



SYLLABUS
For
1st Semester
(First Professional) BDS



SUBJECT: SCIENCE OF DENTAL MATERIALS
SEMESTER: FIRST

CHAPTERS: INTRODUCTION OF DENTAL MATERIALS, STRUCTURE OF ORAL CAVITY AND TEETH, PROPERTIES OF DENTAL MATERIALS

LEC. #	TOPICS
	MODULE – I
1	INTRODUCTORY CLASS
2	INTRODUCTORY CLASS
3	Introduction of Dental Materials, Structure present in Oral Cavity
4	Enamel and Dentine: Introduction, structure of teeth
5	Enamel and Dentine: chemical composition, effects of chemicals
6	Biological Properties: requirements, classification, examples of hazards, physical factors affecting pulpal health, micro leakage, toxic effects of materials
7	Physical Properties: stress & strain, Poisson's ratio, proportional limit, elastic limit, yield strength
8	Mechanical Properties: modulus of elasticity, flexibility, resilience, impact strength, permanent deformation.
9	Thermal Properties: Thermal conductivity, Thermal diffusivity, thermal expansion
10	Mechanical Properties: strength, fatigue, toughness, ductility & malleability, hardness, abrasion resistance, relaxation
	Module-I Test

CHAPTERS: DENTAL CEMENTS FOR LINING, BASE & LUTING

LEC. #	TOPICS
	MODULE – II
11	Cements and filling materials: classification, application and requirements
12	Cavity Liners: Introduction and Properties, Available materials and Uses
13	Cavity Bases: Introduction and Properties, Available materials and Uses
14	Zinc Phosphate Cement: composition, manipulation, setting reaction and setting time and properties
15	Copper Cement: composition, manipulation, setting reaction and setting time and properties
16	Silicate Cement: composition, manipulation, setting reaction and setting time and properties
17	Calcium Hydroxide Cement: composition, manipulation, setting reaction and setting time and properties
18	Zinc Polycarboxylate Cement: composition, manipulation, setting reaction and setting time and properties
19	Zinc Oxide Eugenol: composition, manipulation, setting reaction and setting time and properties
20	Dental Varnishes, Endodontic Materials
	Module-II Test



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CHAPTERS: GLASS IONOMER CEMENTS, RHEOLOGICAL & OPTICAL PROPERTIES AND ADHESION

LEC. #	TOPICS
	MODULE – III
21	Glass Ionomer Cement: composition, manipulation, setting reaction and setting time and properties
22	Glass Ionomer Cement(CONTINUED): composition, classification, uses, manipulation, setting reaction and setting time and properties
23	Glass Ionomer Cement (CONTINUED)
24	Rheological Properties: viscosity, creep, flow, shear stress and shear strain rate
25	Optical Properties: Light Color and Aesthetics: color, measurement of color, metamerism, clinical consideration
26	Adhesion: Adhesion Process, Adhesion and Cohesion,
27	Adhesion: Surface tension & wettability, Failure of Adhesion
28	Adhesion: Acid Etchant, Methods of Adhesion
	Module-III Test

CHAPTERS: DENTAL COMPOSITES AND DENTAL AMALGAM

LEC. #	TOPICS
	MODULE – IV
29	Composites: Introduction, Composition and Types
30	Composites: Classification and Clinical Considerations
31	Composites: Properties and Clinical applications
32	Amalgam: Introduction, Composition, Classification
33	Amalgam: manipulation, trituration and condensation
34	Amalgam: Setting Reaction and structure
35	Amalgam: properties, Advantages and Disadvantages
	Module-IV Test

SUBJECT: SCIENCE OF DENTAL MATERIALS (PRACTICALS-IN GROUPS)

DAYS: Monday (08:00 TO 10:00 AM) & Tuesday (10:00 to 12:00 NOON)	
PRAC.	TOPICS
1	Identification and manipulation of all dental materials & Plaster Slab
2	Partial Denture
3	Wire Bending



SUBJECT: ANATOMY
SEMESTER: FIRST

A) GROSS ANATOMY

LEC. #	TOPICS
	UNIT - I
	GENERAL ANATOMY
1	General Introduction - Division of anatomy
2	Normal anatomical - Position, Planes of Body
3	Nomenclature - Terms of position
4	Terms of movements
5	Skin, Fascia, ligaments, bursae, Synovial sheath, Mucous and serous membranes
6	MUSCLES: Skeletal muscles
7	MUSCLES: Smooth and Cardiac muscles
8	SKELETON
9	BONES + CARTILAGE
10	JOINTS: Classification, Characteristics of synovial joints
11	JOINTS: Position of the joints
12	Blood Vessels – Arteries
13	Blood Vessels – Veins
14	Lymphatic system
15	Nervous system
16	Nervous system
17	Nervous system
18	Nervous system
	GROSS ANATOMY
	HEAD AND NECK
19	Cervical vertebrae
20	Scalp
21	SKULL: Norma occipitalis and verticalis
22	SKULL: Norma Frontalis
23	Cutaneous supply of face
24	Blood supply of face
25	Muscles of face I
26	Muscles of face II
27	Deep cervical fascia
	SIDE OF THE NECK
28	Posterior triangle of neck I
29	Posterior triangle of neck II
30	Muscles of back - Suboccipital triangle
31	Respiratory System I
32	Respiratory System II
	AFTER EIGHT WEEKS THERE WILL BE UNIT-I TEST
	UNIT - II
	GROSS ANATOMY
33	Vault of Skull
34	Cranial Cavity I
35	Cranial Cavity II
36	Cranial Cavity III
37	Meninges I
38	Meninges II



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39	Dural venous sinuses I
40	Dural venous sinuses II
41	Anterior triangle of neck I
42	Anterior triangle of neck II
43	Thyroid Gland
44	Infrahyoid muscles
45	Trachea and esophagus
46	Subclavian artery
47	Thoracic duct
48	Veins of the neck
49	Cranial nerves in neck I
50	Cranial nerves in neck II
51	Arteries of the neck I
52	Arteries of the neck II
53	Sympathetic chain I
54	Sympathetic chain II
55	Lymphatic of the neck I
56	Lymphatic of the neck II
57	Scalene Muscles
58	Cervical plexus
	PREVERTEBRAL REGION
59	Muscles
60	Vertebral artery
61	Cardiovascular system I
62	Cardiovascular system II
63	Models and specimens
64	Surface marking
	AFTER EIGHT WEEKS THERE WILL BE UNIT-II TEST

B) EMBRYOLOGY

LEC. #	TOPICS
	UNIT - I
65	Introduction to embryology
66	Gametogenesis: Primordial germ cells, Mitosis, Meiosis Cross over, polar bodies
67	Morphological changes during maturation of the gametes: Oogenesis
68	Spermatogenesis, Spermiogenesis, Abnormal gametes
69	First week of development: Ovarian Cycle, Ovulation, Clinical Correlates
70	Fertilization, Clinical Correlates Contraceptive methods, Infertility
71	Cleavage, Blastocyst formation, Clinical Correlates
72	Third week of development: Trilaminar germ disc, Gastrulation, Clinical Correlates
	AFTER EIGHT WEEKS THERE WILL BE UNIT-I TEST
	UNIT - II
73	Third to Eighth weeks Embryonic Period Derivatives of the ectodermal germ layer Neurulation, Neural crest derivatives
74	Derivatives of the mesodermal germ layer, Paraxial mesoderm, Intermediate mesoderm
75	Lateral plate mesoderm, Blood and blood vessels, Clinical Correlates
76	Derivatives of the endodermal germ layer, Clinical Correlates, Birth defects
77	Third Month to Birth: The Fetus and placenta Fetal period: Development of the fetus -Clinical correlates
78	Fetal membranes and placenta: Decidua, Changes in Trophoblastic, Chorion frondosum



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79	Structure of the placenta, Circulation and Functions of placenta, Clinical correlates
80	Fetal membranes in twins, Clinical correlates
	AFTER EIGHT WEEKS THERE WILL BE UNIT-II TEST

C) HISTOLOGY (PRACTICAL)

Practical #	TOPICS
	UNIT - I
1	Introduction to Histology
2	Cell – Introduction, Cell Membrane
3	Cell organelles and inclusions
4	Cell Nucleus
5	Cell Division
6	Microscope
7	How to prepare a slide
8	Artifacts
	AFTER EIGHT WEEKS THERE WILL BE UNIT-I TEST
	UNIT - II
9	Introduction of Epithelium
10	Simple Epithelium
11	Stratified Epithelium
12	Connective Tissue – Introduction, Embryonic tissue
13	Connective Tissue - Loose CT, Dense CT, Adipose tissue
14	Cartilage
15	Bone
16	Muscle
	AFTER EIGHT WEEKS THERE WILL BE UNIT-II TEST



SUBJECT: BIO-CHEMISTRY
SEMESTER: FIRST

CHAPTER: CELL AND BIOPHYSICS AND BODY FLUIDS

LEC. #	TOPICS
1	Chemical composition of cell
2	Subcellular organelles and cell structures
3	Impotence of water
4	Biochemical composition of Nutrients
5	Ionization of water, weak acids, bases
6	Chemical Properties of water
7	Dissociation constant and titration curve of weak acids, the concept of pk value
8	pH, pH metry, and Indicators
9	Buffers and their mechanism of action, Henderson-Hasselbach equation
10	Types of particles, solutions, separation of colloidal particles, Adsorption
11	Impotence of selective permeable membrane, Osmosis
12	Biochemistry of membrane transport, mechanism of active transport.
13	Passive transport. Simple & facilitated diffusion
14	Structure and function of lipid bilayer

CHAPTER: CHEMISTRY OF CARBOHYDRATES

LEC. #	TOPICS
15	Introduction biochemical functions and classification
16	Structure and functions of monosaccharide's and their derivatives
17	Structure and functions of monosaccharide's and their derivatives
18	Isomerism
19	Isomerism
20	Chemical properties and reaction of monosaccharide's and sugar
21	Chemical properties and reaction of monosaccharide's and sugar
22	Disaccharides, their important examples and biochemical functions Oligosaccharides, their combination with other macromolecules and their functions and medical importance
23	Polysaccharides; Homopolysaccharides
24	Heteropolysaccharides.
25	Glycosaminoglycan and proteoglycans

CHAPTER: CHEMISTRY OF PROTEINS

LEC. #	TOPICS
26	Introduction to Proteins (Overview ; Definition ; Importance)
27	Amino Acids (Chemistry ; Classification ; Isomers ; Significance)
28	Classification of Proteins (Simple Proteins)
29	Classification of Proteins (Compound Proteins)
30	Classification of Proteins (Derived Proteins)
31	Structural Organization of Proteins
32	Properties of Proteins
33	Functions of Proteins
34	Plasma Proteins (Chemistry and Functions)
35	Plasma Proteins (Chemistry and Functions)
36	Immunoglobulin (Chemistry and Functions)



CHAPTER: NUCLEOTIDES AND NUCLEIC ACIDS

LEC. #	TOPICS
37	Chemistry and structure of nucleosides and nucleotides and their biochemical role
38	Derivatives of nucleotides
39	Role of nucleic acid in genetics
40	Structure and types of DNA and distribution of genes
41	Structure, types, and function of RNA
42	Structure, types, and function of RNA

CHAPTER: PORPHYRINS AND HEMOGLOBINS

LEC. #	TOPICS
43	Normal hemoglobin its structure, functions and types
44	Abnormal hemoglobins and their biochemical causes
45	Chemistry and synthesis of porphyrins and its disorders (porphyries)
46	Oxygen binding capacity of hemoglobin, Factors affecting and regulating the oxygen binding capacity of hemoglobin
47	Degradation of heme, Formation Bile Pigments, Types transport & excretion of Bile Pigments
48	Hyper bilirubin emia (Jaundice)

Subject: BIOCHEMISTRY (PRACTICALS-IN GROUPS)

DAYS: Monday (Group-B) and Thursday (Group-A) TIME: 10:00AM To 12:00 Noon					
GROUP	TEACHER	DAY	GROUP	TEACHER	DAY
A	Dr.	Thursday	B	Dr	Monday
PRAC. #	TOPICS				
1	General Introduction of Biochemistry and how to use Laboratory wares				
2	Names of chemicals and reagents				
3	Study & preparation of solution and reagents				
4	Introduction of Carbohydrates				
5	Detection of unknown Carbohydrates (Molisch's test, Iodine test, Benedict's test)				
6	Detection of unknown Carbohydrates (Saliwanoff's test, Barfoed's test, Osazone test)				
7	Practical Test of Carbohydrates				
8	Introduction of Proteins				
9	General test of Protein				
10	Precipitation test of Protein				
11	Separation test of Protein				
12	Practical Test of Protein				
13	Tutorial classes/ General discussion from the practical's covered; Carbohydrate & Proteins				
14	Completion of Journals				
15	Practical Test of whole Practical's				
16	Getting it signed by the concerned teacher				



SUBJECT: PHYSIOLOGY
SEMESTER: FIRST

CHAPTER: CELL

TEACHER: DR.ABDULLAH ABBASI, DR. KEENJHAR, DR. UROOJ, DR.HINA

LEC. #	TOPICS
1	Homeostasis
2	Cell Membrane
3	Cytoplasm and its organelles
4	Cytoplasm and its organelles
5	Nucleus and its functions
6	Transport through cell membrane Active & Passive transport
7	Transport through cell membrane Active & Passive transport
8	Membrane potential & action potential
9	General feature of muscles Smooth muscles & Cardiac muscles
10	Skeletal muscles
11	Skeletal muscles

CHAPTER: BLOOD

LEC. #	TOPICS
12	Introduction. Composition and function of blood
13	Red blood cells Erythropoiesis
14	Hemoglobin its synthesis and functions
15	Anemias and polycythemia
16	White blood cells, Genesis and functions
17	Immunity Innate immunity
18	Acquired immunity Immunization
19	Blood Groups, Transfusion and organ transplantation
20	Hemostasis and coagulation role of platelets
21	Hemostasis and coagulation role of platelets

CHAPTER: RESPIRATION

LEC. #	TOPICS
22	Pulmonary ventilation
23	Mechanics of respiration
24	Pulmonary Volumes and capacities
25	Compliance, Alveolar ventilation and dead space.
26	Physical principles of gaseous exchange Diffusion of Gases through respiratory membrane
27	Transport of gases in blood (O ₂ & CO ₂)
28	Transport of gases in blood (O ₂ & CO ₂)
29	Regulation of respiration

CHAPTER: CVS-I

LEC. #	TOPICS
30	CVS overview.
31	Properties of cardiac muscle and action potential.
32	Excitatory & conductive system of heart
33	Excitatory & conductive system of heart



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34	Cardiac Cycle
35	Cardiac Cycle
36	Normal ECG & its clinical importance.

CHAPTER: CNS-I

LEC. #	TOPICS
37	Organization of nervous system.
38	Neuron Structure, types & function
39	Synapses Types & Physiology of synapses,
40	Synapses Types & Physiology of synapses
41	Sensory Receptors, properties.
42	Sensory Receptors, properties
43	Nerve fiber Classification
44	Sensory pathways (a. Dorsal Column medial lemniscal system b. Anterolateral system)

SUBJECT: PHYSIOLOGY (PRACTICALS-IN GROUPS)

DAYS: Monday (Group-A) and Thursday (Group-B) TIME: 10:00AM To 12:00 Noon	
PRAC. #	TOPICS
	BLOOD
1	Microscope
2	Introduction of blood
3	Sterilization
4	To prepare Peripheral blood smears and identifies blood cells.
5	DLC (Differential Leukocyte Count)
6	To determine Hb%
7	To determine blood group
8	To determine bleeding time
9	To determine clotting time
10	To determine Erythrocyte Sedimentation Rate (E.SR).
11	Introduction of power Lab
12	To record the simple muscle twitch (SMT)
13	Effects of the summation



TAGGED SUBJECTS

SEMESTER: FIRST

SUBJECT: BIOMEDICAL ETHICS

LEC. #	TOPICS
1	Introduction to biomedical ethics
2	Physician- Patient Relation ship
3	Confidentiality

SUBJECT: COMMUNITY DENTISTRY

LEC. #	TOPICS
1	Role of Fluoride in Dentistry

SUBJECT: INFORMATION TECHNOLOGY (IT)

LEC. #	TOPICS
1	Fundamentals / Basic concepts of IT
2	Consists of computer basics
3	Operating Systems, MS Office, Word processing, Presentation
4	Package, Fundamentals of spread sheet package



SYLLABUS
For
2nd Semester
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SUBJECT: SCIENCE OF DENTAL MATERIALS
SEMESTER: SECOND

CHAPTERS: GYPSUM, INVESTMENT MATERIALS, DENTAL CASTING, POLYMERS & SEPARATING MEDIA

LEC. #	TOPICS
	MODULE – I
1	Gypsum products: Introduction, ideal properties, types, setting reaction
2	Gypsum products: Production methods, types of crystal particles, accelerators and retarders, setting time
3	Gypsum products: Gillmor and vicat needles, factors affecting setting time, application
4	Investment Materials: requirements, types , composition of different types
5	Dental Casting: Introduction, lost wax technique
6	Dental Casting: Casting problems, advantages and disadvantages of casting
7	Polymers: introduction, types, structure and properties, reactions
8	Separating Media: Introduction, Composition, Uses
	Module-I Test

CHAPTERS: IMPRESSION MATERIALS, RIGID IMPRESSION AND ELASTIC IMPRESSION MATERIALS

LEC. #	TOPICS
	MODULE – II
9	Impression Materials: Introduction, Ideal properties and Requirements, Classification
10	Plaster of Paris and Impression waxes: Composition, Reaction with water, manipulation, advantages and disadvantages
11	Impression Compound: Introduction, composition, types, properties, manipulation
12	Zinc Oxide Eugenol Impression paste: Introduction, Composition, manipulation, setting reaction and properties
13	Classification of elastic impression materials, Alginate and Agar: composition, manipulation, setting time, advantages and disadvantages
14	Polysulfide and Poly silicones: Introduction, composition, types, advantages and disadvantages
15	Dental Waxes: Introduction, Composition, Sources and Properties
16	Dental Waxes: Different types & their applications, Denture base plate materials
	Module 2 Test

CHAPTERS: DENTURE BASE MATERIALS, DENTURE LINING MATERIALS, ARTIFICIAL TEETH, DENTAL CERAMICS

LEC. #	TOPICS
	MODULE – III
17	Denture Base Materials: Introduction, available materials, requirements and properties
18	Denture Lining Materials: Introduction, available materials, requirements and properties
19	Denture Base Materials: Acrylic base material, Composition, polymer monomer interaction and different fabrication techniques
20	Denture Lining Materials: Soft liners and tissue conditions



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21	Artificial teeth: Introduction and Requirements, Commonly used materials
22	Artificial Teeth: properties of acrylic and porcelain teeth, advantages and disadvantages
23	Ceramics: Introduction, uses, reasons for crowning, process of ceramic manufacture
24	Ceramics: Sintering, ceramic metal restoration manufacturing technique, CAD/CAM technique, glazing
25	Ceramics: different ceramic materials , types of crowns, dental crowns and bridges,
26	Ceramics: Process of manufacturing metal ceramic and all ceramic crowns and bridges
Module 3 Test	

CHAPTERS: DENTAL ALLOYS, DIRECT FILLING GOLD, WROUGHT ALLOYS, SOLDERING AND WELDING

LEC. #	TOPICS
MODULE – I V	
27	Alloys: Introduction, Solid solutions, Mechanical Properties of Alloys
28	Alloys: Gold Alloys and Stainless steel Alloys
29	Gold: Introduction and different types
30	Alloys: silver alloys, cobalt chromium alloys and different casting alloys
31	Gold: manipulation techniques and properties
32	Alloys: metal ceramic alloys
33	Gold: Clinical Considerations
34	Wrought Alloys: Introduction and Properties, Gold and base metal wrought alloys
35	Wrought Alloys: Cobalt Chromium and titanium wrought alloys.
36	Soldering and Welding: Introduction, requirements, metal joining techniques, steps in soldering preparation
37	Implant Materials
38	Abrasion & Polishing

SUBJECT: SCIENCE OF DENTAL MATERIALS (PRACTICALS-IN GROUPS)

DAYS: Monday (08:00 TO 10:00 AM) & Tuesday (10:00 to 12:00 NOON)	
PRAC.	TOPICS
1	Identification and manipulation of all dental materials & Plaster Slab
2	Clasp Making
3	Partial Denture



SUBJECT: ANATOMY
SEMESTER: SECOND

D) GROSS ANATOMY

LEC. #	TOPICS
	UNIT - I
	HEAD AND NECK
1	Bony Orbit + Lacrimal apparatus
2	Muscles of the orbit
3	Nerves of the orbit
4	Vessels of the orbit
5	SKULL: Norma lateralis
6	Mandible Bone
7	Infra Temporal fossa
8	Muscles of mastication
9	Temporo-mandibular Joint
10	Maxillary Artery
11	Maxillary nerves
12	Mandibular nerve
13	Otic + Ciliary ganglia
14	Pterygopalatine fossa
15	Pterygopalatine ganglion
16	Temporal fossa
17	Parotid gland
18	Structures in parotid gland
19	Submandibular gland
20	Suprahyoid muscles
21	Sublingual gland
22	Nerves of submandibular region
23	Genito-Urinary System I
24	Genito-Urinary System II
	AFTER EIGHT WEEKS THERE WILL BE UNIT-I TEST
	UNIT - II
25	SKULL: Norma basalis I
26	SKULL: Norma basalis II
27	Oral Cavity
28	Tongue
29	Nasal Cavity I
30	Nasal Cavity II
31	Soft palate
32	Tonsils
33	Pharyngeal plexus
34	Pharynx I
35	Pharynx II
36	Pharynx III
37	Larynx I
38	Larynx II
39	Larynx III
40	Eye Ball I
41	Eye Ball II
42	Middle Ear I
43	Middle Ear II
44	Internal Ear I



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45	Internal Ear II
46	Digestive system I
47	Digestive system II
48	Revision / AFTER EIGHT WEEKS THERE WILL BE UNIT-II TEST

E) EMBRYOLOGY (ONE LECTURE PER WEEK)

LEC. #	TOPICS
	UNIT - I
49	Development of Maxilla I
50	Development of Maxilla II
51	Development of mandible I
52	Development of mandible II
53	Clinical correlates: Maxilla + Mandible Abnormalities
54	Development of teeth: Deciduous Teeth
55	Development of teeth: Permanent Tooth
56	Clinical correlates: Tooth Abnormalities
	AFTER EIGHT WEEKS THERE WILL BE UNIT-I TEST
	UNIT - II
	Head And Neck
57	Introduction of Pharyngeal Arches
58	Derivatives of Pharyngeal Arches
59	Pharyngeal pouches
60	Pharyngeal Clefts
61	Tongue
62	Face - Inter maxillary segment
63	Palate
64	Nasal cavities
	AFTER EIGHT WEEKS THERE WILL BE UNIT-II TEST

F) HISTOLOGY (PRACTICAL)

Practical #	TOPICS
	UNIT - I
1	Nervous tissue: Introduction (Neuron)
2	Nervous tissue (Neuroglia)
3	Nerves + Ganglia
4	Spinal cord
5	Cerebellum
6	Cerebrum
7	Circulatory system I
8	Circulatory system II
	AFTER EIGHT WEEKS THERE WILL BE UNIT-I TEST
	UNIT - II
9	Oral tissue
10	Tongue
11	Salivary glands
12	Palatine Tonsil - Lymph node
13	Nasal cavity
14	Larynx
15	Pharynx
16	Thyroid and Parathyroid glands
	AFTER EIGHT WEEKS THERE WILL BE UNIT-II TEST



Subject: ANATOM (PRACTICALS-IN GROUPS)

Demonstration / Dissection Classes			
DAYS: Monday to Friday			
GROUP	TEACHER	GROUP	TEACHER
A	Dr.	B	Dr.
PRAC. #	TOPICS		
1	Bone skull		
2	Muscles of face		
3	Muscles of Back + Post Δ of neck (model)		
4	Cranial cavity		
5	Meninges		
6	Ant. Δ of neck		
7	Thyroid		
8	Root of neck		
9	Respiratory tract (model)		
10	C.V.S.		
11	Vertebral artery (model)		
ONE CLASS / WEEK FOR DISSECTION SPECIMENS AND MODELS X-RAYS			



SUBJECT: BIO-CHEMISTRY
SEMESTER: SECOND

CHAPTER: LIPIDS & BIOLOGICAL MEMBRANES

LEC. #	TOPICS
1	Introduction to Lipids (Overview ; Definition ; Importance)
2	Fatty Acids (Chemistry ; Classification ; Isomers; Significance)
3	Classification of Lipids (Simple Lipids)
4	Classification of Lipids (Compound Lipids)
5	Classification of Lipids (Derived Lipids)
6	Cholesterol (Structure and Functions)
7	Eicosanoids (Structure, Classifications, Functions)
8	Properties of Lipids
9	Functions of Lipids
10	Identification of Fats and Oils
11	Biochemistry of Cell Membrane (Structure and Function)

CHAPTER: ENZYMES

LEC. #	TOPICS
12	Introduction, mechanism of catalysis with clinical correlation
13	Chemistry and structure of enzyme
14	Mechanism of enzyme action
15	Factors affecting enzyme activity-I
16	Factors affecting enzyme activity-II
17	Classification of enzymes-I
18	Classification of enzymes-II
19	Classification of enzymes-III
20	Michaelis- Menten Equ., Lineweaver-Burk Equ. & their application in enzyme Kinetics
21	Diagnostic role of enzymes and isoenzymes-I
22	Diagnostic role of enzymes and isoenzymes-II

CHAPTER: VITAMINS

LEC. #	TOPICS
23	Introduction to Vitamins (Overview ; Definition ; Importance)
24	Classification of Vitamins: Fat-soluble Vitamins – Vitamin-A
25	Vitamin-D
26	Vitamin-E & Vitamin-K
27	Water-soluble Vitamins – Vitamin-C
28	Vitamin-B Complex-I
29	Vitamin-B Complex-II
30	Vitamin-B Complex-III
31	Vitamin-B Complex-IV

CHAPTER: MINERALS & TRACE ELEMENTS

LEC. #	TOPICS
32	Introduction to Mineral Metabolism: Classification of Minerals
33	Macromolecules (Na, K)
34	Macromolecules (Ca, PO ₄ , Cl)



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35	Microminerals (Fe, Zn)
36	Micromolecules (Cu, Mg, Se)
37	Dehydration

CHAPTER: NUTRITION

LEC. #	TOPICS
38	Caloric requirements of the body, Balance Diet
39	Basal Metabolic Rate (BMR), Respiratory Quotient (RQ)
40	Protein Energy Malnutrition, Marasmus, Kwashiorkor
41	Composition and Nutritive value of some important foods etc
42	Role of Dietary Fibers

Subject: BIOCHEMISTRY (PRACTICALS-IN GROUPS)

DAYS: Monday (Group-B) and Thursday (Group-A) TIME: 10:00AM To 12:00 Noon					
GROUP	TEACHER	DAY	GROUP	TEACHER	DAY
A	Dr.	Thursday	B	Dr.	Monday
1	Introduction of lipids; & it's application in Medicine Practical point of view				
2	Scheme to study the properties of lipids qualitatively				
3	Practical Performance of lipids				
4	Introduction of normal constituents of fasting urine				
5	Introduction of abnormal constituents of urine				
6	Scheme for the detection of normal constituents of urine (Demonstration)				
7	Practical Performance of normal constituents of urine				
8	Practical Performance of abnormal constituents of urine				
9	Introduction & composition of milk, comparison of cows milk with human milk. Scheme for the analysis of milk constituents				
10	Detection of carbohydrates and protein in the milk (Demonstration & Practical) Qualitatively				
11	Detection of lipid and minerals in the milk (Demonstration & Practical)				
12	BCQs test and practical performance test of milk				
13	BCQs test and practical performance test out of whole course of practical				
14	Revision				



SUBJECT: PHYSIOLOGY
SEMESTER: SECOND

CHAPTER: ENDOCRINOLOGY

LEC. #	TOPICS
1	Introduction of endocrinology.
2	Introduction of endocrinology.
3	Pituitary gland, anterior pituitary gland. Acromegaly, Gigantism.
4	Pituitary gland, anterior pituitary gland. Acromegaly, Gigantism.
5	Posterior Pituitary gland Diabetes inspidius.
6	Thyroid gland.
7	Hyperthyroidism, Hypothyroidism.
8	Adrenal cortex, Aldosterone.
9	Glucocorticoids.
10	Hormones of Pancreas
11	Hormones of Pancreas
12	Para thyroid hormone, Calcitonin.

CHAPTER: GIT

LEC. #	TOPICS
13	General Principles of Gastro intestinal functions.
14	General Principles of Gastro intestinal functions.
15	Motility, nervous control and blood Supply of GIT.
16	Motility, nervous control and blood Supply of GIT.
17	Propulsion and mixing of food in the alimentary tract.
18	Movement of Small and large intestine
19	Secretary functions of the alimentary tract.
20	Secretary functions of the alimentary tract.
21	Digestion and absorption in the gastro intestinal tract.
22	Physiology of Gastro intestinal Disorders.

CHAPTER: CVS-II

LEC. #	TOPICS
23	Over view of circulation (Pressure flow & Resistance)
24	Veins & their function.
25	Microcirculation & fluid exchange at capillary level
26	Cardiac output, venous return.
27	Nervous regulation of circulation (Role of sympathetic & Para sympathetic system.
28	Vasomotor center (Major areas & functions)
29	Arterial pressure & Baroreceptor reflex mechanism
30	Renin Angiotensin system
31	Reflexe Action & Reflex ARC
32	Spinal Cord reflexes
33	Motor Pathways
34	Motor Pathways
35	Function of specific cortical areas of cerebral cortex
36	Function & Disorders of cerebellum
37	Function & Disorders of Basal ganglia
38	CSF (Formation, composition, circulation reabsorption and functions)
39	Functions of Hypothalamus
40	Physiology of ANS



SUBJECT: **PHYSIOLOGY (PRACTICALS-IN GROUPS)**

DAYS: Monday (Group-A) and Thursday (Group-B) TIME:10:00AM To 12:00 Noon	
PRAC. #	TOPICS
	RESPIRATION
1	Introduction of respiration
2	To record respiration during sitting, standing and after exercise
3	To record the effect of coughing and deglutition on the respiration
	C.V.S
4	To record the Blood Pressure in sitting and standing position
5	To record the Heart Sound
6	To record the Pulse
7	To record the ECG
	GIT
8	To study the nasogastric tube



NOTE / INSTRUCTIONS

- 75% ATTENDANCE IS MANDATORY FOR ELIGIBILITY OF EXAMINATION FORM
- IN CASE OF LECTURE IS NOT DELIVERED IT WILL BE COVERED AS EXTRA LECTURE WITH OTHER TOPIC
- ALL THE GROUPS WILL BE TAUGHT THE SAME TOPICS BY SEPRATE GROUP TEACHER
- AFTER EIGHT WEEKS THERE WILL BE UNIT TEST IN ALL SUBJECTS SEPRATELY
 - COMPRISING OF A THEORY PAPER BCQ's AND SHORT ESSAY
 - FOLLOWED BY OSCE /OSPE EXAMIANTION
- AFTER SIXTEEN WEEKS AND TWO WEEKS PREAPRATION LEAVE THERE WILL BE SEMSTER EXAMIANTION IN ALL SUBJECTS SEPRATELY + THREE TAGED SUBJECTS
 - COMPRISING OF A THEORY PAPER 35-BCQ's AND 6/8 SHORT ESSAY QUESTIONS
 - FOLLOWED BY VIVA VOCE/OSPE EXAMIANTION



BOOKS RECOMMENDED

SCIENCE OF DENTAL MATERIALS

1. Philip's Science of Dental Materials 11th Edition
2. Craig's Restorative Dental Materials 10 Edition
3. Manappallil's Basic Dental Materials 2nd Edition
4. Mc Cabe's Applied Dental Materials

ANATOMY

1. Clinical Anatomy by Richard S Snell
2. Wheatears Histology
3. Langman's Embryology

BIO-CHEMISTRY

1. Harper's Illustrated Biochemistry By Robert K. Murray. 28th Edition
2. Textbook of Medical Biochemistry By Chatterjea, 7th Edition
3. Lippincott's Illustrated Review Biochemistry By Champe. 4rd Edition

REFERENCE BOOKS:

1. Principles of Biochemistry. By: Lehninger. 4th Edition
2. Textbook of Biochemistry with Clinical Correlations. By: Devlin TM. 5th Edition

PHYSIOLOGY

1. Text Book of Physiology by Guyton & Hall. 11th Edition
2. Review of Physiology by Ganong. 23rd Edition
3. Physiology Journal For Practical