JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOLOGICAL SCIENCES

FOURTH YEAR FIRST SEMESTER 2018/2019 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: **SBT 3433**

COURSE TITLE: **FOOD MICROBIOLOGY**

EXAM VENUE: **STREAM: (BIO)**

DATE: **EXAM SESSION:**

TIME: 2 HOURS

Instructions:

1. **Answer ALL questions in Section A and Any two questions in Section B**
2. **Candidates are advised not to write on question paper**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room**

SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Outline the contribution of the following scientists in the field of microbiology (3marks)
   (a) Louis Pasteur
   (b) Anton van Leeuwenhoek
   (c) Robert Koch
2. State three manifestation of microbiological food spoilage (3marks)
3. State three contributing factors to the microorganisms found in milk (3marks)
4. Name the etiological agents of the following diseases (3marks)
   (a) Botulism
   (b) Listeriosis
   (c) Cryptosporidiosis
5. State three traditional ways of food preservation (3marks)
6. Explain the mechanisms of food preservation procedures (3marks)
7. State three major steps during soy sauce production (3marks)
8. State three bacterial genera associated with meat during refrigeration (3marks)
9. State factors that influence numbers and types of microorganism present in a finished meat product (3marks)
10. Name three soli bacteria that you are likely to isolate in fruits and vegetables (3marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. (a) Describe microbiological criteria for food (8marks)

    (b) Explain hazard analysis in relation to quality assurance of food (12marks)

12. Describe the following techniques of food preservation. (20marks)
    (a) Freezing
    (b) Irradiation
    (c) Canning
    (d) Pickling

13. Describe wine production under the following headings:

    (a) Fermentation (10marks)

    (b) Factors affecting growth of microorganism in wine (10marks)

14. Explain the role of microbes in public health and food borne illnesses (20marks)