SYLLABUS OF PART – I

SUBJECT: ORAL MEDICINE AND RADIOLOGY

Applied Anatomy

1. Gross Anatomy of the face

- Muscles of Mastication
- Facial nerve/artery/vein
- Parotid Gland and its relations
- Tongue
- TMJ and Infra Temporal fossa
- Vestibule and oral cavity
- Palate- Soft and hard

2. Neck Region

- Facial Spaces
- Lymphatic system

3. Cranial Nerve- V, VII, IX, XI, XII

4. Nasal Cavity

- Nasal Septum
- Lateral Wall
- Paranasal sinuses

5. Jaw Bones (Maxilla and Mandible)

- Development
- Anatomy
- Ossification
- Age Changes

6. Embryology

a. Development of;

- face
- tongue
- Palate
- Salivary glands

- Maxillary Sinus

b. Congenital anomalies

7. Tooth

- Development
- Anatomy
- Age changes

8. Histology

- Epithelium of Oral cavity and respiratory tract
- Connective tissue
- Muscular tissue
- Nervous tissue
- Blood vessels
- Cartilage
- Bone
- Tooth
- Tongue
- Salivary Gland
- Tonsil
- Lymph nodes

Physiology and Biochemistry

A. Physiology

1. General Physiology

- Cell
- Cellular transport

2. Muscle nerve Physiology

- Structure of neuron and properties of nerve fibres
- Structure of muscle fibres and properties of muscle fibres
- Neuromuscular transmission
- Mechanism of muscle contraction

3. Blood

- RBC and HB
- WBC- structure and functions
- Platelets- functions and applied aspects
- Plasma proteins
- Blood coagulation with applied aspects

- Blood Groups
- Lymph and applied aspects

4. Respiratory System

- Respiratory rate
- Hypoxia; effects of increased and decreased barometric pressure

5. Cardio-Vascular System

- Regulation of blood pressure
- Shock, hypertension, cardiac failure

6. Excretory System

- Renal Function tests

7. Gastro-Intestinal Tract

a. Composition, function and regulation of;

- Saliva
- Gastric juice

b. Mastication and deglutition

8. Endocrine System

a. Hormones- classification and mechanism of action and applied aspects

9. Central Nervous System

a. Ascending tracts with special reference to pain pathway

10. Special Senses

a. Gustation and Olfaction

B. Biochemistry

- **Metabolism of;**

  a. Carbohydrates

  b. Lipids

  c. Proteins

  d. Minerals

- **Energy Metabolism**

  a. Basic Metabolic Rate

- **Vitamins**

  a. Classification, source, metabolism and deficiencies

Pathology

- **Inflammation (Acute/Chronic)**
    - Repair and regeneration, necrosis and gangrene
    - Role of complement system in inflammation
    - Role of arachidonic acid and its metabolites in inflammation
    - Role of NASAIDS in inflammation
    - Cellular changes in radiation injury and its manifestations

- **Homeostasis**
    - Role of endothelium in thrombo-genesis
    - Arterial and venous thrombi
    - Disseminated intra vascular coagulation
    - AV malformation

- **Shock**

  a. Pathogenies and clinical presentation of;
    - Hemorrhagic shock
    - Neurogenic shock
    - Septic shock
    - Cardiogenic shock
    - Circulatory shock

  b. Edema

  c. Infarction

- **Hypersensitivity**

  a. Anaphylaxis

  b. Type II Hypersensitivity

  c. Type III Hypersensitivity

  d. Cell mediated reaction and its clinical importance (e.g. SLE/Infection/Infective granulomas)

- **Neoplasia**

  a. Classification of tumours

  b. Carcinogenesis and carcinogens; Chemical, Viral, Microbial

c. Grading and staging of cancers

d. Spread of tumours

e. Characteristics of benign and malignant tumours

Applied Immunology

- Antigen
- Antibody
- Heptane's
- Complement
- Types of reaction
- Cellular Vs humoral
- Complication
- Management of Immune deficiency patients

Applied Common Investigations

- CBC
- Coagulation Profile
- Biochemical
- KFT
- LFT

Microbiology

Oral Microbial Flora

- Commensal flora
- Conditions causing alterations in flora

Sterilization and Asepsis

- Aseptic care
- Physical and chemical methods of sterilization
- Antiseptics
- Handling of sterile material

Pharmacology

1. Definition and terminology
2. Mechanism, action and dosage of;
    - Antibiotics

- Analgesics
- Steroids
- Anti-histaminic
- Anti-coagulants
- Sedatives and tranquilizers
- Hematinics
- Desensitizers
- Sialagogues and anti-sialagogues

3. Drug tolerance, interaction and hypersensitivity reaction

Research Methodology and Biostatistics

Research Methodology

1. Introduction and purpose of research
2. Types of research
    a. Selection of subject
3. Scientific methods (Standardization)
4. Ideal requirements
5. Preparing the protocol
6. Sampling
    a. Sampling methods
    b. Sample size
7. Data
    a. Type of data
    b. Collection of data
    c. Presentation of data
8. Documentation and Writing the report
9. Good clinical practices and ethics

Biostatistics

- Introduction
- Applications
- Statistical averages
- Measures of Dispersion
- Distribution/Normal curve
- Tests of Significance
- Correlation and Interpretation