



Cert ID(SA) Micro

THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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Examination for the Subspeciality Certificate in Infectious Diseases of the
College of Pathologists of South Africa

20 August 2009

I Paper Only

(3 hours)

All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the one answer)

- 1 A 25-year-old botanist is planning a 4 month field trip (May - September) to the paddy fields of Cambodia, where she will collect samples for her studies on rice genetics. She will be living in a rural community village hut.
 - a) Discuss what travel-specific vaccinations you would advise for this traveller and any serious adverse effects that may be caused by each. (6)
 - b) What advice would you give to prevent malaria infection and discuss her options for antimalarial prophylaxis including when to start and stop each option (5)
 - c) Discuss her options for prevention and self-treatment of traveller's diarrhoea. (4)

- 2 A representative from a biotechnology company visits your rooms to persuade you to use their novel, rapid, point-of-care diagnostic test for the diagnosis of streptococcal pharyngitis from throat swabs.
 - a) What questions would you ask the representative to inform your decision on whether to use the test? Explain your rationale for asking these questions. (10)
 - b) What additional issues would you consider when deciding on the utility and applicability of this test in your setting? (5)

- 3 Write short notes on the following
 - a) Name the amoebae of medical relevance and provide a brief overview on the diseases caused by them. (5)
 - b) Briefly describe the life cycle and the conditions caused by *Entamoeba histolytica*. Include a brief overview of the diagnostic tools to establish *E. histolytica* infection and disease, and provide guidance on how to use them best. (7)

- c) Name the key differential diagnoses of importance for the diseases caused by *E. histolytica*. (3)
- d) How should the conditions caused by *E. histolytica* be treated? Should asymptomatic infections caused by *Entamoeba* spp. be treated and if so, how? What are the main adverse drug reactions of the therapeutic agents? (5)

- 4 Respiratory illness is identified in a cluster of health care workers in a Johannesburg Hospital. One nurse has died. She was 6 months pregnant, and a known asthmatic. There is also a doctor who has a high fever with a dry cough and myalgia, and 4 other health professionals in the unit complaining of sore throat and cough. Last night the physiotherapist in the unit was admitted with pneumonia
- a) Discuss a differential diagnosis (5)
 - b) Discuss the appropriate laboratory tests (5)
 - c) Discuss the management of the physiotherapist with pneumonia (5)

- 5
- a) Discuss the pathogenesis of brain abscess. Include in your discussion how the location of the abscess might provide clues to the pathogenesis. (5)
 - b) Discuss the value of the procalcitonin test in Infectious Diseases (5)
 - c) Discuss the pharmacodynamic characteristic of the post antibiotic effect and its implications for antibiotic dosing. (5)

- 6 A 25-year-old woman presents with a 3 week history of cough and night sweats. She has symmetrical cervical and axillary nodes of 1-2 cm and a non-confluent right mid-zone opacification on the chest radiograph. She is found to be HIV-infected with a CD4 count of 38 cells/microlitre.
- a) Which investigations would you do to establish a diagnosis of tuberculosis? Give an approximate percentage yield for the tests you recommend in this setting. (7)

A subsequent culture is positive for *Mycobacterium tuberculosis*. You start antitubercular therapy and her symptoms start improving.

- b) Which antiretroviral regimen would you use and when would you start? (5)
- c) You discover that she is 8 weeks pregnant. How would this affect your choice of antiretroviral therapy? (3)

Two weeks after starting antiretroviral therapy she presents with recurrence of cough and night sweats and a large fluctuant swelling in her neck. The pulmonary infiltrate has expanded on the chest radiograph

- d) What is the differential diagnosis and what investigations would you do? How would you manage her? (5)