



MACHAKOS UNIVERSITY COLLEGE

(A Constituent College of Kenyatta University)
University Examinations for 2015/2016 Academic Year

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

**FIRS SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF
SCIENCE IN BIOLOGY**

SZL 316: PRINCIPLES OF MEDICAL MICROBIOLOGY

DATE: 12/8/2016

TIME: 2:00 – 4:00 PM

INSTRUCTIONS:

Answer All Questions In Section A (Compulsory) And Any Other Two Questions In Section B.

SECTION A (30 MARKS) ANSWER ALL QUESTIONS

1.
 - a) Describe any two symmetries of viruses (2 marks)
 - b) Describe the criteria that a particle should fulfill in order to be identified as a virus. (4 marks)
 - c) Explain the following terms
 - i. Prions
 - ii. Lytic infections
 - iii. Cytopathic effects (3 marks)
 - d) Describe the distinguishing characteristic features of protozoans (4 marks)
 - e) Differentiate gram positive bacteria from gram negative bacteria (3 marks)
 - f) Enumerate the distinguishing characteristics of mycoplasmas (4 marks)
 - g) Describe the factors that determine bacteria virulence or the ability to cause infection and disease (5 marks)

- h) Outline the causative agent of the following pathogenic infections
 - i) Botulism
 - ii) Giardiasis
 - iii) Psittacosis
 - iv) Histoplasmosis (2 marks)
- i) Explain the key steps in control of microbial diseases (3 marks)

SECTION B ANSWER ANY TWO QUESTION

QUESTION TWO (20 MARKS)

- a) Describe primary fungal pathogens (4 marks)
- b) Describe the classification of fungal infections according to tissues infected with specific examples. (10 marks)
- c) Describe diagnosis of fungal pathogens (6 marks)

QUESTION THREE (20 MARKS)

- a) With suitable examples describe how bacteria are able to resist immunological clearance with suitable examples. (10 marks)
- b) Discuss the methods used in isolation and identification of bacteria. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain factors that predispose animals to diseases (8 marks)
- b) Describe the economic importance of microorganisms under the following headings:-
 - i. Agriculture
 - ii. Industry
 - iii. Environment (12 marks)

QUESTION FIVE(20 MARKS)

- a) Discuss the mechanisms of viral pathogenesis (10 marks)
- b) Describe the diagnostic methods of viral infections (10 marks)