



THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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

5 April 2013

1 Paper Only

(3 hours)

All questions are 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) The microbiology laboratory has just informed you of the first patient in your hospital with a confirmed NDM-1 producing *Klebsiella pneumoniae*. The patient had been transferred from another hospital 3 days ago.
- i) Briefly outline what NDM-1 is, and what its potential significance is. (2)
 - ii) Hospital management wants to embark on an aggressive strategy to contain this organism. Describe what measures can be implemented, and discuss their potential value. (8)
- b) You are investigating an outbreak of surgical site infections due to *Staphylococcus aureus* in the orthopaedic unit. Describe how molecular typing of the isolates involved in the outbreak may assist you in this investigation. (5)
- [15]
- 2 An obese 65-year-old male is referred with a 3 day history of acute diarrhoea, temperature of 38.2°C and *Salmonella enteritidis* is cultured from stool. He has Type 2 Diabetes treated with Insulin for the past 20 years, peripheral vascular disease, hypertension and smokes 10 cigarettes per day. No previous surgery of note. He passes 6-8 stools per day.
- i) Discuss the indications for antibiotics in *S enteritidis* gastroenteritis and comment on whether this patient needs antibiotics. (5)
 - ii) Discuss the potential complications that may occur with *S enteritidis* gastroenteritis. (5)
- [10]
- 3 a) Explain how you would manage a patient with
- i) Asymptomatic candiduria. (5)
 - ii) Symptomatic candiduria. (5)
- b) A 62-year-old diabetic is referred to you for general advice on vaccination. He lives in an extended household with his children and grandchildren, some of whom are <1 year of age. He is planning a trip to the United States of America and can get any vaccines there which are not available in South Africa.
List the vaccinations you would recommend, mentioning the expected benefit of each. (5)

- c) A physician from a regional hospital intensive care unit asks you for an opinion. A pharmaceutical representative has recommended routine statin use for sepsis in the intensive care unit. Give your response. (5)
[20]
- 4 a) Write short notes on the diagnosis and treatment of Cytomegalovirus infection in Transplant recipients. (5)
b) Write short notes on Hepatitis B Virus surface antigen negative infection / disease. (5)
c) Write short notes on the viral and antibody laboratory markers in Hepatitis B Virus - Hepatitis D Virus co-infection. (5)
d) Write short notes on the pathogenesis of Dengue Haemorrhagic Fever. (5)
[20]
- 5 A 34-year-old woman presents with an acute febrile illness 2 days after her return to South Africa from a 3 week Christmas holiday. She visited a number of islands in Thailand and also spent some days on the Thai-Cambodian border working in a refugee camp. She complains of myalgia and headache and rigors. She took no malaria prophylaxis and did not have any pre-travel vaccinations. On examination her temperature is 39^oC, flushed face, and an unremarkable examination apart from what looks like intense sunburn. Her blood results: WCC 2.4, platelets 89000, AST 354 and ALT 378. Discuss a differential diagnosis, laboratory tests you would request and immediate management. [15]
- 6 You are telephoned by a primary care doctor who requests advice regarding an HIV-infected patient with a CD4 count of 35 who presents with a nodular skin rash (multiple nodules on the trunk and limbs).
a) Discuss the differential diagnosis of a nodular skin rash in this HIV-infected patient and what clinical features are observed with the various differential diagnoses. (8)
b) A skin biopsy report subsequently confirms the diagnosis as bacillary angiomatosis. Discuss the aetiology, diagnosis, treatment and systemic complications of bacillary angiomatosis. (12)
[20]