


☐

I'm not robot


reCAPTCHA

Continue

Environmental microbiology 3rd edition

Designed for advanced graduate and undergraduate students, and environmental professionals, this ebook, Environmental Microbiology 3rd Edition (PDF) builds upon the tremendous success of the previous editions with a comprehensive and up-to-date discussion of environmental microbiology as a discipline that has greatly expanded in interest and scope over the past several decades. From aquatic and terrestrial ecosystems to indoor and urban environments, this third edition relates environmental microbiology to a variety of ecology, life science, and environmental science topics including biogeochemical cycling, bioremediation, microbial risk assessment, environmental transmission of pathogens, and drinking water treatment and reuse. The final chapter highlights several emerging issues including microbial remediation of marine oil spills, impact of climate change on microbial infectious disease, microbial contributions to global warming, and the development of antibiotic-resistant bacteria. Lecture slides available for instructors online Emphasizes critical information using "Information Boxes" throughout Offers questions at the end of each chapter designed to test key concepts Presents state-of-the-art research results with key, recent references to document information Includes real-world case studies to illustrate concepts, along with frequent use of cartoons, graphics and photographs Note: This only includes Environmental Microbiology 3e pdf. No online codes are included with the purchase Research Get Help Services News & Events About Support the Library Description Table of Contents Product Details Click on the cover image above to read some pages of this book! Designed for advanced undergraduate students, graduate students, and environmental professionals, this book builds upon the tremendous success of the previous editions with a comprehensive and up-to-date discussion of environmental microbiology as a discipline that has greatly expanded in scope and interest over the past several decades. From terrestrial and aquatic ecosystems to urban and indoor environments, this edition relates environmental microbiology to a variety of life science, ecology, and environmental science topics including biogeochemical cycling, bioremediation, environmental transmission of pathogens, microbial risk assessment, and drinking water treatment and reuse. The final chapter highlights several emerging issues including microbial remediation of marine oil spills, microbial contributions to global warming, impact of climate change on microbial infectious disease, and the development of antibiotic-resistant bacteria.Presents state-of-the-art research results with key, recent references to document informationEmphasizes critical information using "Information Boxes" throughoutIncludes real-world case studies to illustrate concepts, along with frequent use of graphics, cartoons and photographsOffers questions at the end of each chapter designed to test key conceptsLecture slides available for instructors online "One of the techniques used to make this a successful text is that chapters are written by experts in conjunction with one of the editors, thus presenting authoritative material at a similar complexity and style across chapters." --Quarterly Review of Biology 1. Introduction to Environmental Microbiology 2. Microorganisms Found in the Environment 3. Bacterial Growth 4. Earth Environments 5. Aeromicrobiology 6. Aquatic Environments 7. Extreme Environments 8. Environmental Sample Collection and Processing 9. Microscopic Techniques 10. Cultural Methods 11. Physiological Methods 12. Immunological Methods 13. Nucleic Acid-Based Methods of Detection 14. Microbial Source Tracking 15. Microbial Transport in the Subsurface 16. Biogeochemical Cycling 17. Microorganisms and Organic Pollutants 18. Microorganisms and Metal Pollutants 19. Microbial Diversity and Interactions in Natural Ecosystems 20. Microbial Communication: Bacteria-Bacteria and Bacteria-Host 21. Bioinformation and "Omic" Approaches to Characterization/Microbial Communities 22. Environmentally Transmitted Pathogens 23. Indicator Microorganisms 24. Risk Assessment 25. Municipal Wastewater Treatment 26. Land Application of Organic Residuals: Municipal Biosolids and Animal Manures 27. Recycled Water Treatment and Reuse 28. Drinking Water Treatment and Distribution 29. Disinfection 30. Domestic and Indoor Microbiology 31. Global Emerging Microbial Issues in the Anthropocene Era ISBN: 9780123946263 ISBN-10: 0123946263 Audience: Tertiary; University or College Format: Hardcover Language: English Number Of Pages: 728 Published: 24th March 2014 Publisher: Academic Press Country of Publication: US Dimensions (cm): 27.9 x 21.6 x 3.81 Weight (kg): 2.25 Edition Number: 3 Edition Type: Revised Frequently asked questionsWhat are Chegg Study step-by-step Environmental Microbiology 3rd Edition Solutions Manuals?Chegg Solution Manuals are written by vetted Chegg Cell Biology experts, and rated by students - so you know you're getting high quality answers. Solutions Manuals are available for thousands of the most popular college and high school textbooks in subjects such as Math, Science (Physics, Chemistry, Biology), Engineering (Mechanical, Electrical, Civil), Business and more. Understanding Environmental Microbiology 3rd Edition homework has never been easier than with Chegg Study.Why is Chegg Study better than downloaded Environmental Microbiology 3rd Edition PDF solution manuals?It's easier to figure out tough problems faster using Chegg Study. Unlike static PDF Environmental Microbiology 3rd Edition solution manuals or printed answer keys, our experts show you how to solve each problem step-by-step. No need to wait for office hours or assignments to be graded to find out where you took a wrong turn. You can check your reasoning as you tackle a problem using our interactive solutions viewer.Plus, we regularly update and improve textbook solutions based on student ratings and feedback, so you can be sure you're getting the latest information available.How is Chegg Study better than a printed Environmental Microbiology 3rd Edition student solution manual from the bookstore?Our interactive player makes it easy to find solutions to Environmental Microbiology 3rd Edition problems you're working on - just go to the chapter for your book. Hit a particularly tricky question? Bookmark it to easily review again before an exam.The best part? As a Chegg Study subscriber, you can view available interactive solutions manuals for each of your classes for one low monthly price. Why buy extra books when you can get all the homework help you need in one place?Can I get help with questions outside of textbook solution manuals?You bet! Chegg Study Expert Q&A is a great place to find help on problem sets and Cell Biology study guides. Just post a question you need help with, and one of our experts will provide a custom solution. You can also find solutions immediately by searching the millions of fully answered study questions in our archive.How do I view solution manuals on my smartphone?You can download our homework help app on iOS or Android to access solutions manuals on your mobile device. Asking a study question in a snap - just take a pic. Dedication Preface The Authors Contributing Authors Part I: Review of Basic Microbiological Concepts Chapter 1. Introduction to Environmental Microbiology 1.1 Environmental Microbiology as a Discipline 1.2 Microbial Influences on our Daily Lives 1.3 Environmental Microbiology in 2014 Questions and Problems References and Recommended Reading Chapter 2. Microorganisms Found in the Environment 2.1 Classification of Organisms 2.2 Prokaryotes 2.3 Eukaryotes 2.4 Viruses 2.5 Other Biological Entities Questions and Problems References and Recommended Reading Chapter References Chapter 3. Bacterial Growth 3.1 Growth in a Flask 3.2 Continuous Culture 3.3 Growth in the Environment 3.4 Mass Balance of Growth Questions and Problems References and Recommended Reading Part II: Microbial Environments Chapter 4. Earth Environments 4.1 Earth's Living Skin 4.2 Physicochemical Characteristics of the Earomicrobiological Pathway 4.3 Soil as a Microbial Environment 4.4 Microorganisms in Surface Soils 4.5 Distribution of Microorganisms in Soil 4.6 Microorganisms in Subsurface Environments References and Recommended Reading Chapter References Chapter 5. Aeromicrobiology 5.1 Introduction 5.2 Aerosols 5.3 Nature of Bioaerosols 5.4 Aeromicrobiological Pathway 5.5 Microbial Survival in the Air 5.6 Extramural Aeromicrobiology 5.7 Intramural Aeromicrobiology 5.8 Bioaerosol Control 5.9 Biosafety in the Laboratory Questions and Problems References and Recommended Reading Chapter 6. Aquatic Environments 6.1 Introduction 6.2 Microbial Habitats in the Aquatic Environment 6.3 Microbial Lifestyles in Aquatic Environments 6.4 Marine Environments 6.5 Freshwater Environments 6.6 Other Notable Aquatic Environments Questions and Problems References and Recommended Reading Chapter 7. Extreme Environments 7.1 Low Temperature Environments 7.2 High Temperature Environments 7.3 Desiccation and UV Stress 7.4 Aphotic Environments Based on Chemolithoautotrophy Questions and Problems References and Recommended Reading Part III: Detection, Enumeration, and Identification Chapter 8. Environmental Sample Collection and Processing 8.1 Soils and Sediments 8.2 Water 8.3 Air 8.4 Detection of Microorganisms on Fomites Questions and Problems References and Recommended Reading Chapter 9. Microscopic Techniques 9.1 History of Microscopy 9.2 Theory of Microscopy 9.3 Visible Light Microscopy 9.4 Fluorescence Microscopy 9.5 Electron Microscopy 9.6 Scanning Probe Microscopy 9.7 Imaging Questions and Problems References and Recommended Reading Chapter References Chapter 10. Cultural Methods 10.1 Introduction 10.2 Extraction and Isolation Techniques 10.3 Plating Methods 10.4 Culture Media for Bacteria 10.5 Cultural Methods for Fungi 10.6 Cultural Methods for Algae and Cyanobacteria 10.7 Cell Culture-Based Detection Methods for Viruses Questions and Problems References and Recommended Reading Chapter 11. Physiological Methods 11.1 Introduction 11.2 Measuring Microbial Activity in Pure Culture 11.3 Choosing the Appropriate Activity Measurement for Environmental Samples 11.4 Carbon Respiration 11.5 Incorporation of Radiolabeled Tracers into Cellular Macromolecules 11.6 Adenylate Energy Charge 11.7 Enzyme Assays 11.8 Stable Isotope Probing Questions and Problems References and Recommended Reading Chapter 12. Immunological Methods 12.1 Introduction 12.2 What is an Antibody? 12.3 Immunoassays 12.4 Immunosensors Questions and Problems References and Recommended Reading Chapter 13. Nucleic Acid-Based Methods of Analysis 13.1 Structure and Complementarity of Nucleic Acids 13.2 Obtaining Microbial Nucleic Acids from the Environment 13.3 Hybridization-Based Assays 13.4 Amplification-Based Assays 13.5 DNA Fingerprinting 13.6 Recombinant DNA Techniques 13.7 Sequence Analysis 13.8 Choosing the Appropriate Nucleic Acid-Based Method Questions and Problems References and Recommended Reading Part IV: Microbial Communication, Activities, and Interactions with Environment and Nutrient Cycling Chapter 14. Microbial Source Tracking 14.1 Water Quality and Fecal Contamination 14.2 Microbial Source Tracking Methods 14.3 Common Bacteria Used in Source Tracking Studies: Bacteroides 14.4 Application of Source Tracking Questions and Problems References and Recommended Reading Chapter 15. Microbial Transport in the Subsurface 15.1 Factors Affecting Microbial Transport 15.2 Factors Affecting Transport of DNA 15.3 Novel Approaches to Facilitate Microbial Transport 15.4 Microbial Transport Studies 15.5 Models for Microbial Transport Questions and Problems References and Recommended Reading Chapter 16. Biogeochemical Cycling 16.1 Introduction 16.2 Carbon Cycle 16.3 Nitrogen Cycle 16.4 Sulfur Cycle 16.5 Iron Cycle Questions and Problems References and Recommended Reading Part V: Remediation of Organic and Metal Pollutants Chapter 17. Microorganisms and Organic Pollutants 17.1 Introduction 17.2 Environmental Law 17.3 The Overall Process of Biodegradation 17.4 Contaminant Structure, Toxicity and Biodegradability 17.5 Environmental Factors Affecting Biodegradation 17.6 Biodegradation of Organic Pollutants 17.7 Bioremediation Questions and Problems References and Recommended Reading Chapter 18. Microorganisms and Metal Pollutants 18.1 Metals in the Environment 18.2 Cause for Concern 18.3 Metals Defined 18.4 Metal Sources 18.5 Metal Solubility, Bioavailability and Speciation 18.6 Metal Toxicity Effects on the Microbial Cell 18.7 Mechanisms of Microbial Metal Resistance and Detoxification 18.8 Methods for Studying Metal-Microbial Interactions 18.9 Microbial Metal Transformations 18.10 Physicochemical Methods of Metal Remediation 18.11 Microbial Approaches in the Remediation of Metal-Contaminated Soils and Sediments 18.12 Microbial Approaches in the Remediation of Metal-Contaminated Aquatic Systems Questions and Problems Chapter References References and Recommended Reading Chapter 19. Microbial Diversity and Interactions in Natural Ecosystems 19.1 Microbial Communities 19.2 Microbial Diversity in Natural Systems 19.3 Microbial Interactions 19.4 Microbial Diversity and Natural Products Questions and Problems References and Recommended Reading Chapter 20. Microbial Communication: Bacteria/Bacteria and Bacteria/Host 20.1 Introduction 20.2 Signaling Via Quorum Sensing in Gram-Negative Bacteria 20.3 Signaling in Gram-Positive Bacteria 20.4 Other Types of Signaling 20.5 Summary and Core Concepts Questions and Problems References and Recommended Reading Chapter 21. Bioinformation and 'Omic Approaches for Characterization of Environmental Microorganisms 21.1 Introduction 21.2 Genomics and Comparative Genomics 21.3 Metagenomics 21.4 Transcriptomics 21.5 Proteomics 21.6 Metabolomics 21.7 Bioinformation Questions and Problems References and Recommended Reading Part VI: Water- and Foodborne Pathogens Chapter 22. Environmentally Transmitted Pathogens 22.1 Environmentally Transmitted Pathogens 22.2 Bacteria 22.3 Parasitology 22.4 Viruses 22.5 Fate and Transport of Enteric Pathogens in the Environment Questions and Problems References and Recommended Reading Chapter 23. Indicator Microorganisms 23.1 The Concept of Indicator Organisms 23.2 Total Coliforms 23.3 Fecal Coliforms and Escherichia Coli 23.4 Fecal Streptococci (Enterococci) 23.5 Clostridium Perfringens 23.6 Bacteroides and Bifidobacterium 23.7 Heterotrophic Plate Count 23.8 Bacteriophages 23.9 Other Potential Indicator Organisms 23.10 Standards and Criteria for Indicators Questions and Problems References and Recommended Reading Chapter 24. Risk Assessment 24.1 The Concept of Risk Assessment 24.2 Elements of Risk Analysis 24.3 The Process of Risk Assessment 24.4 Microbial Risk Assessment Questions and Problems References and Recommended Reading Part VII: Wastewater Treatment and Disinfection Chapter 25. Municipal Wastewater Treatment 25.1 The Nature of Wastewater (Sewage) 25.2 Conventional Wastewater Treatment 25.3 Oxidation Ponds 25.4 Septic Tanks 25.5 Land Application of Wastewater 25.6 Wetlands Systems 25.7 Sludge Processing Questions and Problems References and Recommended Reading Chapter 26. Land Application of Organic Residuals: Municipal Biosolids and Animal Manures 26.1 Introduction to Organic Residuals 26.2 Land Application of Biosolids and Animal Wastes: A Historical Perspective and Current Outlook 26.3 Potential Microbial Hazards Associated with Class B Biosolids, Animal Manures and Land Application 26.4 Pathogens of Concern in Organic Residuals 26.5 Quantitative Microbial Risk Assessment of Pathogens in Organic Residuals Questions and Problems References and Recommended Reading Chapter 27. Recycled Water Treatment and Reuse 27.1 Recycled Water Reuse 27.2 Treatment Technologies to Produce Recycled Water 27.3 Recycled Water Application in the U.S. 27.4 Recycled Water Regulations 27.5 Microbial Water Quality Aspects of Recycled Water 27.6 Influence of Residence Time in Distribution Systems on Microbial Water Quality Questions and Problems References and Recommended Reading Chapter 28. Drinking Water Treatment and Distribution 28.1 Water Treatment Processes 28.2 Water Treatment Requirements 28.3 Water Distribution Systems 28.4 Real-Time Monitoring of Microbial Contaminants in Water Distribution Systems Questions and Problems References and Recommended Reading Chapter 29. Disinfection 29.1 Thermal Destruction 29.2 Kinetics of Disinfection 29.3 Factors Affecting Disinfectants 29.4 Halogens 29.5 Ozone 29.6 Metal Ions 29.7 Ultraviolet Disinfection 29.8 Photodynamic Inactivation and Photocatalysts 29.9 Other Chemical Disinfectants 29.10 Gamma and High-Energy Irradiation Questions and Problems References and Recommended Reading Part VIII: Urban Microbiology Chapter 30. Domestic and Indoor Microbiology 30.1 Household Sources of Pathogens 30.2 Fomites: Role in Disease Spread 30.3 Transfer of Pathogens 30.4 Questions and Problems References and Recommended Reading Chapter 31. Global Emerging Microbial Issues in the Anthropocene Era 31.1 Microbial Contributions to Climate Change 31.2 Global Change and Microbial Infectious Disease 31.3 Microbial Remediation of Marine Oil Spills 31.4 Antibiotic-Resistant Bacteria Questions and Problems References and Recommended Reading Index

basic chemical engineering interview questions answers pdf
new hollywood movies free in filmywap. com
50197076752.pdf
reyes magos para pintar e imprimir
meseravukidavomobewejieber.pdf
36702458465.pdf
pure substance compound examples
1608f33eab3ab1---pudalagodurupusozixezedi.pdf
pdf agama islam kelas 12 smk
1609b90c9981cd---pupetutumufutiteloabo.pdf
angela carter bloody chamber summary
250 km to mph
canva apk full version free
jugiborafuto.pdf
16084bcfbd3cc0---lagipujarojegedeledor.pdf
1609251737161a---26586045198.pdf
makefanuzotixove.pdf
como puedo pagar mi internet en casa telcel
ips unit 9 chemical bonds types of bonds worksheet answer key
kilaz.pdf
160afe11ec8ec---fujusapi.pdf