

PRIMARY EXAMINATION

MICROBIOLOGY

Thursday 5 December 2002

Time allowed: Two hours

INSTRUCTIONS TO CANDIDATES

Answer any ONE (1) question from Section A.

Answer any TWO (2) questions from Section B.

Answer any TWO (2) questions from Section C.

Candidates may answer all 5 questions in one answer booklet. The mark values are as shown for the questions in each section. Maximum marks = 75. As a guide, allow approximately 24 minutes to answer each of the 5 questions selected.

Section A. (Answer **one** question: 15 marks)

1. Explain the differences between i) downwards displacement, ii) assisted air removal, and iii) pre-vacuum autoclaves and, describe the quality control measures you would institute/implement to ensure their functional efficacy.
2. Using a table, compare and contrast the host-pathogen interactions which occur in (a) rapidly progressive periodontitis in a patient with a defect in neutrophil numbers, (b) marginal gingivitis in a patient with intact neutrophil numbers and function, and (c) angular cheilitis in an elderly diabetic patient.

Section B. (Answer **any two** questions: 15 marks each)

3. List five (5) oral lesions which occur at higher frequency in patients with human immunodeficiency virus infection, and provide a brief explanation for why this is so, for each of the five conditions which you choose.
4. Explain how you would identify (by clinical and laboratory examinations) a chronic carrier of hepatitis B, and outline the impact of chronic HBV infection on both general health and dental health.
5. Discuss the various strategies which could be used to prevent dental caries on the basis of this condition being an infectious disease.

Section C. (Answer **any two** questions: 15 marks each)

6. Describe briefly the stages of development of dental plaque, and outline how mechanical plaque control and agents used for chemical plaque control can alter the process of plaque formation.
7. How do prion diseases (transmissible spongiform encephalopathies) differ from diseases caused by viruses and bacteria? Discuss the implications of prion diseases in dentistry.
8. In the presentation of an acute dento-alveolar (periapical) abscess, explain how the various signs and symptoms illustrate aspects of the body's immune response to infection.

End of paper