

2.1.1.d: SYLLABUS (Including Teaching Hours.)

MUST KNOW 50 HRS

1. Introduction to Pathology
 - Different sections in pathology
 - The Cell in health
 - Normal cell structure
 - The Cellular functions

2. Definitions & causes of diseases
 - Aetiology & Pathogenesis of diseases.
 - Congenital /Acquired diseases
 - Morphological changes
 - Functional derangements & clinical manifestation.
 - Cellular response to stress & noxious stimuli

3. Mode of cell Injury
 - Different agents causing cell injury
 - Hypoxic /Chemical /physical injury.
 - Mechanism of reversible injury.
 - Mechanism of irreversible injury.

- 4 Cellular adaptations & intracellular accumulations
 - Reversible cell injury (Degeneration)
 - Fatty Change
 - Cloudy change
 - Hyaline change

5. Disturbances of pigment & mineral metabolism
 - Exogenous /Endogenous pigments
 - Dystrophic /metastatic calcification mecha., Causes etc.

6. Acute inflammation I
 - Definition
 - Types
 - Causes, Historical aspects
 - Cellular events
 - Vascular events.

7. Acute inflammation II
 - Chemical mediators
 - Fate of inflammation

8. Chronic inflammation
 - Definition
 - Causes
 - Granulomatous inflammation .

9. Repair I

- Repair
- Regeneration
- Healing by primary intension
- Healing by secondary intension

10. Repair II

- Types of fracture
- Healing of a fracture
- factors affecting wound healing.
- complications of healing.

11. Necrosis / Gangrene

- Def., Causes
- Types of necrosis
- Features of necrosis
- Gangrene – Definition Dry/wet/gas

12. Thrombosis

- Normal homeostasis
- Definition of thrombus
- Path physiology, Complications
- Fate

13. Embolism.

- Definition
- Types
- Effects

14. Infarction

- Definition
- Aetiology, Types
- Changes in different organs.

15. Derangements of body fluids.

- Oedema – Pathogenesis.
- Different Types
- Clinical manifestations.

16. Disorders of circulation.

- Hyperemia – Definition, Types, Causes.
- Chronic Passive Venous Congestion of different Organs
- Shock - Different type , Pathogenesis

17. Amyloidosis.

- Chemical nature
- Physical nature
- Diagnosis
- Special stains.

18. Hypersensitivity reaction /Transplant Rejection
 - Humoral & cellular immunity
 - Mechanism of hypersensitivity reactions Type I-IV

19. Leprosy
 - Epidemiology
 - Pathology
 - Types
 - Diagnosis

20. Syphilis.
 - Epidemiology
 - Types /Stages
 - Pathological features
 - Diagnosis

21. Tuberculosis I
 - Epidemiology, Pathogenesis.
 - BCG vaccine /Tuberculin Test
 - Lesions of primary TB .

22. Tuberculosis II
 - Secondary TB Lesions
 - Complications
 - Diagnosis
 - Extra pulmonary TB

23. Fungal Diseases
 - Etiological agents
 - Types of lesions
 - Morphology
 - Diagnosis

24. Adaptive Disorders
 - Atrophy
 - Hypertrophy / Hyperplasia
 - Metaplasia / Dysplasia.

25. Neoplasia – Nomenclature
 - Definition
 - Terminology
 - Classification
 - Difference between benign & malignant tumors

26. Neoplasia - Carcinogenesis
 - Epidemiology
 - incidence
 - Geographic & environmental factors

27. Neoplasia -Carcinogenesis
 - Different Carcinogenic agents

- Chemical Carcinogenesis
- Radiation Carcinogenesis
- Microbial Carcinogenesis

28. Neoplasia – Staging & Spread .
 - Mechanism of invasion & metastasis.
 - Grading & staging of tumors
29. Lab diagnosis of cancer
 - Histologic & Cytologic methods
 - IHC
 - Molecular diagnosis
 - Tumors markers
30. Tumors of oral cavity & skin
 - Pigmented & non pigmented tumors of skin
 - Precancerous lesions of oral cavity
 - Squamous cell carcinoma
 - Basal Cell carcinoma
 - Malignant melanoma .
31. Diseases of salivary glands
 - Normal structure
 - Sialadenitis
 - Mikulicz disease
 - Tumors of salivary gland
32. Diabetes Mellitus
 - Definition
 - Classification
 - Pathogenesis
 - Clinical features
 - Diagnosis
 - GTT
33. Atherosclerosis
 - Definition
 - Pathogenesis
 - Complications
34. Other Diseases of oral cavity
 - Lichen Planus
 - Leukoplakia
 - Dental caries
 - Dentigerous Cyst
35. Common Diseases of bone
 - Osteomyelitis
 - Metabolic bone diseases
 - Tumors of jaw

36. Diseases of CVS

- Cardiac Failure
- IHD
- Endocarditis etc.

37. Hypertension

- Definition, classification

38. AIDS

DESIRABLE TO KNOW

Genetic basis of diseases
Patterns of inflammation
Cell cycle
Chemical Mediators Responsible for repair
Apoptosis
Morphologic changes in disorders of circulation
Morphology of Organs in amyloidosis
Mechanism of transplant rejection
Molecular basis of cancer
Paraneoplastic syndromes
Recent Advances In Diagnosis
Pathology of different organs in diabetes mellitus
Congenital Heart Diseases
Effects on various organs in hypertension

Hematology

MUST KNOW 15HRS

1. Introduction to hematology & haemopoiesis .
 - Normal development of blood cells.
 - Origin & differentiation of haemopoietic cells
 - General aspects of bld. Disorders
 - Blood Indices .
2. Classification & general features of anaemia
 - Etiological /Pathophysiological Classification
 - Morphological classification
 - General features of anemia
3. Microcytic anaemias
 - Iron deficiency anemia
 - Iron metabolism
 - Morphology
 - Lab. Diagnosis
 - Differential diagnosis.
4. Macrocytic Anaemias
 - Causes of Macrocytosis
 - Megaloblastic anemia
 - B12 deficiency

- folate deficiency
- Morphology PBS, B.M.
- Lab. Diagnosis.

5. Hemolytic anemia

- Features .classification
- Intravascular & extra vascular haemolysis
- signs of haemolysis .
- Acute Leukemia I
- Definition
- Aetiopathogenesis.
- Classification
- Acute Myeloid Leukemia

6. AC. Leukemia II

Acute Lymphocytic Leukemia
Clinical Features & Lab diagnosis of Ac. Leukemia

7. Chronic Leukemia.

- Classification
- Aetiopathogenesis
- Morphology, Chronic Myeloid & Lymphoid Leukaemias
- Lab. Diagnosis.

8. Other WBC & RBC disorders

- Leukocytosis
- Leukaemoid reaction
- Leucopenia
- Polycythemia

9. Hemorrhagic Disorder I

- Coagulation cascade
- Classification of bleeding disorders.
- Disorder related to thrombocytopenia, defective platelet function.

10. Hemorrhagic Disorder II

- Related to clotting factor abnormality.
- Hemophilia A,B .
- vW Disease.
- DIC
- Lab diagnosis

11. Blood groups

- Historical aspects
- Classification
- Importance

12. Blood transfusion

- Selection of donor
- Different blood group system

- Blood components
- Cross matching
- Transfusion reactions

II) DESIRABLE TO KNOW 05 HRS

- Sickle cell anemia
- Thalassemia
- Diagnosis
- Diseases Transmitted during blood transfusion

GENERAL MICROBIOLOGY

MUST KNOW 55 HRS

General Microbiology 08 HRS

1. Introduction, History, Scope, Aim & objective
2. Morphology and Physiology of Bacteria
3. Sterilization and Disinfection
4. Culture media and culture techniques
5. Normal microbial flora of oral cavity
6. Oral microbiology and dental plaque and dental Caries

Immunology 11 HRS

1. Infection
2. Immunity
3. Antigen
4. Antibodies
5. Antigen – Antibody reactions & Immunodeficiency disorder
6. Hypersensitivity reactions + autoimmune disorders

Systematic Bacteriology 19 HRS

1. Staphylococcus
2. Streptococcus, Cariogenic Streptococci
3. Pneumococcus
4. Neisseria : Meningococcus (mainly)
5. Corynbacterium diptheriae
- 6.Mycobacterium Tuberculosis
7. M. Leprae & Atypical mycobacteria
8. Clostridium perfringens
- 9-Clostridium tetani
10. Non – sporing anaerobes
11. Spirochaetes
12. Noscomial infection

Virology 10HRS

1. Introduction & General Properties of viruses
2. A few viruses of relevance to dentistry
 - Herpes virus
 - Hepatitis B viruses including HCV , HDV
 - Human Immunodeficiency Virus (HIV)
 - Mumps Virus , Measles & Rubella Virus

Mycology 04 HRS

1. Introduction
2. Candidiasis
3. Briefly on oral lesions of Systemic Mycoses
4. Cryptococcus & Histoplasma

Parasitology 03 HRS

1. Introduction
 2. Mode of transmission and prevention of commonly seen parasitic infection:
 - Amoebae, leishmania
 - Protozoa
- E. histolytica ,Malaria, Helminths
Round worm , Hook Worm , Tape worm

DESIRABLE TO KNOW 10 HRS

Bacterial genetics and drug resistance in bacteria
Structure and functions of Immune system
Complement system
Immune response
Enterobacteriaceae- 1 , 2 & 3
Vibrio cholera
Actinomycetes
Biosafety & Biomedical waste management
Cultivation
Host -virus interaction
Brief account of laboratory diagnosis & immune prophylaxis in general populations.
Protozoa, Giardia, Trichomonas, Helminths, W. bancrofti

2.1.4 EXAMINATION PATTERN

General Pathology

Name of the exercise	Time Allotted	Marks Allotted
Spot Identification.	10 Mins.	10
Table Work- Clinical Pathology/ Haematology	1 hour	20
Histopathology Slides.	30 Mins.	10
Journal	N.A	10

General Microbiology

Name of the exercise	Time Allotted	Marks Allotted
Spot Identification	10 Mins.	10

Staining	1 hour	20
Journal	N.A	10