



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY

SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(BIOLOGICAL SCIENCES)**

2ND YEAR 1ST SEMESTER 2016/2017 ACADEMIC YEAR

MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3211

COURSE TITLE: BASIC MICROBIOLOGY

EXAM VENUE: BIO LAB STREAM: (BIO)

DATE: 27/04/16

EXAM SESSION: 9.00 – 11.00 AM

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 criteria for classification of bacteria. (3 marks)
2. State any three characteristics of mycoplasmas. (3 marks)
3. Briefly explain the Koch's three molecular postulates. (3 marks)
4. Briefly explain the principle behind any three named staining techniques as applied in microbiology. (3 marks)
5. Explain any three common steps in purification and identification of a particle such as a virus. (3 marks)
6. Briefly explain any three important properties of retroviruses. (3 marks)
7. State any three important effects of actinomycetes to both plants and animals. (3 marks)
8. Illustrate a typical structure of a bacteriophage and state its importance. (3 marks)
9. Explain the biological principle of a named sterilization and decontamination technique. (3 marks)
10. Explain any three reproduction strategies in named micro-organisms. (3 marks)

SECTION B: ANSWER ANY TWO (2) QUESTIONS (40 MARKS)

11. Discuss the general factors that enhance the virulence of pathogenic micro-organisms. (20 marks)
12. Discuss modern developments and application of microbiology in addressing human needs. (20 marks)
13. Describe in details, any five diagnostic laboratory tests while citing examples of microbes involved. (20 marks)
14. Discuss the nutritional and environmental requirements for cultivation of micro-organisms. (20 marks)