

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

**UNIVERSITY EXAMINATIONS 2014/2015**

**SCHOOL OF HEALTH SCIENCES - KISII LEARNING CENTRE**

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR  
BACHELOR OF SCIENCE DEGREE IN PUBLIC HEALTH /  
COMMUNITY HEALTH AND DEVELOPMENT**

**COURSE TITLE: MEDICAL BACTERIOLOGY**

**COURSE CODE: HCD 3226**

**TIME: 2HOURS**

**INSTRUCTIONS**

- 1. This paper contains two (2) sections.**
- 2. Answer ALL questions in section A and ONLY TWO in section B.**
- 3. Illustrate your answers with well labeled diagrams where appropriate.**
- 4. Provide your answers in the separate booklet provided**

**SECTION A**

1. Distinguish between
  - a. Prokaryotic and eukaryotic cells (2 marks)
  - b. Gram positive and gram negative bacteria (2 marks)
  - c. Endotoxins and exotoxins (2 marks)
2. With the aid of a diagram show the different flagella arrangements found in bacteria. (4 marks)
3. Briefly describe the characteristics useful in classification and identification of bacteria (4 marks)
4. Briefly discuss the role of resident normal flora (4 marks)
5. Briefly describe the stages of binary fission (3 marks)
6. Draw the bacterial growth curve and briefly describe each of the growth phases (5 marks)
7. Briefly explain the mechanisms through which genetic variation occurs in bacteria (4 marks)

## **SECTION B**

- 1 Discuss how pathogenic bacteria can be identified in the laboratory (20 marks)
2. a) Discuss the activities and events involved in bacterial pathogenesis. (10 marks)
  - b) Discuss the mechanisms that bacteria employ to resist host defense mechanisms (10 marks)
3. Discuss the main mechanisms of action of antimicrobial drugs (20marks)
4. Discuss *vibrio cholerae* under the following subtopics. (20 marks)
  - i. Distribution
  - ii. Pathogenesis and Clinical manifestation
  - iii. Diagnosis and Treatment
  - iv. Prevention and control