



UNIVERSITY OF JAFFNA, SRI LANKA
SECOND EXAMINATION FOR MEDICAL DEGREES PART (I)
October 2022
2017/2018
Microbiology -Paper II

Date: 11.10.2022

9.00 am to 11.00 am. (Two hours)

Answer all four questions
Answer each question in a separate answer book

- 1) A 56-year-old diabetic patient was admitted with a history of a foot ulcer for two weeks. Multidrug resistant *Acinetobacter* spp. was isolated from the ulcer.
- 1.1 Outline the different components of standard precautions that should have been practiced in this patient. (25 marks)
 - 1.2 Explain briefly what standard precautions are. (15 marks)
 - 1.3 Name the transmission based precautions that should be practiced in this patient. (05 marks)
 - 1.4 Name the other two (2) transmission based precautions that should be practiced in healthcare settings. (10 marks)
 - 1.5 Discuss the development and spread of antimicrobial resistance. (45 marks)
- 2) A previously healthy 39-year-old farmer was admitted to the District General Hospital, Gampaha with fever, malaise, headache, and myalgia for seven days. On examination, he was icteric and had bilateral conjunctival suffusion. Blood sample of this patient was sent to MRI for laboratory diagnosis of the spirochaete responsible.
- 2.1 State the most likely clinical diagnosis and the aetiological agent responsible for the above infection. (10 marks)
 - 2.2 Describe the sources and modes of transmission of this infection. (20 marks)
 - 2.3 Describe the pathogenesis of this infection. (20 marks)
 - 2.4 Discuss the microbiological tests used for the aetiological diagnosis of this infection. (30 marks)
 - 2.5 State two (2) measures used to prevent this infection with reasons. (20 marks)

3)

3.1 A 66-year-old man was admitted with a history of fever, productive cough and dyspnea for two days. He was a cigarette smoker. His temperature on admission was 40.8°C and his respiratory rate 20 per minute. Bronchial breathing and crepitations were heard over the lower zone of the right lung.

3.1.1 State the most possible diagnosis of this patient. (10 marks)

3.1.2 Name the bacteria most commonly responsible for the infection you mentioned in 3.1.1. (05 marks)

3.1.3 Name the two (2) important bacteriological investigations that should be done to confirm the causative organism in this patient. (10 marks)

3.1.4 Describe the measures that should be taken to minimise the contamination of each specimen taken for the investigations you mentioned in 3.1.3. (40 marks)

3.1.5 State the temperature at which each specimen for the investigations you mentioned in 3.1.3 should be transported to the laboratory. (10 marks)

3.2 This patient became confused on the evening of admission. His temperature was 40.8°C, pulse rate 110 per min, BP 80/50mmHg and his respiratory rate was 28/min.

3.2.1 Name the complication he could have developed now. (10 marks)

3.2.2 Name the bed side index used for the early recognition of the diagnosis you mentioned in 3.2.1 (05 marks)

3.2.3 State the three (3) parameters considered in the bedside index you mentioned. (10 marks)

4) A 70-year-old man presented to the Teaching Hospital Jaffna with painful blisters with specific dermatomal distribution on the left side of his face and mouth.

4.1 State the most probable diagnosis and the aetiological agent responsible for the above. (10 marks)

4.2 State two (2) factors which would precipitate the infection mentioned in 4.1. (20 marks)

4.3 Describe the pathogenesis of the infection mentioned in 4.1 including the source and modes of transmission of the infection. (30 marks)

4.4 Mention two (2) complications of the infection mentioned in 4.1. (10 marks)

4.5 If a susceptible pregnant woman had close contact with this patient, describe the possible complications that may happen in the pregnant woman and the foetus at different stages of gestation. (30 marks)