



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF HEALTH SCIENCES**

**UNIVERSITY EXAMINATION FOR DEGREE**

**2<sup>ND</sup> YEAR 1<sup>ST</sup> SEMESTER 2018/2019 ACADEMIC YEAR**

**KISUMU CAMPUS**

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**COURSE CODE: HDC 2121**

**COURSE TITLE: BASIC MICROBIOLOGY**

**EXAM VENUE: STREAM: Dip., Community Health & Development**

**DATE: 12/08/19 EXAM SESSION: 9.00 – 10.30 AM**

**TIME: 1.30 HOURS**

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**Instructions:**

- 1. Answer ALL Questions in Section A and ANY 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: Answer ALL Questions (Total 30 marks)**

**QUESTION ONE**

- a. In lag phases of growth the number of bacteria remains constant. Does this mean the cells are dormant and inert? Explain (5mks)
- b. What nutritional requirements in terms of chemicals are needed by all forms of life for growth and maintenance (5mks)
- c. Explain the important contribution microorganisms make in the earth's ecosystem (5mks)
- d. Define moist and dry heat, and explain their modes of action and relative effectiveness (5mks)
- e. Describe the steps of the Gram staining (5mks)
- f. Why was the abandonment of the spontaneous generation theory so significant? Using the scientific method, describe the steps you would take to test the theory of spontaneous generation (5mks)

**SECTION B: Answer ANY TWO Questions (Total 40 marks)**

**QUESTION TWO**

Describe three basic techniques for isolation of microorganisms (20mks)

**QUESTION THREE**

Describe functional media; list several different categories, and explain what characterizes each type of functional media (20mks)

**QUESTION FOUR**

Classify a bacterium with respect to oxygen requirements (20mks)

**QUESTION FIVE**

Draw a typical bacterial growth curve and label the various phases. Discuss those factors which determine the beginning and end of each phase. (20mks)