



The Open University of Sri Lanka
 Faculty of Engineering Technology
 Industrial Studies Programme of Study
Final Examination - 2011/2012
AEI3234 Agricultural Biology I

Date : 19.03.2012
 Time : 14.00-17.00
 Duration : Three (03) hours

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

- (1) Briefly explain the major differences between any two (02) of the following:
- Prokaryotic cell and Eukaryotic cell
 - Plant cell and Animal cell
 - Cross section of a dicot stem and cross section of a monocot stem
 - Cross section of a dicot leaf and cross section of a monocot leaf
- (2) Describe the
- Biological functions of proteins.
 - Functions of stomata.
 - Classification of meristems.
- (3) A man with blood group 'A' marries a woman with blood group 'B'. Their child has blood group 'O'.
- What are the genotypes of these individuals?
 - Give the genotypes and their frequencies of the offspring you would expect from this marriage ?
 - The genotype of F_1 individuals in a tetrahybrid cross is $AaBbCcDd$. Assuming independent assortment of these four genes, what are the probabilities that F_2 offspring would have the following genotypes?
 - $AaBBccDd$
 - $aabbccdd$
 - $AABbCCDd$
- (4) (a) Draw a line diagram of a chloroplast and label all the parts.
 (b) Briefly describe the external factors affecting photosynthesis.
 (c) Write major differences of "C₃ plants" and "C₄ plants".

- (5) (a) What is Respiration?
(b) Briefly explain the major phases in respiration.
(c) Compare the differences between "Aerobic respiration" and "Anaerobic respiration".
- (6) (a) Describe the fruit growth curves.
(b) Draw a vertical section of a typical flower and label all the parts.
(c) What are the major changes that occur during fruit ripening?