MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR
FOURTH YEAR END OF SECOND SEMESTER

SCHOOL OF SCIENCE AND INFORMATION SCIENCES
BACHELOR OF SCIENCE

COURSE CODE: EBH 413
COURSE TITLE: ENVIRONMENTAL MICROBIOLOGY

DATE: 25TH APRIL, 2019 **TIME: 1100 – 1300HRS**

INSTRUCTIONS TO CANDIDATES

a) Answer **ALL** questions in Section A and **ANY two** in **SECTION B**

b) Illustrate your answers with suitable diagrams and give examples wherever necessary.

Answer ALL questions in Section A

1. Give the properties of micro- organisms which enables them to survive in /on their hosts (3 marks)
2. Explain the importance of Gram staining (3 marks)
3. Explain the factors that influence the growth of bacteria (3 marks)
4. Describe various classification of bacteria (3 marks)
5. Explain the environmental factors that affects the growth of fungi in blood agar media (3 marks)
6. Describe the features of a bacteriophage which enables it to survive within its host (3 marks)
7. Describe the following terms a) innate immunity b) adaptive immunity as used in microbiology (3 marks)
8. Describe the three cells which are involved in immune response of animals and state how do they give response against their hosts (3 marks)
9. Describe the wet mount preparation in microscopic examination, which is used in bacterial identification (3 marks)
10. Explain the key effects of over staining micro biology smears (3 marks)

SECTION B: Answer Any Two Questions Each question carries 20 marks

11. Discuss the factors to consider when the County government of Narok wants to dispose of its industrial and agricultural wastes to the environment (20 marks)
12. Discuss a) Gram staining procedure and outline its merits over the other stains (leis man's stain) (10 marks)
    b) Identify two diseases which are caused by bacteria and explain their transmission, and control measures in the environment (10 marks)
13. Describe the various immunological responses as a result of a bacterial invasion (20 marks)
14. Discuss the bacterial growth curve in specified environment (20 marks)

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