



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

PRIMARY EXAMINATION

MICROBIOLOGY

29 November 2005

Time allowed:

Two hours, with 10 minutes for perusal before the examination begins.

INSTRUCTIONS TO CANDIDATES

This examination consists of three sections, with a choice of questions in each section.

Answer only ONE (1) question from Section A.

Answer only TWO (2) questions from Section B.

Answer only TWO (2) questions from Section C.

Candidates must answer Section A in a separate booklet.

The remaining 4 questions from Sections B and C may be answered in the one answer booklet.

Each question is worth 15 marks, and the total number of marks for the examination is 75.

You should allow 24 minutes of working time to answer each question.



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Section A. Answer Section A in a separate booklet.

(Answer only **one** question)

1. List five (5) oral lesions which occur at higher frequency in patients with AIDS, and then for ONE lesion, provide an explanation for why this is so, with specific reference to how the host immune response is compromised.
2. With regard to infective endocarditis, give 3 examples of dental procedures that may contribute to this condition, and then discuss the benefits and risks of pre-procedural antibiotic prophylaxis.

Section B. Answer Sections B and C in a separate booklet from Section A.

(Answer **any two** questions)

3. Explain the differences between downwards displacement autoclaves, assisted air removal autoclaves, and pre-vacuum autoclaves, in terms of (a) how air is removed from the chamber; and (b) what chemical indicators may be used for assessment of the efficiency of air removal in a package of surgical instruments during the autoclave cycle.
4. Using a table, summarize the types of causal microorganisms found and the nature of the host-pathogen interactions which occur in (a) a dento-alveolar abscess associated with a non-vital tooth; (b) marginal gingivitis in a pregnant female; and (c) angular cheilitis in an organ transplant recipient receiving immuno-suppressive medications.
5. Discuss the evidence which supports the view that dental caries is an infectious disease, and explain in detail how transmission of the pathogen(s) occur.



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Section C. (Answer **any two** questions)

6. Explain how you would identify by laboratory examinations a chronic carrier of hepatitis B, and outline the impact of chronic HBV infection on both general health and dental health.
7. Describe the immediate management of a sharps injury sustained by a dentist from a local anaesthetic needle that had just been used to administer a mandibular block injection to a patient with chronic hepatitis C infection.
8. Explain how some agents of infection can evade the normal host immune response. Make specific reference to prions, tuberculosis and Epstein-Barr virus in your answer.