



UNIVERSITY OF RUHUNA
FACULTY OF AGRICULTURE

Third Examination in BSc Agricultural Resource Management and Technology (Part I)

April 2021

FS3102 Fermentation Technology - Theory (Elective)

INSTRUCTIONS

Answer all questions.

Only non-programmable calculators are permitted.

Mobile phones are NOT permitted.

Attach the question paper to the **end** of the answer script

TIME: 2 (two) Hours

INDEX NUMBER

1.
 - a)
 - i. What are "Yeasts"? State the role of yeasts in yeast fermentation. (10 marks)
 - ii. How does "**Bakers yeasts**" differ from "**Wine yeasts**", in the application in food fermentation? (15 marks)
 - b) What are the specific conditions necessary for Yeast fermentation? (25 marks)
 - c) *S. cerevisiae* is the most studied and utilized species in the fermentation of wines and beers as it possesses some special characteristics.
 - i. What are those special characteristics of *S. cerevisiae* used in both wine and beer industries? (10 marks)
 - ii. Briefly discuss the potentials of "Non-Saccharomyces yeasts" use in the production of high-quality alcoholic beverages. (15 marks)
 - d) There are **two (02)** major types of yeasts directly related to the two major fermentation methods involved in beer production.
 - i. What are these two major types of yeasts? (10 marks)
 - ii. Briefly explain the role of each kind of yeasts in the fermentation of beer (15 marks)
2.
 - a) Briefly describe importance of Lactic Acid Bacteria in food fermentation industry.(25 marks)
 - b) Lactic acid is the major useful microbial end product in cheese production. Briefly describe the role of lactic acid in cheese production. (25 marks)
 - c)
 - i. List down five (05) major industrially important products of Acetic Acid Bacteria (AAB). (05 marks)
 - ii. Briefly describe any of the above mentioned products while giving a special attention to;
 - how it is produced
 - major responsible species of AAB
 - importance of the product in consumers. (20 marks)
 - d) 'in addition to their benefits, AAB are having negative aspects in food industry'. Briefly discuss the given statement. (25 marks)