



UNIVERSITY OF JAFFNA, SRI LANKA  
SECOND EXAMINATION FOR MEDICAL DEGREES (1<sup>st</sup>)

September 2019

Microbiology Paper II

Date: 23. 09. 2019

Time allowed: 2 hours

Answer all four questions

- 1) A five year old girl was admitted with fever, chills and productive cough for five days. She had a runny nose few days prior to the onset of fever. She looked ill and her respiratory rate was 34/min. On auscultation, there was reduced air entry and crepitations over the left lower zone of the chest. Her white cell count was  $11.58 \times 10^9$  cells/L and CRP 68.3 mg/L.
  - 1.1 Name the most probable diagnosis in this patient. (10 marks)
  - 1.2 Name two most likely causative organisms for this condition. (10 marks)
  - 1.3 Describe briefly the possible modes of transmission of the organisms mentioned in 1.2. (20 marks)
  - 1.4 Discuss briefly two important tests done for the aetiological diagnosis of this infection. (20 marks)
  - 1.5 Describe briefly how to collect, store and transport the specimens for the tests mentioned in 1.4. (40 marks)
  
- 2) A 58 year old man was admitted with a history of headache, fever and difficulty in sleeping of three days duration and difficulty in drinking for one day. His daughter said that the patient was bitten by a stray dog three weeks before and did not get any treatment for the dog bite.

The patient looked anxious and agitated and was asking for the fan to be switched off. He choked when he tried to drink water. Two days after admission he developed difficulty in breathing. He died on the third day of admission in spite of all the care given.

  - 2.1 Name the most likely diagnosis in this patient. (05 marks)
  - 2.2 Describe the sources and modes of transmission of the organism for the condition you mentioned in 2.1. (20 marks)
  - 2.3 Describe briefly the pathogenesis of the illness you mentioned in 2.1. (15 marks)

- 2.4 Name the specimens that could be used to confirm the infection you mentioned in 2.1. (15 marks)
- 2.5 Discuss the preventive measures for the infection you mentioned in 2.1. (45 marks)

3) A 72 year old man was treated with cefuroxime and clindamycin for a chronic diabetic ulcer in his foot. After one week of antibiotics he developed a severe watery diarrhoea which was blood stained accompanied by abdominal cramps.

- 3.1 What is the most probable causative microorganism for his diarrheal illness? (10 Marks)
- 3.2 Briefly describe the pathogenesis of this diarrheal illness. (25 Marks)
- 3.3 Discuss the microbiological tests available to diagnose the infection mentioned in 3.1. (20 Marks)
- 3.4 Describe the management of this patient. (15 Marks)
- 3.5 Discuss the risk factors for this disease and ways in which it could be prevented. (30 Marks)

4) A 37 year old pregnant lady presented to the STD clinic with a curd like vaginal discharge and itching in the vaginal region.

- 4.1 State the microorganism that causes this clinical condition. (10 Marks)
- 4.2 Explain why this infection occurs in this patient. (15 Marks)
- 4.3 Name five other clinical conditions caused by the organism mentioned in 4.1. (15 Marks)
- 4.4 Discuss the risk factors associated with the each of the infections mentioned in 4.3. (30 Marks)
- 4.5 Discuss the antifungal agents used in the treatment of the organism mentioned in 4.1. (30 Marks)