

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



Study Programme	: Bachelor of Industrial Studies Honours (Agriculture) Degree Programme
Name of the Examination	: Final Examination
Course Code and Title	: AGI5569 Molecular Biology and Biotechnology
Academic Year	: 2023/2024
Date	: 19 th February 2025
Time	: 09.30 - 12.30 hrs

Index No. -----

SECTION 2: Answer any four (04) questions.

- Describe the processes of protein production in a cell from
 - the transcription of a gene for a protein (10 marks)
 - the translation into protein (10 marks)
 - transport through the endomembrane system (05 marks)
- Define the term 'Vector' related to the biotechnology (03 marks)
 - Differentiate between cloning and expression vector (10 marks)
 - Explain the structure of the plasmids and specific genes located in plasmids to help it's function (12 marks).
- Explain the fermentation technology under following topics.
 - Major steps in fermentation Technology (05 marks)
 - Requirements of bioreactors for fermentation technology (10 marks)
 - Selection of microorganisms for fermentation (10 marks)
- Discuss the use of DNA finger printing for species identification and explain one molecular diagnostic method applicable for DNA finger printing (25 marks).
- Write an essay on applying plant tissue culture for crop improvement (25 marks).
- Discuss the future of Agricultural biotechnology in Sri Lanka while evaluating the present situation (25 marks).