JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY

SCHOOL OF HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR THE CERTIFICATE IN COMMUNITY HEALTH AND DEVELOPMENT

1ST YEAR 2ND SEMESTER (SEP – DEC, 2018) 2018/2019 ACADEMIC YEAR

NAMBALE CAMPUS

COURSE CODE: **HDC 1121**

COURSE TITLE: **BASIC MICROBIOLOGY**

EXAM VENUE: HALL **STREAM: Cert. Comm. Hlth & Dev**

DATE: **EXAM SESSION:**

TIME: 1.30 HOURS

Instructions:

1. **Answer QUESTION ONE (Compulsory) and any other TWO QUESTIONS.**
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 (30 MARKS)

1. Define the following (5mks)
    i. Pure culture
    ii. DNA
    iii. Chemotherapy
    iv. Species
2. Differentiate the following (6mks)
    i. Eubacteria and archaeobacteria
    ii. Mutualism and commensalism
    iii. Abiogenesis and biogenesis
3. a) i. what is sterilization(1mk)
    ii. State any three physical methods of sterilization (3mks)
    b) Name three types of culture techniques. (3mks)
    c) Name types of microscopy. (5mks)
    d) What is tyndalization? (2mks)
    e) What is the function of the following parts of the microscope?
        i. Nosepiece (1mk)
        ii. Fine objective knob (1mk)

    f) What are the functions of the cell membrane of the bacteria cell (3mks)

SECTION B (40 MARKS)

1. With the help of a diagram explain the bacterial growth curve phases. (20mks)
2. Name and explain the conditions/ environmental factors required for the successful cultivation of microorganisms. (20mks)
3. Discuss the cycle stages of bacteriophage. (20mks)
4. Write short notes on any five of the following. (20mks)
    a) Robert Koch's postulates
    b) Gram-stain procedure
    c) Important commercial uses of algae
    d) Contributions of Anthony Van Leewenhoek
    e) The process of pasteurization
    f) Fungi.