



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE AND BACHELOR OF EDUCATION
SBT 413: ENVIRONMENTAL MICROBIOLOGY

DATE: Monday, 2nd April, 2012

TIME: 4.30 p.m. – 6.30 p.m.

INSTRUCTIONS: Answer **ALL** questions in Section A and any **ONE** question in Section B. Answers to questions in Section A should be concise, and should be written in the spaces provided in the question paper.

SECTION A

Answer **ALL** questions in the spaces provided (5 marks each)

1. Discuss nitrogen as a factor affecting growth and distribution of microorganisms.

3. Giving specific examples outline the roles of bacteria in the sulphur cycle.

4. Discuss the effect of high temperature beyond the extreme of the biokinetic zone on growth of microorganisms.

5. Describe the characteristics of the atmosphere as a microbial habitat.

7. Outline the method used in isolation of rhizobia from fresh nodules.

8. Describe the following advanced sewage treatment methods:-

a) Coagulation-sedimentation

b) Chemical oxidation

SECTION B:

Answer any **ONE** question in this Section (30 marks)

1. Discuss microbial communities of marine habitats.
2. Describe the nonbiological and biological methods of sewage treatment.
3. Discuss proto cooperation and symbiosis in microbial populations.