

2.10 40131 MICROBIOLOGY

UNIT-1 INTRODUCTION TO MICROBIOLOGY

- 1.1 What are microorganisms, Branches of microbiology,
- 1.2 Contributions of scientists to the field of microbiology-
- 1.3 Antony Von Leeuwenhoek, Louis Pasteur, Robert Koch, Alexander Fleming

UNIT-2 MICROSCOPY

- 2.1 Principles of microscopy,
- 2.2 Working principles and applications of Bright field microscope

UNIT-3 MICROBIAL DIVERSITY

- 3.1 Bacteria,
- 3.2 Fungus,
- 3.3 Viruses

UNIT-4 STERILIZATION AND DISINFECTANTS

- 4.1 Definition of terms, Physical method of sterilization,
- 4.2 Chemical method of sterilization,
- 4.3 Gaseous Sterilization,
- 4.4 Evaluation of antimicrobial agents

UNIT-5 ANTIBIOTICS

- 5.1 Definition,
- 5.2 Classifications of antibiotics,
- 5.3 Antimicrobial spectrum of antibiotics and mode of action.

UNIT-6 CULTURE MEDIA AND CULTURING TECHNIQUES

- 6.1 Culture Media: Definition,
- 6.2 Classifications, Pure culture,
- 6.3 Isolation of Pure Culture,

UNIT-7 STAINS AND STAINING TECHNIQUES

- 7.1 Definition of stain,
- 7.2 Types of stain,
- 7.3 Types of staining technique

UNIT-8 MICROBIAL GENETICS

- 8.1 Definition of microbial genetics,
- 8.2 Transformation, Conjugation,
- 8.3 Transduction,
- 8.4 Introduction to microbial reproduction asexual and sexual methods



UNIT-9 PHARMACEUTICAL MICROBIOLOGY

9.1 Brief Descriptions,

9.2 Antimicrobial Processes Used in Pharmaceutical Manufacturing

Reference Books:

1. General Microbiology by Prescott
2. Microbiology by Pelczar, Chan, Kreg
3. General Microbiology by Stainer, Ingraham, Wheeler
4. General microbiology by Sullia and Shanataram
5. Introductory Microbiology by Heritage
6. Biology of Microorganisms by Brock T.D.

