



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE
(BIOCHEMISTRY/MEDICAL BIOCHEMISTRY)

SBC 805: BIOCHEMISTRY OF ANTIMICROBIAL ACTION

DATE: Thursday, 11th May, 2017

TIME: 2.00 p.m. - 5.00 p.m.

INSTRUCTIONS:

SECTION A: *Answer all questions (5 marks each)*

1. Outline the classification criteria for antibacterial agents
2. Highlight the major sites of action of antiviral agents
3. Describe the biochemical basis of antimicrobial actions of antifungal agents
4. Explain the biochemical basis of selective toxicity of vancomycin
5. Highlight and explain the biochemical reactions targeted by nucleic acid synthesis inhibitors
6. Describe the biological activity of antimicrobial peptides
7. Describe the mechanism of action of polymyxins
8. Explain the biochemistry of microbial resistance to antibiotics

SECTION B: *Answer any **THREE** questions (20 marks each)*

1. Using relevant examples, discuss the biochemical mechanisms of resistance to antibiotics
2. Describe the steps in the synthesis of protein in prokaryotes indicating how the process may be blocked
3. Describe the synthesis of peptidoglycan in bacteria highlighting the agents that can block the synthetic steps
4. Discuss source, selection criteria, mechanisms of action and uses of probiotics in modern science.