MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS

2017/2018 ACADEMIC YEAR

THIRD YEAR END OF FIRST SEMESTER

EXAMINATIONS

SCHOOL OF SCIENCE AND INFORMATION SCIENCES

FOR

DEGREE OF BACHELOR OF SCIENCE

BOT 312: MICROBIOLOGY I

DATE: 27TH APRIL 2018 **TIME: 0830 – 1030HRS**

INSTRUCTIONS TO CANDIDATES

Answer all questions in section A and any two questions in section B

SECTION A Answer **ALL** questions **(30 MARKS)**

1. Classify bacteria on the basis of gas requirement. **(3 marks)**
2. Describe the gram staining procedure. **(3 marks)**
3. Illustrate the structure of the bacteriophage. **(3 marks)**
4. Describe pasteurization process important in control of microorganisms **(3 marks)**
5. Discuss the role of host defenses in the protection against pathogens **(3 marks)**
6. Briefly classify coccoid bacteria **(3 marks)**
7. State the functions of the different parts of the light microscope **(3 marks)**
8. a) Explain the autoclaving procedure **(2 marks)**
   b) State **TWO** advantages of autoclaving over the use of dry oven **(1 mark)**
9. Distinguish between viruses and bacteria **(3 marks)**
10. Name the following:
    a) The structure used for bacterial respiration **(1 mark)**
    b) The organism stains pink with the Gram stain and has rod shaped cells. **(1 mark)**
    c) Bacterium with flagella all over the body **(1 Mark)**

SECTION B Answer any **TWO** questions

11. Distinguish lytic from the lysogenic cycle of the bacteriophage **(20 marks)**
12. Discuss the etiology, signs and symptoms, and prevention of the following bacterial diseases:
    a)Bacterial galls **(10 marks)**
    b)Gonorrhea **(10 marks)**
13. Discuss the industrial importance of microorganisms. **(20 marks)**
14. Compare and contrast the cell envelope of gram positive and gram negative bacteria. **(20 marks)**

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