



The Open University of Sri Lanka
Faculty of Engineering Technology
Bachelor in Industrial Studies (Agriculture) programme
Final Examination- 2015/2016

AEI3234 Agricultural biology I

Date : 27 - 11 - 2016
Time : 0930 - 1230 hours
Duration : Three (03) hours

SECTION 2: Answer any four (04) questions.

1. a.) Explain the "Influence of environment on heredity"
b.) What are the Mendelian conclusions on his first experimental cross between tall and short plants?
c.) Write the Mendel's first law.
2. Explain the conditions necessary for photosynthesis.
3. Describe the factors affecting the rate of respiration of plants.
4. " Final fruit quality depends on environmental , physiological and Physical factors" Critically evaluate this statement.
5. a.) What is "Incomplete dominance"?
b.) Explain different types of incomplete dominances.
c.) In *Hemidryas*, flower color is controlled by incomplete dominance. The two alleles are red (R) and white (R'). The heterozygous genotype is expressed as pink. A pink-flowered plant is crossed with a white-flowered plant.
 - i.) Write the phenotypes of the genotypes RR, R'R' and RR'
 - ii.) What is the probability of producing a pink-flowered plant?
- d.) What cross will produce the most pink-flowered plants? Show a Punnett square to support your answer.
6. Write short notes on any four (04) of the following.
 1. Role of polysaccharides in plants and animals.
 2. Structure of shoot and root apices.
 3. Role of antigens and antibodies in the organisms.
 4. Activity of growth substances in fruit growth
 5. Types of ecosystems