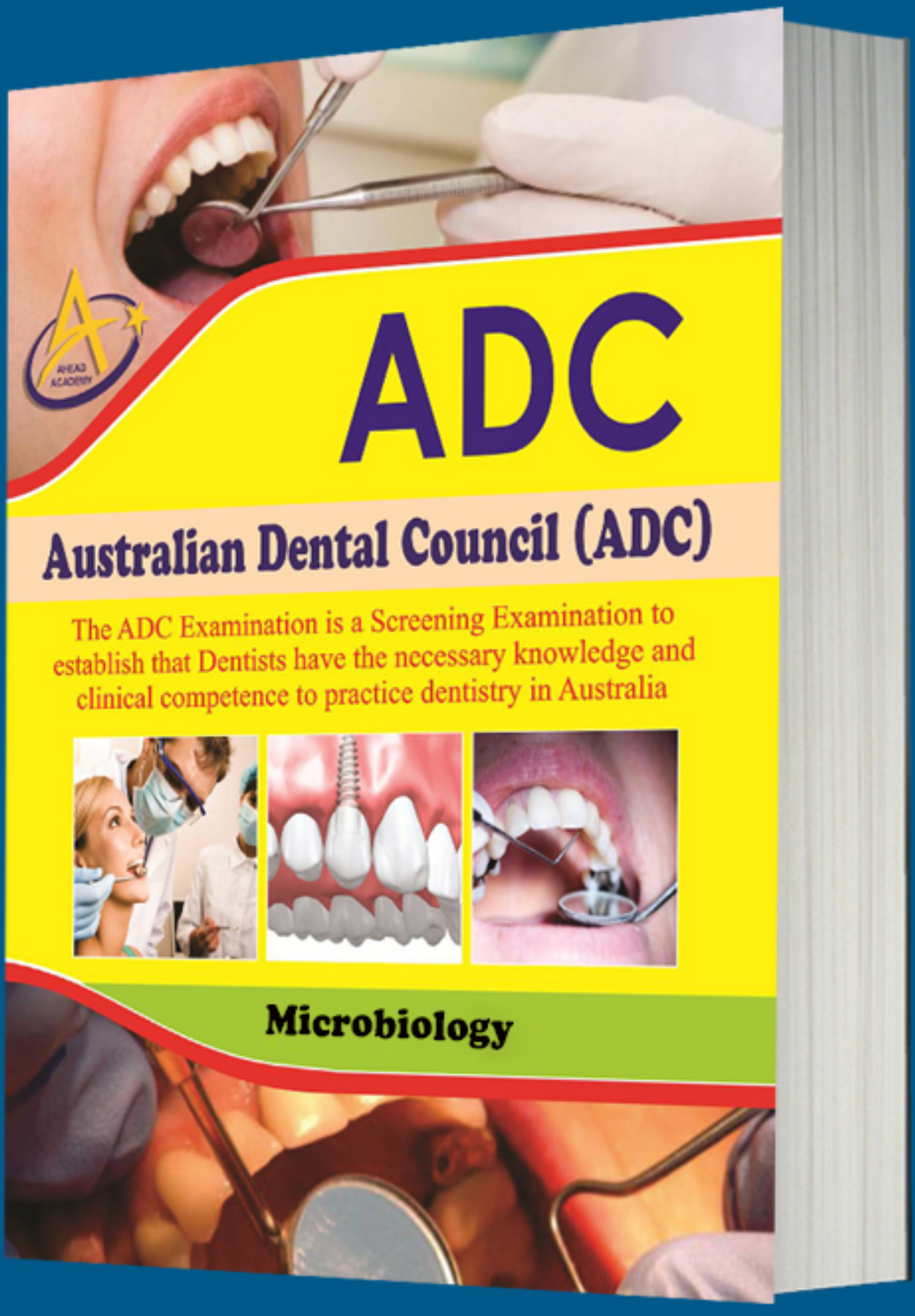
ADC
Australian Dental Council (ADC)
The ADC Examination is a Screening Examination to establish that Dentists have the necessary knowledge and clinical competence to practice dentistry in Australia
Microbiology

contents

GENERAL MICROBIOLOGY

Introduction

1. **Karl Landsteiner**
   - Gave the theory of "blood grouping" in 1900.
   - Discovered the rhesus factor

2. **Alexander Fleming**
   - "Discovered the 1st antibiotic "penicillin" in 1928

3. **Ronald Ross**
   - Discovered the transmission of malarial parasite by female anopheles mosquito.

4. **Louis Pasteur**
   - Introduced different techniques of sterilization and developed steam sterilizers.
   - Invented pasteurization of milk and urine.
   - Coined the term vaccine.
   - Discovered anthrax vaccine in 1881, and developed anti-rabies vaccine.

5. **Robert Koch**
   - First introduced solid media
   - Introduced staining technique and methods of obtaining bacteria in pure cultures using solid media
   - First person to do hanging drop operation.
   - Discovered TUBERCLE BACILLUS and VIBRIO CHOLERA
   - Proposed "KOCH POSTULATES" by which an organism can be accepted as the causative agent of that particular disease.
   - He is considered as "FATHER OF MICROBIOLOGY"

6. **Leewenhock** gave the tern "ANIMALCULES" to microorganisms

7. **Hansen** described LEPROSY BACILLUS, so leprosy is also known as Hansen's disease.

8. **Niesser** described the GONOCCUS

9. **Ogston** discovered the STAPHYLOCOCCUS

10. **Loeffler** isolated the DIPTHERIAE BACCILUS

11. **Schauddin and Hoffman** discovered the spirochaete of syphilis.

12. Twort and d'Herelle discovered lytic phenomenon in bacterial cultures.

13. The term virus was coined by Beijerinck.

14. The first human disease proved to have a viral etiology was yellow fever.

15. The possibility that virus infection could lead to malignancy was first put forth by Ellerman and Bang.

16. A specific humoral factor or "antibody" was described by Von Behring and Kitasato.

17. Metchin Koff discovered the phenomenon of Phagocytosis.

18. Bacteria are unicellular and do not show true branching, except in the so-called "higher bacteria" (Actinomycetales).

19. Bacteria, blue green algae - Prokryotes
Fungi, other algae, Slime moulds, protozoa } Eukaryotes

20. Type of staining:

Supravital	The cell is killed during staining.
Vital	The cell is live after staining.
Simple staining	Dyes such as methylene blue or basic fuschin provide colour contrast but impart the same colour to all bacteria.
Negative Staining	The background is stained against which the unstained bacteria stand-out in contrast. Useful in staining of bacterial capsules, slender bacterial like spirochetes,
Impregnation methods	Cells and structures that are too thin are thickened by impregnation of silver on the surface. Eg. Bacterial flagella, Spirochete
Differential stains	Includes Gram stain and Acid fast stain

21. Acid-fast staining: (Ziehl and Ncelson staining)

i) Discovered by Ehrlich and modified by Ziehl and Neelson.
ii) The smear is stained by strong solution of carbol fuschin and then decolorized with 20% sulphuric acid and then counter-stained with a contrasting dye such as methylene blue.
iii) Acid fast bacteria - Retains red (fuschin) colour other bacteria - takes counter stain (Blue)
iv) Spores can be stained by acid- fast staining.