



UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART (I)

January 2023

2017/2018

Microbiology -Paper II

Date: 24.01.2023

9.00 am to 11.00 am. (Two hours)

Answer all four questions

Answer each question in a separate answer book

- 1) A five-year-old child presented with sudden onset of fever and sore throat with pain on swallowing. He did not have a cough or runny nose. His temperature was 39°C. His tonsils were enlarged with exudate. His anterior cervical lymph nodes were enlarged and tender.
- 1.1 Name the most common bacteria responsible for the above mentioned clinical features. (05 marks)
- 1.2 Name the specimen used to identify the causative bacteria of this disease. (05 marks)
- 1.3 Describe how to minimise contamination of the specimen mentioned in 1.2. (10 marks)
- 1.4 Name two (2) microbiological tests done to identify the causative bacteria you mentioned in 1.1. (10 marks)
- 1.5 Name three (3) important complications this child can develop after this infection. (15 marks)
- 1.6 Describe briefly the pathogenesis of each complication you mentioned in 1.5. (35 marks)
- 1.7 Discuss the antibiotic treatment of the infection in this patient including its impact on the possible complications. (20 marks)
- 2)
- 2.1 A 26-year-old man developed itchy, annular rash with raised inflamed margins on his forearm. He said that it has been increasing in size with central clearing.
- 2.1.1 State the most possible clinical diagnosis and the causative organism. (10 marks)
- 2.1.2 Describe the possible sources and modes of transmission of this infection. (20 marks)
- 2.1.3 Name the most reliable specimen for the microbiological diagnosis of the infection in this patient. (05 marks)
- 2.1.4 Describe briefly how to collect the specimen you mentioned in 2.1.3. (15 marks)
- 2.1.5 Name two (2) microbiological tests done to confirm the diagnosis you mentioned in 2.1.1. (10 marks)

2.2

- 2.2.1 List the other sites where the microorganism you mentioned in 2.1.1 can cause infection. (10 marks)
- 2.2.2 Discuss the antimicrobial treatment of the infections caused by the organism you mentioned in 2.1.1 at different sites. (30 marks)
- 3) A 35-year-old woman who worked abroad for two years is known to be a chronic carrier of hepatitis B virus.
- 3.1.1 Describe the possible sources and modes of transmission of the infection in this patient. (25 marks)
- 3.1.2 Discuss the use of different viral markers in the diagnosis of this infection and in deciding the immune status for this infection. (45 marks)
- 3.1.3 Name two (2) complications this patient can develop. (10 marks)
- 3.1.4 If this woman becomes pregnant, describe the measures to be taken to prevent her newborn child getting hepatitis B. (20 marks)
- 4) A 24-year-old university student was admitted with sudden onset of fever, headache, vomiting and photophobia of one-day duration. She was drowsy on admission and had neck stiffness. Gram staining of the relevant specimen revealed Gram negative diplococci.
- 4.1 State the most possible diagnosis. (10 marks)
- 4.2 Name the most possible causative agent of the infection in this patient. (05 marks)
- 4.3 Describe briefly the pathogenesis of the infection in this patient. (25 marks)
- 4.4 Discuss the antibiotic treatment of the infection in this patient. (20 marks)
- 4.5 Mention three (3) complications this patient could develop due to the infection by the organism mentioned in 4.2. (15 marks)
- 4.6 Discuss how the infection by the organism you mentioned in 4.2 can be prevented. (25 marks)