

POSTGRADUATE INSTITUTE OF MEDICINE

UNIVERSITY OF COLOMBO

MD (MEDICAL PARASITOLOGY) EXAMINATION – APRIL 2015

Date: 27 April 2015

Time: 1.00 pm to 4.00 pm

Paper I

Answer **all five** (5) questions

Answer each question in a separate book

1. What is the current global scenario of drug resistance in *Plasmodium* species?
(100 marks)
2. Enumerate the coccidian parasites associated with diarrhoea in AIDS patients. Describe the life cycle, clinical features, laboratory diagnosis, treatment and epidemiology (with reference to Sri Lanka) of *Cryptosporidium* spp.
(100 marks)
3. Describe the pathogenesis of the clinical features of hookworm infections. (100 marks)
4. Discuss the laboratory diagnosis of neurocysticercosis. (100 marks)
5. Discuss the role of vector control in reducing the incidence of dengue in Sri Lanka at present and new alternative technologies which could be adopted for improved dengue vector control.
(100 marks)

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Date: 28 April 2015

Time: 9.00 am to 12.00 pm

Paper II

Answer **any five** (5) questions

Answer each question in a separate book

1. Discuss the serodiagnosis of toxoplasmosis. (100 marks)

2. A 25-year old man presented with severe eye pain and a recent loss of vision in his right eye over the past few weeks. He is a contact lens user for 5 years. Examination of his eye revealed a corneal ulcer. A corneal biopsy showed amoebic trophozoites.
 - a. What is the amoeba responsible for this infection? (10 marks)
 - b. Why is it difficult to diagnose this infection microscopically? (30 marks)
 - c. What is the risk factor which predisposes this patient to this infection? (30 marks)
 - d. What advice would you give this patient to prevent this infection? (30 marks)

3. Discuss the advice you would give the managing physician regarding laboratory investigations and drug therapy in the following case scenarios.
 - a. A 25-year old woman found to have live nematode larvae in a saline smear of a faecal sample. (50 marks)
 - b. A 45-year old man, working in Uganda on a long term basis, presents with an acute febrile illness suggestive of malaria, while on home leave in Sri Lanka. (50 marks)

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4. A 28-year old engineer from West Africa who had come to Sri Lanka one year ago presented with fever and facial pain. The patient revealed that he gets localized swellings in some parts of the body mainly on the extremities and it persists for a few days. Full blood count showed 25% eosinophilia. Delafield Hematoxylin stained peripheral blood smear revealed the presence of moderate number of sheathed microfilaria averaging 250 micrometres in length.
- What is the nematode responsible for this infection? (10 marks)
 - What are the swellings noted by this patient? Explain about this finding. (20 marks)
 - Briefly describe the life cycle of this parasite. (10 marks)
 - How does the morphological appearance of the microfilaria help in the identification of the nematode causing this infection? (20 marks)
 - What is the ideal stain which could be used to stain the peripheral blood film and why should it be used? (20 marks)
 - Discuss the treatment of this infection. (20 marks)
5. Discuss in brief the current scenario of anti-malarial vaccines. (100 marks)
6. The World Health Organization has declared its theme for this year as Food Safety. Discuss the role of food safety in the prevention and control of parasitic infections. (100 marks)
7. The prevalence of soil-transmitted helminth infections in Sri Lanka is much lower now than it was in the 20th century, and it may be possible to eliminate them within the next decade. Discuss the control strategies that have contributed to the decline in prevalence, the biological features of the parasites that pose a challenge to elimination, and how these challenges may be overcome. (100 marks)