2020 - 2021

MICROBIOLOGY

Assignments

Semester - I

Introductory microbiology and microbial diversity

Unit - I

Contributions of Anton von Leeuwenhoek, Edward Jenner

Textbook

Unit - II

General characteristics of Bacteria, Archaea mycoplasmas and cyanobacteria

Internet

Unit - III

General characteristics and classification of Protozoa

Homework

Unit - IV

Principles of microscopy - [SEM and TEM]

Internet / practical

Unit - V

Differentiation of Prokaryotes and Eukaryotes

Homework

Semester - III

microbial Genetics and molecular Biology

Unit - I

Replication of DNA - Semi conservative mechanism, Enzymes involved in replication

Internet

Unit - II

mutagens - physical and chemical mutagens

chart

Unit - III

Types of RNA and their functions

Model

Unit - IV

Types of genes - Structural, constitutive Regulatory

Homeobox

Unit- V

write a note down on the gene cloning method.

Textbook

Semester - IV

3A Microbial diagnosis in health clinics

Unit - I

Describe the viral fungal and protozoan Diseases

Internet

Unit - II

methods of transport of clinical samples to laboratory and storage

Practical

Unit - III

Sample by staining - Gram Stain - Ziehl - Neelsen Staining for tuberculosis

practical

Unit - IV

write a note down typhoid, dengue and HIV Swine flu

Textbook

Unit- V

Determination of minimal inhibitory concentration (MIC)

Homework

Semester-V

4A. Diagnostic microbiology

Unit-I

Study of causative organism and Pathogenesis of bacterial

Internet

Unit-II

methods of transport of clinical samples to laboratory and storage

Practical

Unit-III

Preparation and use of culture media blood agar chocolate agar

practical

Unit-IV

what are serological methods and explain the ELISA

Homework

Unit- V

Concentration by broth dilution and agar dilutions and applications advantages and disadvantages of these methods

Textbook

Semester - II

microbial biochemistry & metabolism

Unit-I

General characteristics of amino acids and proteins

chart

Unit-II

Principles and applications of - colourimetry

Practical

Unit-III

Coenzymes and cofactors

Textbook

Unit-IV

microbial growth - different phases of growth in batches cultures, synchronous microbial

Practical

Unit - V

Structure of Proteins

Homework

Immunology and medical microbiology

Unit-I
what type of immunity and explain innate and acquired immunity

Internet

Unit-II
Polyclonal concept of hypersensitivity and autoimmunity

Chart

Unit-III
General methods of laboratory diagnosis

Practical

Unit-IV
Test for antimicrobial susceptibility

Textbook

Unit-V
fungal diseases - Candidiasis

Semester - VI

Food and industrial microbiology

Unit - I

food intoxication (botulism)

Internet

Unit - II

fermented dairy foods - cheese and yogurt

chart

Unit - III

Isolation and screening and Strain Improvement of industrially - important

Textbook

Unit - IV

Basic concepts of Design of fermenter

Model

Unit - V

What are microbial production of citric acid

Practical

Semester VI

cluster 1:- Industrial microbiology

Unit-1:

Industrially Important metabolites from microbes

Internet

Unit-II

Types of formenter - batch, continuous and fed batch

Model

Unit-III

Roles of microorganisms in bioleaching and textile Industry

Practical

Unit- IV

Production media, components of media chemical composition of media

Homework

cluster - II Food microbiology

Unit - I
food boorne diseases

Textbook

Unit - II
General account of food peservation

Internet

Unit - III
mechanism of acidic fermentation, commercial vinegar production processing

Practical

Unit - IV
Radiation - UV light y- irradiation

Innovative

Unit - V
common properties of Probiotics and Explain the vitamin B12

Practical

Cluster - III management of human microbial diseases.

Unit - I

Definition and concept of health, disease, infection and pathogen

Internet

Unit - II

Biological warfare and Biological weapons

Textbook

Unit - III

Pathogenesis diagnosis, drug and inhibitors

Homework

Unit - IV

avoidance of host defense mechanisms

Innovative

Unit - V

Epidemiological investigation to identify a disease

Homework