



2ND SEM. 2017/2018

UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER

PROGRAMME: B. Sc. ANIMAL SCIENCE DAIRY OPTION YEAR II

COURSE CODE: ASD 202

TITLE OF PAPER: FOOD AND DAIRY MICROBIOLOGY

TIME ALLOWED: TWO (2) HOURS

INSTRUCTIONS: ANSWER ANY 4 QUESTIONS.

DO NOT OPEN THIS PAPER UNTIL PERMISSION HAS BEEN GRANTED BY
THE CHIEF INVIGILATOR

QUESTION 1

Briefly discuss the effect of the following factors on microbial growth:

- a) Temperature (10 Marks)
- b) Oxygen (10 Marks)
- c) pH (5 Marks)

QUESTION 2

Describe and illustrate the cytological and structural differences between

the bacterial and yeast cells. (25 Marks)

QUESTION 3

Explain the major differences between:

- a) Bacterial spores and fungi spores (8 Marks)
- b) Gram positive and gram negative bacteria (8 Marks)
- c) Capsule positive and capsule negative bacteria (4 Marks)
- d) Yeast and bacteria reproduction (5 Marks)

QUESTION 4

Discuss the gram staining of bacteria under the following topics: procedure followed; the biochemical principle of the technique; stains used and their role.

(25 Marks)

QUESTION 5

Describe the following microorganisms and explain their significance in dairy production:

- a) *Lactobacillus bulgaricus* (5 Marks)
- b) *Pseudomonas elodea* (5 Marks)
- c) *Klebsiella oxytoca* (5 Marks)
- d) *Staphylococcus aureus* (5 Marks)
- e) *Mycobacterium bovis* (5 Marks)