



UNIVERSITY OF RUHUNA, FACULTY OF MEDICINE, GALLE
Third Examination for Medical Degrees (Part 1)
MEDICAL MICROBIOLOGY - Paper 11 - Essay

Tuesday 25th March 2003

10 am to 12 noon

Answer all FOUR questions

Answer parts A and B in separate answer books

PART A

1. A sixty five-year-old male complained of sudden onset of high fever, cough and chest pain. His total white blood cell count was $20 \times 10^9 /L$ with a neutrophil count of 90%.
 - 1.1 What is the likely diagnosis? (5 marks)
 - 1.2 What is the likely causative organism? (5 marks)
 - 1.3 Describe the microbiological investigations that can be undertaken to confirm your diagnosis, with special reference to collection and transport of specimens. (40 marks)
 - 1.4 Discuss the factors affecting the choice of antimicrobials in treating this patient. (30 marks)
 - 1.5 List two possible complications that can occur in this patient. (8 marks)
 - 1.6 List three other infections that can be caused by the organism mentioned in 1.2. (12 marks)
2. Write on
 - 2.1 Genetic basis of antimicrobial resistance. (35 marks)
 - 2.2 Neonatal varicella. (30 marks)
 - 2.3 Microbiological diagnosis of extra pulmonary tuberculosis. (35 marks)

PART B

3. Differentiate between
 - 3.1 Active and passive immunity. (20 marks)
 - 3.2 Cytotoxic killing and phagocytic killing. (20 marks)
 - 3.3 Empirical and definitive antimicrobial therapy. (20 marks)
 - 3.4 Cerebrospinal fluid findings in bacterial and viral meningitis. (20 marks)
 - 3.5 Community acquired and hospital acquired urinary tract infections. (20 marks)
4. *Escherichia coli* is a commensal bacterium in the human gastrointestinal tract. However, it also causes a wide spectrum of diseases in man. Discuss this statement giving appropriate examples. (100 marks)