2022-2023

MICROBIOLOGY

Assignments

Introduction to microbiology and microbial diversity

Unit - I

Importance and applications of microbiology in food, medicine industry and environment

Internet

Unit - II

methods of sterilization. physical method and chemical methods

Textbook

Unit - III

microbial culture methods obtaining pure culture by isolation.

practical

Unit - IV

methods of measuring growth - Direct methods and indirect.

chart

Differentiation of prokaryotes and eukaryotes

+Homework

Semester - III

molecular biology and microbial genetics

Unit - I

Discovery of DNA as genetic materia

Internet

Unit - II

RNA classes - properties, structure an functions

Textbook

Unit - III

Base exision repair and nucleotide excision repair.

Homework

Unit - IV

concept of gene, muton, Recon and cistron

chart

Unit - V

Transcription factors

Innovative

6A. Food and Industrial microbiology

Unit-I

Intrinsic and extrinsic Parameters that affect microbial growth in food

Internet

Unit-II

Fermented dairy foods - cheese and yogurt

Chart

Unit-III

microorganisms of industrial importance- Yeasts

Textbook

Unit-IV

Basic concepts of design of fermenter

Model

Unit-V

microbial enzymes used in detergents, textiles and leather industries

practical

Clinical microbiology

Unit-I

Disease - Incidence, prevalence, communicable non-Communicable.

Text book

Unit-II

Description of pathogenesis, etiology and laboratory diagnosis.

Internet

Unit-III

Determination of antibiotic sensitivity- Qualitative methods

Homework

Unit-IV

Collection of clinical samples and Precautions required.

practical

unit - V

Complementation fixation test, ouchterlony double diffusion test, Rocket immunoelectrophoresis

chart

Semester - II

microbial physiology and biochemistory

Unit - I
structure of monosaccharides disaccharides

Internet

Unit - II
Amino acids - classification of amino acids

Text book

Unit - III
Properties and classification of Enzymes

chart

Unit - IV
TCA cycle

Model

Unit - V
chromatography

Practical

Immunology & medical microbiology

Unit - I

Immunity - type of immunity - innate and acquired; active and Passive

Text book

Unit - II

Production of monoclonal antibodies by Hybridoma technology

Practical

Unit - III

Biochemical, Serological and molecular methods

chart

Unit - IV

Viral Diseases - Hepatitis - A; AIDS

Homework

Unit- V

Antibiotic Susceptibility testing methods.

Practical

food and industrial microbiology

Unit -I

food - borne diseases (Salmonellosis)

Internet

Unit - II

Scp edible mushrooms Probiotics and and their benefits

chart

Unit - III

microorganisms of industrial Importance - yeasts Saccharomyces Cerevisiae

Text book

Unit - IV

Basics concepts of design of fermentor.

Model

Unit - V

microorganisms involved in pharma and therapeutic enzymes

Homework