The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Agricultural and Plantation Engineering

Study Programme	: Bachelor of Industrial studies Honours in Agriculture
Name of the Examination	: Final Examination
Course Code and Title	**: AGI3534/AEI3234 Agricultural biology I**
Academic Year	: 2017/18
Date	: 17th February 2019
Time	: 0930-1230 hrs

SECTION 2: Answer any four (04) questions.

1. (a) Explain the structure and function of the plant epidermis. (12.5 marks)

   (b) Describe the stomatal complex present in the plant epidermis. (12.5 marks)

2. (a) What is a tissue? (2 marks)
   (b) Discuss the function of a tissue. (10 marks)
   (c) Explain the structure of parenchyma tissue. (13 marks)

3. Pure red flowering yellow pod and pure white flowering green pod parents were crossed and the F1 generation resulted with all Pink flowering and Gray pods. The F2 generation obtained by selfing F1 gave a progeny of 3317 and the results of theF2 generation are set out as below. Explain these results.

Pure Red flowers	R
Pure White flowers	r
Yellow pods	B
Green pods	b

Phenotype	**Progeny**
Red flowering Yellow pods	220
Red flowering Gary pods	450
White flowering Gary pods	440
Pink flowering Green pods	441
Pink flowering Grey pods	871
Red flowering Green pods	218
White flowering Yellow pods	222
White flowering Green pods	223
Pink flowering Yellow pods	432

4. Discuss the different chromosomal mutations that can be occurred in a population. (25 marks)

5. Explain the biotic components of an ecosystem. (25 marks)

6. Write short notes on any two (02) of the following. (12.5 marks each)

   i. Shoot apex

   ii. Gene linkage

   iii. One gene – one enzyme hypothesis

   iv. The Nitrogen cycle