



The Open University of Sri Lanka  
Faculty of Engineering Technology  
Final Examination- 2006  
AEI3234 Agricultural Biology I

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Date : 09-04-2007  
Time : 0930-1230 hours

**SECTION II**

- (1) (a) What is meant by "genotype" and "phenotype"?  
(b) Tomatoes can be either yellow or red. Plants of these tomato types were crossed as follows:

<u>Parents</u>	<u>Progeny</u>
red×red	61 red
red×red	47 red, 16 yellow
red×yellow	58 red
yellow×yellow	64 yellow
red×yellow	33 red, 36 yellow

- i. What phenotype is dominant?  
ii. What are the genotypes of the parents and progeny in each cross?
- (2) (a) Write a short essay on "protein synthesis".  
(b) What are the biological functions of protein?
- (3) Briefly explain the major differences between any three (03) of the followings:  
(a) Eukaryotes and Prokaryotes  
(b) Monocot stem and dicot stem  
(c) Climacteric fruit and non climacteric fruit  
(d) Mitosis and meiosis cell divisions  
(e) Plant cell and animal cell
- (4) (a) What are the factors affecting the fruit quality?  
(b) Briefly discuss the sigmoidal and double sigmoidal curves of fruit growth.
- (5) (a) Briefly explain the role of light and water in photosynthesis.  
(c) Write a brief account on special characteristics of CAM pathway.
- (6) Write short notes on any three (03) of the following.  
(a) Incomplete dominance  
(b) Respiratory Quotient (RQ)  
(c) DNA structure  
(d) Parenchyma cells