



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF HEALTH SCIENCE
UNIVERSITY EXAMINATION FOR THE CERTIFICATE OF DIPLOMA IN
COMMUNITY HEALTH WITH IT
1ST YEAR 2ND SEMESTER 2016/2017 ACADEMIC YEAR
KISII CAMPUS-PART TIME

COURSE CODE: HCD 2121

COURSE TITLE: BASIC MICROBIOLOGY

EXAM VENUE: LR 18

STREAM: DIP. COMMUNITY HEALTH

DATE: 13/12/16

EXAM SESSION: 9.00 – 10.30 AM

TIME: 1 ½ HOURS

Instructions:

- 1. Answer Question ONE (COMPULSORY) and ANY other 2 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: ANSWER ALL THE QUESTIONS (30 MARKS)

1. State three differences between prokaryotic and eukaryotic cells (3 marks)
2. a) State the importance of Gram staining in microbiology (2 marks)
b) Explain the term positive staining (1 mark)
3. a) Differentiate between synthetic and non synthetic media (2 marks)
b) Explain how fungi differ from plants (1 marks)
4. a) Name any two diseases caused by viruses (1 marks)
b) State two properties of a good antimicrobial agent (2 marks)
5. Outline three ways by which methods of controlling microbial growth achieve their activity (3marks)
6. State 3 human bacterial diseases caused by Gram negative bacteria (3 marks)
7. a) Differentiate between a virion and a bacteriophage (2 marks)
b) Giving one example of a fastidious microorganisms (1mark)
8. a) Explain how thermophilic bacteria differ from halophilic bacteria (2marks)
b) Differentiate between septate and non septate fungi (1 mark)
9. State three functions of capsule on a bacterial cell (3 marks)
10. Explain why viral diseases cannot be treated using antibiotics (3 marks)

SECTION B. ANSWER ANY TWO (2) QUESTIONS IN THIS SECTION (30 MARKS)

11. a) Discuss interaction of organisms under the following subheadings;
 - i. Symbiosis
 - ii. Parasitism (8 marks)
b) Outline the steps of bacteriophage infection of bacteria and subsequent development into mature virions (7 marks)
 12. a) Discuss classification of bacteria based on oxygen requirement (6 marks)
b) Outline different mode of action of antibiotics (9 marks)
 13. a) Discuss sterilization by heat method (8 marks)
b) Outline the safety procedures undertaken while handling microorganisms in a microbiology laboratory (7 marks)
- Describe the anatomy of a bacterial cell (15 mark)