



ROYAL AUSTRALASIAN COLLEGE
OF
DENTAL SURGEONS
INCORPORATED
ABN 97 343 369 579

PRIMARY EXAMINATION IN
MICROBIOLOGY

Monday 24 November 2008

Time allowed: **Two hours**

INSTRUCTIONS TO CANDIDATES

- Total marks 75
- All questions are of equal value (15 marks each).
- There are Two (2) sections to this paper.
- Candidates are required to complete One question in Section A.
- In addition they must also complete FOUR (4) questions from Section B
- Each section must be answered in a **separate booklet**.

Section A. Answer only ONE question in this Section

1. With reference to the immune responses to infection, explain why patients who have received organ transplants or are undergoing cytotoxic chemotherapy for cancer treatment may be more prone to certain fungal, viral and bacterial oral infections.

(15 marks)

2. Explain why additional infection control precautions are required for patients with acute respiratory infections such as active tuberculosis and SARS, and describe the additional precautions which would be required in these two examples.

(15 marks)

~ END OF SECTION A ~



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written paper continued

Section B. Answer any FOUR questions in this part.

Write your answer to Section B in a separate examination booklet.

3. Describe how air removal is achieved in autoclaves of different types, and describe in detail how tests for air removal are used in a dental practice. (15 marks)
4. List the factors which may predispose a patient to the development of acute necrotizing ulcerative gingivitis (ANUG), and describe the microbiological basis of the condition. Include in your answer a bullet point summary of the clinical management you would undertake for a patient (male, 45 years of age) presenting with ANUG in your dental practice. (15 marks)
5. Explain how the management of an acute endodontic infection of a mandibular molar tooth with associated soft tissue swelling in the submandibular region is dictated by the nature of the aetiological flora and the host immune response. Include in your answer details of the bacterial flora which may be present, and the possible complications of this infection. (15 marks)
6. Describe how the resting salivary pH can influence the oral microflora. Explain the relevance of this parameter to mineral loss and to oral fungal infections. (15 marks)
7. Explain how the hepatitis B vaccine provides protection to immunized persons who later are exposed to the virus. Include in your answer the ingredients/constituents of the vaccine, and the rationale for the vaccination schedule. (15 marks)
8. Identify two retroviruses of clinical importance in dentistry which are transmitted by the bloodborne route, and discuss their serological diagnosis and likelihood of transmission by sharps injury. (15 marks)
9. Describe the stages of biofilm formation, and the implications of this in terms of dental equipment. Describe briefly the methods which can be used to control or prevent biofilm formation in dental units. (15 marks)

This is the last page of this examination paper