



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE & TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN
BIOLOGICAL SCIENCE
2nd YEAR 1st SEMESTER 2016/2017 ACADEMIC YEAR
MAIN CAMPUS - REGULAR

COURSE CODE: SBI 3211
COURSE TITLE: BASIC 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**
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SECTION A: SHORT ANSWER QUESTIONS (30 MARKS)

1. Explain the contribution of Louis Pasteur to the field of microbiology (2 Marks)
2. Distinguish between lophotrichous and amphitrichous flagellation in bacteria (2 Marks)
3. Explain the functions of the following components of the bacterial structure
 - i) Capsule (2 Marks)
 - ii) Fimbriae (2 Marks)
 - iii) Cell wall (2 Marks)
4. Use appropriate diagrams to distinguish between two forms of viral capsids (2 Marks)
5. Outline the different types of ascocarps in the fungal group Ascomycetes. (2 Marks)
6. Explain the following methods of sterilization of media and equipment used in microbiological studies
 - i) Autoclaving (2 Marks)
 - ii) Bacteriological filter (2 Marks)
7. State four differences between Sarcodina and Ciliophora classes of Protozoa (2 Marks)
8. Distinguish between two types of microscopes which use UV rays as a source of illumination (2 Mark)
9. Explain the following techniques of culturing microbes
 - i) Pour plate (2 Marks)
 - ii) Streak plate (2 Marks)
 - iii) Spread plate (2 Marks)
10. State the structural differences between Gram positive and Gram negative bacteria (2 Marks)

SECTION B: ESSAY QUESTIONS (40 MARKS)

11. Describe the different classes of microbiological culture media (20 Marks)
12. Discuss the physical and chemical agents of microbial control (20 Marks)
13. Describe the different stages of growth of a bacterial batch culture (20 Marks)
14. Discuss the stages of multiplication of a bacteriophage virus (20 Marks)

END