



W1-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
UNIVERSITY EXAMINATIONS 2019/2020
EXAMINATION FOR THE DEGREE OF MASTER OF SCIENCE IN MEDICAL
MICROBIOLOGY

TMM 3101: PATHOGENIC MICROBIOLOGY II

DATE: FEBRUARY, 2020

TIME: 3 HOURS

INSTRUCTIONS: ANSWER ANY FOUR QUESTIONS

1. Describe the physiology and structure, developmental cycle and pathogenesis of *Chlamydia trachomatis*. (25 marks)
2. Discuss the epidemiology, pathogenesis, clinical manifestations and specimens required for diagnosis of *legionella* infection. (25 marks)
3.
 - a. Compare and contrast the transmission of Q fever and tularemia transmission. (10 marks)
 - b. Describe in detail the pathogenesis and diagnosis of the etiologic agent of tularemia. (15 marks)
4. Describe the cell structure and metabolism, pathogenesis and regulation of virulence factor expression in *Bordetella pertussis*. (25 marks)
5. A 36-year-old patient presented with physical symptoms: headache, fever, respiratory symptoms, persistent coughing a major symptom of walking or atypical pneumonia which appears in gradual process. She was referred to your laboratory. Describe the procedures that would guide you in specimen selection collection, processing and microbiological examination. (25 marks)
6.
 - a. Describe the laboratory characteristics of *Nocardia* species and how they can be isolated from the soil. (10 marks)
 - b. Define *Pasteurella* in detail and describe laboratory diagnosis of *Pasteurella* infections. (8 marks)
 - c. Outline the transmission of orientia. (7 marks)