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| Nota di contenuto       | Front Cover; Principles of Water Quality Control; Copyright Page; Contents; Preface to the fifth edition; Preface to the first edition; Chapter 1. Water- a precious natural resource; 1.1 The development of water and wastewater services; 1.2 Sustainable development; 1.3 Water resources; 1.4 The role of engineers and scientists; Chapter 2. Characteristics of waters and wastewaters; 2.1 Physical characteristics; 2.2 Chemical characteristics; 2.3 Biological characteristics; 2.4 Typical characteristics; Chapter 3. Sampling and analysis; 3.1 Sampling; 3.2 Analytical methods<br>3.3 Automated analysis, remote monitoring and sensingChapter 4. Aquatic microbiology and ecology; 4.1 Types of metabolism; 4.2 Nomenclature; 4.3 Types of microorganism; 4.4 Microbiological examination; 4.5 Ecological principles; Chapter 5. Water quality and health; 5.1 Characteristics of diseases; 5.2 Water-related disease; 5.3 Chemical-related illness; Chapter 6. Biological oxidation of organic matter; 6.1 Nature of organic matter; 6:2 Biochemical reactions; 6.3 Nature of biological growth; 6.4 Oxygen demand in aerobic oxidation; 6.5 Anaerobic oxidation<br>Chapter 7. Water pollution and its control7.1 Types of pollutant; 7.2 Self-purification; 7.3 Toxic materials; 7.4 Overall effects of pollution; 7.5 Groundwater pollution; 7.6 Pollution of tidal waters; 7.7 Control of |

pollution; Chapter 8. Water demands and wastewater flows; 8.1 Domestic water demand; 8.2 Industrial water demand; 8.3 Demand management; 8.4 Population growth; 8.5 Wastewater flow; 8.6 Variations in flow; Chapter 9. Introduction to treatment processes; 9.1 Methods of treatment; 9.2 Optimized design; 9.3 Control and operation; Chapter 10. Preliminary treatment processes 10.1 Screening and straining 10.2 Microstraining; 10.3 Grit removal; 10.4 Flow measurement and distribution; Chapter 11. Clarification; 11.1 Theory of sedimentation; 11.2 The ideal sedimentation basin; 11.3 Measurement of settling characteristics; 11.4 Efficiency of sedimentation tanks; 11.5 Types of sedimentation tank; 11.6 Gravity thickening; 11.7 Flotation; Chapter 12. Coagulation; 12.1 Colloidal suspensions; 12.2 Flocculation; 12.3 Coagulation; 12.4 Mechanism of coagulation; Chapter 13. Flow through porous media; 13.1 Hydraulics of filtration; 13.2 Filter clogging; 13.3 Filter washing 13.4 Types of filter 13.5 Filter operation and control; Chapter 14. Aerobic biological oxidation; 14.1 Principles of biological oxidation; 14.2 Types of aerobic oxidation plant; 14.3 Biological filter; 14.4 Activated sludge; 14.5 Oxidation pond; 14.6 Land treatment; Chapter 15. Anaerobic biological oxidation; 15.1 Principles of anaerobic oxidation; 15.2 Applications of anaerobic treatment; 15.3 Operation of digesters; Chapter 16. Disinfection; 16.1 Theory of disinfection; 16.2 Chlorine; 16.3 Ozone; 16.4 Ultraviolet radiation; 16.5 Other disinfectants; Chapter 17. Chemical treatment 17.1 Chemical precipitation

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### Sommario/riassunto

The definitive student text in its field for 25 years, this new edition takes an environmental perspective that is highly relevant in the context of current public policy debates. New material also includes EU regulations and changes in the UK water industry since privatisation. The latest technological developments are also taken into account. As before, the book is intended for undergraduate courses in civil engineering and the environmental sciences, and as preliminary reading for postgraduate courses in public health engineering and water resources technology. It will als

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