

**UNIVERSITY OF JAFFNA, SRI LANKA**  
**SECOND EXAMINATION FOR MEDICAL DEGREES**  
**December 2016**  
**Microbiology Paper II**

**Date: 26.12.2016**

**Time allowed: 2 hours**

**Answer all four** questions.

- 1) A 59 year old lady was admitted with a history of spastic contractions of muscles of jaw, back and extremities for two days. She was conscious and alert. Her muscles were hypertonic and there was an exaggerated deep tendon reflex. **She had** a deep penetrating injury from a rusty nail in the garden two weeks back for which she did not seek any medical advice.
  - 1.1 State the most probable diagnosis and the causative organism. (10 marks)
  - 1.2 Describe the characteristics of the causative organism with regard to its source and point of entry in this patient. (25 marks)
  - 1.3 Describe briefly the pathogenesis of **the** illness you mentioned in 1.1. (30 marks)
  - 1.4 Discuss the role of active and passive immunization in the management and prevention of **the** illness mentioned in 1.1. (35 marks)
- 2) A 51 year old gentleman presented to the chest clinic with cough of one month duration associated with loss of weight and loss of appetite. He did not have any other underlying illnesses. His chest X-ray revealed a right upper lobe cavitory lung lesion.
  - 2.1 Name the most common infective disease and the causative agent for the above mentioned clinical picture in Sri Lanka. (10 marks)
  - 2.2 Describe briefly the source, mode of transmission and pathogenesis of this illness in this patient. (35 marks)
  - 2.3 Describe how to collect, store and transport the necessary specimen to confirm the diagnosis in this patient. (25 marks)
  - 2.4 Discuss the **microbiological** tests that could be done to diagnose the **illness** you mentioned in 2A in Sri Lanka. (30 marks)

- 3) A 62 year old man presented with malaise and severe pain over the forehead. On examination, he was found to have vesicular rash with specific dermatomal distribution involving the left forehead area.
- 3.1 State the most probable diagnosis and the causative agent responsible for the above condition. (10 marks)
- 3.2 Describe briefly the pathogenesis of the illness mentioned in 3.1. (25 marks)
- 3.3 List 2 complications of the disease you mentioned in 3.1. (10 marks)
- 3.4 State 3 conditions which would precipitate the illness mentioned in 3.1. (15 marks)
- 3.5 Discuss the factors to be considered during the management of a pregnant health care worker who was exposed to the above patient a week before the expected date of delivery. (40 marks)
- 4) 4.1)
- A 25 year old man developed an itchy rash over his right thigh. On examination, it was an annular lesion with raised reddish margin. The dermatologist treated it with an antifungal agent.
- 4.1.1 Name the most probable diagnosis and the causative fungus. (10 marks)
- 4.1.2 Describe briefly the source and mode of transmission of this infection. (15 marks)
- 4.1.3 Describe briefly how to collect and store the specimens from skin, nail and hair for fungal diagnosis. (15 marks)
- 4.1.4 Discuss the antifungal agents used in superficial fungal infections. (30 marks)
- 4.2)
- A nine year old known 'atopic girl developed itchy urticarial rash all over the body within an hour of taking oral amoxicillin.
- 4.2.1 Describe the pathogenesis of the reaction she developed for amoxicillin. (30 marks)