



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

UNIVERSITY EXAMINATIONS 2012/2013

**1ST YEAR 2ND SEMESTER EXAMINATIONS FOR DIPLOMA
IN COMMUNITY HEALTH AND DEVELOPMENT**

(MAIN)

COURSE CODE: HDC 2121

COURSE TITLE: BASIC MICROBIOLOGY

DATE: 22/4/2013

TIME: 9.00-10.30AM

DURATION: 1.5 HOURS

INSTRUCTIONS

1. This paper contains TWO sections.
2. Answer ALL questions in section A (Compulsory) and ANY other Two questions in section B.
3. Write all answers in the booklet provided

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Section A: Answer all questions from here. (30 marks)

- a) Explain the rationale behind pasteurization. 3marks
- b) Differentiate between prokaryotic and eukaryotic cells. 3marks
- c) Briefly describe protozoa. 3marks
- d) Define media growth factors citing their importance in the culture. 3marks
- e) Give the importance of microbial identification. 3marks
- f) Describe any three fungal infections. 3marks
- g) Explain the effect of temperature on microbial growth and survival. 3marks
- h) Differentiate between predation and competition. 3marks
- i) Illustrate the structure of a bacteriophage. 3marks
- j) Discuss the use of ionizing radiation in microbial control. 3marks

Section B: Answer Any two questions from here(30marks)

- 1. a) Discuss physical and chemical requirements needed for microbial growth. 8marks
- b) With an illustration explain what happens at each growth phase. 7marks
- 2. Discuss physical methods of microbial control. 15marks
- 3. Discuss Koch's experiment and give his postulates. 15marks
 - a) Discuss Tuberculosis as a microbial disease and give ways of controlling it. 12marks
- 4. b) What are the challenges in performing a TB test? 3marks