

**BACHELOR OF DENTAL SURGERY-II YEAR****MICROBIOLOGY****TEACHING HOURS: 115 Hrs.****THEORY: 65****PRACTICAL: 50****I. Objectives:**

At the end of the Microbiology course the student is expected to :

1. Understand the basics of various branches of microbiology and able to apply the knowledge relevantly.
2. Apply the knowledge gained in related medical subjects like General Medicine and General Surgery and Dental subjects like oral Pathology, Community Dentistry, Periodontics, Oral Surgery, Pedodontics, Conservative Dentistry and Oral Medicine in higher classes.
3. Understand and practice various methods of Sterilisation and disinfection in dental clinics
4. Have a sound understanding of various infectious diseases and lesions in the oral cavity.

**A. GENERAL MICROBIOLOGY:**

1. History, Introduction, Scope, Aims and Objectives.
2. Morphology and Physiology of bacteria.
3. Detail account of Sterilisation and Disinfection.
4. Brief account of Culture media and Culture techniques.
5. Basic knowledge of selection, collection, transport, processing of clinical specimens and identification of bacteria.
6. Bacterial Genetics and Drug Resistance in bacteria.

**B. IMMUNOLOGY:**

1. Infection - Definition, Classification, Source, Mode of transmission and types of Infectious disease.
2. Immunity
3. Structure and functions of Immune system.
4. The Complement System.
5. Antigen.
6. Immunoglobulins - Antibodies - General structure and the role played in defense mechanism of the body.
7. Immune response
8. Antigen - Antibody reactions - with reference to clinical utility.
9. Immuno deficiency disorders - a brief knowledge of various types of immuno deficiency disorders - A sound knowledge of immuno deficiency disorders relevant to dentistry.
10. Hypersensitivity reactions
11. Autoimmune disorders - Basic knowledge of various types - sound knowledge of autoimmune disorders of oral cavity and related structures.
12. Immunology of Transplantation and Malignancy
13. Immunehaematology

**C. SYSTEMIC BACTERIOLOGY:**

1. Pyogenic cocci - Staphylococcus, Streptococcus, Pneumococcus, Gonococcus, Meningococcus - brief account of each coccus - detailed account of mode of spread, laboratory diagnosis, Chemo therapy and prevention - Detailed account of Cariogenic Streptococci.
2. Corynebacterium diphtheriae - mode of spread, important clinical feature, Laboratory diagnosis, Chemotherapy and Active immunisation.
3. Mycobacteria - Tuberculosis and Leprosy.
4. Clostridium - Gas gangrene, food poisoning and tetanus.
5. Non-sporing Anaerobes - in brief about classification and morphology, in detail about dental pathogens - mechanism of disease production and prevention.
6. Spirochaetes - Treponema pallidum - detailed account of Oral Lesions of syphilis, Borrelia vincentii.
7. Actinomycetes.

Dean  
Faculty of Dental Sciences  
SGT University  
Budhera Gurgaon

**D. VIROLOGY:**

1. Introduction
2. General properties, cultivation, host - virus interaction with special reference to Interferon.
3. Brief account of Laboratory diagnosis, Chemotherapy and immuno prophylaxis in general.
4. A few viruses of relevance to dentistry.
  - Herpes Virus
  - Hepatitis B Virus - brief about other types
  - Human Immunodeficiency Virus (HIV)
  - Mumps Virus
  - Brief - Measles and Rubella Virus
5. Bacteriophage - structure and Significance

**E. MYCOLOGY**

1. Brief Introduction
2. Candidosis - in detail
3. Briefly on oral lesions of systemic mycoses.

**F. PARASITOLOGY:**

1. Brief introduction - protozoans and helminths
2. Brief knowledge about the mode of transmission and prevention of commonly seen parasitic infection in the region.

**Text Books**

1. Text Book of Microbiology-R. Ananthanarayan & C.K. Jayaram Paniker.
2. Medical Microbiology-David Greenwood etal.