

All the first year MDS students of all departments will be having theory classes of Biochemistry from June to September of every year

## **ORAL PATHOLOGY & ORAL MICROBIOLOGY**

### ***BIOCHEMISTRY***

- Chemistry of carbohydrates, lipids and proteins.
- Methods of identification and purification.
- Metabolism of carbohydrates, lipids and proteins.
- Biological oxidation.
- Various techniques – cell fractionation, ultra filtration, centrifugation, electrophoresis,
- spectrophotometry and radioactive techniques.

## **Periodontology**

### **BIOCHEMISTRY**

- Basics of carbohydrates, lipids, proteins, vitamins, proteins, enzymes and minerals
- Diet, nutrition and periodontium
- Biochemical tests and their significance
- Calcium and phosphorus

# ORAL MEDICINE AND RADIOLOGY

## **BIOCHEMISTRY**

- Carbohydrates and metabolism.
- Blood sugar and glycogen regulation.
- Proteins.
- Metabolism of proteins .
- Amino acids and inborn errors of amino acids.
- Urea cycle.
- Nucleic acids.
- Structure of DNA/RNA.
- Steps of protein synthesis and regulation of gene function.
- Fats.
- Metabolism of fat.
- Synthesis and products formed from cholesterol.
- Minerals .
- Ca / P metabolism and regulation of calcium levels.
- Iron metabolism, iodine metabolism and trace elements in nutrition.
- Energy metabolism.
- BMR.
- Enzymes and metabolic regulation.
- Vitamins.

## **PUBLIC HEALTH DENTISTRY**

### **APPLIED PHYSIOLOGY AND BIOCHEMISTRY**

- Cell
- Mastication and deglutition
- Food and nutrition
- Metabolism of carbohydrates, proteins and fats
- Vitamins and minerals
- Fluid and electrolyte balance
- Pain pathway and mechanism – types, properties
- Blood composition and functions, clotting mechanism and erythropoiesis,
- Blood groups and transfusions, Pulse and blood pressure.
- Dynamics of blood flow
- Cardiovascular homeostasis – hearth sounds
- Respiratory system: Normal physiology and variations in health and diseases, asphyxia and artificial respiration
- Endocrinology: thyroid, parathyroid, adrenals, pituitary, sex hormones and pregnancy, endocrine regulation of blood sugar

## **ORAL AND MAXILLOFACIAL SURGERY**

### **BIOCHEMISTRY**

- General principles governing the various biological activities of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc.
- General composition of the body
- Intermediary metabolism
- Carbohydrates, proteins, lipids, and their metabolism
- Nucleoproteins, nucleic acid, nucleotides and their metabolism
- Enzymes, vitamins and minerals
- Hormones
- Body and other fluids
- Metabolism of inorganic elements
- Detoxification in the body
- Antimetabolites

## **PROSTHODONTICS AND CROWN & BRIDGE**

### **APPLIED BIOCHEMISTRY**

General principles governing the various biological activities of the body, such as osmotic pressure, electrolytic dissociation, oxidation-reduction, etc. intermediary metabolism, carbohydrates, proteins, lipids and their metabolism, enzymes, vitamins, and minerals, hormones, blood and other

body fluids, metabolism of inorganic elements, detoxication in the body, antimetabolites.