (b.) Explain the importance of Crassulacean Acid Metabolism (CAM) in succulent plants.
5. (a.) What are the biological functions of proteins?  
 (b.) List main functions of enzymes and mechanism of enzyme reactions.  
 (c.) Briefly explain the factors affecting enzyme reactions.
6. Write short notes on following.
  - (a.) Laticifers
  - (b.) Energy pyramid
  - (c.) A tracheid and a vessel