BOOK REVIEWS

Microbiology


This pocket sized handbook is one of a series of 'colour guides' for 'students and health care specialists' in all fields of medicine. It attempts to address the interface between clinician, laboratory and patient.

The book describes the various stages in the microbiological investigation of a patient. It begins with a description of sample collection and the importance of appropriate completion of the request form. Broad descriptions of standard microbiological techniques, microscopy, culture and sensitivity testing, are followed by specific chapters relating to each system, including investigation into meningitis and septicaemia. Brief mention is made of newer molecular biology techniques. A description of PCR is included, but unfortunately fails to describe some of the more clinically useful PCR applications available in the UK, particularly investigation of meningococcal disease and herpes encephalitis. There are short but informative chapters on laboratory safety and laboratory methods in infection control.

Lastly, there are chapters on virology, mycology and parasitology. These benefit particularly from the well-illustrated nature of this handbook – a photograph on every other page.

This 'colour guide' would be an adjunct to a more formal text for both undergraduates and for postgraduates, particularly those beginning a career in microbiology. It does not pretend to provide an exhaustive description of laboratory procedures. Some of the descriptions of serology and molecular biology methods would require further background reading to be fully appreciated. However, it provides both a useful and colourful insight in the workings of a clinical microbiology laboratory.

E. REES

Bacteria in Biology, Biotechnology and Medicine, 4th edition


Bacteria in biology, biotechnology and medicine is primarily a book for undergraduates in general biology, medicine or health sciences. Students of applied bacteriology, whether in environmental, food science or biotechnology would also find it a complementary volume to standard texts and lectures.

Paul Singleton assumes no prior knowledge of bacteria, and from his introductory paragraph of 'What are bacteria?' he develops the study of the properties of the organisms to more complex concepts which are presented in a clear sequential manner.

Basic descriptions of cell structures are followed by more detailed explanations of growth, reproduction and differentiation, which in turn lead to chapters on energy and carbon in metabolism. These subjects can be difficult to comprehend without an appreciable knowledge of chemistry and biology, but the author guides the reader with clarity without compromising the necessity to understand metabolic pathways and cycles.

Descriptions of molecular biology and gene expression in bacteria are developed from basic explanations of chromosomes and plasmids through to detail of replication, synthesis and regulation. The chapter on genetic engineering and recombinant DNA technology includes topics such as cloning, probes and the polymerase chain reaction. All are presented progressively from first principles to facilitate students' understanding.

The second half of the book is devoted to applied bacteriology in medicine, food and the environment, with concise sections on laboratory techniques, taxonomy and identification. The appendix gives brief descriptions of important bacterial genera.

A work such as this cannot be comprehensive, and the topics chosen for cover in the applied bacteriology section are necessarily subjective on the author's part. However, as an aid to understanding bacteria and their properties, particularly in metabolism and genetics, the book will be an admirable complement to other sources of information. It is recommended to undergraduates and those seeking clear explanations of basic concepts of bacteriology.

D. E. HEALING

Managing HIV


As the title suggests this book is aimed at clinicians involved in caring for patients with HIV infection but, as stated in the preface, should also be of value to medical students and other trainees wishing to learn about the subject. It has been produced under the auspices of various Australian HIV and AIDS organisations and includes contributions from over a hundred specialists, most, but not all of whom, are based in Australia. As a result, a number of the chapters, particularly those in Part 6 of the book, People Living With HIV, which deal with issues such as HIV and isolated Aboriginal communities, HIV and injecting drug use, contain information relevant only to that country. The final section of the book, Part 9, is devoted to HIV in Asia and the Pacific and covers the epidemiology of HIV infection in that area together with problems with its management in developing countries. Nevertheless, the bulk of the material in the book is equally applicable to the management of HIV in Europe and North America.

The first few chapters of the book contain an overview of the principles of management, the different stages of HIV infection, the structure and function of the virus as well as a particularly clear description of HIV disease pathogenesis. The latter includes a discussion of the recently discovered cellular co-receptors required for HIV entry as well as the important discovery that some patients have spontaneous mutations in the genes for these receptors leading to resistance to HIV infection.