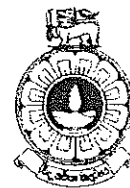


The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Agricultural and Plantation
Engineering



Study Programme	: Bachelor of Industrial studies Honours in Agriculture
Name of the Examination	: Final Examination
Course Code and Title	: AGI5541/AEI5241 Agricultural biotechnology
Academic Year	: 2019/2020
Date	: 23 rd January 2021
Time	: 0930 - 1230 hrs
Duration	: 3 hours

SECTION 2: Answer any four (04) questions.

1. Explain the process of DNA isolation until gel running and visualizing with appropriate diagrams (25 marks).
2. (a) What are the requirements for a Polymerase Chain Reaction (PCR)? (5 marks)
(b) Explain the steps in PCR (5 marks).
(c) Explain the use of PCR based molecular markers in Agricultural Industry (15 marks).
3. a. What is the Single Cell protein (SCP) (5 marks).
b. Explain the substrates that can be utilized for Single Cell Production (SCP) (20 marks).
4. Explain the industrial applications of the enzyme biotechnology (25 marks).
5. a. What is meant by Recombinant DNA Technology (5 marks).
b. Describe the steps of Recombinant DNA Technology (10 marks).
c. Explain the process of producing 'Recombinant Human Insulin' (10 marks).
6. a. Define the term 'Micropropagation' in plant tissue culture (5 marks).
b. Introduce micro propagation plan to produce orchid plantlets in a newly established tissue culture laboratory (20 marks).