



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
SCIENCE WITH IT**

3rd YEAR 1st SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE:SBT 303

COURSE TITLE: GENERAL MICROBIOLOGY

EXAM VENUE:LAB 9

STREAM: (BED)

DATE:18/04/16

EXAM SESSION: 2.00 – 4.00 PM

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**
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SECTION A: ANSWER ALL QUESTIONS (30 MARKS)

1. Briefly explain any three approaches to subtyping of bacteria. (3 marks)
2. Explain why not all micro-organisms meet Koch's postulates. (3 marks)
3. Briefly differentiate between the cell wall of gram positive and gram negative bacteria in terms of structure and chemical composition. (3 marks)
4. Distinguish between Gram stain and Acid fast staining technique as used in bacteriology. (3 marks)
5. Briefly explain any three important properties of retroviruses. (3 marks)
6. Briefly explain any three ways in which mycorrhiza are of significance in plants. (3 marks)
7. Illustrate a typical structure of a bacteriophage and its medical importance. (3 marks)
8. State any three mechanisms of action of an antimicrobial drug. (3 marks)
9. Explain three factors that may confer virulence in a microbe as an etiological agent. (3 marks)
10. Briefly explain any three nutritional and environmental requirements for cultivation of micro-organisms. (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS (40 MARKS)

11. Discuss modern developments and application of microbiology in addressing human needs. (3 marks)
12. Citing examples of different categories of microbes, describe any FIVE diagnostic laboratory tests. (3 marks)
13. Describe the steps in purification and identification of a particle such as a virus. (3 marks)
14. Discuss the biological principles of named sterilization and decontamination techniques. (3 marks)