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**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**SCHOOL OF HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR THE DIPLOMA IN COMMUNITY HEALTH AND DEVELOPMENT**

**UGUNJA LEARNING CENTER**

**COURSE CODE: HDC 2121**

**COURSE TITLE:**  **Introduction to microbiology**

**EXAM VENUE: STREAM**

**DATE:**

**EXAM SESSION:**

**TIME:**

**Instructions:**

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

**Section A**

1. State the distinguishing characteristics of viruses (3marks)
2. State any three characteristics of negative staining (3marks)
3. State three importances of aseptic techniques in microbial laboratory (3marks)
4. Define the following terms (3marks)
5. Obligate anaerobe
6. Thermophiles
7. Organotrophs
8. State any three inoculation techniques used in bacterial culture (3marks)
9. Define the following terms (3marks)
10. Sterilization
11. Disinfection
12. Sanitization
13. Outline three roles of water as nutritional requirement of microorganism (3marks)
14. State any three examples of antifungal azoles (3marks)
15. List any three distinguishing characteristics of fungi (3marks)
16. State three basic asexual reproduction in algae (3marks)

**Section A**

1. (a) Draw the a well labeled structure of Rhizopus fungi (5marks)

(b) Describe the life cycle of a bacteriophage (10 marks)

2. (a) Describe streak plate bacterial isolation technique (6 marks)

(b) Outline the difference between prokaryotic and eukaryotic cell (9 marks)

3. (a) Discuss three chemical sterilization methods (6 marks)

(b) Describe the bacterial growth curve giving reason for each phase (9 marks)

4. Discuss three various culture media giving an example in each case. (15 marks)