

## CONTENTS

SYLLABUS
General Anatomy Including Embryology and Histology
General Human Physiology
Bio-Chemistry
Dental Anatomy, Embryology and Oral Histology
Environmental Studies
General Pathology
General Microbiology
General Dental Pharmacology and Therapeutics
Dental Materials
Pre-Clinical - Prosthodontics
Pre-Clinical - Conservative Dentistry and Endodontics
General Medicine
General Surgery
Oral Pathology and Oral Microbiology
Oral Medicine & Radiology
Paediatrics and Preventive Dentistry
Orthodontics and Dentofacial Orthopaedics
Periodontology
Prosthodontics and Crown and Bridge
Periodontics
Conservative Dentistry and Endodontics
Oral & Maxillofacial Surgery
Public Health Dentistry
<b>Compulsory Rotatory Internship (CRI)</b>
<b>Recommended Books</b>

**MINIMUM WORKING HOURS FOR EACH SUBJECT OF STUDY**

	<b>Year I</b>	<b>Theory</b>	<b>Practical</b>	<b>Clinical</b>	<b>Total Hours</b>
1.	General Anatomy Including Embryology and Histology	100	175	--	275
2.	General Human Physiology	120	60	--	180
3.	Bio-Chemistry	70	60	--	130
4.	Dental Anatomy, Embryology and Oral Histology	105	250	--	355
5	Environmental Studies	20	20		400
	<b>Year II</b>				
6	General Pathology	55	55	--	110
7	General Microbiology	65	50		115
8	General Dental Pharmacology and Therapeutics	70	20		90
9	Dental Materials	60	200		260
10	Pre-Clinical - Prosthodontics	25	200		225
11	Pre-Clinical - Conservative Dentistry and Endodontics	25	200		225
	<b>Year III</b>				
12	General Medicine	60		90	150
13	General Surgery	60		90	150
14	Oral Pathology and Oral Microbiology	12	80		200
	<b>Year IV</b>				
15	Oral Medicine & Radiology	45	100		145
16	Paediatrics and Preventive Dentistry	45	100		145
17	Orthodontics and Dentofacial Orthopaedics	30		100	130
18	Periodontology	50		100	150
19	Prosthodontics and Crown and Bridge	80		300	380
	Conservative Dentistry and Endodontics	80		300	380
	Oral & Maxillofacial Surgery	50		200	250
	Public Health Dentistry	60		200	260

**5200 HOURS**

<b>S. No</b>	<b>COMPULSORY ROTATORY INTERNSHIP (CRI)</b>	<b>Period</b>
1.	Oral Medicine & Radiology	1 month
2.	Oral & Maxillofacial Surgery	1 ½ months
3.	Prosthodontics and Crown & Bridge	1 ½ months
4.	Periodontology	1 month
5.	Conservative Dentistry / Endodontics	1 month
6.	Paedodontics & Preventive Dentistry	1 month
7.	Oral Pathology & Microbiology	½ month
8.	Orthodontics and Dentofacial Orthopaedics	1 month
9.	Public Health Dentistry	3 months
10.	Elective	15 days

1750 HOURS

## General Anatomy Including Embryology and Histology

SL NO.	TOPIC	HOURS
1.	Anatomical position Anatomical planes, anatomical terms	1
2.	<b>OSTEOLOGY</b> Introduction to Osteology – <ul style="list-style-type: none"> <li>- Parts of a long bone,</li> <li>- Types of epiphysis,</li> <li>- Ossification,</li> <li>- Blood supply</li> </ul> Classification of bones with example Classification of joints with example Structure of a synovial joint	6
	a) Vertebrae in general, b) Cervical vertebrae c) Skull – Interior cranium, Exterior cranium, d) Norma – Verticalis, Frontalis, occipitalis, lateralis, Basalis e) Foetal skull f) Individual skull bones -Mandible,Maxilla,Sphenoid, Pareital, Frontal, Zygomatic, Temporal, Lacrimal, Vomer, Ethmoid,Nasal,Inferior nasal concha etc.	
3.	Classification of muscles, actions	1
4.	Introduction to Nervous system –Central&Peripheral	1
5.	<b>SOFT PARTS-</b> Scalp, Temple and Face Muscles of face – muscles of facial expression  Blood & Nerve supply of face ( including extra cranial course of V11 Nerve	4
6.	Lacrimal apparatus and structure of eyelid	1
7.	<ul style="list-style-type: none"> <li>- Parotid region</li> <li>- Submandibular region</li> <li>- Submandibular gland,</li> <li>- Sublingual glands</li> <li>- Structures on hyoglossus muscle</li> </ul>	3
8.	Temporal and Infratemporal fossa <ul style="list-style-type: none"> <li>- Muscles of mastication,</li> <li>- Maxillary artery</li> </ul>	3

	<ul style="list-style-type: none"> <li>- Mandibular nerve, etc</li> <li>Temporomandibular joint.</li> </ul>	
9.	Pterygopalatine fossa <ul style="list-style-type: none"> <li>- Maxillary nerve</li> <li>- Pterygopalatine ganglion</li> </ul>	2
10.	Cranial cavity <ul style="list-style-type: none"> <li>- Thalamus</li> <li>- Dural venous sinuses- Cavernous sinus</li> <li>- Dural folds,</li> <li>- Meningeal vessels</li> </ul>	2
11.	The orbit and its contents <ul style="list-style-type: none"> <li>- Orbit Muscles, Vessels, Nerves (II, III, IV, V, VI)</li> <li>- Orbit periosteum,</li> <li>- Extra ocular muscles</li> <li>- Ciliary ganglion</li> <li>- Branches of ophthalmic artery</li> </ul>	2
12.	Nasal cavity and paranasal air sinus <ul style="list-style-type: none"> <li>- Lateral wall of nose</li> <li>- Medial wall of nose</li> <li>- Paranasal air sinuses- frontal &amp; Maxillary air sinus</li> <li>- Blood and Nerve supply</li> </ul>	2
13.	Organs of hearing and equilibrium <ul style="list-style-type: none"> <li>- External ear, middle ear, internal ear,</li> <li>- Boundaries and contents of middle ear Tympanic membra,</li> <li>- Auditory tube</li> </ul>	1
14.	Tongue <ul style="list-style-type: none"> <li>- Muscles of tongue</li> <li>- Nerve supply of tongue</li> <li>- Lymphatic drainage of tongue</li> <li>- Soft palate</li> <li>- Muscles of soft palate</li> </ul>	2
15.	Muscles of neck <ul style="list-style-type: none"> <li>- Platysma,</li> <li>- Sternocleidomastoid</li> <li>- Triangles of neck and boundaries</li> </ul> Deep cervical fascia of neck <ul style="list-style-type: none"> <li>- Investing layer of deep cervical fascia</li> <li>- Pre tracheal fascia</li> <li>- Ant. Jugular vein</li> </ul>	2
16.	Deep structures of neck <ul style="list-style-type: none"> <li>- Thyroid gland,</li> <li>- Parathyroid</li> <li>- Thymus</li> </ul>	2

	<ul style="list-style-type: none"> <li>- Trachea and oesophagus</li> <li>- Subclavian artery I&amp;II parts</li> </ul>	
17.	Pharynx& Nasopharynx <ul style="list-style-type: none"> <li>- Muscles of pharynx,</li> <li>- Pharyngo tympanic tube</li> <li>- Vestibule of mouth,</li> <li>- Palatine tonsil</li> <li>- Piriform fossa,</li> <li>- Adenoids,</li> <li>- Carotid canal</li> </ul>	3
18.	Larynx <ul style="list-style-type: none"> <li>- Cartilages of larynx</li> <li>- Muscles of larynx</li> <li>- Laryngeal cavity</li> <li>- Vocal cords,</li> <li>- Rima glottidis</li> </ul>	2
19.	a) Upper Limb Bones and joints, Arteries, nerves and veins, Muscles  b) Thorax Inlet-outlet,Subdivisions,Lungs&pleura, Heart, pericardium & blood vessels Diaphragm  c) Abdomen Location of the abdominal organs in relation to the abdominal wall- Blood & nerve supply	2
20.	Reproductive system	2
21.	Cranial nerves Intra cranial course of VII, VIII, IX,X,XI,XII	3
22.	Spinal cord <ul style="list-style-type: none"> <li>- Covering of meninges</li> <li>- Contents of vertebral canal</li> <li>- Gross anatomy of spinalcord,</li> <li>- Blood supply</li> <li>- Ascending and descending tracts and their functions</li> </ul>	2
23.	Cervical spinal nerves & cervical plexus	1
24.	Sulci , gyri, functional areas on superolateral surface of cerebral hemisphere	1.5

25.	Subarachnoid cisterns, Hind brain- Medulla- nerve attachments-Pons Mid brain-external view-nerves Cerebellum- subdivision , functions Ventricles of brain CSF circulation Blood supply of brain Circle of willis White matter of brain	2.5
26.	<b>EMBRYOLOGY</b>	
	General embryology - a) Gametogenesis –Spermatogenesis & oogenesis, b) Fertilization, c) Ectopic and normal implantation d) Development of zygotes to chorionic vesicle e) Formation of Notochord, Neural tube, Neural crest f) Formation of the Trilaminar germ disc g) Foldings of embryo h) Placenta i) Foetal membranes – fundamental idea	2
	j) Development of Face k) Development of Nose,lips, oral cavity, palate ,jaws and its anomalies l) Development of branchial arches,pharyngeal arches, pouches, clefts m) Development of tongue ,thyroid gland and parathyroid n) Development of cranium and vertebrae o) Development of paranasal sinuses Development of salivary glands Development of Pituitary p) Development of temporo mandibular joint q) Development of pharynx r) Development of teeth s) Development of respiratory tract t) Development of blood vessels of head & neck	4
27.	<b>HISTOLOGY</b>	10
	a) Introduction of cytology & histology b) Structure of epithelium -Simple epithelium, Compound epithelium, Glandular epithelium c) Types of connective tissue- fibres & cells Bone Cartilage Muscles Blood vessels d) Lymphatic tissue – Lymph node, - Spleen, - Thymus, - Tonsil	

	<p>e) Alimentary system – oesophagus, stomach, intestines – small &amp; large : duodenum, ileum, jejunum, caecum, appendix, colon</p> <p>f) Tongue – filiform, fungiform, circumvalate papillae</p> <p>g) Salivary glands – Mucous – Serous – Mixed</p> <p>h) Reproductive system – Testis, epidymis, ductus deferens, prostate, seminal vesicle Ovary, oviduct, uterus, placenta, mammary gland, umbilical cord, corpus luteum</p> <p>i) Eye – cornea, Retina</p> <p>j) Ear – cochlea</p> <p>k) Skin – Thin skin, Thick skin</p> <p>l) Respiratory system - Trachea &amp; lung</p> <p>m) Urinary system –</p> <p>n) Kidney, Ureter, Urinary bladder</p> <p>o) Nervous system Spinal cord – different levels Cerebellum, Cerebrum Medulla – 3 levels- Pons- 2 levels Midbrain – 2 levels Sensory nerve endings Motor nerve endings</p> <p>p) Endocrine – Pituitary Thyroid Parathyroid Suprarenal gland</p>	
--	---	--

Total- 70 hours



## PRACTICALS

SL NO.	TOPIC	HOURS
1.	Introduction- Anatomical position, planes, interpretation of anatomical terms.	5
2.	Demonstration of dissected specimens Internal organs, Fascia, muscles, cartilages, blood vessels, nerves, joints, lymph vessels	15
3.	Osteology of head and neck Skull-exterior, norma and vault, interior-cranial fossae, Individual bones- mandible, maxilla, frontal, parietal, occipital, temporal, cervical	20
4.	Surface anatomy	10
5.	Dissection and study of head and neck structures	30
6.	Demonstration of Histology slides	30
7.	Demonstration of embryology models and slides	20

Total-130 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## GENERAL HUMAN PHYSIOLOGY

SL NO.	TOPIC	HOURS
<b>GENERAL PHYSIOLOGY</b>		
1.	Introduction to physiology <ul style="list-style-type: none"> <li>- The cell as the living unit of body</li> <li>- Structure and function of a cell</li> </ul> The extra cellular fluid Homeostasis Transport across cell membrane Membrane potentials and Action Potential	3.5
2.	<b>BLOOD</b>	
	Composition and functions of blood The Red blood cells Blood volume Haemoglobin The formation of red cells Anemia The White Blood Cells and development of wbc Hemorrhage – Transfusion, Haemolysis Blood Groups Blood Groups Platelets Reticulo endothelial system Coagulation of blood Tissue fluids & lymph/ Oedema	5
3.	<b>MUSCLES AND NERVES</b>	
	a) Structure of skeletal muscle and its properties b) Properties of cardiac & smooth muscle c) Structure and function of the nervous tissue d) Neuron, development of action potential e) Neuromuscular junctions f) Neuromuscular transmission g) Degeneration and regeneration of nerve fibers h) Excitation , contraction coupling	3
4.	<b>DIGESTIVE SYSTEM</b>	

	<ul style="list-style-type: none"> <li>- General structure &amp; innervation</li> <li>- Digestion in the mouth :Salivary glands</li> <li>- Digestion in the Stomach</li> <li>- Composition of gastric juice</li> <li>- Mechanism &amp; regulation of gastric secretion</li> </ul>	3
	Exocrine pancreas Liver Gall bladder Defecation	
5.	ENDOCRINE SYSTEM	
	General chemistry of hormones Thyroid and Parathyroid gland Histology, synthesis& regulations Actions & functions Disorders Hyperthyroidism, Hypothyroidism Regulation of blood calcium level- calcitriol	6
	Endocrine Pancreas Hormones and regulation Regulating blood glucose level Diabetes Mellitus	
	Adrenal Glands Classification of hormones Actions & functions Adrenaline and Nor adrenaline Regulation of secretion of cortisol & aldosterone	

	<p>Anterior pituitary Hormones &amp; actions Regulation Disorders</p> <p>Posterior pituitary Functions &amp; regulations Disorders</p> <p>The Pineal Glands – Hormones</p> <p>Prostaglandins Functions and regulation</p>	
6.	REPRODUCTIVE SYSTEM	
	<p>Male reproductive system: functions of testes, puberty Spermatogenesis, actions of testosterone Female reproductive system: structure of ovary &amp; uterus Stages of menstrual cycle Actions of estrogen and progesterone, Functions of placenta Physiological changes during pregnancy Lactation , milk ejection reflex</p>	3
7.	CARDIOVASCULAR SYSTEM	
	<p>Physiological anatomy of heart General description of the circulatory system Basic haemodynamic principles – relevant to circulation The structure and physiologic properties of cardiac muscle</p> <p>Origin and conduction of Cardiac impulse</p> <p>Cardiac Cycle - Definition, Different events and changes</p> <p>Electrocardiogram</p> <p>Normal pattern and interpretation</p> <p>ECG in cardiac disorder</p> <p>Heart sounds :causes, characteristics and significance</p> <p>Cardiac output – Terminology, Normal values</p> <p>Measurement of cardiac output, Factors affecting</p>	7.5

	<p>Arterial blood pressure</p> <p>Normal values, Measurement</p> <p>Factors affecting and controlling arterial blood pressure</p> <p>Radial Pulse</p>	
	<p>Heart rate and its regulation:</p> <p>Normal value, factors affecting heart rate and its control</p> <p>Vasomotor centre, nerves of the heart and their action</p> <p>Cardio-vascular changes during exercise</p>	
	<p>Shock: physiology of shock, signs and symptoms</p>	
	<p>Special Circulation</p> <p>Pulmonary circulation, Coronary circulation, Cerebral circulation, Skin circulation, Hepatic circulation, Splenic circulation and Renal circulation</p>	
8.	RESPIRATORY SYSTEM	
	<p>Structures of respiratory organs</p> <p>Mechanics of respiration: mechanism of breathing; pressure changes during ventilation; alveolar ventilation:</p> <p>Dead space,</p> <p>v/p ratio, diffusion, capacity of lungs</p>	7
	<p>Lung volumes and capacities ; definition, normal values, significance,</p> <p>Factors affecting vital capacity, variations in vital capacity.</p>	
	<p>Chemistry of respiration: peripheral and central chemo receptors , ventilator response to oxygen lack, carbon dioxide and h ions, effect of voluntary hyper ventilation.</p>	
	<p>Transport of respiratory gases in blood:</p> <p>Oxygen transport : oxygen –hemoglobin dissociation curve; Carbon dioxide transport</p>	
	<p>Control of respiration: neural regulation : centers – dorsal group of respirator neurons(drg), ventral group of respiratory neurons(vrg), hering-breuer reflex</p>	
	<p>Physiological modification of respiration,</p> <p>Alveolar surface tension (surfactant, hyaline membrane disease);</p>	
	<p>Hypoxia: types and effects</p>	

	Artificial respiration, acclimatization to high altitude, cyanosis, asphyxia	
9.	RENAL SYSTEM	
	Functions of kidneys. Structure of Nephron Types ; cortical & juxtamedullary	4
	Volume and composition of Urine Mechanism of urine formation; ultra filtration, GFR definition, factors affecting, Tubular secretion, water excretion	
	Renal function Tests	
	Innervation of bladder : micturition reflex, Diuresis	
	Mechanism of concentration and acidification of urine	
	Artificial Kidney	
10.	AUTONOMIC & CENTRAL NERVOUS SYSTEM	
	Types of neurons Synapse : types, properties Spinal cord Sensory receptors : definition, classification, general properties	8
	Reflex arc : definition, classification, general properties	
	The regulation of posture – vestibulo cochlear system	
	Cerebellum -Functions of cerebellum, Basal ganglia, Thalamus, hypothalamus. Signs of cerebellar disorders and parkinson's disease	
	Cerebral cortex : areas & functions	
	Voluntary movement	
	Electroencephalogram and sleep	
	Somatosensory cortex and parietal lobe The prefrontal lobe	
	Physiology of pain: pain pathway- referred pain	
	Cerebrospinal fluid : formation, circulation, composition and function	
	Pyramidal tracts: origin, course, termination and functions	
	Signs of upper & lower motor neuron lesions	

	Hypothalamus Limbic system Learning and memory Higher functions of CNS – language and speech	
	Special senses – Vision Auditory Olfaction Taste	

Total – 50 hours

## PRACTICALS

SL NO.	TOPIC	HOURS
1.	Microscopy	30
2.	Enumeration of RBC count	
3.	Enumeration of WBC count	
4.	Determination of hemoglobin concentration	
5.	Differential leucocyte count	
6.	Determination of Packed Cell Volume	
7.	Erythrocyte sedimentation test	
8.	Determination of blood groups	
9.	Determination of bleeding time & clotting time	
10.	Clinical examination of respiratory system Clinical examination of CVS Clinical examination of chest Determination of pulse & Blood pressure	8
11.	Properties of excitable tissues - Skeletal muscle - Cardiac muscle Activity of Frog's heart, effects of vagal stimulation and of atropine and adrenaline Perfusion of Frog's heart, effects of sodium, calcium and potassium ions	2

Total – 40 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## BIOCHEMISTRY

SL NO	TOPIC	HOURS
1.	Cell structure and its functions	1
2.	<b>CARBOHYDRATES :</b> <ul style="list-style-type: none"> <li>- Definition and Classification</li> <li>- Biological importance</li> <li>- monosaccharides</li> <li>- Stereo isomerism –</li> <li>- Epimers reactions - Benedicts reaction – Osazones</li> <li>- Glycosides - Amino sugars - Deoxy sugars -Disaccharides - Maltose - Lactose - Sucrose - Polysaccharides</li> <li>- Starch - Glycogen - Cellulose - Mucopolysaccharides.</li> </ul>	3
3.	<b>LIPIDS</b> <ul style="list-style-type: none"> <li>- Classification and structure</li> <li>- Biological importance</li> <li>- Properties of triglycerides</li> <li>- Phospholipids and other compound lipids</li> <li>- Chemical reactions and properties of Lipids, cholesterol, bile acids and steroids</li> </ul>	2
4.	<b>PEPTIDES AND PROTIENS</b> <ul style="list-style-type: none"> <li>- Classification</li> <li>- Structure and properties of amino acids</li> <li>- Classification of size and shape of protein</li> <li>- Bonds responsible for their structure</li> <li>- Denaturation</li> <li>- Origin and function of plasma proteins – alteration in pathological conditions</li> <li>- Classification and separation.</li> <li>- Functions of albumin.</li> <li>- A brief account of immunoglobulins.</li> <li>- Biochemistry of AIDS.</li> <li>- Primary and secondary, tertiary and quaternary - Connective tissue</li> <li>- Collagen &amp; Elastin.</li> <li>- Glycosaminoglycans,</li> <li>- Bone structure, structure of membranes</li> <li>- Exocytosis &amp; Endocytosis</li> <li>- Isoelectric PH</li> <li>- Formation of peptide bonds</li> <li>- Determination of primary structure of peptides by procedure like electrophoresis, chromatography, and ultra</li> </ul>	4



	centrifugation - Physiologically active peptides -	
5.	<b>NUCLEIC ACIDS</b> - Definition - Building units. - Nucleosides - Nucleotides - outline structure of DNA & RNA. High energy compounds. ATP - phosphorylation - Thioesters - Enol phosphates etc	2
6.	<b>ENZYMES</b> - Definition and classification - Co enzymes - Enzyme specificity - Mechanism of enzyme action, - Measurement of enzyme activity - Enzyme kinetics, Michaelis menten equation, double reciprocal or Line weaver bork plot - Enzyme inhibition - Isoenzymes and enzymes in clinical diagnosis  AST,ALT,ALP,ACP,LDH,CK,ENOLASE,GGT	2
7.	<b>MINERAL METABOLISM</b> - Functions, Sources, daily requirement - Absorption, metabolism and excretion of calcium, phosphorus, magnesium, sodium and potassium - Serum calcium regulation  - Trace elements - Iron - sources, uptake, transport, excretion, - Functions and deficiency - Iodine – thyroxin synthesis, functions of thyroxin - Fluoride – Functions, uptake, excess and deficiency and other minerals	2
8.	<b>ACID BASE BALANCE</b> - Buffers - Respiratory and renal regulation, - Disorders, - Analysis	1

9.	<p><b>WHOLE BODY METABOLISM</b></p> <p>a)Metabolism of Carbohydrates</p> <ul style="list-style-type: none"> <li>- Digestion &amp; absorption.</li> <li>- Glycolysis - oxidation of pyruvate - Citric acid cycle - glycogenolysis Glycogenesis - Gluconeogenesis - Pentose phosphate pathway - significance.</li> <li>- Cori cycle - Glycogen storage diseases - metabolism of fructose - Galactose - Galactosemia - glucuronic acid pathway.</li> <li>- Blood glucose maintenance</li> </ul> <p>b)Metabolism of Lipids</p> <ul style="list-style-type: none"> <li>- Digestion &amp; absorption</li> <li>- Transport</li> <li>- Lipoproteins - chylomicrons</li> <li>- VLDL, LDL, HDL.</li> </ul> <p>c)Metabolism of fattyacid</p> <ul style="list-style-type: none"> <li>- Beta oxidation of fattyacid.</li> <li>- Synthesis of fattyacid.</li> <li>- Formation of ketone bodies and utilization</li> </ul> <p>d)Metabolism of Cholesterol. Lipid storage diseases - Ketosis.</p> <p>e)Metabolism of Proteins</p> <ul style="list-style-type: none"> <li>- Digestion &amp; absorption</li> <li>- Formation of Ammonia</li> <li>- Formation of urea</li> <li>- Transamination - transmethylation</li> <li>- Introduction to functions of amino acids.</li> </ul> <p>Protein utilization for energy (glucogenic and ketogenic aminoacids). Inborn error of Metabolism of amino acids and special function of amino acids - Glycine. Phenylalanine, tyrosine, tryptophan, histidine and sulphur containing amino acids etc</p>	5
10.	<p><b>HAEMOGLOBIN</b></p> <ul style="list-style-type: none"> <li>- Structure</li> <li>- Synthesis</li> <li>- Porphyrins</li> <li>- Abnormal haemoglobins - haemoglobinopathies</li> <li>- Metabolism of bile pigments</li> <li>- Jaundice</li> </ul>	2
11.	<p><b>VITAMINS</b></p> <ul style="list-style-type: none"> <li>- Fat soluble vitamins A,D,E,K, sources, functions, daily requirements, deficiency,toxicity</li> <li>- Water soluble vitamins B, C, sources, functions, daily requirements, deficiency,toxicity</li> </ul>	1

Total – 25 hours

## PRACTICALS

SL NO.	TOPIC	HOURS
1.	Qualitative analysis Carbohydrates - monosaccharides - disaccharides - polysaccharides	20
2.	Colour reactions of proteins & aminoacids	
3.	Identifications of non protein nitrogen substances	
4.	Normal and abnormal Constituents of urine	
5.	Quantitative Estimations-Glucose-Urea-Creatinine-Serum proteins.	
6.	DEMONSTRATIONS	2
	Hydrolysis of starch Analysis of Saliva Quantitative estimation - Cholesterol - S. Bilirubin Paper electrophoresis Chromatography	
7.	CLINICAL DATA EVALUATION	8
	Profiles of GTT Lipid profiles Profiles of liver function Profiles of kidney function Blood gas profile in acidosis / alkalosis	

Total – 30 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## HUMAN ORAL ANATOMY, HISTOLOGY AND TOOTH MORPHOLOGY

SL NO.	TOPIC	HOURS
1.	<b>INTRODUCTION</b> <ul style="list-style-type: none"> <li>- Development and growth of face, teeth and jaws</li> <li>- Development of enamel , dentine, cementum, pulp and periodontal membrane</li> <li>- Calcification of hard tissues of the teeth</li> </ul>	4
2.	<b>Microscopic study of hard and soft tissues of the tooth and supporting structures</b> <ul style="list-style-type: none"> <li>- Enamel</li> <li>- Dentine</li> <li>- Cementum</li> <li>- Pulp tissue</li> <li>- Periodontal ligament</li> </ul>	3
3.	<b>Microscopic study of hard and soft tissues of the oral cavity and surrounding structures</b> <ul style="list-style-type: none"> <li>- Alveolar bone</li> <li>- Oral Mucosa</li> <li>- Lips</li> <li>- Tongue</li> <li>- Floor of the mouth</li> <li>- Palate</li> <li>- Salivary glands</li> </ul>	3
4.	<b>Mastication and deglutition</b>	1.5
5.	<b>Age changes in teeth and surrounding structures</b> Physiological and histological study	2
6.	<b>Theories of eruption and shedding</b> <b>Shedding of deciduous teeth</b> <b>Eruption of permanent teeth</b> <b>(Physiological tooth movements)</b>	2
7.	<b>Chronology of deciduous and permanent teeth.</b> <ul style="list-style-type: none"> <li>a) First evidence of calcification</li> <li>b) Crown completion</li> <li>c) Eruption</li> <li>d) Root completion</li> </ul>	3

	Tooth numbering systems	
8.	<p>Occlusion</p> <ul style="list-style-type: none"> <li>a) Development of occlusion.</li> <li>b) Dental arch form.</li> <li>c) Compensating curves of dental arches.</li> <li>d) Angulations of individual teeth in relation to various planes.</li> </ul>	4
9.	<p>Functional anatomy of oral cavity</p> <ul style="list-style-type: none"> <li>- Functional form of the teeth at their incisal and occlusal thirds.</li> <li>- Facial relations of each tooth in one arch to its antagonist or antagonists in the opposing arch in centric occlusion.</li> <li>- Occlusal contact and intercusp relations of all the teeth of one arch with those in the opposing arch in centric occlusion.</li> <li>- Occlusal contact and intercusp relations of all the teeth during the various functional mandibular movements.</li> <li>- Neurobehavioural aspect of occlusion</li> </ul>	6
10.	<p>Temporomandibular joint</p> <ul style="list-style-type: none"> <li>- Gross Anatomy and articulation. Muscles (Muscles of mastication).</li> <li>- Mandibular position and movements.</li> <li>- Histology.</li> <li>- Clinical considerations with special emphasis on Myofascial Pain Dysfunction Syndrome (MPDS)</li> </ul>	3
11.	Evolution of jaws and teeth	2
12.	Chemical composition of teeth	2
13.	Metabolism of calcium, phosphorus and fluoride	1.5
14.	Effects of hormone on oral tissues	1
15.	Influence of diet on oral structures	1
16.	Saliva Composition, Functions, PH	1

Total -40 hours

## PRACTICALS

### DEMONSTRATIONS

SL NO.	TOPIC	HOURS
1.	Preparation of ground section of the teeth	2
2.	Preparation of decalcified section of hard tissues	
3.	Preparation of section of soft tissues	

SL NO.	TOPIC	HOURS
1.	<b>DENTAL ANATOMY / MORPHOLOGY</b>  Carving on wax blocks <ul style="list-style-type: none"> <li>- Individual tooth – ( Upper and lower arch)</li> <li>- Central Incisors</li> <li>- Lateral incisors</li> <li>- Canines</li> <li>- Premolars</li> <li>- Ist Molar</li> <li>- 2<sup>nd</sup> Molar</li> </ul>	20
2.	Identification of individual teeth Deciduous and permanent Identification of mixed dentition using study models	8
3.	<b>HISTOLOGY</b>  List of Histology slides: <b>Development of tooth :</b> <ul style="list-style-type: none"> <li>- Bud stage</li> <li>- Cap stage</li> <li>- Early bell stage</li> <li>- Late Bell stage</li> <li>- Hertwig's epithelial root sheath</li> </ul> <b>ENAMEL :</b> <ul style="list-style-type: none"> <li>- Enamel rod.</li> <li>- Hunter-Schreger Bands</li> </ul>	60

	<ul style="list-style-type: none"> <li>- Tufts, Lamellae, Spindles.</li> <li>- Incremental lines of Retzius.</li> <li>- Gnarled Enamel.</li> </ul> <p>DENTINE :</p> <ul style="list-style-type: none"> <li>- Dentino - Enamel junction.</li> <li>- Dentinal Tubules.</li> <li>- Incremental lines of Von Ebner.</li> <li>- Tomes granular layer.</li> <li>- Interglobular Dentine.</li> <li>- Secondary Dentine.</li> <li>- Intratubular Dentine.</li> <li>- Intertubular Dentine.</li> <li>- Dead Tracts</li> <li>- Tertiary Dentine</li> <li>- Sclerotic Dentine</li> </ul> <p>CEMENTUM:</p> <ul style="list-style-type: none"> <li>- Cellular cementum.</li> <li>- Acellular cementum</li> <li>- Cemento enamel junction</li> <li>- Sharpey's fibers.</li> <li>- Hypercementosis.</li> <li>-</li> </ul> <p>PULP</p> <ul style="list-style-type: none"> <li>- Zones of Pulp</li> <li>- Pulp stones</li> </ul> <p>PERIODONTAL LIGAMENT:</p> <p>Principal fibers of Periodontal ligament</p> <ul style="list-style-type: none"> <li>- Apical,</li> <li>- Horizontal,</li> <li>- Oblique,</li> </ul>	
--	---	--

	<ul style="list-style-type: none"> <li>- Alveolar crest,</li> <li>- Interradicular,</li> <li>- Transeptal</li> </ul> <p>ALVEOLAR BONE:</p> <ul style="list-style-type: none"> <li>- Haversian system.</li> <li>- Trabeculated bone.</li> <li>- Mature and immature bone</li> </ul> <p>SALIVARY GLANDS:</p> <ul style="list-style-type: none"> <li>- Mucous gland</li> <li>- Serous gland.</li> <li>- Mixed gland.</li> </ul> <p>MAXILLARY SINUS:</p> <p>Sinus lining (Pseudostratified ciliated columnar)</p> <p>ORAL MUCOUS MEMBRANE:</p> <ul style="list-style-type: none"> <li>- Parakeratinised epithelium</li> <li>- Orthokeratinised epithelium</li> <li>- Non keratinized epithelium</li> </ul> <p>TONGUE</p> <ul style="list-style-type: none"> <li>- Circumvallate papillae</li> <li>- Fungiform papillae</li> <li>- Filiform papillae</li> </ul>	
--	--	--

Total – 90 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department



## ENVIRONMENTAL STUDIES

SL NO.		TOPIC	HOURS
1.	<ul style="list-style-type: none"><li>• Definition, scope and importance</li><li>• Need for public awareness</li></ul>		1
2.	<ul style="list-style-type: none"><li>• Natural resources and associated problems</li></ul>		2
3.	<ul style="list-style-type: none"><li>• Biodiversity and its conservation</li></ul>		3
4	<ul style="list-style-type: none"><li>• Environmental pollution</li></ul>		4
5	<ul style="list-style-type: none"><li>• Social issues and the environment</li></ul>		5
6	<ul style="list-style-type: none"><li>• Human population and the environment</li></ul>		6
7	<ul style="list-style-type: none"><li>• Field work</li></ul>		7

## GENERAL PATHOLOGY

SL NO.	TOPIC	HOURS
1.	Introduction to pathology <ul style="list-style-type: none"> <li>- Terminologies</li> <li>- Cells in health</li> <li>- Normal cell structure</li> <li>- The cellular functions</li> </ul>	1
2.	Cell Injury <ul style="list-style-type: none"> <li>- Types - Congenital Acquired</li> <li>- Main acquired causes of cell injury (Hypoxic, chemical, physical, immunological)</li> </ul>	2
	Degenerations <ul style="list-style-type: none"> <li>- Amyloidosis</li> <li>- Fatty change</li> <li>- Cloudy swelling</li> <li>- Muroid degeneration</li> <li>- Hyaline change</li> </ul>	
	Cell death and Necrosis  Apoptosis Definition Features Causes  Types of Necrosis  Gangrene – Types ( Dry, wet, Gas) Pathogenesis  Calcification Dystrophic and Metastatic Pathogenesis	
3.	Inflammation and Tissue response to inflammation <ul style="list-style-type: none"> <li>- Definition</li> <li>- Causes</li> <li>- Types and features</li> </ul> Acute inflammation <ul style="list-style-type: none"> <li>- The Vascular response</li> <li>- The Cellular response</li> </ul>	2

	<ul style="list-style-type: none"> <li>- Chemical mediators</li> <li>- The inflammatory cells</li> <li>- Fate of inflammatory cells</li> </ul> <p>Chronic inflammation</p> <p>-Granulomatous inflammation</p>	
4.	<p>Wound healing</p> <p>Regeneration and Repair</p> <ul style="list-style-type: none"> <li>- Healing by primary intention</li> <li>- Healing by secondary intention</li> <li>- Fracture healing</li> <li>- Complications</li> </ul>	2
5.	<p>Immunological mechanisms in disease</p> <ul style="list-style-type: none"> <li>a) Humoral and cellular immunity</li> <li>b) Hypersensitivity</li> <li>c) Types of Autoimmunity</li> <li>d) Principles of Autoimmunity –brief outline of -SLE, Rheumatoid arthritis, systemic sclerosis, Sjogren’s Mixed Connective Disease[MCD].</li> </ul>	2.5
6.	<p>Infections &amp; infestations</p> <p>a)Syphilis:</p> <ul style="list-style-type: none"> <li>- Epidemiology</li> <li>- Types and stages of syphilis</li> <li>- Pathological features,</li> <li>- Diagnostic criteria</li> <li>- Oral lesions</li> </ul> <p>b)Typhoid:</p> <ul style="list-style-type: none"> <li>- Epidemiology</li> <li>- Pathogenesis</li> <li>- Pathological features</li> <li>- Diagnostic criteria</li> </ul> <p>c)Tuberculosis:</p> <ul style="list-style-type: none"> <li>- Epidemiology</li> <li>- Pathogenesis, (Formation of tubercle),</li> <li>- Pathological features of Primary and secondary TB</li> <li>- Complications of TB and Fate</li> <li>-</li> </ul> <p>d)Hepatitis</p> <ul style="list-style-type: none"> <li>- Epidemiology</li> <li>- Pathogenesis</li> <li>- Pathological features</li> </ul>	5

	<ul style="list-style-type: none"> <li>- Diagnostic criteria</li> </ul> <p>e) Actinomycosis</p> <p>f) Candidiasis ( detail)</p> <p>g) Mucormycosis</p> <p>h) Leprosy</p> <p>i) Pyogenic infections</p> <p>j) AIDS</p>	
7.	<p>Brief introduction to growth &amp; differentiation</p> <p>Adaptive disorders of growth</p> <p>Atrophy, Hypertrophy, Hyperplasia, Metaplasia and Dysplasia</p>	1
8.	<p>General Aspects of Neoplasia</p> <ul style="list-style-type: none"> <li>- Definitions and Terminology</li> <li>- Classification</li> <li>- Differences between benign and malignant neoplasms</li> <li>- The neoplastic cell</li> <li>- Metastasis,</li> <li>- Aetiology and pathogenesis of neoplasia</li> <li>- Carcinogenesis,</li> <li>- Tumour biology,</li> <li>- Oncogene and anti- oncogenes</li> <li>- Diagnosis</li> <li>-</li> </ul> <p>Precancerous lesions</p> <p>Common specific tumours-</p> <ul style="list-style-type: none"> <li>- Squamous cell carcinoma &amp;</li> <li>- Papilloma</li> <li>- Basal cell Carcinoma</li> <li>- Adenoma &amp; Adenocarcinoma,</li> <li>- Fibroma &amp; Fibrosarcoma,</li> <li>- Lipoma and liposarcoma</li> </ul>	3.5
9.	<p>Nutritional disorders</p> <ul style="list-style-type: none"> <li>- Starvation</li> <li>- Obesity</li> <li>- Malnutrition,</li> <li>- Pathogenesis of deficiency diseases with special reference to</li> </ul>	2

	disorders of vitamins & minerals	
10.	a)Diabetes Mellitus <ul style="list-style-type: none"> <li>- Classification and Pathogenesis</li> <li>- Pathology in different organs</li> </ul>	2
	b)Hypertension <ul style="list-style-type: none"> <li>- Classification</li> <li>- Pathophysiology</li> <li>- Effects in various organs</li> </ul>	
11.	Thrombosis <ul style="list-style-type: none"> <li>- Definition</li> <li>- Pathophysiology</li> <li>- Formation</li> <li>- Complications</li> <li>- Fate of a thrombus</li> </ul> Embolism <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types</li> <li>- Effects</li> </ul>	2
12.	Oedema <ul style="list-style-type: none"> <li>- Pathogenesis</li> <li>- Types</li> </ul>	1
13.	Ischemia and Infarction <ul style="list-style-type: none"> <li>- Definition</li> <li>- Aetiology</li> <li>- Types</li> <li>- Infarction in different organs</li> </ul>	2
14.	Haemorrhage and shock	1
15.	Pigments and disorders <ul style="list-style-type: none"> <li>- Exogenous – eg. tattoo</li> <li>- Endogenous – eg- haemosiderin, bilirubin, Porphyrin, Melanin</li> </ul> Jaundice <ul style="list-style-type: none"> <li>- conjugated and unconjugated</li> <li>- Pathophysiology</li> </ul> Porphyria,Melanoma, vitilgo	1.5
16.	<ul style="list-style-type: none"> <li>- Introduction to Haematology</li> <li>- Haemopoiesis</li> <li>- Bone marrow aspiration</li> <li>- Biopsy</li> </ul>	2

17.	<p><b>DISEASES OF BLOOD</b></p> <p>a) Anaemias</p> <ul style="list-style-type: none"> <li>- Iron Deficiency anaemia</li> <li>- Megaloblastic anaemia,</li> <li>- Aplastic anaemia</li> <li>- Hemolytic anaemias –</li> <li>- Haemoglobinopathies.</li> <li>- Polycythemia</li> </ul> <p>b) Leukaemias</p> <ul style="list-style-type: none"> <li>- Acute and chronic leukaemias</li> <li>- Diagnosis</li> <li>- Clinical features</li> </ul>	2
18.	<p><b>DISEASES OF LYMPHNODES</b></p> <p>a) Hodgkin's disease</p> <p>b) Non Hodgkins lymphoma</p> <p>c) Metastatic carcinoma</p>	1
19.	<p><b>DISEASES OF ORAL CAVITY</b></p> <p>a) Lichen planus</p> <p>b) Stomatitis</p> <p>c) Leukoplakia</p> <p>d) Squamous cell Ca</p> <p>e) Dental caries</p> <p>f) Dentigerous cyst,</p> <p>g) Ameloblastoma</p>	2
20.	<p><b>DISEASES OF SALIVARY GLANDS</b></p> <ul style="list-style-type: none"> <li>- Normal structure</li> <li>- Sialadenitis,</li> <li>- Tumours</li> </ul>	1
21.	<p><b>DISEASES OF BONES</b></p> <p>a) Osteomyelitis</p> <p>b) Metabolic bone diseases</p> <p>c) Bone Tumours</p> <p>d) Osteosarcoma</p> <p>e) Osteocalstoma,</p> <p>f) Giant cell Tumour</p> <p>g) Ewing's sarcoma</p> <p>h) Fibrous dysplasia</p> <p>i) Aneurysmal bone cyst</p>	2

22.	<b>DISEASES OF CARDIOVASCULAR SYSTEM</b> a) Cardiac failure b) Congenital heart disease – ASD, VSD, PDA c) Fallot's Tetralogy d) Infective Endocarditis e) Atherosclerosis f) Ischaemic heart Disease	2
23.	<b>DISEASES OF KIDNEY</b> - Glomerulonephritis - Nephrotic, nephritic syndrome - Pyelonephritis	1
24.	<b>HAEMORRHAGIC DISORDERS</b> - Coagulation cascade - Coagulation disorders - Platelet function - Platelet disorders	1.5

Total – 45 hours

## PRACTICALS

SL NO.	TOPICS		HOURS
1.	Urine Examination	2. Blood investigations	
	Smith's Test Benedict's Test Benedict's test Test for protein Rothera's Test Hey's Test	Determination of Haemoglobin percentage Blood grouping. Total Leukocyte count Bleeding time, Clotting time Peripheral blood smear staining and study Differential leukocyte count.	10
3.	Tissue Processing and Staining		10
	<b>HISTOLOGY SLIDES</b> Tuberculosis, Actinomycosis, Rhinosporidiosis, Squamous cell papilloma, Transitional cell papilloma, Pleomorphic adenoma, Basal cell carcinomas, Squamous cell carcinoma, Osteosarcoma, osteoclastoma, fibrosarcoma, Malignant melanoma, Ameloblastoma, Adenocarcinoma, Pleomorphic adenoma, Metastatic carcinoma in lymph node, Filarial lymphadenopathy, Hodgkins disease, Capillary and cavernous haemangioma, Fibroma, Thrombosis, Melanoma, Teratoma, T.B lymphadenopathy, Neurofibroma, Lipoma, Osteoma,		30

	chondroma, Acute appendicitis, Granulation tissue, Ulcerations, Fatty liver, CVC lung, CVC liver, CVC spleen, Kidney amyloidosis, Atherosclerosis	
	<b>GROSS PATHOLOGICAL SPECIMENS</b> <ul style="list-style-type: none"> <li>- Acute Appendicitis</li> <li>- Tuberculosis Lymphnode</li> <li>- Fatty liver.</li> <li>- Infarction spleen.</li> <li>- Chronic Venous Congestion (C.V.C.) Liver</li> <li>- Squamous papilloma</li> <li>- Basal cell carcinoma</li> <li>- Lipoma</li> <li>- Squamous cell carcinoma</li> <li>- Malignant Melanoma</li> <li>- Adenocarcinoma</li> <li>- Osteosarcoma</li> <li>- Osteoclastoma.</li> <li>- Gangrene</li> </ul>	10

Total – 60 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department



## MICROBIOLOGY

SL NO.	TOPIC	HOURS
1.	<p>a)Introduction to Microbiology</p> <ul style="list-style-type: none"> <li>- History and Scope</li> <li>- Aims and Objectives</li> <li>- Classification and characterization of Microorganisms</li> <li>- Morphology and Physiology of bacteria.</li> </ul> <p>b)Detail account of Sterilization and Disinfection.</p> <p>c) Brief account of Culture media and Culture techniques.</p> <p>d)Basic knowledge of selection, collection, transport, processing of clinical</p> <p>e) Specimens and identification of bacteria.</p> <p>f)Bacterial Genetics and Drug Resistance in bacteria</p>	6
2.	<p>IMMUNOLOGY:</p> <p>a)Infection</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Classification,</li> <li>- Source</li> <li>- Mode of transmission and types of Infectious disease.</li> </ul> <p>b)Immunity</p> <ul style="list-style-type: none"> <li>- Structure and functions of Immune system</li> <li>- The Complement System</li> <li>- Antigen</li> </ul> <p>c)Immunoglobulins - Antibodies - General structure and the role played in defense</p> <p>d)Mechanism of the body.</p> <p>Immune response</p> <p>Antigen - Antibody reactions - with reference to clinical utility.</p> <p>e)Immunodeficiency disorders - a brief knowledge of various types of immunodeficiency</p> <p>f)Disorders - A sound knowledge of immunodeficiency disorders relevant to dentistry.</p> <p>g)Hypersensitivity reactions</p>	8

	<p>Autoimmune disorders</p> <ul style="list-style-type: none"> <li>- Basic knowledge of various types</li> <li>- Sound knowledge of autoimmune disorders of oral cavity and related structures.</li> </ul> <p>Immunology of Transplantation and Malignancy Immunohaematology</p>	
3.	<p><b>SYSTEMATIC BACTERIOLOGY:</b> Pyogenic cocci – Staphylococcus, Streptococcus, Pneumococcus, Gonococcus, Meningococcus</p> <ul style="list-style-type: none"> <li>- Brief account of each coccus</li> <li>- Detailed account of mode of spread, laboratory diagnosis, chemo therapy and prevention</li> <li>- Detailed account of Cariogenic Streptococci.</li> </ul> <p>Corynebacterium diphtheria</p> <ul style="list-style-type: none"> <li>- Mode of spread,</li> <li>- Important clinical feature,</li> <li>- Laboratory diagnosis,</li> <li>- Chemotherapy and Active immunisation</li> </ul> <p>Mycobacteria - Tuberculosis and Leprosy</p> <p>Clostridium - Gas gangrene, food poisoning and tetanus.</p> <p>Non-sporing Anaerobes –</p> <ul style="list-style-type: none"> <li>- in brief about classification and morphology,</li> <li>- in detail about dental pathogens</li> <li>- mechanism of disease production and prevention.</li> </ul> <p>Spirochaetes - Treponema pallidum detailed account of Oral Lesions of syphilis</p> <p>Borrelia vincentii.</p> <p>7. Actinomycetes.</p>	6
4.	<p><b>VIROLOGY:</b></p> <ul style="list-style-type: none"> <li>- Introduction</li> <li>- General properties</li> <li>- Cultivation</li> <li>- Host - virus interaction with special reference to Interferon.</li> <li>- Brief account of Laboratory diagnosis</li> </ul>	

	Chemotherapy and immuno prophylaxis in general. A few viruses of relevance to dentistry. <ul style="list-style-type: none"> <li>- Herpes Virus</li> <li>- Hepatitis B Virus - brief about other types</li> <li>- Human Immunodeficiency Virus (HIV)</li> <li>- Mumps Virus</li> <li>- Measles</li> <li>- Rubella Virus</li> <li>- Bacteriophage - structure and Significance</li> </ul>	6
5.	MYCOLOGY <ul style="list-style-type: none"> <li>- Brief Introduction</li> <li>- Candidosis - in detail</li> <li>- Briefly on oral lesions of systemic mycoses.</li> </ul>	2
6.	PARASITOLOGY: <ul style="list-style-type: none"> <li>- Brief introduction - protozoans and helminths</li> <li>- Brief knowledge about the mode of transmission and prevention of commonly seen parasitic infection in the region.</li> </ul>	2

Total – 30 hours

## PRACTICALS

SL NO	TOPIC	HOURS
1.	Introduction to Microbiology	4
2.	Microscopy	
3.	Morphology	
4.	Bacteriological sterilization and disinfection	20
5.	Culture media	
6.	Culture methods	
7.	Identification of bacteria	
8.	Antibiotic susceptibility testing	20
9.	Simple staining - saliva	
10.	Hanging drop preparation	
11.	Gram staining	
12.	Ziehl Neelsen staining	
13.	Albert staining	6
14.	Antigen antibody reactions – I ASO,CRP,RF	

15.	Antigen antibody reactions – II RPR, Widal	
16.	Intestinal nematodes (specimens)	10
17.	Stool examination Demonstration	
18.	Lab diagnosis of viral infections – HIV , HBsAG etc	
19.	Mycology (macroscopy and Microscopy)	

Total – 60 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## GENERAL & DENTAL PHARMACOLOGY - THERAPEUTICS

1.	<p><b>GENERAL PHARMACOLOGY</b></p> <ul style="list-style-type: none"> <li>- General principles of pharmacology</li> <li>- Sources and nature of drugs</li> <li>- Dosage forms;</li> <li>- Prescription writing;</li> </ul> <p>Pharmacokinetics</p> <ul style="list-style-type: none"> <li>- Absorption,</li> <li>- Distribution,</li> <li>- Metabolism and excretion of drugs,</li> </ul> <p>Pharmacodynamics</p> <ul style="list-style-type: none"> <li>- Mode of action of drugs,</li> <li>- Combined effects of drugs,</li> <li>- Receptor mechanism of drug action,</li> <li>- Factors modifying drug response,</li> <li>- Adverse drug reactions;</li> <li>- Drug interactions,</li> </ul> <p>Implications of General Principles in clinical dentistry.</p>	6
2.	<p><b>Drugs acting on central nervous system</b></p> <ul style="list-style-type: none"> <li>- General anaesthetics</li> <li>- Sedatives – Hypnotics</li> <li>- anti anxiety drugs</li> <li>- Analgesics – NSAIDS and Narcotic</li> <li>- Anti epileptics</li> <li>- Analeptics</li> </ul> <p>Implications of these drugs in clinical dentistry.</p>	3
3.	<p><b>Drugs acting on Peripheral Nervous system</b></p> <ul style="list-style-type: none"> <li>- Cholinergic receptor stimulants</li> <li>- Cholinergic receptor Antagonists</li> <li>- Adrenergic receptor activating drugs</li> <li>- Local Anaesthetic</li> <li>- Skeletal muscle relaxants</li> </ul>	3
4.	<p><b>Anti-infective Agents</b></p> <ul style="list-style-type: none"> <li>- Sulfonamides, cotrimoxazole and quinolones</li> <li>- Beta-lactam antibiotics</li> </ul>	

	<ul style="list-style-type: none"> <li>- Macrolides and aminoglycosides</li> <li>- Broad spectrum antibiotics</li> <li>- Antifungal and antiviral agents.</li> <li>- Antiprotozoal drugs</li> </ul> <p>Antineoplastic drugs and Immunosuppressants</p> <p>Cancer Chemotherapy and general implications of Chemotherapy in clinical dentistry</p> <p>Antitubercular and Antileprotic</p> <p>Pharmacotherapy of Tuberculosis and leprosy</p> <p>Local anti-infective agents</p> <p>Disinfectants and Antiseptics including antifungal and Antiviral agents</p>	8
5.	<p>Drugs acting on Cardiovascular System</p> <ul style="list-style-type: none"> <li>- Drugs in Congestive Cardiac failure</li> <li>- Anti hypertensive Agents</li> <li>- Vasodilators and Vasconstrictors</li> <li>- Drug therapy of shock</li> <li>- Diuretics</li> </ul>	3
6.	<p>Drugs acting on Haemopoetic System</p> <ul style="list-style-type: none"> <li>- Iron preparations</li> <li>- Vitamins B 12 &amp; Folic acid</li> <li>- Haemostatic Agents &amp; Anticoagulants</li> <li>- Fibrinolytic Agents and Antiplatelet drugs</li> <li>- Coagulants and styptics</li> </ul>	3
7.	<p>Drugs acting on the Endocrine System</p> <ul style="list-style-type: none"> <li>- Hypothalamic and Pituitary Hormones</li> <li>- Insulin and antidiabetic drugs</li> <li>- Thyroid and Anti-Thyroid drugs</li> <li>- Parathormone, Calcitonin, Calcium, &amp; Vitamin D</li> <li>- Adrenocorticosteroids</li> <li>- Sex Hormones</li> </ul>	4
8.	<p>Autacoids</p> <ul style="list-style-type: none"> <li>- Histamine and Antihistamines</li> <li>- Serotonin</li> <li>- Prostaglandins</li> <li>- Leukotrienes and drugs for Bronchial Asthma.</li> </ul>	2

9.	Drugs action on Gastrointestinal Tract <ul style="list-style-type: none"> <li>- Emetics and Antiemetics</li> <li>- Antidiarrhoeal</li> <li>- Drugs used in constipation</li> <li>- Drugs for peptic ulcer</li> </ul>	2
10.	Drugs acting on Respiratory System <ul style="list-style-type: none"> <li>- Bronchodilators</li> <li>- Antitussive Agents</li> </ul>	1
11.	Vitamins <ul style="list-style-type: none"> <li>- Water soluble vitamins</li> <li>- Fat soluble vitamins</li> </ul>	1
12.	Drugs acting on immune system	1
13.	DENTAL PHARMACOLOGY <ul style="list-style-type: none"> <li>- Chelating agents - BAL, EDTA and desferrioxamine</li> <li>- Astringents</li> <li>- Obtundents</li> <li>- Mummifying Agents</li> <li>- Styptics</li> <li>- Disclosing solutions</li> <li>- Dentifrices &amp; mouth washes</li> <li>- Bleaching agents.</li> <li>- Sialagogues</li> </ul>	3

Total – 40 hours

#### PRACTICALS

SL NO.	TOPIC	HOURS
1.	Introduction-equipments used in dispensing pharmacy, prescription-parts and model prescription.	10
2.	Demonstration of common dosage forms used in clinical practice	
3.	Mixtures-one example (Expectorant/Salicylate)of simple and diffusible (Bismuth Kaolin/chalk)mixtures	20
4.	Emulsion-Types and example(Liniment turpentine/Shark liver oil) of emulsion	

5.	Powders-toothpowder	20
6.	Mandl's paint/Gum paint percentage dilution-concept and calculations with suitable examples.	
7.	Mouthwashes-Alkaline, antiseptic, astringent	
8.	Toothpastes	
9.	Prescription writing for 15 general conditions commonly encountered in clinical practice.  Bronchial asthma, Hypertension, Congestive heart failure, Angina pectoris, Peptic ulcer, Bacillary dysentery, Pseudomembranous colitis, Diabetes mellitus, Diabetic coma, Osteoarthritis, Anaphylaxis Status asthmaticus, Status epilepticus, Iron deficiency & pernicious anaemia	10
10.	Dental prescriptions for about 15 dental conditions commonly encountered in practice  <ul style="list-style-type: none"> <li>- Acute necrotising ulcerative gingivitis,</li> <li>- Acute herpetic gingivitis/stomatitis,</li> <li>- Acute gingival abscess,</li> <li>- Pericoronal abscess (impacted teeth),</li> <li>- Dental caries,</li> <li>- Aphthous ulcers</li> <li>- Hypersensitive dentine</li> <li>- Dentoalveolar abscess</li> <li>- Xerostomia</li> <li>- Acute toothache,</li> <li>- Post-operative pain,</li> <li>- Post extraction pain with swelling,</li> <li>- Oral candidiasis,</li> <li>- Scurvy</li> </ul>	

Total – 60 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department



## DENTAL MATERIALS

1.	<p>Introduction</p> <p>Aims and scope of the science of dental materials</p> <p>Structure and behaviour of matter</p>	1
2.	<p>Important physical properties applicable to Dental Materials including their biological considerations</p> <ul style="list-style-type: none"> <li>- Modulus of elasticity</li> <li>- Strength, Fracture resistance,</li> <li>- Toughness,</li> <li>- Resilience,</li> <li>- Hardness,</li> <li>- Proportional limit,</li> <li>- Endurance Limit,</li> <li>- Fatigue failure,</li> <li>- Tarnish and Corrosion,</li> <li>- Colour ,</li> <li>- Metamerism,</li> <li>- Shade selection,</li> <li>- Creep,</li> <li>- Sag, Flow, Viscosity,</li> <li>- Principles of adhesion,</li> <li>- Surface tension,</li> <li>- Wetting,</li> <li>- Galvanism,</li> <li>- Biocompatibility of dental materials</li> </ul>	3
3.	<p>Gypsum products used in dentistry including fast setting investment materials with or without gypsum binder.</p> <ul style="list-style-type: none"> <li>- Origin &amp; manufacture</li> <li>- Classification, Uses &amp; Properties</li> <li>- Setting characteristics including expansion</li> <li>- Working time, mixing time, &amp; setting time</li> <li>- Modifiers.</li> </ul>	2.5
4.	<p>Impression materials used in dentistry including duplicating materials</p> <ul style="list-style-type: none"> <li>- Ideal requirements</li> <li>- Classification,</li> <li>- Composition,</li> <li>- Properties and technical considerations including working time, mixing time and setting time of each material with advantages and disadvantages</li> </ul>	3

5.	<p>Synthetic resins used in dentistry-</p> <ul style="list-style-type: none"> <li>- General properties and physical characteristics.</li> <li>- Resins as denture base materials</li> <li>- Repair and Reline materials, soft liners, tissue conditioners</li> </ul> <p>Resins as restorative materials:</p> <ul style="list-style-type: none"> <li>- Unfilled and filled resin restorative materials,</li> <li>- Tissue sealant.</li> <li>- Direct-bonding cement materials</li> </ul>	2.5
6.	<p>Metals and alloys:</p> <ul style="list-style-type: none"> <li>- Structure and behaviour</li> <li>- Important physical properties.</li> <li>- Solidification and microstructure of metals,</li> <li>- Equilibrium phases,</li> <li>- Eutectic and peritectic mixture.</li> <li>-</li> </ul> <p>Classification of alloys in dentistry</p> <ul style="list-style-type: none"> <li>- Noble and base metal</li> <li>- Metal ceramic alloys</li> <li>- Classification and uses</li> <li>- Advantages and disadvantages</li> </ul> <p>Dental amalgam alloys</p> <p>Gold foil</p> <p>Dental casting gold alloys:</p> <p>Stainless steel,</p> <p>Chrome-cobalt alloys.</p>	3
7.	<p>Dental Amalgam</p> <p>Structure and properties</p> <p>Technical considerations</p>	2
8.	<p>Dental waxes including inlay casting wax</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Origin &amp; Composition</li> <li>- Classification and uses of each</li> </ul>	2
9.	<p>Gold inlay casting procedures:</p> <ul style="list-style-type: none"> <li>- Preparation of the die-wax pattern</li> <li>- Spruing,</li> <li>- Investing ,</li> <li>- Control of shrinkage</li> <li>- Compensation.</li> <li>- Wax elimination</li> <li>- Casting machines,</li> <li>- Casting,</li> <li>- Defects in casting</li> </ul>	2

10.	Welding and soldering materials used	1
11.	Dental cements <ul style="list-style-type: none"> <li>- Classification</li> <li>- Composition</li> <li>- Manipulation</li> <li>- Properties and uses</li> </ul> Glass Ionomer Cements Light cure composite resin restoration Acid etchant and Dentin conditioners Bonding agents Direct gold Cast restorative materials Pulp protection materials [Definitions Objectives Ideal requirements and classification] Zinc –oxide eugenol cement Zinc phosphate cement Zinc polycarboxylate cement Calcium hydroxide Mineral trioxide aggregate	5
12.	Dental porcelain including porcelain fused to metal. Porcelain furnace and fusing	2
13.	Die and counter die materials including Electro - forming dies Electro polishing	1.5
14.	Abrasives and polishing agents	1
15.	Hand instruments Impression trays Spatulas Dental handpiece - Types Burs and diamond Points Mechanics of tooth cutting	2.5
16.	Dental implants	1

Total – 35 hours

## PRACTICALS

SL NO.	TOPIC	HOURS
1.	Manipulating and mixing of Gypsum products <ul style="list-style-type: none"> <li>- Plaster of paris – making cubes</li> <li>- Dental Stone – edentulous casts</li> <li>- Investments – all types-</li> </ul>	30
2.	Manipulating and mixing of Impression materials <ul style="list-style-type: none"> <li>- Impression compound</li> <li>- Reversible hydrocolloids – heating and conditioning</li> <li>- Irreversible hydrocolloids</li> <li>- Zinc Oxide Eugenol paste</li> <li>- Elastomeric impression paste</li> <li>-</li> </ul> Impression taking from an edentulous mould	
3.	Manipulating and mixing of Denture Base materials <ul style="list-style-type: none"> <li>- Heat cure acrylic resin</li> <li>- Cold cure acrylic resin</li> <li>- Identifying its different physical stages</li> </ul>	
4.	Manipulating and mixing Filling materials <ul style="list-style-type: none"> <li>- Zinc Oxide Eugenol cement</li> <li>- Zinc Phosphate cement</li> <li>- Silicate cement</li> <li>- Zinc Poly carboxylate cement</li> <li>- Resin cements</li> <li>- Silver amalgam</li> </ul>	
5.	DEMONSTRATIONS	
	Instrument set up Impression taking Welding Soldering Annealing Pickling Investing Casting procedure	5

Total – 35 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## PRE CLINICAL PROSTHODONTICS

SL NO.	TOPICS	HOURS
1.	<b>DEMONSTRATIONS AND PRACTICALS</b> a) Upper and lower dentulous casts using impression compound b) Marking anatomical land marks on the edentulous casts c) Special trays (Using shellac plate or acrylic resin materials) d) Construction of record bases (Using shellac base plate or acrylic) e) Mounting of U/L casts with occlusal rims in class I relation using fixed cannular path articulators f) Arrangement of teeth g) Waxing, Carving & Polishing of wax setup h) Flasking, Dewaxing, Packing & Curing i) Deflasking, Trimming & Polishing of Acrylic dentures	Theory 15  Practical 150
2.	a) Repair of lower complete denture b) Relining and rebasing of upper complete denture c) Construction of kennedy class IV acrylic partial denture (Upper) d) Construction of kennedy class I (Lower) e) Beading & Boxing of upper denture f) Acrylic cap splint	Theory 10  Practical 50
3.	C.D. settings as preliminary training for University exams	3 nos
	Exam setting .	3 nos

Total  
Theory – 25 hours  
Practical – 200 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## PRECLINICAL CONSERVATIVE DENTISTRY & ENDODONTICS

SL NO.	TOPICS	HOURS
1.	<ul style="list-style-type: none"> <li>a) Definition, history, scope of operative dentistry and related terminologies</li> <li>b) Dental caries, Classification of cavities</li> <li>c) Hand instruments their respective use and maintenance</li> <li>d) Speed in dentistry and maintenance of handpiece ,burs its anatomy and sterilization, Sterilization and asepsis</li> <li>e) Patient operative position,</li> <li>f) Instrument grasps and rests</li> <li>g) Matrices and retainers,</li> <li>h) Wedges and wedging technique,</li> <li>i) Contacts and contours</li> <li>j) Steps in cavity preparation of class I, class II, class III, class IV and class V</li> <li>k) Recent advances in cavity preparation,</li> <li>l) Minimal invasive dentistry,</li> <li>m) ART</li> <li>n) Sharpening of hand instruments,</li> <li>o) finishing and polishing of various instruments</li> <li>p) Isolation of operating field and control of moisture</li> </ul>	15
2.	<ul style="list-style-type: none"> <li>a) Identification and study of hand cutting instruments</li> <li>b) Identification and uses of operative rotary cutting instrument (micromotor)</li> <li>c) Demonstration on operative chairside position</li> <li>d) Arrangement of hand cutting instruments in order</li> <li>e) Demonstration of instrument grasp and rest</li> <li>f) Demonstration for class I, II, III IV &amp; V cavity preparation</li> </ul>	10
3.	<ul style="list-style-type: none"> <li>a) Preparation class I , extended class I and class II and MOD's and class V plaster models</li> <li>b) Demonstration for class I, II, III IV &amp; V cavity preparation</li> <li>c) Exercise on phantom head models which includes cavity preparation, base application, matrix &amp; wedge placement followed by amalgam restoration</li> <li>d) Manipulation of cements like zinc phosphate, zinc oxide eugenol, glass ionomer cements and silver amalgam</li> <li>e) Identification and manipulation of various matrices and wedges</li> <li>f) Cast restorations</li> <li>g) Preparation of class II inlay cavity</li> <li>h) Fabrication of wax patterns</li> </ul>	120

	i) Sprue for inner attachment investment j) Investment of wax patterns k) Finishing and cementing of class II inlay in extracted tooth	
4.	<b>ENDODONTICS</b> <ul style="list-style-type: none"> <li>- Identification of basic endodontic instruments</li> <li>- Rubberdam isolation</li> <li>- Coronal access cavity preparation on extracted upper and lower arch teeth</li> <li>- Determination of working length š</li> <li>- Biomechanical preparation of root canal space of central incisors,</li> <li>- Obturation of root canal space</li> <li>- Closure of access cavity</li> </ul>	80

Total  
 Theory – 25 hours  
 Practical s– 200 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## ORAL PATHOLOGY AND ORAL MICROBIOLOGY

SL NO.	TOPICS	HOURS
1.	<p>Developmental disturbances of teeth, jaws and soft tissues of oral &amp; paraoral region :</p> <p>Introduction to developmental disturbances – Hereditary, Familial mutation, Hormonal etc. Causes to be highlighted</p> <p><i>a) Developmental disturbances of Jaws</i></p> <ul style="list-style-type: none"> <li>- Agnathia,</li> <li>- Micrognathia,</li> <li>- Macrognathia,</li> <li>- Facial Hemihypertrophy,</li> <li>- Facial Hemiatrophy</li> </ul> <p><i>b) Developmental Disturbances of lips and palate</i></p> <ul style="list-style-type: none"> <li>- Congenital Lip pits and Commissural pits and fistulas</li> <li>- Double lip, Cleft lip and cleft Palate,</li> <li>- Chelitis Glandularis,</li> <li>- Chelitis Granulomatosa,</li> <li>- Hereditary Intestinal Polyposis,</li> <li>- Hereditary Melanotic Macule</li> </ul> <p><i>c) Developmental disturbances of Oral Mucosa</i></p> <ul style="list-style-type: none"> <li>- Fordyce's Granules</li> <li>- Focal epithelial Hyperplasia</li> </ul> <p><i>d) Developmental disturbances of gingiva</i></p> <ul style="list-style-type: none"> <li>- Fibromatosis Gingiva</li> <li>- Retrocuspid Papilla</li> </ul> <p><i>e) Developmental Disturbances of Tongue</i></p> <ul style="list-style-type: none"> <li>- Macroglossia</li> <li>- Microglossia,</li> <li>- Ankyloglossia</li> <li>- Cleft Tongue,</li> <li>- Fissured Tongue,</li> <li>- Median Rhomboid Glossitis,</li> <li>- Benign Migratory Glossitis,</li> <li>- Hairy Tongue.</li> </ul> <p><i>f) Development disturbances of oral lymphoid tissue:</i></p> <ul style="list-style-type: none"> <li>- Reactive lymphoid aggregates</li> <li>- Lymphoid hamartoma</li> <li>- Angiolymphoid Hyperplasia</li> <li>- Lympho-epithelial cyst</li> </ul>	4



	<p>g) <i>Developmental disturbances of salivary glands:</i></p> <ul style="list-style-type: none"> <li>- Aplasia,</li> <li>- Xerostomia,</li> <li>- Hyperplasia of the palatal glands,</li> <li>- Atresia,</li> <li>- Aberrancy,</li> <li>- Stafine's cyst</li> </ul>	
2.	<p>Developmental disturbances of teeth –</p> <p>Etiopathogenesis, clinical features, radiological features &amp; histopathological features as appropriate :-</p> <p>The size, shape, number, structure &amp; eruption of teeth &amp; clinical significance of the anomalies to be emphasized</p> <p>a) <i>Developmental disturbances in size of teeth:</i></p> <ul style="list-style-type: none"> <li>- Microdontia,</li> <li>- Macrodontia</li> </ul> <p>b) <i>Developmental disturbances in the shape of the teeth:</i></p> <ul style="list-style-type: none"> <li>- Fusion</li> <li>- Germination</li> <li>- Concrescence</li> <li>- Dilacerations</li> <li>- Talon's Cusp</li> <li>- Dens in Dente</li> <li>- Dens Evaginatus</li> <li>- Taurodontism</li> <li>- Supernumerary Roots</li> <li>- Enameloma</li> </ul> <p>c) <i>Developmental Disturbances in number of teeth:</i></p> <ul style="list-style-type: none"> <li>- Anodontia</li> <li>- Supernumerary teeth</li> <li>- Hypodontia</li> <li>- Predeciduous and Post Permanent dentition</li> </ul> <p>d) <i>Developmental Disturbances in Structure of teeth:</i></p> <ul style="list-style-type: none"> <li>- Amelogenesis Imperfecta,</li> <li>- Enamel Hypoplasia,</li> <li>- Dentinogenesis Imperfecta,</li> <li>- Dentinal dysplasia,</li> <li>- Regional Odontodysplasia,</li> <li>- Shell Teeth.</li> <li>-</li> </ul>	4

	e) <i>Developmental Disturbances in eruption of teeth:</i> <ul style="list-style-type: none"> <li>- Premature Eruptions,</li> <li>- Eruption Sequestrum,</li> <li>- Delayed Eruption,</li> <li>- Multiple Unerupted teeth,</li> <li>- Submerged Teeth</li> </ul>	
3.	Developmental / Fissural cysts of the Oral cavity <ul style="list-style-type: none"> <li>- Median palatal cyst</li> <li>- Globulomaxillary cyst</li> <li>- Median Mandibular cyst</li> <li>- Naso-alveolar cyst</li> <li>- Palatal cyst of neonates</li> <li>- Thyroglossal duct cyst</li> <li>- Epidermoid, and Dermoid cyst</li> <li>- Nasopalatine cyst</li> </ul>	2
4.	Dental caries <ul style="list-style-type: none"> <li>- Theories</li> <li>- Clinical features</li> <li>- Classification,</li> <li>- Histopathology</li> <li>- Microbiology of Dental caries</li> <li>- Immunology,</li> <li>- Caries activity tests</li> <li>- Prevention</li> <li>- Factors influencing caries</li> </ul>	2

5.	<p>Diseases of the Pulp &amp; Periapical tissues</p> <p><i>a) Diseases of the Dental Pulp</i></p> <ul style="list-style-type: none"> <li>- Acute Pulpitis</li> <li>- Focal Reversible Pulpitis</li> <li>- Chronic Pulpitis</li> <li>- Pulp Polyp.</li> </ul> <p><i>b) Diseases of the Periapical Tissues</i></p> <ul style="list-style-type: none"> <li>- Periapical Granuloma</li> <li>- Periapical Abscess</li> <li>- Periapical Cyst</li> </ul> <p>Sequelae of periapical abscess:</p> <p>Summary of space infections</p> <p>Systemic complications &amp; significance</p> <p>Osteomyelitis</p> <ul style="list-style-type: none"> <li>- Acute Suppurative Osteomyelitis</li> <li>- Chronic Focal and Diffuse Sclerosing Osteomyelitis, Garre's Osteomyelitis</li> </ul> <p>Cellulitis,</p> <p>Ludwig's angina</p> <p>Intra cranial complication of dental infection,</p> <p>Maxillary sinusitis,</p> <p>Focal infection and foci of infection</p>	3
6.	<p>Periodontal Diseases :</p> <p>Stains, Calculus and Dental plaque</p> <p>Etiopathogenesis</p> <p>Microbiology</p> <p>Clinical features</p> <p>Histopathology</p> <p>Radiological features (as appropriate) of –</p> <ul style="list-style-type: none"> <li>- Gingivitis,</li> <li>- Gingival enlargements</li> <li>- ANUG</li> <li>- Chronic desquamative gingivitis</li> <li>- Periodontitis and Juvenile Periodontitis.</li> </ul> <p>Basic immunological mechanisms of periodontal disease to be highlighted</p>	2

7.	<p>Brief review &amp; oral manifestations, diagnosis &amp; significance of common Blood, Nutritional, Hormonal &amp; Metabolic diseases of Oral cavity.</p> <p>Blood dyscrasias</p> <p>Clinico-pathological aspects and oral manifestations of:</p> <ul style="list-style-type: none"> <li>- Anemias,</li> <li>- Polycythemia,</li> <li>- Leukopenia,</li> <li>- Neutropenia,</li> <li>- Agranulocytosis,</li> <li>- Chediak-Higashi syndrome,</li> <li>- Leukocytosis,</li> <li>- Infectious mononucleosis,</li> <li>- Leukemias</li> <li>- Purpura</li> <li>- Haemophilia</li> </ul> <p>Oral aspects of Disturbances in mineral metabolism</p> <p>Oral aspects of Avitaminosis and Hypervitaminosis</p> <p>Oral Aspects of Endocrine dysfunction</p>	2
8.	<p>Mucocutaneous lesions</p> <p>Aetiopathogenesis, Clinical features , Histopathology of the following common lesions:</p> <ul style="list-style-type: none"> <li>- Lichen Planus,</li> <li>- Lupus Erythematosus,</li> <li>- Pemphigus &amp; Pemphigoid lesions,</li> <li>- Erythema Multiforme,</li> <li>- Psoriasis,</li> <li>- Scleroderma,</li> <li>- Ectodermal Dysplasia,</li> <li>- Epidermolysis bullosa</li> <li>- White sponge nevus.</li> </ul>	2
9.	<p>Diseases of the Nerves and their implications to oral tissues</p> <p>Facial Neuralgias</p> <ul style="list-style-type: none"> <li>- Trigeminal Neuralgia</li> <li>- Sphenopalatine Neuralgia</li> <li>- Glosso pharyngeal neuralgia</li> </ul> <p>VII nerve paralysis,</p> <p>Causalgia</p> <p>Psychogenic facial pain &amp; Burning mouth syndrome.</p>	2

10.	<b>Pigmentation of Oral tissues</b> <ul style="list-style-type: none"> <li>- Pigmentation of Oral &amp; Paraoral region</li> <li>- Discolouration of teeth : Causes &amp; clinical manifestations</li> </ul>	1
11.	<b>Diseases of Maxillary Sinus</b> <ul style="list-style-type: none"> <li>- Traumatic injuries to sinus</li> <li>- Sinusitis,</li> <li>- Cysts and Tumours involving Antrum</li> </ul>	1
12.	<b>Diseases of TMJ</b> <ul style="list-style-type: none"> <li>- Ankylosis</li> <li>- Luxation</li> <li>- Subluxation,</li> </ul> Summary of different types of Arthritis Developmental malformations Traumatic injuries Myofacial pain dysfunction syndrome.	1.5
13.	. <b>Cysts of the Oral and Paraoral region</b>  Classification Aetiopathogenesis Clinical features, Histopathology Laboratory & Radiological features (as appropriate) of :  <b>Odontogenic cysts</b> <ul style="list-style-type: none"> <li>- Odontogenic keratocyst,</li> <li>- Dentigerous cyst,</li> <li>- Primordial cyst,</li> <li>- Dental lamina cyst of newborn,</li> <li>- Gingival cyst of adults,</li> <li>- Lateral periodontal cyst,</li> <li>- Calcifying odontogenic cyst,Radicular cyst</li> </ul> <b>Non-Odontogenic cysts-</b> <ul style="list-style-type: none"> <li>- Pseudocysts of jaws</li> <li>- Aneurysmal bone cyst,</li> <li>- Traumatic bone cyst</li> <li>- Soft tissue cysts of oral &amp; paraoral region.</li> </ul>	2
14.	<b>ORAL CANCER</b> <ul style="list-style-type: none"> <li>- Epidemiology&amp; Aetiology,</li> <li>- Clinical and Histopathotgical features</li> <li>- TNM classification.</li> <li>- Recent advances in diagnosis, management and prevention.</li> </ul>	2.5

15.	<p>Biopsy :</p> <ul style="list-style-type: none"> <li>- Types of biopsies</li> <li>- Value of biopsy</li> <li>- Cytology,</li> </ul> <p>Histo chemistry &amp; frozen sections in diagnosis of oral diseases.</p>	2
16.	<p>Premalignant Lesions and conditions</p> <p>Definition, Classification, Etiology</p> <ul style="list-style-type: none"> <li>- Epithelial dysplasia</li> <li>- Leukoplakia</li> <li>- Carcinoma insitu</li> <li>- Erythroplakia</li> <li>- Oral submucous fibrosis</li> </ul>	2
17.	<p>Benign and malignant Tumours of Oral cavity:</p> <p>Classification of Odontogenic Non-Odontogenic &amp; Salivary Gland Tumours.</p> <p>Aetiopathogenesis, Clinical features, Histopathology, Radiological features, Laboratory diagnosis (as appropriate) of the following common tumours :-</p> <p>Odontogenic tumours:</p> <p>Benign</p> <p><i>Odontogenic epithelium without odontogenic ectomesenchyme -</i></p> <ul style="list-style-type: none"> <li>- Ameloblastoma</li> <li>- Calcifying Epithelial Odontogenic Tumour</li> <li>- Adenomatoid Odontogenic Tumour</li> <li>- Squamous Odontogenic tumour</li> </ul> <p><i>Odontogenic epithelium with Odontogenic ectomesenchyme-</i></p> <ul style="list-style-type: none"> <li>- Ameloblastic fibroma</li> <li>- Ameloblastic fibro odontoma</li> <li>- Odontoma</li> <li>- Dentinogenic Ghost cell Tumour</li> </ul> <p><i>Odontogenic ectomesenchyme with or without included odontogenic epithelium-</i></p> <ul style="list-style-type: none"> <li>- Peripheral and Central odontogenic fibroma</li> <li>- Odontogenic Myxoma</li> <li>- Benign cementoblastoma</li> </ul>	4

	<p><b>Malignant</b></p> <p><b>Odontogenic carcinomas:</b></p> <ul style="list-style-type: none"> <li>- Metastasizing ameloblastoma,</li> <li>- Ameloblastic carcinoma</li> </ul> <p><b>Non-odontogenic</b></p> <p><i>Benign tumours of epithelial tissue origin –</i></p> <ul style="list-style-type: none"> <li>- Papilloma</li> <li>- Keratoacanthoma</li> <li>- Nevus</li> </ul> <p><i>Malignant tumours of epithelial tissue origin</i></p> <ul style="list-style-type: none"> <li>- Basal cell carcinoma</li> <li>- Epidermoid carcinoma</li> <li>- Verrucous carcinoma</li> <li>- Malignant melanoma</li> </ul> <p><i>Benign tumours of Connective tissue origin</i></p> <ul style="list-style-type: none"> <li>- Fibroma</li> <li>- Giant cell fibroma</li> <li>- Peripheral and Central ossifying fibroma</li> <li>- Lipoma</li> <li>- Haemangioma(different types)</li> <li>- Lymphangioma</li> <li>- Chondroma</li> <li>- Osteoma</li> <li>- Osteoid osteoma</li> <li>- Benign Osteoblastoma</li> <li>- Tori</li> <li>- Multiple exostoses</li> </ul> <p><i>Tumour like lesions of Connective tissue origin-</i></p> <ul style="list-style-type: none"> <li>- Peripheral ossifying fibroma</li> </ul> <p><i>Malignant tumours of Connective tissue origin</i></p> <ul style="list-style-type: none"> <li>- Fibrosarcoma</li> <li>- Chondrosarcoma</li> <li>- Kaposi's sarcoma</li> <li>- Ewing's sarcoma</li> <li>- Osteosarcoma</li> <li>- Hodgkin's and Non Hodgkin's lymphoma</li> <li>- Burkitt's lymphoma</li> <li>- Multiple myeloma</li> <li>- Solitary Plasma cell myeloma</li> </ul>	
--	---	--

	<p><i>Benign tumours of Muscle tissue origin</i></p> <ul style="list-style-type: none"> <li>- Leiomyoma</li> <li>- Rhabdomyoma</li> <li>- Congenital Epulis of newborn</li> <li>- Granular cell tumour</li> </ul> <p><i>Benign and Malignant tumours of Nerve tissue origin</i></p> <ul style="list-style-type: none"> <li>- Neurofibroma and Neurofibromatosis</li> <li>- Schwannoma</li> <li>- Melanotic neuro ectodermal tumour of infancy</li> <li>- Malignant Schwannoma.</li> </ul> <p><i>Metastatic tumours of Jaws and Soft tissues of oral cavity</i></p> <p>Salivary Gland</p> <p>Benign neoplasms:</p> <ul style="list-style-type: none"> <li>- Pleomorphic Adenoma</li> <li>- Warthin's tumour,</li> <li>- Oncocytoma.</li> </ul> <p>Malignant neoplasms :</p> <ul style="list-style-type: none"> <li>- Malignant Pleomorphic adenoma</li> <li>- Adenoid Cystic Carcinoma</li> <li>- Mucoepidermoid Carcinoma</li> <li>- Acinic Cell Carcinoma &amp; Adenocarcinomas.</li> </ul>	
18.	<p>Common non- inflammatory diseases involving the jaws :</p> <p>Aetiopathogenesis, clinical features, radiological &amp; laboratory values in diagnosis of :</p> <ul style="list-style-type: none"> <li>- Fibrous dysplasia</li> <li>- Cherubism</li> <li>- Osteogenesis Imperfecta</li> <li>- Paget's disease</li> <li>- Cleidocranial dysplasia</li> <li>- Rickets</li> <li>- Achondroplasia</li> <li>- Marfan's syndrome</li> <li>- Down's syndrome</li> </ul>	2
19.	<p>Traumatic, Reactive &amp; Regressive lesions of Oral Cavity :</p> <ul style="list-style-type: none"> <li>- Pyogenic &amp; Giant cell granuloma</li> <li>- Exostoses</li> <li>- Fibrous Hyperplasia</li> <li>- Traumatic Ulcer &amp; Traumatic Neuroma.</li> </ul>	



	<ul style="list-style-type: none"> <li>- Attrition</li> <li>- Abrasion</li> <li>- Erosion</li> <li>- Bruxism</li> <li>- Hypercementosis</li> <li>- Dentinal changes</li> <li>- Pulp calcification</li> <li>- Resorption of teeth.</li> </ul>	2
20.	<p>Radiation effects of oral and para oral structures Summary of Physical &amp; Chemical injuries including allergic reactions of the oral cavity.</p> <p>Defence mechanism of oral tissues and healing following injuries. Complications of healing - <i>Dry socket</i></p>	1
21.	<p><b>MICROBIOLOGY</b></p> <p>Microbial infections of oral soft tissues</p> <p>Defence mechanisms including immunological aspects. Oral manifestations Histopathology &amp; Laboratory diagnosis of common bacterial, viral &amp; fungal infections namely :-</p> <p>Bacterial :</p> <ul style="list-style-type: none"> <li>- Scarlet fever</li> <li>- Diphtheria</li> <li>- Tuberculosis</li> <li>- Syphilis</li> <li>- Gonorrhea</li> <li>- Actinomycoses</li> <li>- ANUG &amp; its complications</li> <li>- Cancrum Oris,</li> <li>- Tetanus, Noma .</li> </ul> <p>Viral :</p> <ul style="list-style-type: none"> <li>- Herpes Simplex</li> <li>- Varicella zoster</li> <li>- Measles</li> </ul>	6

	<ul style="list-style-type: none"> <li>- Mumps</li> <li>- HIV infection and Oral manifestation of AIDS.</li> </ul> <p>Fungal :</p> <ul style="list-style-type: none"> <li>- Candidiasis</li> <li>- Histoplasmosis</li> </ul> <p>Immunological diseases:</p> <ul style="list-style-type: none"> <li>- Recurrent Aphthous stomatitis</li> <li>- Bechet's syndrome</li> <li>- Reiter's syndrome</li> <li>- Sarcoidosis.</li> </ul>	
--	---	--

Total – 50 hours

### PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1.	<p>Identification of the pathologic features of:</p> <ul style="list-style-type: none"> <li>- Microdontic tooth</li> <li>- Macrodontic tooth</li> <li>- Gemination of tooth</li> <li>- Fused teeth</li> <li>- Concrescence of tooth</li> <li>- Dilaceration</li> <li>- Dens in dente</li> <li>- Dens evaginatus</li> <li>- Supernumerary root</li> <li>- Hypoplastic enamel</li> <li>- Fluorosis</li> <li>- Abrasion</li> <li>- Attrition</li> <li>- Fracture tooth</li> <li>- Stained tooth</li> <li>- Hypercementosis</li> </ul>	15
2.	Biospy and Exfoliative cytology techniques	5
3.	<p>Examination of the following gross specimens:</p> <ul style="list-style-type: none"> <li>- Papilloma</li> <li>- Fibroma</li> <li>- Torus</li> <li>- Oral carcinomas</li> </ul>	

	<ul style="list-style-type: none"> <li>- Salivary Gland Tumours</li> <li>- Ameloblastoma</li> <li>- Periapical Granuloma</li> <li>- Dentigerous Cyst</li> <li>- Pulp Polyp etc</li> </ul>	20
4.	Preparation of oral swab for Microbiology  Microbiologic Examination of: <ul style="list-style-type: none"> <li>- Tuberculosis</li> <li>- Actinomycosis</li> <li>- Syphilis</li> <li>- Candidiasis</li> </ul>	10
5.	Histopathologic review of: (slides) <ul style="list-style-type: none"> <li>- Amelogenesis Imperfecta</li> <li>- Dentinogenesis Imperfecta</li> <li>- Peripheral Giant Cell Granuloma</li> <li>- Leukoplakia</li> <li>- Carcinoma in situ</li> <li>- Oral Submucous Fibrosis</li> <li>- Carcinoma of Oral Mucosa</li> <li>- Pleomorphic Adenoma</li> <li>- Malignant Pleomorphic Adenoma</li> <li>- Dentigerous Cyst</li> <li>- Odontogenic Keratocyst</li> <li>- Ameloblastoma</li> <li>- Gingival Hyperplasia</li> <li>- ANUG</li> <li>- Lichen Planus</li> <li>- Pemphigus</li> <li>- Dental Caries</li> </ul>	30
6.	Forensic Pathology <ul style="list-style-type: none"> <li>- Age determination from skull</li> </ul>	2
7.	Haematology Procedures: <ul style="list-style-type: none"> <li>- Preparation of peripheral smear</li> <li>- Determination of TC, DC, ESR, Hb , Bleeding Time, Clotting Time ,Blood Picture</li> </ul>	8

Total – 90 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

## GENERAL MEDICINE

SL NO.	TOPICS	HOURS
1.	<p>Aims of medicine  Definitions of diagnosis, treatment &amp; prognosis.  History taking  Physical examination of the patient  Diagnosis and management of disease.  Genetics and disease  Medical Ethics.</p>	2
2.	<p>INFECTIONS:</p> <ul style="list-style-type: none"> <li>a) Enteric fever</li> <li>b) Herpes simplex</li> <li>c) Herpes zoster,</li> <li>d) STDs –Syphilis, Gonorrhea, HPV, HIV</li> <li>e) Diphtheria</li> <li>f) Malaria,</li> <li>g) Actinomycosis,</li> <li>h) Viral hepatitis</li> <li>i) Tuberculosis.</li> <li>j) Infectious mononucleosis</li> <li>k) Mumps</li> <li>l) Measles</li> <li>m) Rubella</li> <li>n) Leprosy</li> </ul> <p>Organisation and functions of the immune systems.</p>	4
3.	<p>G.I.T:</p> <ul style="list-style-type: none"> <li>a) Stomatitis</li> <li>b) Gingival hyperplasia,</li> <li>c) Dysphagia</li> <li>d) Acid peptic disease</li> <li>e) Jaundice</li> <li>f) Acute and chronic hepatitis</li> <li>g) Cirrhosis of liver</li> <li>h) Ascitis</li> <li>i) Amoebiasis</li> <li>j) Tender hepatomegaly</li> <li>k) Hepatotoxic drugs</li> <li>l) Portal hyper tension</li> <li>m) Diarrhoea and Dysentery including Malabsorbtion syndromes Helicobacter pylori.</li> </ul>	4
4.	<p>CVS :</p> <ul style="list-style-type: none"> <li>a) Acute rheumatic fever</li> <li>b) Valvular heart disease</li> </ul>	

	<ul style="list-style-type: none"> <li>c) Hypertension</li> <li>d) Ischemic heart disease (myocardial infarction)</li> <li>e) Infective endocarditis</li> <li>f) Common arrhythmias</li> <li>g) Classification of congenital heart disease</li> <li>h) Congestive cardiac failure</li> <li>i) Fallot's tetralogy</li> <li>j) ASD, VSD.</li> </ul>	4
5.	<p><b>RESPIRATORY SYSTEM:</b> Applied Anatomy and physiology of RS</p> <ul style="list-style-type: none"> <li>a) Pneumonia</li> <li>b) COPD</li> <li>c) Pulmonary tuberculosis</li> <li>d) Bronchial asthma</li> <li>e) Pleural effusion</li> <li>f) Acute respiratory tract infections</li> <li>g) Pulmonary embolism</li> <li>h) Suppurative lung diseases</li> <li>i) Lung abscess</li> <li>j) Pneumothorax</li> <li>k) Bronchiectasis</li> <li>l) Lung Cancer</li> <li>m) Empyema</li> <li>n) Sleep apnoea</li> <li>o) ARDS</li> <li>p) Respiratory failure.</li> </ul>	4
6.	<p><b>HAEMATOLOGY:</b></p> <ul style="list-style-type: none"> <li>a) Hematopoiesis</li> <li>b) Anaemias</li> <li>c) Bleeding &amp; Clotting disorders</li> <li>d) Acute and chronic myeloid leukemias</li> <li>e) Agranulocytosis and Neutropenia,</li> <li>f) Thrombocytopenia</li> <li>g) Splenomegaly</li> <li>h) Lymphomas</li> </ul> <ul style="list-style-type: none"> <li>- Oral manifestations of haematological disorders</li> <li>- Generalized Lymphadenopathy.</li> <li>- Principles of blood and blood products transfusion, Thromboembolic disease</li> <li>- Oncogenesis</li> </ul>	4

	<ul style="list-style-type: none"> <li>- Haemolytic anaemia</li> <li>- DIC (Disseminated Intravascular Coagulation).</li> </ul>	
7.	<b>RENAL SYSTEM :</b> <ul style="list-style-type: none"> <li>- Acute nephritis and Nephrotic syndrome,</li> <li>- U.T.I</li> <li>- Renal function tests</li> <li>- CRF</li> </ul>	2
8.	<b>NUTRITION:</b> <ul style="list-style-type: none"> <li>a) Balanced diet</li> <li>b) PEM</li> <li>c) Vitamin deficiency disease</li> <li>d) Calcium and phosphate metabolism</li> <li>e) Flourosis</li> <li>f) Osteomalacia</li> <li>g) Osteoporosis</li> </ul>	2
9.	<b>CNS:</b> <ul style="list-style-type: none"> <li>a) Facial palsy</li> <li>b) Facial pain</li> <li>c) Trigeminal neuralgia</li> <li>d) Epilepsy</li> <li>e) Headache including migraine</li> <li>f) Meningitis (Acute and Chronic)</li> <li>-</li> </ul> <p>Anticonvulsants Examination of comatose patient Examination of cranial nerves.</p>	4
10.	<b>ENDOCRINE SYSTEM:</b> <ul style="list-style-type: none"> <li>a) Diabetes mellitus</li> <li>b) Acromegaly</li> <li>c) Hypothyroidism</li> <li>d) Thyrotoxicosis</li> <li>e) Calcium metabolism and parathyroids.</li> <li>f) Addison's disease</li> <li>g) Cushing's syndrome</li> <li>h) Parathyroid disease and calcium metabolism</li> </ul> <p>Preoperative assessment of diabetic patients Acute adrenal deficiency</p>	4
11.	<b>CRITICAL CARE MEDICAL &amp; EMERGENCIES IN DENTAL PRACTICE</b> <ul style="list-style-type: none"> <li>a) Syncope</li> <li>b) Cardiac arrest</li> <li>c) Cardio Pulmonary Resuscitation (CPR)</li> <li>d) Cardiogenic shock</li> </ul>	4

	e) Anaphylaxis f) Allergy g) Angio -neurotic oedema h) Acute LVF i) ARDS j) Coma.	
12.	Miscellaneous : - Adverse drug reactions - Drug interactions - Rheumatoid disease - Osteoarthritis - Scleroderma.	2

Total – 40 hours

#### PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
	CLINICAL TRAINING: (posting in a general hospital) a)The student must be able to take history b)Do general physical examination – - Build &nourishment, - Pulse, BP, temperature - Oedema - Respiration - Clubbing - Cyanosis - Jaundice - Lymph adenopathy - Oral cavity c) Examination of CVS, RS , Abdomen d)Examination of facial nerve and signs of Meningeal irritation e)Examination and identification of Infectious diseases from signs and symptoms f) Identification of Allergies g)Drug reactions – Drug interactions g)Evaluation of a case of general anaesthesia.	90

Total – 90 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## GENERAL SURGERY

1.	<p><b>HISTORY OF SURGERY:</b>  <i>The development of surgery as a specialty over the years, will give the students an opportunity to know the contributions made by various scientists, teachers and investigators. It will also enable the student to understand the relations of various specialties in the practice of modern surgery.</i></p> <p><b>GENERAL PRINCIPLES OF SURGERY:</b></p> <ul style="list-style-type: none"> <li>- Introduction to various aspects of surgical principles as related to orodental diseases.</li> <li>- Classification of diseases in general.</li> </ul> <p>This will help the student to understand the various diseases, their relevance to routine dental practice</p>	1
2.	<p><b>PRINCIPLES OF OPERATIVE SURGERY:</b></p> <ul style="list-style-type: none"> <li>a) Principles as applicable to minor surgical procedures including detailed description of asepsis, antiseptics, sterilisation,</li> <li>b) Principles of Anaesthesia</li> <li>c) Principles of tissue replacement.</li> <li>d) Knowledge of sutures, drains, diathermy, cryosurgery and use of Laser in surgery.</li> </ul>	2.5
3.	<p><b>WOUNDS:</b></p> <ul style="list-style-type: none"> <li>a) Their classification</li> <li>b) Wound healing</li> <li>c) Repair</li> <li>d) Treatment of wounds</li> <li>e) Asepsis and Antiseptic measures</li> <li>f) Syncope, Shock &amp; Collapse</li> <li>g) Skin grafting</li> <li>e) Medico legal aspects of accidental wounds</li> <li>f) Complications of wounds</li> </ul>	2.5
4.	<p><b>INFLAMMATION:</b>  Of soft and hard tissues.</p> <p>Causes of inflammation  Sequelae and treatment.</p>	1
5.	<p><b>INFECTIONS:</b></p> <ul style="list-style-type: none"> <li>a) Acute and chronic abscess</li> <li>b) Skin infections</li> </ul>	



	<p>c) Cellulitis d) Carbuncle, e) Erysipelas</p> <p>Specific infections such as</p> <p>f) Tetanus g) Gangrene h) Syphilis i) Gonorrhoea j) Tuberculosis k) Actinomycosis l) Vincent's angina m) Cancrum oris n) Pyaemia o) Toxaemia p) Septicaemia</p> <p><b>TRANSMISSABLE VIRAL INFECTIONS:</b> <b>HIV and Hepatitis B with special reference to their prevention and precautions to be taken in treating patients in a carrier state.</b></p>	4
6.	<p><b>SHOCK AND HAEMORRHAGE:</b></p> <p>Classification, causes, clinical features and management of various types of</p> <p>a) Shock. b) Syncope c) Circulatory collapse.</p> <p>d) Haemorrhage -different types, causes, clinical features and management.</p> <p>e) Blood groups, blood transfusion, precautions and complications of blood and their products.</p> <p>f) Hemophilias - their transmission, clinical features and management especially in relation to minor dental procedures</p>	2
7.	<p><b>TUMOURS, ULCERS, CYSTS, GANGRENE, SINUS, AND FISTULAE:</b></p> <ul style="list-style-type: none"> <li>- Classification,</li> <li>- Clinical examination</li> <li>- Treatment principles in various types of <ul style="list-style-type: none"> <li>a) Benign and malignant Tumours</li> <li>b) Ulcers</li> <li>c) Cysts</li> <li>d) Gangrene</li> <li>e) Sinus</li> <li>f) Fistulae.</li> </ul> </li> </ul>	3.5

8.	<p><b>DISEASES OF LYMPHATIC SYSTEM:</b> Especially those occurring in head and neck region. Special emphasis on identifying diseases such as</p> <ul style="list-style-type: none"> <li>a) Tubercular infection,</li> <li>b) Lymphomas,</li> <li>c) Leukaemias,</li> <li>d) Metastatic lymph node diseases</li> </ul>	2
9.	<p><b>DISEASES OF THE ORAL CAVITY:</b> Infective and malignant diseases of the Oral cavity and Oropharynx including salivary glands with special emphasis on preventive aspects of premalignant and malignant diseases of the oral cavity.</p>	2
10.	<p><b>NECK SWELLINGS:</b></p> <ul style="list-style-type: none"> <li>- Midline and Lateral swellings,</li> <li>- Cystic and Solid swellings</li> <li>- Classification,</li> <li>- Differential diagnosis,</li> <li>- Treatment</li> </ul>	2
11.	<p><b>DISEASES OF THYROID AND PARATHYROID:</b> Surgical anatomy, pathogenesis, clinical features and management of dysfunction of thyroid and parathyroid glands.  Malignant diseases of the thyroid—classification, clinical features and management</p>	1.5
12.	<p><b>DISEASES OF LARYNX, NASOPHARYNX:</b> Infections and Tumours affecting these sites.  Indications, procedure and complications of Tracheostomy.</p>	1.5
13.	<p><b>E.N.T:</b> Ear: Middle ear infection.. Nose: Para nasal sinusitis; Rhinitis, Epitaxis.. Throat: Tonsillitis &amp; Peritonsillar Abscess Tonsillectomy</p>	1.5
14.	<p><b>NERVOUS SYSTEM:</b></p> <ul style="list-style-type: none"> <li>a) Surgical problems associated with nervous system with special reference to the principles of peripheral nerve injuries, their regeneration and principles of treatment.</li> <li>b) Detailed description of afflictions of facial nerve and its management.</li> <li>c) Trigeminal neuralgia, its presentation and treatment</li> </ul>	2

15.	<b>FRACTURES:</b> General principles of fractures. Clinical presentation and treatment with additional reference to newer methods of fracture treatment. Special emphasis on fracture healing and rehabilitation.	2
16.	<b>HEAD INJURY &amp; MANAGEMENT</b>	1.5
17.	<b>ANOMALIES OF DEVELOPMENT OF FACE:</b> Surgical anatomy and development of face. Cleft lip and cleft palate—principles of management	1.5
18.	<b>DISEASES OF ARTERIES AND VEINS IN GENERAL:</b> a) Varicose veins b) Atherosclerosis c) Aneurysm, d) Carotid Body tumours	1
19.	Management of severely injured patient - Resuscitation	1
20.	<b>SWELLINGS OF THE JAW:</b> Differential diagnosis and management of different types of swellings of the jaw Osteomyelitis of Mandible/Maxilla	2
21.	<b>BIOPSY:</b> Different types of biopsies routinely used in surgical practice	1
22.	<b>BURNS AND SCALDS</b>	1

*Desirable to know -Introduction to Oncology, Radiotherapy,Surgery and Genetic engineering*

Total – 40 hours

## PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1.	History taking and Examination of Ulcers History taking and Examination of Swellings History taking and Examination of Thyroid History taking and Examination of Head & Neck malignancies History taking and Examination of Surgical OPD	60
2.	Detailed case sheet writing and demonstrations Ward procedure including wound dressing	30

Total – 90 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## PUBLIC HEALTH DENTISTRY

SL NO.	TOPICS	HOURS
1.	<b>PUBLIC HEALTH:</b> <ul style="list-style-type: none"> <li>a) Health &amp; Disease: - Concepts, Philosophy, Definition and Characteristics</li> <li>b) Public Health: - Definition &amp; Concepts, History of public health</li> <li>c) General Epidemiology: - Definition, objectives, methods</li> <li>d) Environmental Health: - Concepts, principles, protection, sources, purification environmental sanitation of water, disposal of waste, sanitation, their role in mass disorder</li> <li>e) Health Education: - Definition, concepts, principles, methods, and health education aids</li> <li>f) Public Health Administration: - Priority, establishment, manpower, private practice management, hospital management</li> <li>g) Ethics and Jurisprudence:</li> </ul>	4
2.	<b>RESEARCH METHODOLOGY:</b> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types of research</li> <li>- Designing a written protocol</li> <li>-</li> </ul> <b>BIO-STATISTICS:</b> <ul style="list-style-type: none"> <li>- Introduction</li> <li>- Collection of data</li> <li>- Presentation of data</li> <li>- Measures of Central tendency</li> <li>- Measures of dispersion</li> <li>- Tests of significance</li> <li>- Sampling and sampling techniques-types</li> <li>- Errors, Bias, blind trails and calibration</li> </ul>	2
3.	<b>BEHAVIORIAL SCIENCE:</b> Definition of sociology, anthropology and psychology and their relevance in dental practice and community	
	<b>I. PSYCHOLOGY:</b> <ul style="list-style-type: none"> <li>a) Definition &amp; Need of Behavioural Science</li> <li>- Determinants of Behaviour</li> </ul>	

	<ul style="list-style-type: none"> <li>- Scope of Behavioural Science.</li> <li>b) Sensory process &amp; perception perceptual process- Clinical applications.</li> <li>c) Attention - Definition - factors that determine attention. Clinical application.</li> <li>d) Memory <ul style="list-style-type: none"> <li>- Memory process</li> <li>- Types of memory</li> <li>- Forgetting</li> <li>- Methods to improve memory</li> <li>- Clinical assessment of Memory</li> <li>- Clinical applications.</li> </ul> </li> <li>e) Laws of learning <ul style="list-style-type: none"> <li>- Type of learning.</li> <li>- Classical conditioning</li> <li>- Operant conditioning</li> <li>- Cognitive learning</li> <li>- Insight learning</li> <li>- Social learning</li> <li>- Observational learning,</li> <li>- Principles of learning</li> <li>- Clinical application.</li> </ul> </li> <li>f) Intelligence <ul style="list-style-type: none"> <li>- Definition</li> <li>- Nature of intelligence</li> <li>- Stability of intelligence</li> <li>- Determinants of intelligence</li> <li>- Clinical application</li> </ul> </li> <li>g) Thinking <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types of thinking</li> <li>- Delusions</li> <li>- Problem solving</li> </ul> </li> <li>h) Motivation – <ul style="list-style-type: none"> <li>- Definition -Motive, drive, needs</li> <li>- Classification of motives</li> </ul> </li> <li>i) Emotions <ul style="list-style-type: none"> <li>- Definition</li> <li>- Differentiation from feelings</li> <li>- Role of hypothalamus</li> <li>- Cerebral cortex,adrenal glands ANS.</li> </ul> </li> </ul>	5
--	--	---

	<ul style="list-style-type: none"> <li>- Theories of emotion,</li> <li>- Types of emotions.</li> </ul> <p>j) Personality Assessment of personality:</p> <ul style="list-style-type: none"> <li>- Questionnaires,</li> <li>- Personality inventory, rating scales,</li> <li>- Interview projective techniques – Rorshach ink blot test , RAT, CAT</li> </ul> <p>g) Classify psychiatric disorders in dentistry.</p> <p>h) Recognise clinical manifestations of dental phobia, dental anxiety, facial pain, orofacial manifestations of psychiatric disorders, addictive disorders.</p> <p>i) Introduction to Psychological development from birth to Adolescence.</p> <p>j) Management of child in the dental office .</p> <p>k) Parent counselling in respect of dental health and hygiene of the child.</p>	
4.	<p>II. SOCIOLOGY :</p> <p>As applied to health, social structure concepts groups, social institutions, urban and rural societies their concept of health</p> <ul style="list-style-type: none"> <li>- Family, Types of family</li> <li>- Marriage</li> <li>- Application of sociology in health programme</li> <li>- Social environment.</li> </ul> <p>Cultural Anthropology</p> <ul style="list-style-type: none"> <li>- Objective</li> <li>- Different aspects of Folk medicine and popular medicine</li> <li>- Cultural Pattern and Complexes,Taboos, as related to health.</li> </ul>	3
5.	<p>PUBLIC HEALTH DENTISTRY:</p> <ul style="list-style-type: none"> <li>- Introduction &amp; definition,</li> <li>- Difference between community and clinical health</li> <li>- Objectives &amp; functions of public health dentistry</li> </ul> <p>Epidemiology of dental diseases:</p> <ul style="list-style-type: none"> <li>- Dental caries, Periodontal diseases, Malocclusion, Dental fluorosis and oral cancer.</li> <li>- Epidemiology of periodontal disease and parameters used in clinical and population studies.</li> </ul>	4

	<p>Survey procedures:</p> <ul style="list-style-type: none"> <li>- Planning, implementation and evaluation,</li> <li>- WHO oral health survey methods 1997</li> <li>- Indices for dental diseases</li> <li>- Utilization of dental manpower for the delivery of dental care :</li> <li>- Dental auxiliaries, operational and non-operational,</li> <li>- Incremental and comprehensive health care,</li> <li>- School dental health programme</li> <li>- Public dental health programme</li> </ul> <p>Payments of dental care:</p> <ul style="list-style-type: none"> <li>- Methods of payments</li> <li>- Dental insurance</li> <li>- Government plans</li> </ul>	
6	<p>Preventive Dentistry</p> <ul style="list-style-type: none"> <li>- Prevention</li> <li>- Levels of prevention</li> <li>- Various measures in the prevention of dental and oral diseases at individual and mass level</li> </ul> <p>Role of individual, community and profession</p> <p>Fluorides in dentistry</p> <p>Plaque control programmes</p> <p>Dental Health services of State and Centre</p>	3



7.	<p>Private practice administration &amp; Ethics.</p> <p>a) PRACTICE MANAGEMENT</p> <ul style="list-style-type: none"> <li>- Place and locality</li> <li>- Premises &amp; layout</li> <li>- Selection of equipments</li> </ul> <p>Maintenance of records/accounts/audit.</p> <ul style="list-style-type: none"> <li>- Basic aspects of good record-keeping</li> <li>- Different types of dental records</li> <li>- Dental charts</li> <li>- Dental radiographs</li> <li>- Study casts</li> <li>- Denture marking</li> <li>- Photographs</li> </ul> <p>Dentist Act 1948 with amendment.</p> <p>Dental Council of India and State Dental Councils Composition and responsibilities.</p> <p>Indian Dental Association Head Office, State, local and branches</p>	4
	<p>b) ETHICS</p> <p>Introduction to ethics –</p> <ul style="list-style-type: none"> <li>- what is ethics?</li> <li>- What are values and norms?</li> <li>- How to form a value system in one's personal and professional life?</li> <li>- Hippocratic oath.</li> <li>- Declaration of Helsinki</li> <li>- WHO declaration of Geneva,</li> <li>- International code of ethics</li> <li>- Dental council of India – Code of Ethics</li> </ul>	5

	<p>Ethics of the individual -</p> <ul style="list-style-type: none"> <li>- The patient as a person.</li> <li>- Right to be respected <ul style="list-style-type: none"> <li>- Truth and confidentiality</li> <li>- Autonomy of decision</li> </ul> </li> <li>- Doctor Patient relationship</li> </ul> <p>Professional Ethics – Professional liabilities</p> <ul style="list-style-type: none"> <li>- Code of conduct</li> <li>- Contract and confidentiality</li> <li>- Charging of fees, fee splitting</li> <li>- Prescription of drugs</li> <li>- Over-investigating the patient</li> <li>- Malpractice and negligence</li> <li>- Consents</li> <li>- Evidence</li> </ul> <p>Research Ethics</p> <ul style="list-style-type: none"> <li>- Animal and experimental research</li> <li>- Human experimentation</li> <li>- Human volunteer research-informed consent</li> <li>- Drug trials</li> </ul> <p>Ethical workshop of cases  Gathering all scientific factors  Gathering all value factors</p> <p>Identifying areas of value – conflict, setting of priorities  Working our criteria towards decisions</p>	
--	--	--

Total -30 hours

## PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1.	<p>a) Collection of statistical data (demographic) on population in India, birth rates, morbidity and mortality, literacy, per capita income.</p> <p>b) Incidence and prevalence of common oral diseases like dental caries, periodontal disease, oral cancer, fluorosis at national and international levels.</p> <p>c) Preparation of oral health education material posters, models, slides, lectures, plays acting skits etc.</p> <p>d) Oral health status assessment of the community using indices and WHO basic oral health survey methods.</p> <p>Examination pattern</p> <ol style="list-style-type: none"> <li>Oral Hygiene Indices simplified – Green an vermilion</li> <li>Sillness and Loe index for Plaque</li> <li>Loe and Sillness index for gingival</li> <li>CPI</li> <li>DMF: T and S, df: t and s</li> <li>Dean's fluoride index</li> </ol> <p>e) Exploring and planning setting of private dental clinics in rural, semi urban and urban locations, availment of finances for dental practices-preparing project report.</p>	45
2.	<p>Field visits</p> <ul style="list-style-type: none"> <li>- Visit to primary health center-to acquaint with activities and primary health care delivery.</li> <li>- Visit to water purification plant/public health laboratory/center for treatment of waste and sewage water.</li> <li>- Visit to schools-to assess the oral health status of school children, emergency treatment and health education including possible preventive care at school (tooth brushing technique demonstration and oral rinse programme etc.)</li> <li>- Visit to institution for the care of handicapped, physically, mentally, or medically compromised patients</li> </ul>	15

3.	<p>Behavioural science</p> <p>Develop skills for assessing psychological factors in each patient, explaining stress, learning simple counseling techniques and improving patients compliance behavior</p> <p>Diagnose and manage simple psychological problems while treating dental patients ( eg, dental phobia. Anxiety)</p>	20
4.	<p>Preventive dentistry:</p> <ul style="list-style-type: none"> <li>a) Oral hygiene instructions</li> <li>b) Application of pit and fissure sealants,</li> <li>c) Fluoride gel application procedure,</li> <li>d) A.R. T</li> <li>e) Comprehensive health service.</li> </ul>	20

Total – 100 hours

Note :

The colleges are encouraged to involve in the N.S.S. programme for students to carry out social work in rural areas.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## CONSERVATIVE DENTISTRY AND ENDODONTICS

SL NO.	TOPICS	HOURS
1.	Introduction to Conservative Dentistry. Definition, Aim & Scope of Conservative Dentistry & Endodontics	1
2.	Nomenclature Of Dentition: Tooth numbering systems : <ul style="list-style-type: none"> <li>- A.D.A.</li> <li>- Zsigmondy</li> <li>- Palmer</li> <li>- F.D.I. systems</li> </ul>	1
3.	Principles Of cavity Preparation : <ul style="list-style-type: none"> <li>- Steps and nomenclature of cavity preparation</li> <li>- Classification of cavities</li> <li>- Nomenclature of floors</li> <li>- Angles of cavities.</li> </ul>	1
4.	Dental Caries : <ul style="list-style-type: none"> <li>- Aetiology</li> <li>- Classification, clinical features, morphological features,</li> <li>- Microscopic features</li> <li>- Clinical diagnosis and sequel of dental caries.</li> </ul>	2
5.	Treatment Planning For Operative Dentistry: <ul style="list-style-type: none"> <li>- Detailed clinical examination</li> <li>- Radiographic examination</li> <li>- Tooth vitality tests</li> <li>- Diagnosis</li> <li>- Preparation of the case sheet</li> <li>- Charting</li> <li>- Treatment planning</li> </ul>	2
6.	Gnathological Concepts Of Restoration: <ul style="list-style-type: none"> <li>- Physiology of occlusion</li> <li>- Normal occlusion</li> <li>- Ideal occlusion</li> <li>- Mandibular movements and occlusal analysis</li> <li>- Occlusal rehabilitation and restoration</li> </ul>	2
7.	Armamentarium For Cavity Preparation:  General classification of operative instruments  <ul style="list-style-type: none"> <li>- Hand cutting instruments :</li> <li>- Terminology and classification</li> <li>- Design formula and sharpening of instruments.</li> <li>- Grasp Rest and application</li> </ul>	3

	<p>Rotary cutting instruments :</p> <ul style="list-style-type: none"> <li>- Dental burs</li> <li>- Common design characteristics</li> <li>- Diamond and other abrasive instruments</li> <li>- Mechanism of cutting,</li> <li>- Evaluation of hand piece and speed</li> <li>- Hazards and precautions</li> <li>- Current concepts of rotary cutting procedures.</li> </ul> <p>Sterilisation and maintenance of instruments.</p> <p>Basic instrument tray set up.</p>	
8.	<p>Isolation of Operating Field</p> <p>Purpose and methods of isolation</p> <p>Control of moisture</p> <ul style="list-style-type: none"> <li>- Rubber dam</li> <li>- Cotton rolls</li> <li>- Anti sialogagues</li> </ul>	1
9.	<p>Infection Control</p> <ul style="list-style-type: none"> <li>- Routes of transmission of dental infection</li> <li>- Personal barrier protection</li> <li>- Control of infection from aerosol, splatter</li> <li>- Sterilization procedures for dental equipment and instruments, monitoring sterilization, disinfection of operatory</li> <li>- Dental water line contamination and Biofilm</li> <li>- Disposal of waste</li> </ul>	2
10.	<p>Amalgam Restoration :</p> <ul style="list-style-type: none"> <li>- Indication contraindication,</li> <li>- physical and mechanical properties ,</li> <li>- clinical behaviour.</li> <li>- Cavity preparation for Class I , II, V and III.</li> <li>- Step wise procedure for cavity preparation and restoration.</li> <li>- including modified designs.</li> <li>- Bonded amalgam,</li> <li>- Failure of amalgam restoration</li> </ul>	2
11.	<p>Contacts and contour</p> <ul style="list-style-type: none"> <li>- Tooth separation</li> <li>- Matrices, retainers and wedges - types</li> <li>- Methods of wedging</li> </ul>	1
12.	<p>Pulp Protection :</p> <p>Liners, varnishes and bases,</p> <ul style="list-style-type: none"> <li>- Zinc phosphate,</li> <li>- zinc polycarboxylate,</li> <li>- zinc oxide eugenol and</li> <li>- glass inomer cements.</li> </ul>	2

	Affected and Infected dentin. Caries detector dyes Concepts of Remaining Dentin Thickness	
13.	Anterior Restorations : <ul style="list-style-type: none"> <li>- Selection of cases</li> <li>- Selection of material,</li> <li>- Step wise procedures for using restorations</li> <li>- silicate glass ionomers, composites including sandwich restorations</li> <li>- bevels of the same with a note on status of the dentine bonding agents.</li> </ul>	1
14.	Direct Filling Gold Restorations : <ul style="list-style-type: none"> <li>- Types of direct filling gold indications</li> <li>- Limitations of cohesive gold.</li> <li>- Annealing of gold foil</li> <li>- Tooth preparation</li> <li>- Condensation of gold foils.</li> </ul>	1
15.	Temporisation or Interim Restoration Materials and procedure	1
16.	Pin Amalgam Restoration <ul style="list-style-type: none"> <li>- Indication Contra Indication</li> <li>- Advantages disadvantages of each types of pin</li> <li>- Methods of placement</li> <li>- Use of auto matrix.</li> <li>- Failure of pin amalgam restoration.</li> </ul>	1
17.	Management Of Deep Carious Lesions <ul style="list-style-type: none"> <li>- Technique of caries excavation – Hand and rotary</li> <li>- Indirect And Direct Pulp Capping.</li> <li>- Pulpotomy</li> </ul>	1
18.	Root Caries Etiology, clinical features and management	1
19.	Non Carious Destruction of Tooth Structures Diagnosis and Clinical Management	1
20.	Hypersensitivity <ul style="list-style-type: none"> <li>- Dentine hypersensitivity and its management</li> <li>- Theories of hypersensitivity</li> </ul>	1
21.	Cast Restorations <ul style="list-style-type: none"> <li>- Indications &amp; contra indications</li> <li>- Advantages and disadvantages</li> <li>- Materials used</li> <li>- Class II and Class I cavity preparation for inlays</li> <li>- Fabrication of wax pattern</li> <li>- Spurring inverting and</li> <li>- Casting procedures</li> <li>- Cementation of restoration</li> <li>- Casting defects</li> </ul>	2

22.	Die Materials and preparation of Dies.	2
	Gingival Tissue Management for cast restoration and impression Procedures of Gingival retraction	
	Recent Cavity Modification Amalgam Restoration Differences between Amalgam and Inlay cavity preparation	
	Note on all the types of Bewels used for Cast Restoration	
23.	Control Of Pain During Operative Procedures. Methods, drugs used, Local anaesthesia	1
24.	Prevention of damage of hard and soft tissues during operative procedures	1
25.	<p>Applied Dental Materials</p> <p>Biological Considerations. Evaluation Clinical application and adverse effects of the following materials: Dental cements</p> <ul style="list-style-type: none"> <li>- Zinc oxide euginol cements</li> <li>- Zinc phosphate cements,</li> <li>- Polycarboxylates</li> <li>- Glass ionomer cements,</li> <li>- Silicate cement</li> <li>- Calcium hydroxides</li> <li>- Varnishes</li> </ul> <p><i>Dental amalgam</i> Technical considerations Mercury toxicity Mercury hygiene – Amalgam disposal.</p> <p><i>Composites</i> <i>Dentine bonding agents</i> Classification and recent development in dentin bonding systems components of dentin bonding agents critical steps in dentin bonding.</p> <p><i>Rubber base Imp. Materials</i> <i>Nobel metal alloys &amp; non noble metal alloys</i> <i>Investment and die materials</i> <i>Inlay casting waxes</i> <i>Dental porcelain</i></p>	3
26.	<p>Aesthetic Dentistry</p> <ul style="list-style-type: none"> <li>- Introduction and scope</li> <li>- Anatomy and physiology of smile</li> </ul>	2



	<ul style="list-style-type: none"> <li>- Role of colour and translucency</li> <li>- Aesthetic recontouring</li> <li>- Alteration of tooth form, shape, size and colour</li> <li>- Management of discoloured teeth</li> </ul>	
27.	<p>Composite restorations</p> <ul style="list-style-type: none"> <li>- Composition</li> <li>- Classification</li> <li>- Properties</li> <li>- Recent advances in composite resins</li> <li>- Indications &amp; contraindications,</li> <li>- Advantages, disadvantages</li> <li>- Step wise procedures of tooth preparation for composite restorations.</li> <li>- Clinical technique for posterior direct composite restorations</li> <li>- Finishing and polishing of composite restoration</li> <li>- Indirect posterior composite restoration</li> </ul>	2
28.	<p>Ceramic Restorations</p> <ul style="list-style-type: none"> <li>- Recent advances in ceramic</li> <li>- Ceramic laminates, inlays, onlays and crowns</li> <li>- Indications,contraindications</li> <li>- Advantages, disadvantages</li> <li>- Techniques</li> </ul>	1
<b>ENDODONTICS</b>		
29.	<ul style="list-style-type: none"> <li>- Introduction definition scope and future of Endodontics</li> <li>- Clinical diagnostic methods</li> <li>- Case history</li> <li>- Diagnosis</li> <li>- Treatment plan</li> </ul>	1
30.	Microbiology of endodontic infection	1
31.	<p>Pulpal diseases :</p> <ul style="list-style-type: none"> <li>- Causes</li> <li>- Types – acute pulpitis, chronic pulpitis, pulp polyp</li> <li>- Investigations and diagnosis</li> <li>- Treatment</li> </ul> <p>Periapical diseases:</p> <ul style="list-style-type: none"> <li>- Acute periapical abscess</li> <li>- Acute periodontal abscess</li> <li>- Phoenix abscess</li> <li>- Chronic alveolar abscess</li> <li>- Granuloma</li> </ul>	2

	<ul style="list-style-type: none"> <li>- Cysts</li> <li>- Condensing osteitis</li> <li>- External resorption.</li> </ul> <p>Investigations, Diagnosis, Treatment</p>	
32.	<p>Vital pulp therapy:</p> <ul style="list-style-type: none"> <li>- Indirect and direct pulp capping</li> <li>- Pulpotomy- different types and medicaments used.</li> <li>- Apexogenesis and apexification or problems of open apex.</li> </ul>	1
33.	<p>Principles of root canal treatment</p> <ul style="list-style-type: none"> <li>- Rationale of endodontic treatment case selection</li> <li>- Indication and contraindications for root canal treatments</li> </ul> <p>Root canal instruments:</p> <ul style="list-style-type: none"> <li>- hand instruments</li> <li>- Power driven instruments,</li> <li>- standardisation</li> <li>- colour coding principle of using endodontic instruments.</li> </ul> <p>Isolation and infection control in Endodontics</p> <ul style="list-style-type: none"> <li>- Mouth preparation</li> <li>- Sterilisation of root canal instruments and materials</li> <li>- Rubber dam application.</li> </ul>	3
34.	<p>Anatomy of the pulp cavity:</p> <ul style="list-style-type: none"> <li>- Root canals</li> <li>- Apical foramen</li> <li>- Anomalies of pulp cavities access</li> </ul>	1
35.	<p>Access preparation</p> <ul style="list-style-type: none"> <li>- Objectives</li> <li>- Principles</li> <li>- Instruments used</li> <li>- Sequential steps of access preparation for individual tooth</li> </ul>	1
36.	<p>Preparation of root canal space</p> <ul style="list-style-type: none"> <li>- Determination of working length,</li> <li>- Methods of determining working length</li> </ul> <p>Cleaning and shaping of root canals</p> <ul style="list-style-type: none"> <li>- Objectives</li> <li>- Instrument used - hand and rotary</li> <li>- Techniques –Step back ,Crown down and conventional methods</li> </ul> <p>Irrigating solution</p> <ul style="list-style-type: none"> <li>- Functions</li> <li>- Types</li> <li>- Methods and techniques of irrigation</li> </ul> <p>Chemical aids to instrumentation</p>	2.5

37.	Disinfection of root canal space: Intracanal medicaments <ul style="list-style-type: none"> <li>- Functions</li> <li>- Requirements</li> <li>- Types</li> <li>- Method of placement and limitations</li> </ul> Poly antibiotic paste Mummifying agents.	1.5
38.	Problems during cleaning and shaping of root canal spaces. <ul style="list-style-type: none"> <li>- Perforation and its management.</li> <li>- Broken instruments and its management,</li> <li>- Management of single and double curved root canals.</li> </ul> Smear layer and its importance in Endodontics and conservative treatment.	1.5
39.	Obturation of the root canal system <ul style="list-style-type: none"> <li>- Materials used</li> <li>- Requirements of an ideal root canal filling material</li> <li>- Obturation methods using gutta percha</li> <li>- Classification and procedure</li> </ul> Root canal sealers. <ul style="list-style-type: none"> <li>- Ideal properties classification.</li> <li>- Manipulation of root canal sealers.</li> </ul>	1.5
40.	Post - Endodontic restoration <ul style="list-style-type: none"> <li>- Principles of post -endodontic restorations</li> <li>- Post and core-materials</li> <li>- Fabrication</li> <li>- Components of post core preparation</li> </ul>	1
41.	Discoloured teeth and its management. <ul style="list-style-type: none"> <li>- Intrinsic and extrinsic discolouration</li> <li>- Bleaching agents</li> <li>- Vital and non vital bleaching</li> <li>- Methods</li> </ul>	1
42.	Traumatised teeth <ul style="list-style-type: none"> <li>- Classification of fractured teeth.</li> <li>- Management of fractured tooth and root.</li> <li>- Luxated teeth and its management.</li> </ul>	2
43.	Endodontic surgeries <ul style="list-style-type: none"> <li>- Indication contraindications,</li> <li>- Pre operative preparation.</li> <li>- Pre medication</li> <li>- Surgical instruments and techniques</li> <li>- Apicectomy,</li> <li>- Retrograde filling,</li> <li>- Post operative sequele</li> <li>- Trephination, hemisection, radiscetomy</li> <li>- Techniques of tooth reimplantation (both intentional and accidental)</li> <li>- Endodontic implants.</li> </ul>	3

44.	Root resorption Etiology and management	1
45.	Outcome of root canal treatment <ul style="list-style-type: none"> <li>- Success and failures of endodontic treatments</li> <li>- Bacteriological examinations</li> <li>- Culture methods.</li> <li>-</li> </ul> Retreatment in Endodontics	2
46.	Emergency endodontic procedures.	1

*Desirable to know-Lasers in conservative /endodontics and Computer aided dentistry-  
Introduction only*

Total – 70 hours

## PRACTICALS/CLINICALS

SL NO.	TOPICS	Min no:
1.	Caries risk assessment	10 cases
2.	Radiographic assessment	perform
3.	Vitality tests	perform
4.	Local anaesthesia administration	perform
5.	Silver amalgam restorations class I,II	30 nos.
6.	Glass ionomer restorations class I,II,III,V	10 nos
7.	Composite resin restorations class IV, I, II, III, V	10 no.s
8.	Pit and fissure sealant and sealant restoration	10 nos
9.	Pulp capping – direct and indirect	10 nos.
10.	Anterior root canal treatment	5 nos.
11.	Posterior root canal treatment	3 nos
12.	Direct composite veneers	2 nos.
13.	Diastema closures	2 nos.
14.	Bleaching	2 no.
15.	Periapical surgeries	assist
16.	Post endodontic restorations	1 no.

17.	Splinting	Assist/observe
18.	Inlays and onlays	2 nos.
CHAIRSIDE DEMONSTRATIONS		
SL NO.	TOPICS	HOURS
1.	Case history discussion Charting Dietary advice	1
2.	Vitality test	1
3.	Radiographic interpretations	1
4.	Rubber dam application	1
5.	Instruments and instrument set up	1
6.	Root canal sealer manipulation	1
7.	Matrix band and retainer application	1
8.	Demonstration of pit and fissure sealant , fissurotomy and flowable composite application in patients	1
9.	Step by step procedure of Anterior root canal therapy demonstration in natural tooth	1
10.	Patient communication skill	1
11.	Local anaesthesia techniques and other pain control measures	1
12.	Sterilization methods of endodontic and operative instruments	1
13.	Endodontic emergency management	1

Total – 600 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

SL NO.	TOPICS	HOURS
1.	<p>Introduction</p> <p>Growth And Development: In General</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Growth spurts and Differential growth</li> <li>- Factors influencing growth and Development</li> <li>- Methods of measuring growth</li> <li>- Growth theories (Genetic, Sicher's, Scott's, Moss's, Petrovics, Multifactorial)</li> <li>- Genetic and epigenetic factors in growth</li> <li>- Cephalocaudal gradient in growth.</li> </ul> <p>Morphologic development of craniofacial structures</p> <ul style="list-style-type: none"> <li>- Methods of bone growth</li> <li>- Prenatal growth of craniofacial structures</li> <li>- Postnatal growth and development of: cranial base, maxilla, mandible, dental arches and occlusion.</li> </ul> <p>Functional development of dental arches and occlusion</p> <ul style="list-style-type: none"> <li>- Factors influencing functional development of dental arches and occlusion.</li> <li>- Forces of occlusion</li> <li>- Wolfe's law of transformation of bone</li> <li>- Trajectories of forces</li> </ul> <p>Clinical Application Of Growth And Development</p>	3
2.	<p>Malocclusion - In General</p> <ul style="list-style-type: none"> <li>- Concept of normal occlusion</li> <li>- Definition of malocclusion</li> <li>- Description of different types of dental, skeletal and functional malocclusion</li> </ul> <p>Classification of Malocclusion</p> <ul style="list-style-type: none"> <li>- Principle</li> <li>- Description</li> <li>- Advantages and disadvantages of classification of malocclusion by <ul style="list-style-type: none"> <li>a) Angle's</li> <li>b) Simon's</li> <li>c) Lischer's</li> <li>d) Ackerman and Proffitt's</li> </ul> </li> </ul>	2
3.	Normal And Abnormal Function Of Stomatognathic System	1
4.	<p>Aetiology of Malocclusion</p> <p>Definition, importance, classification, local and general etiological factors.</p> <p>Etiology of following different types of malocclusion:</p> <ul style="list-style-type: none"> <li>a) Midline diastema</li> <li>b) Spacing</li> <li>c) Crowding</li> <li>d) Cross-Bite: Anterior/Posterior</li> </ul>	2

	e) Class III Malocclusion f) Class II Malocclusion g) Deep Bite h) Open bite	
5.	Diagnosis And Diagnostic Aids <ul style="list-style-type: none"> <li>- Definition</li> <li>- Importance</li> <li>- Classification of diagnostic aids</li> </ul> Importance of case history and clinical examination in orthodontics <ul style="list-style-type: none"> <li>- Study Models</li> <li>- Importance and uses</li> <li>- Preparation and preservation of study models.</li> </ul> Importance of intraoral X-rays in orthodontics <ul style="list-style-type: none"> <li>a) Panoramic radiographs               <ul style="list-style-type: none"> <li>- Principles</li> <li>- Advantages, disadvantages</li> <li>- Uses</li> </ul> </li> <li>b) Cephalometrics               <ul style="list-style-type: none"> <li>- Advantages, disadvantages</li> <li>- Definition</li> <li>- Description and use of cephalostat</li> <li>- Description and uses of anatomical landmarks lines and angles used in cephalometric analysis</li> </ul> </li> <li>c) Analysis               <ul style="list-style-type: none"> <li>- Steiner's</li> <li>- Down's</li> <li>- Tweed's</li> <li>- Ricket's-E- line</li> <li>-</li> </ul> </li> <li>d) Electromyography and its uses in orthodontics</li> <li>e) Wrist X-rays and its importance in orthodontics</li> </ul>	3.5
6.	General Principles In Orthodontic Treatment Planning of Dental And Skeletal Malocclusions	1.5
7.	Anchorage in Orthodontics – <ul style="list-style-type: none"> <li>- Definition</li> <li>- Classification</li> <li>- Types and Stability Of Anchorage</li> </ul>	1
8.	Biomechanical principles in orthodontic tooth movement <ul style="list-style-type: none"> <li>- Different types of tooth movements</li> <li>- Tissue response to orthodontic force application</li> <li>- Age factor in orthodontic tooth movement</li> </ul>	2

9.	<p>Preventive Orthodontics</p> <ul style="list-style-type: none"> <li>a) Definition</li> <li>b) Different procedures undertaken in preventive orthodontics and their limitations</li> </ul>	1
10.	<p>Interceptive Orthodontics</p> <ul style="list-style-type: none"> <li>a) Definition</li> <li>b) Different procedures undertaken in interceptive orthodontics</li> <li>c) Serial extractions: Definition, indications, contra-indication, technique, advantages and disadvantages.</li> <li>d) Role of muscle exercises as an interceptive procedure</li> </ul>	2.5
11.	<p>Corrective Orthodontics</p> <p>Definition, factors to be considered during treatment planning.</p> <p>Model analysis:</p> <ul style="list-style-type: none"> <li>a) Pont's</li> <li>b) Ashley Howe's</li> <li>c) Bolton,</li> <li>d) Careys</li> <li>e) Moyer's Mixed Dentition Analysis</li> </ul> <p>Methods of gaining space in the arch:-</p> <p>Indications, relative merits and demerits of</p> <ul style="list-style-type: none"> <li>- Proximal stripping,</li> <li>- Arch expansion</li> <li>- Extractions in orthodontics - indications and selection of teeth for extraction.</li> </ul>	2
12.	<p>Orthodontic Appliances: General</p> <ul style="list-style-type: none"> <li>- Requisites for orthodontic appliances</li> <li>- Classification, indications of Removable and Functional Appliances</li> <li>- Methods of force application</li> </ul> <p>Materials used in construction of various orthodontic appliances –</p> <ul style="list-style-type: none"> <li>- uses of stainless steel</li> <li>- technical considerations in curing of acrylic,</li> <li>- Principles of welding and soldering, fluxes and antfluxes.</li> <li>- Preliminary knowledge of acid etching and direct bonding.</li> </ul>	2
13.	Ethics	0.5
14.	<p><b>REMOVABLE ORTHODONTIC APPLIANCES</b></p> <ul style="list-style-type: none"> <li>- Components of removable appliances</li> <li>- Different types of clasps and their uses</li> <li>- Different types of labial bows and their uses</li> <li>- Different types of springs and their uses</li> </ul> <p>Expansion appliances in orthodontics:</p> <ul style="list-style-type: none"> <li>a) Principles</li> <li>b) Indications for arch expansion</li> <li>c) Description of expansion appliances and different types of expansion devices and their uses.</li> <li>d) Rapid maxillary expansion</li> </ul>	3



15.	<b>FIXED ORTHODONTIC APPLIANCES</b> <ul style="list-style-type: none"> <li>- Definition, Indications &amp; Contraindications</li> <li>- Component parts and their uses</li> <li>- Basic principles of different techniques:</li> <li>- Edgewise</li> <li>- Begg's</li> <li>- Straight wire.</li> </ul>	2
16.	<b>EXTRAORAL APPLIANCES</b> <ul style="list-style-type: none"> <li>a) Headgears</li> <li>b) Chin cup</li> <li>c) Reverse pull headgears</li> </ul>	1
17.	<b>MYOFUNCTIONAL APPLIANCES</b>  Definition and principles Muscle exercises and their uses in orthodontics  Functional appliances: - Activator, Oral screens, Frankels function regulator, bionator twin blocks, lip bumper  -Inclined planes upper and lower	2.5
18.	<b>Orthodontic Management Of Cleft Lip And Palate</b>	1
19.	<b>Principles Of Surgical Orthodontics</b> Brief knowledge of correction of: <ul style="list-style-type: none"> <li>- Mandibular Prognathism and Retrognathism</li> <li>- Maxillary Prognathism and Retrognathism</li> <li>- Anterior open bite and deep bite</li> <li>- Cross bite</li> </ul>	2
20.	<b>Principle, Differential Diagnosis &amp; Methods of Treatment of:</b> <ul style="list-style-type: none"> <li>- Midline diastema</li> <li>- Cross bite</li> <li>- Open bite</li> <li>- Deep bite</li> <li>- Spacing</li> <li>- Crowding</li> <li>- Class II - Division 1, Division 2</li> <li>- Class III Malocclusion - True and Psuedo Class III</li> </ul>	2.5
21.	<b>Retention And Relapse</b> <ul style="list-style-type: none"> <li>- Definition,</li> <li>- Need for retention</li> <li>- Causes of relapse</li> <li>- Methods of retention</li> <li>- Different types of retention devices</li> <li>- Duration of retention</li> <li>- Theories of retention</li> </ul>	2

Total -40 hours

## PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1.	<p>Basic wire bending exercises Gauge 22 or 0.7mm</p> <ul style="list-style-type: none"> <li>- Straightening of wires</li> <li>- Bending of a equilateral triangle</li> <li>- Bending of a rectangle</li> <li>- Bending of a square</li> <li>- Bending of a circle</li> <li>- Bending of U.V</li> </ul>	5
2.	<p>Construction of Clasps (Both sides upper/lower) Gauge 22 or 0.7mm</p> <ul style="list-style-type: none"> <li>- 3/4 Clasp (C-Clasp)</li> <li>- Full Clasp (Jackson's Crib)</li> <li>- Adam's Clasp</li> <li>- Triangular Clasp</li> <li>-</li> </ul>	30
3.	<p>Construction of Springs (on upper both sides) Gauge 24 or 0.5mm</p> <ul style="list-style-type: none"> <li>- Finger Spring</li> <li>- Single Cantelever Spring</li> <li>- Double Cantelever Spring (Z-Spring)</li> <li>- T-Springs on premolars</li> <li>-</li> </ul>	30
4.	<p>Construction of Canine retractors Gauge 23 or 0.6mm</p> <ul style="list-style-type: none"> <li>a) U - Loop canine retractor (Both sides on upper &amp; lower)</li> <li>b) Helical canine retractor (Both sides on upper &amp; lower)</li> <li>c) Buccal canine retractor: Self supported buccal canine retractor with <ul style="list-style-type: none"> <li>Sleeve - 5mm wire or 24 gauge</li> <li>Sleeve - 19 gauge needle on any one side.</li> </ul> </li> <li>d) Palatal canine retractor on upper both sides -Gauge 23 or 0.6mm</li> </ul>	10
5.	<p>Labial Bow Gauge 22 or 0.7mm</p>	5
6.	<p>Taking upper Alginate impression</p> <p>Taking lower Alginate impression</p> <p>Study Model preparation</p>	20

	Model Analysis <ul style="list-style-type: none"> <li>- Pont's Analysis</li> <li>- Ashley Howe's Analysis</li> <li>- Carey's Analysis</li> <li>- Bolton's Analysis</li> <li>- Moyer's Mixed Dentition Analysis</li> </ul>	
7.	Case History taking Impression taking Case discussion  Discussion on the given topic Cephalometric tracings <ul style="list-style-type: none"> <li>- Down's Analysis</li> <li>- Steiner's Analysis</li> <li>- Tweed's Analysis</li> <li>-</li> </ul>	10
8.	<ul style="list-style-type: none"> <li>- Adam's Clasp on Anterior teeth Gauge 0.7mm</li> <li>- Modified Adam's Clasp on upper arch Gauge 0.7mm</li> <li>- High Labial bow with Apron spring on upper arch (Gauge of Labial bow - 0.9mm, Apron spring - 0.3mm)</li> <li>- Coffin spring on upper arch Gauge 1mm</li> <li>-</li> </ul>	20
9.	Appliance Construction in Acrylic <ul style="list-style-type: none"> <li>- Upper &amp; Lower Hawley's Appliance</li> <li>- Upper Hawley's with Anterior bite plane</li> <li>- Upper Habit breaking Appliance</li> <li>- Upper Hawley's with Posterior bite plane with 'Z' Spring</li> <li>- Construction of Activator</li> <li>- Lower inclined plane/Catalan's Appliance</li> <li>- Upper Expansion plate with Expansion Screw</li> </ul>	20

Total – 150 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## ORAL MEDICINE AND RADIOLOGY

SL NO.	TOPICS	HOURS
1.	<b>DIAGNOSTIC METHODS.</b> Definition Importance of Diagnosis and various types of diagnosis Method of clinical examinations. a) General Physical examination by inspection.  b) Oro-facial region by inspection, palpation and other means to train the students about the importance, role, use of saliva and techniques of diagnosis of saliva as part of oral disease.  c) Examination of lesions like swellings, ulcers, erosions, sinus, fistula, growths, pigmented lesions, white and red patches.  d) Examination of lymph nodes.  e) Forensic examination – Procedures for post-mortem dental examination; maintaining dental records and their use in dental practice and post-mortem identification; jurisprudence and ethics.	2
2.	<b>INVESTIGATIONS</b> - Biopsy and exfoliative cytology - Hematological - Microbiological - other tests and investigations necessary for diagnosis and prognosis	3
<b>DIAGNOSIS &amp; DIFFERENTIAL DIAGNOSIS</b>		
3.	Anomalies of teeth - Developmental abnormalities - Causes of destruction of teeth and their sequelae. - Discoloration of teeth  Anomalies of Skull –Size, Shape, other defects.  Anomalies of jaw bones - Mandible : (Ant. region, Body, Post. region (angle), Ramus - Maxilla :(Ant. region, Post. region, palate)	2

4.	<p>Diseases of bone and Osteodystrophies:</p> <ul style="list-style-type: none"> <li>a) Development disorders: <ul style="list-style-type: none"> <li>- Anomalies,</li> <li>- Exostosis and tori,</li> <li>- Infantile cortical hyperostosis</li> <li>- Osteogenesis imperfect</li> <li>- Marfans syndrome</li> <li>- Osteopetrosis.</li> </ul> </li> <li>b) Inflammation: <ul style="list-style-type: none"> <li>- Injury</li> <li>- Infection and spread of infection,</li> <li>- Fascial space infections</li> <li>- Osteoradionecrosis.</li> </ul> </li> <li>c) Metabolic disorders: <ul style="list-style-type: none"> <li>- Histiocytosis</li> </ul> </li> <li>d) Endocrine : <ul style="list-style-type: none"> <li>- Acromegaly</li> <li>- Hyperparathyroidism</li> </ul> </li> <li>e) Miscellaneous: <ul style="list-style-type: none"> <li>- Paget's disease</li> <li>- Mono and polyostotic fibrous dysplasia</li> <li>- Cherubism</li> </ul> </li> </ul>	2.5
5.	<p>Temporomandibular joint:</p> <ul style="list-style-type: none"> <li>- Developmental abnormalities of the condyle.</li> <li>- Rheumatoid arthritis,</li> <li>- Osteoarthritis,</li> <li>- Sub-luxation and luxation</li> </ul>	1.5
6.	<p>Common cysts and Tumors:</p> <p><b>CYSTS</b></p> <ul style="list-style-type: none"> <li>a) Cysts of soft tissue: Mucocele and Ranula</li> <li>b) Cysts of bone: Odontogenic and non odontogeni</li> </ul>	

	<p><b>TUMOURS</b></p> <p>a) Soft Tissue:</p> <ul style="list-style-type: none"> <li>- Epithelial: Papilloma, Carcinoma, Melanoma</li> <li>- Connective tissue: Fibroma, Lipoma, Fibrosarcoma</li> <li>- Vascular: Haemangioma, Lymphangioma</li> <li>- Nerve Tissue: Neurofibroma, Traumatic Neuroma, Neurofibromatosis</li> <li>- Salivary Glands: Pleomorphic adenoma, Adenocarcinoma, Warthin's Tumor, Adenoid cystic carcinoma.</li> <li>-</li> </ul> <p>b) Hard Tissue:</p> <ul style="list-style-type: none"> <li>- Non Odontogenic: Osteoma, Osteosarcoma, Osteoclastoma, Chondroma, Chandrosarcoma, Central giant cell tumor, and Central haemangioma.</li> <li>- Odontogenic: Enameloma, Ameloblastoma, Calcifying Epithelial Odontogenic tumor, Adenomatoid Odontogenic tumor, Periapical cemental dysphasia and odontomas.</li> </ul> <p>Premalignant Lesions Cervico-facial Lymphadenopathy</p>	4
7.	<p>Granulomatous diseases:</p> <ul style="list-style-type: none"> <li>- Tuberculosis</li> <li>- Sarcoidosis</li> <li>- Midline lethal granuloma</li> <li>- Crohn's Disease</li> <li>- Histiocytosis X</li> </ul> <p>Miscellaneous Disorders:</p> <ul style="list-style-type: none"> <li>- Burkitt lymphoma</li> <li>- Sturge – Weber syndrome,</li> <li>- CREST syndrome,</li> <li>- Rendu-osler-weber disease</li> </ul>	2
<b>ORAL MEDICINE AND THERAPEUTICS</b>		
8.	<p>Infections of oral and para oral structures:</p> <p>a) Bacterial: Streptococcal, Tuberculosis, Syphilis, Vincents, Leprosy, Actinomycosis, Diphtheria and Tetanus etc</p> <p>b) Fungal: Candida albicans</p>	3

	<p>c) Viral: Herpes simplex, Herpes zoster, Ramsay hunt syndrome, Measles, Herpangina, Mumps Infectious mononucleosis, <b>AIDS and Hepatitis-B</b></p>	
9.	<p>Important common Mucosal Lesions:</p> <p>a) White lesions: Chemical burns, Leukodema, Leukoplakia, Fordyce spots, Stomatitis nicotina palatinus, White sponge nevus, Candidiasis, Lichenplanus, Discoid lupus erythematosus</p> <p>b) Vesiculo-bullous lesions: Herpes simplex, Herpes zoster, Herpangina, Bullous lichen planus, Pemphigus, Cicatricial pemphigoid Erythema multiforme.</p> <p>c) Ulcers: Acute and chronic ulcers</p> <p>d) Pigmented lesions: Exogenous and endogenous</p> <p>e) Red lesions: Erythroplakia, Stomatitis venenata and medicamentosa, Erosive lesions and Denture sore mouth.</p>	2.5
10.	<p>Facial pain</p> <p>a)Organic pain:</p> <ul style="list-style-type: none"> <li>- Pain arising from the diseases of orofacial tissues like teeth, pulp, gingival,periodontal tissue, mucosa, tongue, muscles, blood vessels, lymph tissue, bone, paranasal sinus, salivary glands etc.</li> </ul> <p>b)Pain arising due to C.N.S. diseases:</p> <ul style="list-style-type: none"> <li>- Pain due to intracranial and extracranial involvement of cranial nerves. (Multiple sclerosis, cerebrovascular diseases, trotter's syndrome etc.)</li> </ul> <p>c) Neuralgic pain due to unknown causes:</p> <ul style="list-style-type: none"> <li>- Trigeminal neuralgia, Glossopharyngeal neuralgia, Sphenopalatine Ganglion neuralgia, Periodic migrainous neuralgia and Atypical facial pain</li> </ul> <p>d)Referred pain:</p> <ul style="list-style-type: none"> <li>- Pain arising from distant tissues like heart, spine etc.</li> </ul>	2
11.	<p>Tongue in local and systemic disorders:</p> <p>Aglossia, Ankyloglossia, Bifid tongue, Fissured tongue, Scrotal tongue, Macroglossia, Microglossia, Geographic tongue, Median rhomboid glossitis, Depapillation of tongue, Hairy</p>	2

	tongue, Atrophic tongue, Reactive lymphoid hyperplasia, Glossodynia, Glossopyrosis, Ulcers, White and red patches etc.	
12.	<p>Oral manifestations of:</p> <p>a) Metabolic disorders:</p> <ul style="list-style-type: none"> <li>- Porphyria</li> <li>- Haemochromatosis</li> <li>- Histocytosis X diseases</li> </ul> <p>b) Endocrine disorders:</p> <ul style="list-style-type: none"> <li>- Pituitary: Gigantism, acromegaly, hypopituitarism</li> <li>- Adrenal cortex: Addison's disease (Hypofunction)</li> <li>- Cushing's syndrome (Hyperfunction)</li> <li>- Parathyroid glands: Hyperparathyroidism.</li> <li>- Thyroid gland: (Hypothyroidism) Cretinism, myxedema</li> <li>- Pancreas: Diabetes</li> <li>-</li> </ul> <p>c) Nutritional deficiency:</p> <ul style="list-style-type: none"> <li>- Vitamins: riboflavin, nicotinic acid, folic acid Vitamin B12, Vitamin C (Scurvy)</li> <li>-</li> </ul> <p>d) Blood disorders:</p> <p><i>Red blood cell diseases:</i></p> <ul style="list-style-type: none"> <li>- Deficiency anemias: Iron deficiency, Plummer – vinson syndrome, Pernicious anemia</li> <li>- Haemolytic anemias: Thalassemia, Sickle cell anemia, Erythroblastosis fetalis</li> <li>- Aplastic anemia</li> <li>- Polycythemia</li> <li>-</li> </ul> <p><i>White Blood cell diseases:</i></p> <ul style="list-style-type: none"> <li>- Neutropenia, Cyclic neutropenia, agranulocytosis, Infectious mononucleosis and Leukemias</li> <li>-</li> </ul> <p>d) Haemorrhagic disorders:</p> <ul style="list-style-type: none"> <li>- Thrombocytopenia, Purpura, Hemophilia, Christmas disease and Von Willebrand's disease</li> </ul>	2.5
13.	<p>Disease of salivary glands:</p> <p>a) Developmental disturbances:</p> <ul style="list-style-type: none"> <li>- Aplasia, Atresia and Aberration</li> </ul> <p>b) Functional disturbances:</p> <ul style="list-style-type: none"> <li>- Xerostomia, Ptyalism</li> </ul> <p>c) Inflammatory conditions:</p>	2.5



	<ul style="list-style-type: none"> <li>- Nonspecific sialadenitis, Mumps, Sarcoidosis</li> <li>Heerdfort's syndrome (Uveoparotid fever), Necrotising sialometaplasia</li> <li>d) Cysts and tumors: <ul style="list-style-type: none"> <li>- Mucocele, Ranula, Pleomorphic adenoma, Mucoepidermoid carcinoma</li> </ul> </li> <li>e) Miscellaneous: <ul style="list-style-type: none"> <li>- Sialolithiasis, Sjogren's syndrome, Mikuliez's disease and Sialosis</li> </ul> </li> </ul>	
14.	<p>Dermatological diseases with oral manifestations:</p> <ul style="list-style-type: none"> <li>a) Ectodermal dysplasia</li> <li>b) Hyperkerotosis palmarplantaris with periodontopathy</li> <li>c) Scleroderma</li> <li>d) Lichen planus including gingivitis syndrome</li> <li>e) Lupus erythematosus</li> <li>f) Pemphigus</li> <li>g) Erythema multiforme</li> <li>h) Psoriasis</li> </ul>	1.5
15.	<p>Immunological diseases with oral manifestations</p> <ul style="list-style-type: none"> <li>a) Leukemia</li> <li>b) Lymphomas</li> <li>c) Multiple myeloma</li> <li>d) AIDS clinical manifestations</li> <li>e) Opportunistic infections</li> <li>f) Neoplasms</li> <li>g) Thrombocytopenia</li> <li>h) Lupus erythematosus</li> <li>i) Scleroderma</li> <li>j) Dermatomyositis</li> <li>k) Submucous fibrosis</li> <li>l) Rheumatoid arthritis</li> <li>m) Recurrent oral ulcerations including Behçet's syndrome and Reiter's syndrome</li> </ul>	2.5
16.	<p>Management of dental problems in medically compromised persons:</p> <p>Physiological changes: Puberty, pregnancy and menopause</p> <p>The patients suffering with cardiac, respiratory, liver, kidney and bleeding disorders</p> <p>Hypertension, diabetes and AIDS. Post-irradiated patients</p>	2

17.	<p>Nerve and muscle diseases:</p> <p>a)Nerves:</p> <ul style="list-style-type: none"> <li>a) Neuropraxia</li> <li>b) Neurotemesis</li> <li>c) Neuritis</li> <li>d) Facial nerve paralysis including ,Bell’s palsy, Heerfordt’s syndrome, Melkerson Rosenthel syndrome and ramsay hunt syndrome</li> <li>e) Neuroma</li> <li>f) Neurofibromatosis</li> <li>g) Frey’s syndrome</li> </ul> <p>b)Muscles:</p> <ul style="list-style-type: none"> <li>a) Myositis ossificans</li> <li>b) Myofacial pain dysfunction syndrome</li> <li>c) Trismus</li> </ul>	2
18.	<p>Psychosomatic diseases</p> <ul style="list-style-type: none"> <li>- Burning mouth syndrome</li> <li>- Glossopyrosis</li> <li>- Glossodynia</li> <li>- Orofacial dysesthesia</li> <li>- Cancerophobia</li> <li>- MPDS</li> <li>- Altered sensations: Cacogeusia taste and smell abnormalities</li> </ul>	2
19.	<p>Forensic odontology:</p> <ul style="list-style-type: none"> <li>- Medico legal aspects of orofacial injuries</li> <li>- Identification of bite marks</li> <li>- Determination of age and sex</li> <li>- Identification of cadavers by dental appliances,</li> <li>- Restorations</li> <li>- Tissue remnants</li> </ul>	1
20.	<p>THERAPEUTICS:</p> <ul style="list-style-type: none"> <li>- General therapeutic measures – drugs commonly used in oral medicine viz.,</li> <li>- Antibiotics</li> <li>- Anti-inflammatory and Analgesic drugs</li> <li>- Astringents</li> <li>- Mouth washes</li> <li>- Styptics</li> <li>- Demulcents</li> <li>- Local surface anaesthetic</li> <li>- Sialogogues &amp;Antisialagogues</li> <li>- Chemotherapeutic agents -</li> <li>- drugs used in the treatment of Malignancy</li> </ul>	2.5

Total – 45 hours

	RADIOLOGY	
21.	<p>Scope of the subject and history of origin</p> <p>Physics of radiation:</p> <ul style="list-style-type: none"> <li>- Nature and types of radiations</li> <li>- Source of radiations</li> <li>- Production of X-rays</li> <li>- Properties of X-rays</li> <li>- Compton effect</li> <li>- Photoelectric effect</li> <li>- Radiation measuring units</li> </ul>	2
22.	<p>Biological effects of radiation</p> <p>Radiation safety and protection measures</p> <p>Principles of image production</p>	2
23.	<p>Radiographic techniques</p> <p>a)Intra-Oral:</p> <ul style="list-style-type: none"> <li>- Periapical radiographs (Bisecting and parallel techniques)</li> <li>- Bite wing radiographs</li> <li>- Occlusal radiographs</li> <li>-</li> </ul> <p>b)Extra-oral:</p> <ul style="list-style-type: none"> <li>- Lateral projections of skull and jaw bones and paranasal sinuses</li> <li>- Cephalograms</li> <li>- Pantomograms</li> <li>- Projections of temporomandibular joint and condyle of mandible</li> <li>- Projections for Zygomatic arch</li> </ul> <p>c)Specialised techniques:</p> <ul style="list-style-type: none"> <li>- Sialography</li> <li>- Xeroradiography</li> <li>- Tomography</li> <li>Fluoroscopy</li> </ul>	4

24.	Factors in production of good radiographs: <ul style="list-style-type: none"> <li>- K.V.P. and mA. of X-ray machine</li> <li>- Filters</li> <li>- Collimations</li> <li>- Intensifying screens</li> <li>- Grids</li> <li>- X-ray films</li> <li>- Exposure time</li> <li>- Techniques</li> <li>- Dark room</li> <li>- Developer and fixer solutions</li> <li>- Film processing</li> </ul>	2
25.	Radiographic normal anatomical landmarks	1
26.	Faulty radiographs and artefacts in radiographs	1
27.	Interpretation of radiographs in various abnormalities of teeth, bones and other orofacial tissues	2
28.	Principles of radiotherapy of Oro-facial malignancies and complications of radiotherapy Contrast radiography and basic knowledge of radio-active isotopes and tracers  Recent Advances in Imaging and dental radiography  Radiography in Forensic Odontology - Radiographic age estimation and postmortem radiographic methods	1

Total – 15 hours

#### PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1.	Demonstration of Case History Taking General Physical Examination Extra Oral, Examination of TMJ Lymph nodes Intra Oral Hard & Soft Tissue Examination.	Demo/observe 22 hours
2.	<ul style="list-style-type: none"> <li>- Patient examination</li> <li>- Patient assessment</li> <li>- Treatment planning</li> <li>- Prescription of medication with dose,</li> <li>- Referral forms (Routine OP and referrals to other departments),</li> <li>- Opinion Seeking Forms</li> <li>- Investigation Requisition forms</li> <li>- Follow up protocols</li> </ul>	Perform 35 hours
3.	Caries Risk Assessment, Diagnosis and Management of Pulpal & Periapical Pathologies	Perform 30 hours

4.	Recording of detailed case histories of special cases	Perform 10 hours
5.	Discussions - should have participated in at least 20 long case discussions	20 hours
6.	Investigative procedures : - Biopsy - Exfoliative Cytology Interpretation of Hematological ,Microbiological and Radiographic investigation results	Assist/ Perform 30 hours
7.	Case presentation – Presentation of one special case at the end of year with - Case history - Differential diagnosis - InvestigationsDiagnosis - Treatment plan - Pre operative, follow up and post operative photographs and radiographs - Prognosis	3
<b>RADIOLOGY</b>		
8.	Demonstration of Use of Radiographic Equipment's and Accessories, Dark Room Procedures	Demo/assist 5 hrs
9.	Demonstration of Intraoral Radiographic techniques	Demo/assist 2 hrs
10.	Demonstration of Extraoral Radiographic Techniques	Demo/assist 1hr
11.	Demonstration of Panoramic Radiographic Techniques	Demo/assist 2 hrs
12.	Intraoral Radiography a)IOPA with - Bisecting Angle, - Paralleling. b)Bitewing c)Occlusal Radiographs and interpretation	Perform 70 hours
13.	Panoramic Radiography 5/interpret	Assist/perform 5 hrs
14.	Extra Oral Radiography 5/ interpret	Assist/perform 5 hrs

Oral Medicine- 150 hours

Radiology- 90 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## PERIODONTOLOGY

1.	<p>Introduction :-  Scope and applicability of the subject.  Historical background of periodontology</p> <p>Development of periodontal tissues:  Micro-structural anatomy and biology of periodontal tissues in detail</p> <ul style="list-style-type: none"> <li>- Gingiva</li> <li>- Junctional epithelium in detail</li> <li>- Epithelial-Mesenchymal interaction,</li> <li>- Periodontal ligament</li> <li>- Cementum</li> <li>- Alveolar bone</li> </ul> <p><i>(topics are covered at length under oral anatomy, histology and morphology). Hence, the topics may be discussed briefly. However, questions will be asked from the topics for examination)</i></p>	1.5
2.	<p>Defensive mechanisms in the oral cavity:</p> <ul style="list-style-type: none"> <li>- Role of Epithelium</li> <li>- Gingival fluid</li> <li>- Saliva and other defensive mechanisms in the oral environment</li> </ul>	1
3.	<p>Age changes in teeth and periodontal structures and their association with periodontal diseases and their significance in Geriatric dentistry</p>	1
4.	<p>Maintenance of Health – Preventive Periodontology</p> <ul style="list-style-type: none"> <li>- Oral physiotherapy aids</li> <li>- Role and scope of oral physiotherapy measures</li> <li>- Patient education- Oral hygiene instructions</li> <li>- Periodic check</li> <li>- OHI index</li> </ul>	2
5.	<p>Classification of periodontal diseases:</p> <ul style="list-style-type: none"> <li>- Need for classification,</li> <li>- Scientific basis of classification,</li> <li>- Classification of gingival and periodontal diseases as described in World Workshop 1989</li> </ul>	1

6.	<p>Epidemiology of periodontal diseases</p> <ul style="list-style-type: none"> <li>- Definition of index, incidence, prevalence, epidemiology, endemic, epidemic, and pandemic</li> <li>- Classification of indices (Irreversible and reversible),</li> <li>- Deficiencies of earlier indices used in Periodontics,</li> <li>- Detailed understanding of Silness &amp; Loe Plaque Index, Loe &amp; Silness Gingival Index,</li> <li>- CPITN &amp; CPL,</li> <li>- Prevalence of periodontal diseases in India and other countries.</li> <li>- Public health significance (<i>All these topics are covered at length under community dentistry. Hence, the topics may be discussed briefly. However, questions may be asked from the topics for examination</i>)</li> </ul>	2
7.	<p>GINGIVITIS  Localized Gingivitis  Generalized gingivitis,  Papillary  Marginal and diffuse gingivitis</p> <p>Aetiology, Pathogenesis, Clinical signs, Symptoms and Management of:</p> <ul style="list-style-type: none"> <li>a) Plaque associated gingivitis</li> <li>b) Systemically aggravated gingivitis (sex hormones, drugs and systemic diseases)</li> <li>c) ANUG</li> <li>d) Desquamative gingivitis-Gingivitis associated with Lichen Planus, Pemphigoid, Pemphigus, and other Vesiculobullous lesions</li> <li>-</li> </ul> <p>Other forms of gingivitis as in</p> <ul style="list-style-type: none"> <li>e) Nutritional deficiency</li> <li>f) Allergic gingivitis</li> <li>g) Infective gingivitis: <ul style="list-style-type: none"> <li>- Herpetic, Bacterial and Candidal</li> </ul> </li> <li>h) Pericoronitis</li> <li>i) Gingival enlargement (classification and differential diagnosis)</li> </ul> <p>Stages in Gingivitis-</p> <ul style="list-style-type: none"> <li>- Initial,</li> <li>- Early</li> <li>- Established</li> <li>- Advanced</li> </ul>	3

8.	<p>Sequelae of Periodontal disease:</p> <p><i>Plaque- Calculus -Gingival inflammation – Pocket- Recession- Furcation involvement- tooth mobility</i></p> <p>Extension of inflammation from Gingiva Mechanism of spread of inflammation from gingival area to deeper periodontal structures</p> <p>Factors that influence the spread of infection</p> <p>POCKET</p> <ul style="list-style-type: none"> <li>- Definition,Types</li> <li>- signs and symptoms</li> <li>- classification</li> <li>- Root surface changes and contents of the pocket</li> </ul> <p>Aetiology</p> <p>a)Dental Plaque (Biofilm)</p> <ul style="list-style-type: none"> <li>- Definition,</li> <li>- New concept of Biofilm</li> <li>- Types, composition</li> <li>- Bacterial colonization</li> <li>- Growth, maturation &amp;disclosing agents</li> <li>- Role of dental plaque in periodontal diseases,</li> <li>- Plaque microorganisms in detail and bacteria associated with periodontal diseases,</li> <li>- Plaque retentive factors</li> <li>- Materia alba, Food debris,crowding of teeth</li> <li>-</li> </ul> <p>b)Calculus</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types, composition, attachment,</li> <li>- Theories of formation,</li> <li>- Role of calculus in disease</li> </ul> <p>c)Food Impaction</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types, Etiology</li> <li>- Hirschfield’s classification</li> <li>- Signs, symptoms</li> <li>- Sequelae of treatment</li> <li>-</li> </ul> <p>d)Trauma from occlusion</p> <ul style="list-style-type: none"> <li>- Definition, Types</li> <li>- Alignment - occlusal equilibrium</li> <li>- Temperomandibular joint disturbances</li> <li>- Role in periodontal disease</li> </ul>	4.5
----	---	-----



	<ul style="list-style-type: none"> <li>- Histopathological changes</li> <li>- Measures of management</li> </ul> <p>e) Habits</p> <ul style="list-style-type: none"> <li>- Their periodontal significance</li> <li>- Bruxism &amp; Parafunctional habits</li> <li>- Tongue thrusting</li> <li>- Lip biting</li> <li>- Occupational habits</li> </ul> <p>f) Iatrogenic factors</p> <p><i>Conservative Dentistry:-</i></p> <ul style="list-style-type: none"> <li>- Restorations</li> <li>- Contact point,</li> <li>- Marginal ridge,</li> <li>- Surface roughness</li> <li>- Overhanging restorations</li> <li>- Interface between restoration and teeth</li> </ul> <p><i>Prosthodontics:-</i></p> <ul style="list-style-type: none"> <li>- Interrelationship</li> <li>- Bridges and other prosthesis,</li> <li>- Pontics(types)</li> <li>- Surface contour</li> <li>- Relationships of margins to the periodontium</li> <li>- Gingival protection theory, muscle action theory &amp; theory of access to oral hygiene.</li> </ul> <p><i>Orthodontics:-</i></p> <ul style="list-style-type: none"> <li>- Interrelationship</li> <li>- Removable appliances &amp; fixed appliances</li> <li>- Retention of plaque</li> <li>- Bacterial changes</li> <li>- Malocclusion Malpractice</li> </ul> <p>f) Systemic diseases</p> <ul style="list-style-type: none"> <li>- Diabetes</li> <li>- Sex hormones</li> <li>- Nutrition (Vit.C &amp; proteins)</li> <li>- AIDS &amp; periodontium,</li> <li>- Hemorrhagic diseases</li> <li>- Leukemia</li> <li>- Clotting factor disorders</li> <li>- PMN disorder</li> </ul> <p>Risk factors for periodontal diseases Smoking/ tobacco, diabetes, pregnancy, medications, stress. socio- economic status</p>	
--	--	--

9.	<p>Host response: Mechanism of initiation and progression of periodontal diseases</p> <ul style="list-style-type: none"> <li>- Basic concepts about cells</li> <li>- Mast cells</li> <li>- Neutrophils</li> <li>- Macrophages</li> <li>- Lymphocytes</li> </ul> <p>Immunoglobulins</p> <ul style="list-style-type: none"> <li>- Complement system</li> <li>- Immune mechanisms &amp; cytokines in brief</li> </ul>	1.5
10.	<p>Periodontal disease activity</p> <ul style="list-style-type: none"> <li>- Continuous paradigm,</li> <li>- Random burst</li> <li>- Asynchronous multiple burst hypothesis</li> </ul>	1
11.	<p>PERIODONTITIS:</p> <ul style="list-style-type: none"> <li>a) Rapidly progressive Periodontitis</li> <li>b) Juvenile Periodontitis: Localized and generalized Post juvenile Periodontitis</li> <li>c) Periodontitis associated with systemic diseases ,</li> <li>d) Prepubertal Periodontitis</li> <li>e) Refractory Periodontitis</li> </ul> <p>Periodontal Abscess: definition, classification, pathogenesis, differential diagnosis and treatment</p> <p>Furcation involvement :</p> <p>Glickman's classification, prognosis and management</p>	2
12.	<p>Diagnosis</p> <ul style="list-style-type: none"> <li>a) Routine screening procedures</li> <li>b) Basic Periodontal Examination</li> <li>c) Detailed 6 point pocket charting</li> </ul> <p>Methods of probing,</p> <p>2 types of probes, (According to case history)</p> <p>Radiography</p> <ul style="list-style-type: none"> <li>a) Different types and indications</li> <li>b) Uses and limitations.</li> </ul> <p>Other advanced diagnostic aids</p> <p>Haematological, pathological, microbiological investigations</p>	2

13.	<p>Prognosis:</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types</li> <li>- Purpose and factors to be taken into consideration</li> </ul> <p>Treatment planning</p> <ul style="list-style-type: none"> <li>- Factors to be considered</li> <li>- Phases</li> <li>- Rationale</li> </ul>	2
Periodontal Therapy		
14.	<p>General principles of periodontal therapy</p> <p>Phase I, II, III, IV therapy.</p> <p>Definitions :</p> <ul style="list-style-type: none"> <li>- Periodontal regeneration</li> <li>- Repair</li> <li>- New attachment and Reattachment</li> </ul>	1.5
15.	<p>Plaque control</p> <p>a)Mechanical :</p> <ul style="list-style-type: none"> <li>- Tooth brushes – Different types</li> <li>- Interdental cleaning aids – Interdental brushes, Dental Floss etc</li> <li>- Dentifrices</li> <li>-</li> </ul> <p>b)Chemical:</p> <ul style="list-style-type: none"> <li>- Classification and mechanism of action of each</li> <li>- Pocket irrigation</li> <li>- Mouth rinses – types</li> </ul>	2
16.	<p>Pocket eradication procedures</p> <p>a)Scaling and root planning:</p> <ul style="list-style-type: none"> <li>- Indications</li> <li>- Aims &amp; objectives</li> <li>- Healing following rootplanning,</li> <li>- Hand instruments, sonic, ultrasonic &amp; Piezo-electric Scalers</li> </ul> <p>b)Curettage:</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Indications,</li> <li>- Present concepts</li> <li>- Aims &amp;objectives</li> <li>- Procedures</li> <li>- Healing response</li> </ul> <p>c)Flap surgery:</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Types of flaps,</li> <li>- Design of flaps,</li> </ul>	4

	<ul style="list-style-type: none"> <li>- Papilla preservation</li> <li>- Indications &amp; contraindications</li> <li>- Armamentarium,</li> <li>- Surgical procedure</li> <li>- Healing response</li> </ul> <p>d)Osseous Surgery:</p> <ul style="list-style-type: none"> <li>- Osseous defects in periodontal disease</li> <li>- Definition, Classification, contraindications</li> <li>- Surgery: resective, additive osseous surgery</li> <li>- osseous grafts with classification of grafts</li> <li>- Healing responses</li> <li>- Other regenerative procedures; root conditioning</li> <li>- Guided tissue regeneration</li> </ul>	
17.	<p>Mucogingival surgery &amp; periodontal plastic surgery:</p> <ul style="list-style-type: none"> <li>- Definitions</li> <li>- Mucogingival problems</li> <li>- Aetiology,</li> <li>- Classification of gingival recession ( P.D.Miller Jr. and Sullivan and Atkins), Indications, objectives</li> <li>- Gingival extension procedures:</li> <li>- Lateral Pedicle Graft</li> <li>- Frenectomy, Frenotomy</li> <li>- Crown lengthening procedures</li> <li>- Periodontal microsurgery in brief</li> </ul>	2
18.	<p>Splints</p> <ul style="list-style-type: none"> <li>- Periodontal splints</li> <li>- Purpose &amp; classification</li> <li>- Principles of splinting</li> </ul>	1
19.	<p>Implants:</p> <ul style="list-style-type: none"> <li>- Definition &amp;Types</li> <li>- Scope &amp; Biomaterials used</li> </ul> <p>Periodontal considerations: such as</p> <ul style="list-style-type: none"> <li>- Implant-bone interface</li> <li>- Implant-Gingiva interface</li> <li>- Implant failure</li> <li>- Peri-implantitis &amp;management</li> <li>-</li> </ul>	1.5
20.	<p>Maintenance phase (SPT):</p> <p>Aims, objectives, and principles</p> <p>Importance</p> <p>Procedures</p> <p>Periodic recall for assessment/Examination of:</p> <p>Plaque and gingival indices</p> <ul style="list-style-type: none"> <li>- Calculus</li> <li>- Attachment Level</li> </ul>	2

	<ul style="list-style-type: none"> <li>- Pocket depth</li> <li>- Bleeding on probing</li> <li>- Recession</li> <li>- Mobility changes</li> <li>- Occlusal changes</li> <li>- Dental caries</li> <li>- Restorative and prosthetic status</li> <li>- Medical history changes</li> <li>- Oral pathological examination</li> <li>- Radiographic examination</li> </ul> <p>Maintenance of Implants</p>	
21.	<p>Hypersensitivity</p> <ul style="list-style-type: none"> <li>- Causes</li> <li>- Theories &amp; Management</li> </ul>	1
22.	<p>Pharmacotherapy:</p> <ul style="list-style-type: none"> <li>- Periodontal dressings</li> <li>- Antibiotics &amp; anti-inflammatory drugs</li> <li>- Local drug delivery systems</li> </ul>	1
23.	<p>Periodontal management of medically compromised patients</p> <p>Systemic effects of periodontal diseases in brief:</p> <ul style="list-style-type: none"> <li>- Cardiovascular diseases</li> <li>- Low birth weight babies</li> </ul>	1.5
24.	<p>Inter-disciplinary care:</p> <ul style="list-style-type: none"> <li>- Pulpo-Periodontal involvement,</li> <li>- Routes of spread of infection</li> <li>- Simons classification</li> <li>- Management</li> </ul>	1
25.	<p>Infection control protocol</p> <p>Sterilization</p> <p>various other aseptic procedures</p>	2

Total – 45 hours

## PRACTICALS/CLINICALS

SL NO	TOPICS	HOURS
1.	<ul style="list-style-type: none"> <li>a) Infection control and sterilization</li> <li>b) Periodontal instruments</li> <li>c) Chair position and principles of instrumentation</li> <li>d) Maintenance of instruments (sharpening)</li> <li>e) Ultrasonic, Piezoelectric and sonic scaling - demonstration of technique</li> <li>f) Radiographic interpretation and lab investigations</li> <li>g) History taking and clinical examination of the patients</li> <li>h) Recording different indices</li> <li>i) Methods of using various scaling and surgical instruments</li> <li>j) Polishing the teeth</li> </ul>	<p>Demo</p> <p>5 hours</p>

	k) Bacterial smear taking l) Demonstration to patients about different oral hygiene aids m) Surgical procedures- gingivectomy, gingivoplasty, and flap operations n) Follow up procedures, post operative care and supervision	
2.	History taking and clinical examination of the patients Detailed recording different indices	25 hrs
3.	Chair side patient education  Demonstration of different Oral Hygiene aids : a) Diet advice b) Brushing techniques c) Frequency of brushing d) How to use interdental brushes and dental floss. e) Tooth pastes f) Mouth rinses	25 hrs
4.	Diagnosis, treatment planning, and discussion and total periodontal treatment	15
5.	Radiographic interpretation and lab investigations	15
6.	Scaling using hand instruments	30
7.	Scaling and polishing using ultrasonic instruments	45
8.	Sub gingival Scaling and Root Planing	25
9.	Local drug delivery and SPT	20

Total – 205 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## ORAL & MAXILLOFACIAL SURGERY

1.	<p><b>ANAESTHESIA</b></p> <p>Local Anaesthesia</p> <ul style="list-style-type: none"> <li>a) Introduction and Neurophysiology</li> <li>b) Concept of Local Anaesthesia</li> <li>c) Applied anatomy</li> <li>d) Classification of local anaesthetic agents</li> <li>e) Ideal requirements</li> <li>f) Mode of action</li> <li>g) Types of local anaesthesia</li> <li>h) Complications.</li> <li>i) Common local anaesthetic drugs in use <ul style="list-style-type: none"> <li>- Properties</li> <li>- Indications and contra indications</li> <li>- Advantages and disadvantages of each local anaesthesia</li> <li>- Dosage</li> </ul> </li> <li>j) Components of a standard local anaesthetic solution and the part played by each component.</li> <li>k) Use of Vasoconstrictors in local Anaesthetic solution - <ul style="list-style-type: none"> <li>- Advantages</li> <li>- Contra-indications</li> <li>- Types of vasoconstrictors used.</li> <li>-</li> </ul> </li> <li>l) Pre anaesthetics and Topical anaesthetics</li> </ul>	3
2.	<p><b>Techniques of Nerve block anaesthesia and Infiltration anaesthesia</b></p> <p>a) Anaesthesia of the mandible –</p> <ul style="list-style-type: none"> <li>- Pterygomandibular space - boundaries, contents etc.</li> <li>- Intra oral and extra oral techniques of Inferior Alveolar Nerve Block</li> <li>- Mandibular Nerve Block</li> <li>- Mental Nerve Block</li> <li>- Infiltrations</li> </ul> <p>b) Anaesthesia of Maxilla -</p> <ul style="list-style-type: none"> <li>- Intra - orbital nerve block.</li> <li>- Posterior superior alveolar nerve block</li> <li>- Maxillary nerve block - techniques.</li> <li>- Infiltrations</li> </ul> <p>Signs and symptoms of Local anaesthesia</p> <p>Complications of each techniques and their management</p>	3

3.	<p><b>GENERAL ANAESTHESIA</b></p> <ul style="list-style-type: none"> <li>a) Concept of general anaesthesia</li> <li>b) Commonly used anaesthetics</li> <li>c) Properties of commonly used general anaesthetic drugs</li> <li>d) Indications of general anaesthesia in dentistry</li> </ul> <p>Symptoms and signs of general anaesthesia</p> <p>Complications arising during the administration of General anaesthesia and their management.</p>	2
4.	<p>Pre anaesthetic medication</p> <ul style="list-style-type: none"> <li>- Pre-anaesthetic preparation of patient and premeditation</li> <li>- Pre-anaesthetic evaluation of the patient for general anaesthesia</li> <li>- Advantages , disadvantages, indications and contraindications</li> <li>- Preanaesthetic Drugs</li> </ul> <p>Short venous anaesthesia</p> <p>I.V. sedation with Diazepam and Midazolam</p> <ul style="list-style-type: none"> <li>- Indications</li> <li>- Contraindications</li> <li>- Mode of action</li> <li>- Technique</li> </ul>	2
5.	<p><b>ORAL SURGERY</b></p> <p>Definition, scope, aims and objectives.</p> <p>Diagnosis in oral surgery:</p> <p>History taking</p> <p>Clinical examination</p> <p>Investigations.</p>	1
6.	<p>Principles of Oral Surgery</p> <p>a)Asepsis:</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Measures to prevent introduction of infection during Surgery.</li> <li>- Preparation of the patient</li> <li>- Measures to be taken by operator</li> </ul>	3



	<p>Principles of infection control and cross-infection control with particular reference to HIV/AIDS and Hepatitis</p> <ul style="list-style-type: none"> <li>- Sterilization of instruments - various methods of sterilization etc,</li> <li>- Principles and need for cleaning of infected/ used instruments prior to sterilization</li> <li>- Disposal of sharp instruments</li> <li>- Surgery set up.</li> </ul>	
	<p>b)Painless Surgery:</p> <ul style="list-style-type: none"> <li>- Pre- anaesthetic considerations</li> <li>- Pre-medication: purpose, drugs used</li> <li>- Anesthetic considerations</li> <li>- Local Anaesthetic</li> <li>- Local with IV sedations</li> <li>- Use of General Anaesthetic</li> </ul>	<i>Covered in anaesthesia</i>
	<p>c)Access:</p> <p>Intra-oral:</p> <p>Mucoperiosteal flaps</p> <ul style="list-style-type: none"> <li>- Principles</li> <li>- Commonly used intra oral incisions.</li> </ul> <p>Bone Removal</p> <ul style="list-style-type: none"> <li>- Methods of bone removal.</li> <li>- Use of Burs</li> <li>- Advantages &amp; precautions</li> <li>- Bone cutting instruments</li> <li>- Principles of using chisel &amp; osteotome.</li> </ul> <p>Extra-oral</p> <p><i>Skin incisions</i></p> <p>Principles</p> <p>Extra- oral incision to expose facial skeleton.</p> <ul style="list-style-type: none"> <li>- Submandibular</li> <li>- Pre auricular Incision for TMJ</li> <li>- Access to maxilla &amp; orbit</li> <li>- Bi coronal incision</li> </ul>	2

7.	<p>a)Control of hemorrhage during surgery</p> <ul style="list-style-type: none"> <li>- Normal Haemostasis</li> <li>- Local measures available to control bleeding</li> <li>- Hypotensive anaesthesia etc.</li> </ul> <p>b)Drainage &amp; Debridement</p> <ul style="list-style-type: none"> <li>- Purpose of drainage in surgical wounds</li> <li>- Types of drains used</li> </ul> <p>c)Debridement:</p> <ul style="list-style-type: none"> <li>- Purpose</li> <li>- Soft tissue &amp; bone debridement.</li> </ul> <p>d)Closure of wounds</p> <ul style="list-style-type: none"> <li>- Types of wounds</li> <li>- Classification of wound healing</li> </ul> <p>e)Suturing</p> <ul style="list-style-type: none"> <li>- Principles</li> <li>- Suture material:</li> <li>- Classification</li> <li>- Ideal requirements</li> <li>- Body response</li> <li>- Resorbability of various materials etc.</li> </ul> <p>f)Post operative care</p> <ul style="list-style-type: none"> <li>- Post operative instructions</li> <li>- Physiology of cold and heat in the control of pain and swelling</li> <li>- Analgesics and anti-inflammatory drugs in the control of pain and swelling</li> </ul> <p>g) Control of infection</p> <ul style="list-style-type: none"> <li>- Antibiotics, principles of antibiotic therapy</li> <li>- Prevention of antibiotic abuse</li> <li>- Long term post operative follow up</li> <li>- significance</li> </ul>	4
8.	<p>EXODONTIA</p> <p>Objectives and General considerations Ideal Extraction. Indications for extraction of teeth Pre-operative assessment</p>	1.5

9.	<p>Methods of extraction –</p> <p>a) Forceps or intra-alveolar or closed method. Principles, types of movement, force etc.</p> <p>b) Trans-alveolar, surgical or open method Indications, surgical procedure.</p>	2
10.	<p>Armamentarium</p> <ul style="list-style-type: none"> <li>- Types of Forceps</li> <li>- Uses of each one</li> <li>- Classification of elevators</li> <li>- Principles in the use of elevators</li> <li>- Commonly used elevators</li> <li>- Types and uses of scalpels</li> <li>- Grasp</li> </ul>	1
11.	<p>Complications of Exodontia</p> <ul style="list-style-type: none"> <li>- Complications during exodontia common to both maxilla and mandible.</li> <li>- Post-operative complications</li> <li>- Prevention and management of complications</li> </ul>	1.5
12.	<p>Extraction technique under general anaesthesia in the Dental chair.</p>	1
13.	<p>Impacted teeth Incidence, definition, etiology.</p> <p>a) Impacted mandibular third molar</p> <ul style="list-style-type: none"> <li>- Classification</li> <li>- Reasons for removal Assessment - both clinical &amp; Radiological.</li> <li>- Armamentarium and surgical procedures for removal.</li> <li>- Complications during and after removal, its prevention and management.</li> </ul> <p>b) Impacted Maxillary third molar</p> <ul style="list-style-type: none"> <li>- Indications for removal</li> <li>- Classification</li> <li>- Armamentarium and surgical procedure for removal,</li> <li>- Complications during and after removal, its prevention and management.</li> </ul> <p>c) Impacted maxillary canine.</p>	2

	<ul style="list-style-type: none"> <li>- Reasons for canine impaction</li> <li>- Indications for removal</li> <li>- Methods of management</li> <li>- Localization - labial and palatal approaches,</li> <li>- Complications during and after removal, its prevention and management Surgical exposure,</li> <li>- Transplantation</li> </ul>	
14.	<p>Neurological Diseases</p> <ul style="list-style-type: none"> <li>a) Trigeminal neuralgia – Definition, etiology, clinical features Methods of management including medical and surgical.</li> <li>b) Facial paralysis –</li> <li>c) Etiology, clinical features, Management</li> <li>d) Nerve injuries – Classification, clinical features and management, Nerve Grafting -Neuropathy etc</li> </ul>	1.5
15.	<p>Implants</p> <ul style="list-style-type: none"> <li>- Concept of osseointegration</li> <li>- History of implants their design &amp; surface characteristics.</li> <li>- Knowledge of various types of implants,</li> <li>- Bone biology, Morphology</li> <li>- Classification of bone and its relevance to implant placement.</li> <li>- Bone augmentation materials.</li> <li>- Soft tissue considerations in implant dentistry.</li> <li>- Surgical procedure to place Implants</li> </ul>	1.5
16.	<p>Diseases of the maxillary sinus and surgical management.</p> <p>Surgical anatomy and development of the sinus.</p> <p>a) Sinusitis both acute and chronic</p> <ul style="list-style-type: none"> <li>- Surgical approach of sinus - Caldwell-Luc procedure</li> <li>- Knowledge of FESS</li> </ul> <p>b) Removal of root from the sinus.</p> <p>c) Oro-antral fistula and communications-</p> <p>Aetiology, clinical features, surgical methods for closure.</p>	2

17.	<p>Cysts of the mouth and jaws</p> <ul style="list-style-type: none"> <li>- Definition &amp; Classification</li> <li>- Pathogenesis</li> <li>- Clinical &amp; Radiological features</li> <li>- Diagnosis</li> </ul> <p>FNAC</p> <p>Use of contrast media and histopathology.</p> <p>Management</p> <ul style="list-style-type: none"> <li>- Types of surgical procedures.</li> <li>- Rationale of the techniques</li> <li>- Indications, Contraindications,</li> <li>- Procedures, complications etc</li> </ul>	3
18.	<p>Surgical aid to Orthodontics</p> <p>a) Basic forms of jaw deformities</p> <ul style="list-style-type: none"> <li>- Prognathism</li> <li>- Retrognathism</li> <li>- Open bite.</li> </ul> <p>b) Reasons for correction.</p> <p>c) Diagnosis and treatment planning</p> <p>d) Outline of surgical methods carried out on mandible and maxilla</p> <ul style="list-style-type: none"> <li>- Subapical body</li> <li>- Sagittal split osteotomy</li> <li>- Genioplasty</li> <li>- Anterior maxillary Osteotomy</li> <li>- Le fort I osteotomy</li> </ul> <p>e) Role of distraction osteogenesis in correction of jaw deformities</p>	1.5
19.	<p>Pre-prosthetic Surgery</p> <p>Definition</p> <p>Classification of procedures</p> <p>a) Corrective procedures:</p> <ul style="list-style-type: none"> <li>- Alveoloplasty</li> <li>- Reduction of maxillary tuberosities</li> <li>- Frenectomies</li> <li>- Removal of tori.</li> <li>- Ridge extension or Sulcus extension procedures</li> </ul> <p>b) Ridge augmentation and reconstruction.</p> <ul style="list-style-type: none"> <li>- Indications</li> <li>- Use of bone grafts</li> <li>- Types of Grafts</li> <li>- Hydroxyapatite etc</li> </ul>	1.5

20.	Surgical procedure in relation to Endodontic therapy (Apicectomy)	0.5
21.	<p>Cleft Lip and Palate</p> <ul style="list-style-type: none"> <li>- Etiology of the clefts</li> <li>- Incidence</li> <li>- Classification</li> <li>- Role of dental surgeon/ maxillofacial surgeon in the cleft team.</li> <li>- Outline of the closure procedures</li> </ul>	1.5
22.	<p>Infections of the Oral cavity</p> <p>Introduction</p> <ul style="list-style-type: none"> <li>- Surgical anatomy of the superficial and deep fasciae of head and neck</li> <li>- Factors responsible for infection</li> <li>- Pathogenecity</li> <li>- Virulence</li> </ul> <p>a)Dento-alveolar abscess – aetiology</p> <p>Clinical features and management.</p> <p>Spread of odontogenic infections through various facial spaces and its management</p> <p>b)Ludwig's angina</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Aetiology</li> <li>- Clinical features</li> <li>- Management and complications</li> </ul> <p>c)Course of Odontogenic infections</p> <p>Fungal Infections of head and neck region</p> <ul style="list-style-type: none"> <li>- Candidiasis</li> <li>- Actinomycosis</li> <li>- Coccidioidmycosis</li> <li>- Rhinosporidosis</li> </ul> <p>Antifungal agents</p>	2.5
23.	<p>Osteomyelitis of the jaws</p> <ul style="list-style-type: none"> <li>- Definition &amp; Aetiology</li> <li>- Pre-disposing factors</li> <li>- Classification</li> <li>- Clinical features and Management.</li> </ul>	1

24.	<p>Carcinoma of the oral cavity</p> <ul style="list-style-type: none"> <li>a) Lymphatic Spread.</li> <li>b) TNM classification</li> <li>c) Staging</li>   <li>d) Biopsy <ul style="list-style-type: none"> <li>- Types</li> <li>- Filling of Histopathology request form</li> <li>- Surgical aspects of histopathological diagnosis</li> </ul> </li>   <li>e) A broad outline about different methods of management of oral carcinoma <ul style="list-style-type: none"> <li>- Surgery</li> <li>- Radiation</li> <li>- Chemotherapy</li> </ul> </li>   <li>f) Role of dental surgeons in the prevention and early detection of oral cancer.</li> </ul>	3
25.	<p>Osteoradionecrosis</p> <ul style="list-style-type: none"> <li>- Definition</li> <li>- Aetiology</li> <li>- Theories</li> <li>- Pre-disposing factors</li> <li>- Classification</li> <li>- Clinical features and Management</li> </ul>	1
26.	<p>Maxillofacial Traumatology</p> <ul style="list-style-type: none"> <li>- Emergency management in maxillofacial trauma</li> <li>- General considerations</li> <li>- Types of fractures</li> <li>- Aetiology</li> <li>- Clinical features</li> <li>- General principles of management.</li>   <li>a) <i>Mandibular fractures</i> <ul style="list-style-type: none"> <li>- Applied anatomy</li> <li>- Classification.</li> <li>- Diagnosis - Clinical and radiological features</li> </ul> </li> </ul> <p>Management</p> <ol style="list-style-type: none"> <li>1) Reduction - closed and open</li> <li>2) Fixation and immobilization Methods</li> <li>3) outline of rigid and semi-rigid internal fixation</li> </ol>	3

	<p><i>b) Fractures of the condyle</i></p> <ul style="list-style-type: none"> <li>- Aetiology</li> <li>- Classification</li> <li>- Clinical features</li> <li>- Principles of management</li> </ul> <p><i>c) Fractures of the middle third of the face</i></p> <ul style="list-style-type: none"> <li>- Definition of the mid face,</li> <li>- Applied surgical anatomy,</li> <li>- Classification – LE FORT 1 LEFORT 11 LEFORT 111</li> <li>- Clinical features and outline of management.</li> </ul> <p><i>d) Alveolar fractures</i> Methods of management</p> <p><i>e) Fractures of the Zygomatic complex and orbit.</i></p> <ul style="list-style-type: none"> <li>- Classification</li> <li>- Clinical features</li> <li>- Indications for treatment,</li> <li>- Methods of reduction and fixation</li> <li>-</li> </ul> <p><i>f) Faciomaxillary Injuries in Children</i></p> <p>Complications of fractures</p> <ul style="list-style-type: none"> <li>- Delayed union</li> <li>- Non-union</li> <li>- Malunion.</li> </ul>	
27.	<p>Salivary gland diseases</p> <p>Surgical Anatomy of Minor and Major salivary glands</p> <p>Sialography, contrast media, procedure.</p> <p>a) Inflammatory conditions of the salivary glands Sialolithiasis- Sub mandibular duct and gland , parotid duct and gland Clinical features, management, Intraoral and extra oral Sialolithotomy.</p> <p>b) Salivary fistulae, Sialocoele</p> <p>c) Autoimmune diseases of the salivary glands diagnosis - Management</p> <p>Common tumours of salivary glands like</p> <p>Pleomorphic adenoma including minor salivary glands.</p>	1.5



28.	<p>Tumors of the Oral cavity</p> <ul style="list-style-type: none"> <li>- General considerations</li> <li>- Surgical principles</li> </ul> <p>a)Non odontogenic benign tumours occurring in oral cavity</p> <p>—</p> <ul style="list-style-type: none"> <li>- Fibroma</li> <li>- Papilloma</li> <li>- Lipoma</li> <li>- Ossifying Fibroma</li> <li>- Myxoma etc.</li> </ul> <p>b)Odontogenic tumors: (both benign and malignant)</p> <p>Clinical features, Investigations, Radiological appearance Methods of management.</p> <ul style="list-style-type: none"> <li>- Ameloblastoma –</li> <li>- Osteogenic tumours of the faciomaxillary region.</li> </ul>	2
29.	<p>Disorders of T.M. Joint</p> <ul style="list-style-type: none"> <li>- Applied surgical anatomy of the joint</li> <li>- Development of the TMJ</li> <li>- Surgical approaches to TMJ</li> <li>- Radiological investigations</li> </ul> <p>a) Hypermobility of TMJ; Dislocation, Subluxation Types, aetiology, clinical features and management.</p> <p>b) Hypomobility of TMJ;  Classification  Ankylosis - Definition, aetiology, clinical features and management</p> <p>c) Myo-facial pain dysfunction syndrome Aetiology, clinical features, management- Non surgical and surgical</p> <p>d) Internal derangement of the joint.</p> <p>e) Developmental disorders of joint – Hypoplasia, clinical features, management</p>	2

	f) Inflammatory Diseases of T.M. Joint Arthritis – clinical features, Investigations, Management  Arthroscopy	
30.	<p>MEDICAL EMERGENCIES</p> <p>Primary care of medical emergencies in dental practice</p> <p>(Cardio vascular Respiratory Endocrine) Anaphylactic reaction</p> <p>Epilepsy Basic Life Support</p> <ul style="list-style-type: none"> <li>- Emergency drugs required in a dental clinic</li> <li>- Sites for intra muscular</li> <li>- Intra venous injections Techniques</li> <li>- Cardiopulmonary resuscitation</li> <li>- Use of oxygen and Emergency drugs.</li> <li>- Tracheostomy</li> </ul>	2

Total – 60 hours

#### PRACTICALS/CLINICALS

SL NO.	TOPICS	MIN NO:
1)	Case history Taking: Detailed clinical examinations Investigations and diagnosis	5cases
2)	Dental extractions under Local anesthesia – mobile anteriors Dental extractions under Local anaesthesia – mobile posteriors Dental extractions under Local anaesthesia – non mobile anteriors and posteriors	100 cases
3)	Assisting minor surgical procedures; Frenectomy, Biopsy etc	5cases
4)	Suturing of extraction wounds	10 cases
5)	Incision and drainage Wound dressing	5 cases
6)	Arch bar wiring Eyelet wiring and Intermaxillary fixation ( plaster or acrylic models)	3 (1each)

7)	Intermaxillary fixation done by staff	Observe
8)	Alveoloplasty under LA	3 cases
9)	Observation of major surgical procedures under GA performed in OT	2
10)	Assisting and observing minor surgical procedures in casualty	3 cases
11)	Seminar – Presentation	2
12)	Training in handling medical emergencies. CPR and basic life support	

Total – 220 hours

A work record should be maintained by all students detailing each of the clinical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## PROSTHODONTICS AND CROWN & BRIDGE

	<b>COMPLETE DENTURES</b>	
1.	Introduction and scope Applied Anatomy and Physiology. <ul style="list-style-type: none"> <li>- Introduction</li> <li>- Biomechanics of the edentulous state.</li> <li>- Residual ridge resorption</li> </ul>	2
2.	Communicating with the patient Understanding the patients. Mental attitude. Instructing the patient	1.5
3.	Examination, Diagnosis & Treatment planning <ul style="list-style-type: none"> <li>- With some teeth remaining.</li> <li>- With no teeth remaining.</li> <li>- Systemic status.</li> <li>- Local factor.</li> <li>- The geriatric patient</li> <li>- Diagnostic procedures</li> </ul>	3
4.	Improving the patient's denture foundation and ridge relation –an overview. <ul style="list-style-type: none"> <li>- Pre-operative examination.</li> <li>- Initial hard tissue &amp; soft tissue procedure,</li> <li>- Secondary hard &amp; soft tissue procedure</li> <li>- Implant procedure.</li> <li>- Congenital deformities</li> <li>- Postoperative procedure</li> </ul>	2
5.	Principles of Retention, Support and Stability	2
6.	Impressions - detail. <ul style="list-style-type: none"> <li>- Muscles of facial expression.</li> <li>- Biologic considerations for maxillary and mandibular impression including anatomy landmark and their interpretation.</li> <li>- Impression objectives.</li> <li>- Impression materials.</li> <li>- Impression techniques.</li> </ul> Maxillary and mandibular impression procedures. <ul style="list-style-type: none"> <li>- Preliminary impressions.</li> <li>- Final impressions.</li> </ul> Laboratory procedures involved with impression making	4

	(Beading & Boxing, and cast preparation).	
7.	Record bases and occlusion rims- in detail. <ul style="list-style-type: none"> <li>- Materials &amp; techniques.</li> <li>- Useful guidelines and ideal parameters.</li> <li>- Recording and transferring bases and occlusal rims.</li> </ul>	2.5
8.	Articulators – Types, Uses, selection , Limitations	2
9.	Biological consideration in Jaw relation & Jaw movements <ul style="list-style-type: none"> <li>- Craniomandibular relations.</li> <li>- Mandibular movements.</li> <li>- Maxillo -mandibular relation including vertical and Horizontal jaw relations.</li> <li>- Concept of occlusion</li> </ul>	5
10.	Relating the patient to the articulator – FACE BOWS <ul style="list-style-type: none"> <li>- Face bow types &amp; uses.</li> <li>- Face bow transfer procedure.</li> </ul>	2
11.	Recording Maxillo Mandibular relation. <ul style="list-style-type: none"> <li>- Vertical relations.</li> <li>- Centric relation records.</li> <li>- Eccentric relation records.</li> <li>- Lateral relation records.</li> </ul>	4
12.	Tooth selection and arrangement. <ul style="list-style-type: none"> <li>- Anterior teeth.</li> <li>- Posterior teeth.</li> <li>- Esthetic and functional harmony</li> </ul>	2
13.	Relating inclination of teeth to concept of occlusion <ul style="list-style-type: none"> <li>- Neurocentric concept.</li> <li>- Balanced occlusal concept</li> </ul>	3
14.	Trial dentures	1
15.	Laboratory procedures. <ul style="list-style-type: none"> <li>- Wax contouring.</li> <li>- Investing of dentures.</li> <li>- Preparing of mould.</li> <li>- Preparing &amp; packing acrylic resin.</li> <li>- Processing of dentures.</li> </ul>	

	<ul style="list-style-type: none"> <li>- Recovery of dentures.</li> <li>- Lab remount procedures.</li> <li>- Recovering the complete denture from the cast.</li> <li>- Finishing and polishing the complete denture.</li> <li>- Plaster cast for clinical denture remount procedure</li> </ul>	4
16.	Denture insertion. <ul style="list-style-type: none"> <li>- Insertion procedures.</li> <li>- Clinical errors.</li> <li>- Correcting occlusal disharmony.</li> <li>- Selective grinding procedures</li> </ul>	3
17.	Sequelae of ill fitting dentures Treating problems with associated denture use Treating abused tissues Relining and rebasing of dentures	2
18.	Immediate complete dentures construction procedure The single complete denture	2
19.	Overdentures	1
20.	Dental implants in complete denture	2
21.	Reduction of residual ridge	1
22.	REMOVABLE PARTIAL DENTURES	
23.	Introduction ,Terminologies and scope Classification.-kennedy's Examination, Diagnosis & Treatment planning & evaluation of diagnostic data.	2.5
24.	Components of a removable partial denture <ul style="list-style-type: none"> <li>- Major connectors</li> <li>- Minor connectors</li> <li>- Rest and rest seats</li> <li>- Direct retainers</li> <li>- Indirect retainers</li> <li>- Tooth replacement</li> </ul>	2
25.	Principles of Removable Partial Denture Design	2.5

26.	Survey and design - Surveyors. - Surveying. - Designing	2
27.	Mouth preparation and master cast.	1.5
28.	Impression materials and procedures for removable partial dentures	1
29.	Designs of removable practical dentures & its associated problems	2
30.	Preliminary jaw relation record	1
31.	Fabrication of cast metal frame work – Lab procedures Selection and arrangement of teeth Fitting the framework Try in of the partial denture Completion of the partial denture Inserting the Removable partial denture Post insertion observations	2.5
32.	Temporary Acrylic Partial Dentures Immediate Removable Partial Denture Removable partial Dentures opposing Complete denture Maintenance of partial dentures	2
33.	<b>FIXED PARTIAL DENTURES - ELEMENTS OF CROWN AND BRIDGE PROSTHESIS</b>	
34.	Introduction and Definitions Fundamentals of occlusion Articulators	2
35.	Indications and contraindications of FPDs	1.5
36.	Treatment planning for single tooth restorations Treatment planning for the replacement of missing teeth including selection and choice of abutment teeth.	2
37.	Fixed partial denture configurations.	1.5
38.	Principles of tooth preparations Preparations for full veneer crowns Preparations for partial veneer crowns	3

39.	Indications contra indications and procedures of preparation of abutment teeth for receiving various types of retainers	1.5
40.	Temporary protection of prepared tooth -Provisional Restorations	1
41.	Gingival retraction –moisture control -Soft Tissue	1
42.	Impressions – types, techniques	2
43.	Construction of dies and working models direct and indirect technique	1.5
44.	Wax Patterns	0.5
45.	a) Technique of fabrication of retainers b) Selection and Fabrication of Pontics – Indications, contraindications of each types c) Connectors, stress breakers and assembly of fixed bridges	2.5
46.	Aesthetic considerations	1
47.	Finishing and cementation Maintenance of crown and bridges	2
48.	All - Ceramic Restorations Metal - Ceramic Restorations	2
49.	Preparations of intracoronal restorations. Preparations for extensively damaged teeth. Preparations for periodontally weakened teeth	2
50.	Functionally Generated Path Technique Investing and Casting Resin - Bonded Fixed Partial Denture	2
51.	MAXILLOFACIAL PROSTHESIS: - Splints - Obturators - Carriers	1

Total – 100 hours



## PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1)	Acrylic RPDs - insertion of min. 15 RPDs (impression taking wax prep, recording of jaw relation - , shade selection,teeth setting try in ,lab procedures .insertion)	Perform 800
2)	Complete Dentures - insertion of min. 5 CDs (impression taking , wax prep, facebow transfer,articulating,teeth setting ,try in ,lab procedures ,insertion)	( technique + Clinical)
3)	Cast RPDs- 5 nos Diagnosis, Designing, Insertion	50(technique +clinical)
4)	FPD – 3 nos Tooth preparation, Impression, temporary, final cementing	30
5)	Dental implants Maxillofacial prosthesis	Assist/observe 15
6)	Seminar presentations – 2 nos Demonstrations	5

Total – 900 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department

## PAEDODONTICS AND PREVENTIVE DENTISTRY

SL NO.	TOPICS	HOURS
1)	INTRODUCTION TO PAEDODONTICS & PREVENTIVE DENTISTRY. - Definition, Scope, Objectives and Importance.	1
2)	GROWTH & DEVELOPMENT: <ul style="list-style-type: none"> <li>- Importance of study of growth and development in Paedodontics.</li> <li>- Prenatal and Postnatal factors in growth &amp; development.</li> <li>- Theories of growth &amp; development.</li> <li>- Development of maxilla and mandible and related age changes</li> </ul>	2
3)	DEVELOPMENT OF OCCLUSION FROM BIRTH THROUGH ADOLESCENCE. <ul style="list-style-type: none"> <li>- Study of variations and abnormalities</li> </ul>	1
4)	DENTAL ANATOMY AND HISTOLOGY: <ul style="list-style-type: none"> <li>- Development of teeth and associated structures.</li> <li>- Eruption and shedding of teeth.</li> <li>- Teething disorders and their management.</li> <li>- Chronology of eruption of teeth.</li> <li>- Differences between deciduous and permanent teeth.</li> <li>- Development of dentition from birth to adolescence</li> </ul> <p>Importance of first permanent molar.</p>	3
5)	DENTAL RADIOLOGY RELATED TO PAEDODONTICS	1
6)	ORAL SURGICAL PROCEDURES IN CHILDREN. <ul style="list-style-type: none"> <li>- Indications and contraindications of extractions of primary and permanent teeth in children.</li> <li>- Knowledge of Local and General Anaesthesia.</li> <li>- Minor surgical procedures in children</li> </ul>	2
7)	DENTAL CARIES: Historical background. <ul style="list-style-type: none"> <li>- Definition, aetiology &amp; pathogenesis.</li> <li>- Caries pattern in primary, young permanent and permanent teeth in children.</li> <li>- Rampant caries, early childhood caries and extensive caries.</li> <li>- Definition, aetiology, Pathogenesis, Clinical features,</li> </ul>	2

	<p>Complications &amp; Management</p> <ul style="list-style-type: none"> <li>- Role of diet and nutrition in Dental Caries.</li> <li>- Dietary modifications &amp; Diet counseling.</li> <li>- Caries activity, tests, caries prediction, caries susceptibility &amp; their clinical application</li> </ul>	
8)	<p>GINGIVAL &amp; PERIODONTAL DISEASES IN CHILDREN.</p> <ul style="list-style-type: none"> <li>- Normal gingiva &amp; periodontium in children.</li> <li>- Definition, aetiology &amp; Pathogenesis.</li> <li>- Prevention &amp; Management of gingival &amp; Periodontal diseases.</li> </ul>	2
9)	<p>CHILD PSYCHOLOGY:</p> <ul style="list-style-type: none"> <li>- Definition.</li> <li>- Theories of child psychology.</li> <li>- Psychological development of children with age.</li> <li>- Principles of psychological growth &amp; development while managing child patient.</li> <li>- Dental fear and its management.</li> <li>- Factors affecting child's reaction to dental treatment</li> </ul>	2
10)	<p>BEHAVIOUR MANAGEMENT:</p> <ul style="list-style-type: none"> <li>- Definitions.</li> <li>- Types of behaviour encountered in the dental clinic.</li> <li>- Non-pharmacological &amp; pharmacological methods of Behaviour Management</li> </ul>	2
11)	<p>PEDIATRIC OPERATIVE DENTISTRY:</p> <ul style="list-style-type: none"> <li>- Principles of Pediatric Operative Dentistry.</li> <li>- Modifications required for cavity preparation in primary and young permanent teeth.</li> <li>- Various Isolation Techniques</li> </ul>	1
	<ul style="list-style-type: none"> <li>- Restorations of decayed primary, young permanent and permanent teeth in children using various restorative materials like</li> <li>- Glass Ionomer, Composites &amp; Silver Amalgam.</li> <li>- Stainless steel, Polycarbonate &amp; Resin Crowns</li> </ul>	2
12)	<p>PEDIATRIC ENDODONTICS</p> <ul style="list-style-type: none"> <li>- Principles &amp; Diagnosis.</li> <li>- Classification of Pulpal Pathology in primary, young permanent &amp; permanent teeth.</li> </ul>	

	<p>Management of pulp involved primary, young permanent &amp; permanent teeth.</p> <ul style="list-style-type: none"> <li>- Pulp capping – direct &amp; indirect.</li> <li>- Pulpotomy</li> <li>- Pulpectomy</li> <li>- Apexogenesis</li> <li>- Apexification</li> </ul> <p>Obturation techniques &amp; material used for primary, young permanent &amp; Permanent teeth in children</p>	2
13)	<p>TRAUMATIC INJURIES IN CHILDREN:</p> <ul style="list-style-type: none"> <li>- Classifications &amp; Importance.</li> <li>- Sequelae &amp; reaction of teeth to trauma.</li> <li>- Management of Traumatized teeth</li> </ul>	2
14)	<p>PREVENTIVE &amp; INTERCEPTIVE ORTHODONTICS:</p> <ul style="list-style-type: none"> <li>- Definitions.</li> <li>- Problems encountered during primary and mixed dentition phases &amp; their management.</li> <li>- Serial extractions.</li> <li>- Space management</li> </ul>	2
15)	<p>ORAL HABITS IN CHILDREN:</p> <ul style="list-style-type: none"> <li>- Definition, Aetiology &amp; Classification.</li> <li>- Clinical features of digit sucking, tongue thrusting, mouth breathing &amp; various other secondary habits.</li> <li>- Management of oral habits in children.</li> </ul>	1.5
16)	<p>DENTAL CARE OF CHILDREN WITH SPECIAL NEEDS:</p> <p>Definition, Aetiology, Classification, Behavioural and Clinical features &amp; Management of children with:</p> <ul style="list-style-type: none"> <li>- Physically handicapping conditions.</li> <li>- Mentally compromising conditions.</li> <li>- Medically compromising conditions.</li> <li>- Genetic disorders.</li> </ul>	1.5
17)	<p>CONGENITAL ABNORMALITIES IN CHILDREN:</p> <p>Definition, Classification, Clinical features &amp; Management</p>	1
18)	<p>DENTAL EMERGENCIES IN CHILDREN &amp; THEIR MANAGEMENT</p>	1

19)	DENTAL MATERIALS USED IN PEDIATRIC DENTISTRY	1
20)	PREVENTIVE DENTISTRY: <ul style="list-style-type: none"> <li>- Definition.</li> <li>- Principles &amp; Scope.</li> <li>- Types of prevention.</li> <li>- Different preventive measures used in pediatric Dentistry including pit and fissure sealants and caries vaccine</li> </ul>	1.5
21)	DENTAL HEALTH EDUCATION & SCHOOL DENTAL HEALTH PROGRAMMES	1
22)	FLUORIDES: <ul style="list-style-type: none"> <li>- Historical background.</li> <li>- Systemic &amp; Topical fluorides.</li> <li>- Mechanism of action.</li> <li>- Toxicity &amp; Management.</li> <li>- Defluoridation techniques</li> </ul>	1.5
23)	CASE HISTORY RECORDING: <ul style="list-style-type: none"> <li>- Outline of principles of examination, diagnosis &amp; treatment planning</li> </ul>	1.5
24)	SETTING UP OF PEDODONTIC CLINIC.	1
25)	ETHICS	0.5

Total – 40 hours

#### PRACTICALS/CLINICALS

SL NO.	TOPICS	HOURS
1)	Restorations – Class I & II only	50
2)	Preventive measures e.g. Oral Prophylaxis	20
3)	Fluoride applications	15

4)	Extractions with or without LA	40
5)	Case History Recording & Treatment Planning	15
6)	Education & motivation of the patients using disclosing agents. Educating patients about oral hygiene/ Plaque control measures (tooth brushing, flossing etc). Diet counseling Parent education	10

Total -150 hours

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of examination after due certification from the head of the department.

## **MODEL QUESTION PAPER PATTERN FOR BDS COURSE**

**TOTAL MARKS = 70**

### **SECTION – A**

**Total Marks – 35**

**Essay            -        1 X 10 = 10 Marks**

**Short Notes   -        5 X 3 = 15 Marks**

**MCQ            -        10 X 1 = 10 Marks**

### **SECTION – B**

**Total Marks – 35**

**Essay            -        1 X 10 = 10 Marks**

**Short Notes   -        5 X 3 = 15 Marks**

**MCQ            -        10 X 1 = 10 Marks**

## COMPULSORY ROTATORY INTERNSHIP (CRI)

### Curriculum of dental Internship programme

1. The CRI Programme will be provided at the end of 1<sup>st</sup> year. After passing the Final BDS Degree Examination the candidate has to undergo Compulsory Rotating Internship programme for Twelve months (i.e. 365 days, 1750 hours) in the same institution.
2. During this period the candidates will be posted in all the clinical departments of the institution.
3. The B.D.S Degree will be awarded only after successful completion of the Internship programme.
4. During this training period they will have to attend to the routine clinical activities of the department under the supervision of faculty members.
5. The interns will also be posted in the Dental Casualty for attending to the emergency services of the institution and may also include rural postings.

1.	Oral Medicine & Radiology	1 month
2.	Oral & Maxillofacial Surgery	1 ½ months
3.	Prosthodontics and Crown & Bridge	1 ½ months
4.	Periodontology	1 month
5.	Conservative Dentistry & Endodontics	1 month
6.	Paedodontics and Preventive Dentistry	1 month
7.	Oral Pathology & Microbiology	15 days
8.	Orthodontics and Dentofacial Orthopaedics	1 month
9.	Public Health Dentistry	3 months
10.	Elective	15 days

### DETERMINANTS OF CURRICULUM FOR INTERNSHIP FOR DENTAL GRADUATES

The curricular contents of internship training shall be based on:

- 1) Dental health needs of the society.
- 2) Financial, material and manpower resources available for the purpose.
- 3) National Dental Health Policy.
- 4) Social - economic conditions of the people in general
- 5) Existing Dental and also the primary health care concept for the delivery of health services.
- 6) Task analysis of what graduates in Dentistry in various practice settings, private and government service actually perform.
- 7) Epidemiological studies conducted to find out prevalence of different dental health problems, taking into consideration the magnitude of dental problems, severity of dental problems and social disruption caused by these problems.
- 8) Experiential judgement of experts in Dentistry in India.



## **OBJECTIVES:**

- A. To facilitate reinforcement of learning and acquisition of additional knowledge
  - a) Reinforcement of knowledge.
  - b) Techniques & resources available to the individual and the community, social and cultural setting.
  - c) Training in a phased manner, from a shared to a full responsibility.
  
- B. To facilitate the achievements of basic skills; attaining competence Vs. maintaining competence in :-
  - a) History taking
  - b) Clinical Examination
  - c) Performance interpretation of essential laboratory data.
  - d) Data analysis and inference.
  - e) Communication skills aimed and imparting hope and optimism in the patient.
  - f) Attributes for developing working relationship in the clinical setting and community teamwork.
  
- C. To facilitate development of sound attitudes and habits :
  - a) Emphasis on individual and human beings and not on disease/ syndromes.
  - b) Provision of comprehensive care, rather than fragmentary treatment.
  - c) Continuing Dental Learning and Education of accepting the Responsibility
  
- D. To facilitate understanding of professional and ethical principles :
  - a) Rights and dignity of patients.
  - b) Consultation with other professionals and referral to senior institutions.
  - c) Obligations to peers, colleagues, patients, families and community
  - d) Provision of free professional services in an emergent situation.
  
- E. To initiate individual and group action, leading to diseases prevention and dental health promotion, at the level of individuals, families and the Community.

## **CONTENT (SUBJECT MATTER)**

The compulsory rotating Dental Internship shall include training in Oral medicine & Radiology; Oral & Maxillofacial Surgery; Prosthodontics, Periodontics; Conservative Dentistry/Endodontics, Paedodontics, Oral Pathology & Microbiology, Orthodontics and Community Dentistry.

## **GENERAL GUIDELINES:**

It shall be task- oriented training. The interns should participate in various Institutional and field programmes and be given due responsibility to perform the activities in all the departments of Dental Colleges and associated Institutions.

To facilitate achievement of basic skills and attitudes the following facilities should be provided to all dental graduates:

- a) History taking, examination, diagnosis, charting and recording
- b) treatment plan of cases.
- c) Presentation of cases in a group or Seminar.
- d) Care and sterilization of instruments used.
- e) Performance and interpretation of essential laboratory tests and other relevant investigation.
- f) Data analysis and inference.
- g) Proper use of antibiotics, anti - inflammatory and other drugs, as well as other therapeutic modalities.
- h) Education of patients, their relatives and community on all aspects of dental health care while working in the institution as also in the field.
- i) Communication aimed at inspiring hope, confidence and optimism.
- j) Legal rights of patients and obligations of dental graduate under forensic jurisprudence

<b>ORAL MEDICINE &amp; RADIOLOGY</b>
--------------------------------------

	Minimum
a) Standardized examination of patients	5 cases
b) Exposure to clinical, pathological laboratory procedures & Biopsies	5 cases
c) Effective training in taking a Radiograph :	
- Intra – Oral	2 full mouth
- Extra – Oral	1 case
- Cephalogram	1 case
d) Effective management of cases in wards	2 cases

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

<b>ORAL AND MAXILLOFACIAL SURGERY</b>
---

A. The Dental graduates during their posting in oral surgery shall perform the following procedures :	Minimum
1. Extractions	50
2. Surgical extractions	2
3. Impactions	2
4. Simple IMP	1 case
5. Cysts enucleations	1 case
6. Incision and drainage	2 cases

- |   |         |
|---|---------|
| 7. Alveoloplasties  |         |
| 8. Biopsies   | 3 cases |
| 9. Frenectomies, etc.   | 3 cases |
| B. The dental graduates shall perform the following on career posts :   | 3 cases |
| A. Maintain file work   |         |
| B. Do extractions for radiotherapy cases  |         |
| C. Perform biopsies.  |         |
| D. Observe varied cases of oral cancers.  |         |
| C. The dental graduates shall have 15 days posting in Emergency services of a dental / general hospital with extended responsibilities in emergency dental care in the wards. |         |

During this period they shall attend to all emergencies under the direct supervision of oral surgeon and assist the oral surgeon during any operation.

<b>EMERGENCIES</b>
--------------------

- Toothache
  - Trigeminal neuralgia
  - Bleeding from mouth due to trauma post extraction, bleeding disorder or haemophilia.
  - Air way obstruction due to fracture mandible and maxilla; dislocation of mandible; syncope or vasovagal attacks; Ludwig's angina; tooth fracture; post inter - maxillary fixation after general Anaesthesia.
- a) Work in I.C.U. with particular reference to resuscitation procedures.
  - b) Conduct tutorials on Medico- Legal aspects including reporting on actual cases coming to casualty.
  - c) They should have visits to law courts.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## PROSTHODONTICS

The dental graduates during their internship posting in prosthodontics make:

	Minimum
a) Complete Denture	2 cases
b) R.P.D	4 cases
c) F.P.D	1 case
d) Planning of Cast Partial Denture design	1 case
e) Miscellaneous - like Reline/ Overdenture / Repairs	1 case
f) Learning of Face Bow and Semi Anatomic Articulator.	1 case
g) Crowns	2 cases

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## PERIODONTICS

The dental graduates shall perform the following procedures :

	Minimum
a) Prophylaxis	10 cases
b) Flap operation	2 cases
c) Root planning	1 case
d) Curretage	2 cases
e) Gingivectomy	1 case
f) Perio - Endo cases	1 case

*During their posting of one week in the Community Health Centres, the dental graduates shall educate the public in prevention of dental disease*

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## CONSERVATIVE DENTISTRY AND ENDODONTICS

To facilitate reinforcement of learning and achievement of basic skills, the interns shall perform at least the following procedures independently or under the guidance of supervisors.

	Minimum
a) Restoration of extensively mutilated teeth	2 cases
b) Inlay and onlay preparations	1 case
c) Use tooth coloured restorative materials	4 cases
d) Treatment of discoloured vital and non - vital teeth.	1 case
e) Management of dento alveolar fracture	1 case
f) Management of pulpless, single - rooted teeth without periapical lesion	1 case
g) Management of acute dento alveolar infections	4 cases
h) Management of pulpless, single - rooted teeth with Periapical lesion.	1 case
i) Non - Surgical management of traumatised teeth during formative period.	1 case

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## **PAEDODONTICS AND PREVENTIVE DENTISTRY**

During their posting in paedodontics the Dental graduates shall perform :

	Minimum
a) Topical application of fluorides including varnish.	5 cases
b) Restorative procedures of carious deciduous teeth in children	10 cases
c) Pulpotomy	2 cases
d) Pulpectomy	2 cases
e) Fabrication and insertion of space maintainers	2 cases
f) Oral habit breaking appliances.	1 case

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## **ORAL PATHOLOGY AND MICROBIOLOGY**

The dental graduates shall perform the following:

	Minimum
a) History - recording and clinical examination	5 cases
b) Blood, Urine and Sputum examination	5 cases
c) Exfoliative Cytology smears study	2 cases
d) Biopsy lab procedure	2 cases

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## ORTHODONTICS

A. The dental graduates shall observe the following procedures during their posting in orthodontics :

- a) Detailed diagnostic procedure for 5 patients.
- b) Laboratory techniques including wire-bending for removable appliance.
- c) Soldering and processing of myo-functional appliance.
- d) Treatment plan options and decisions.
- e) Making of bands, bonding procedures and wire insertions.
- f) Use of extra - oral anchorage and observation of force values.
- g) Retention.
- h) Observe

B. The dental graduates shall do the following laboratory work:

	Minimum
a) Wire - bending for removable appliances	5 Cases
b) Soldering exercises	2 Cases
c) Cold Cure and Heat Cure Acrylisation of Orthodontic Appliances	5 Cases

C. They shall practice the following clinical work:

	Minimum
a) Preparation of record Diagnosis and treatment plan	2 Cases
b) Delivery of removable appliances.	5 Cases
c) Banding of bonding procedure	2 Cases

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department



## **COMMUNITY DENTISTRY**

- A. The dental graduates shall conduct health education sessions for individuals and groups on Oral Health, Public Health Nutrition, Behavioural Sciences, Environmental Health, Preventive Dentistry and Oral Epidemiology
- B. They shall conduct a short - term epidemiological survey in the community, or in the alternate, shall participate in the community, or in the alternate, shall participate in the planning and methodology of such a survey.
- C. They shall arrange effective demonstration of :
  - a) Preventive & interceptive procedures for prevalent dental diseases.
  - b) Mouth - rinsing and other oral hygiene demonstrations 5 cases
  - c) Tooth brushing techniques 5 cases
- D. Conduction of oral health education programmes at :
  - a) School setting -2
  - b) Community setting -2
  - c) Adult education programmes -2
- E. Preparation of Health Education materials -5
- F. Exposure to team concept and National Health Care systems :
  - a) Observation of functioning of health infrastructure
  - b) Observation of functioning of health care team including multipurpose workers male and female, health educators and other workers.
  - c) Observation of at least one National Health Programme
  - d) Observations of inter linkages of delivery of oral health care with primary health care.
  - e) Mobile dental clinical, as and when available, should be provided for this training

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

### **ELECTIVE POSTING**

The Dental graduates shall be posted for 15 days in any of the dental departments of their choice mentioned in the foregoing.

A work record should be maintained by all students detailing each of the clinical/practical and academic requirements duly signed by the teacher in charge and should be submitted at the time of completion of CRI after due certification from the head of the department

## **ORGANISATION OF CONTENT**

- The curriculum during the 4 year of B.D.S. training subjects - based with more emphasis on learning practical skills.
- During one year internship the emphasis will be on competency based, community - oriented training.
- The practical skills to be mastered by the dental graduates along with the minimum performance level are given under the course content of different departments of Dental Education.
- The supervisors should see to it that proper facilities are provided in all departments and attached institutions for their performance

## **SPECIFICATION OF TEACHING/ LEARNING ACTIVITIES**

The didactic lectures are delivered during the four years training in B.D.S. These shall be avoided during the internship programme. Emphasis shall be on chairside teaching, small group teaching and discussions; tutorials, seminars, ward posting, laboratory posting, field visits and self-learning.

## **USE OF LEARNING RESOURCE MATERIALS**

Overhead projectors, slide projectors, film projectors charts diagrams, photographs, posters, specimen, models and other audiovisual aids shall be provided in all the dental colleges and attached institutions and field areas.

If possible, Television. Video and tapes showing different procedures and techniques to be mastered by the dental graduates should be provided.

## **EVALUATION**

### **1. FORMATIVE EVALUATION**

- Day to day assessment of the dental graduates during their internship posting should be done. The objective is that all the interns must acquire necessary minimum skills required for carrying out day to day professional work competently.
- This can be achieved by maintaining records and performance data book by all interns.
- This will not only provide a demonstrable evidence of the processes of training but more importantly, of the intern's own acquisition of competencies as related to performance. It shall form a part of formative evaluation and shall also constitute a component of final grading of interns.

### **2. SUMMATIVE EVALUATION**

It shall be based on the observation of the observers of different department and the records and performance data book maintained by the interns. Grading shall be done accordingly.

## RECOMMENDED BOOKS

### General Human Anatomy including Embryology and Histology

- 1) Clinical Anatomy for Medical Students, Snell (Richard S.), Little Brown & company, Boston.
- 2) Anatomy, R J Last's - McMinn,
- 3) Cunningham Manual of Practical Anatomy: Head & Neck & Brain.Vol.III, Romanes (G.J) Oxford Medical publication.
- 4) Functional Histology, Wheater, Burkitt & Daniels, Churchill Livingstone.
- 5) Medical Embryology, Sadler, Langman's,
- 6) Grant's Atlas of Anatomy, James E Anderson, Williams & Wilkins.
- 7) Gray's Anatomy, Williams, Churchill Livingstone.
- 8) Medical Genetics, Emery.
- 9) Essentials of Anatomy for Dentistry Students, D R Singh, Wolters Kluwer.

### Physiology

- 1) Text book of Physiology, Guyton
- 2) Review of Medical Physiology, Ganong
- 3) Human physiology, Vander
- 4) Concise Medical Physiology, Choudhari
- 5) Human Physiology, Chatterjee
- 6) Human Physiology for BDS students, A.K. Jain

*Reference books;*

- 1) Physiology, Berne & Levy
- 2) Physiological basis of Medical Practice, West-Best & Taylor's

*Experimental Physiology:*

- 1) Practical Physiology, Rannade
- 2) A text book of practical physiology, Ghai
- 3) Clinical Methods, Hutchison's

### Biochemistry

- 1) Textbook of Biochemistry for Dental Students, DM Vasudevan, Sreekumari S
- 2) Text book of Biochemistry-U Satyanarayana

*Reference books;*

- 1) Harper's Biochemistry, R.K. Murray et.al.
- 2) Text book of Biochemistry with clinical correlations T.N.Devlin
- 3) Basic and applied Dental Biochemistry, R.A.D. Williams & J.C.Elliot
- 4) Nutritional Biochemistry S. Ramakrishnan and S.V. Rao

### Dental Materials

- 1) Phillips Science of Dental Materials - Kenneth J. Anusavice
- 2) Restorative Dental Materials -Robert G. Craig

- 3) Notes on Dental Materials - E.C. Combe

*Reference books:-*

- 1) Introduction to Dental Materials, Van Noort,
- 2) Applied Dental Materials, McCabe

**Dental Anatomy, Embryology and Oral Histology**

- 1) Orban's Oral Histology & Embryology - S.N. Bhaskar
- 2) Oral Development & Histology - James & Avery
- 3) Wheeler's Dental Anatomy, Physiology & Occlusion – Major M. Ash
- 4) Dental Anatomy - its relevance to dentistry - Woelfel & Scheid
- 5) Applied Physiology of the mouth – Lavelle
- 6) Physiology & Biochemistry of the mouth – Jenkins
- 7) Oral Histology- 'Development, Structure and Function- A. R. Tencate

**General Pathology**

- 1) Robbins - Pathologic Basis of Disease Cotran, Kumar, Robbins
- 2) Anderson's Pathology Vol 1 & 2 Editors - Ivan Damjanov & James Linder
- 3) Wintrobe's clinical Haematology Lee, Bithell, Foerster, Athens, Lukens

**Microbiology**

- 1) Text book of Microbiology - R. Ananthanarayan & C.K. Jayaram Paniker.
- 2) Medical Microbiology - David Greenwood et al.

*Reference books;*

- 1) Microbiology - Prescott, et al.
- 2) Microbiology - Bernard D. Davis, et al.
- 3) Clinical & Pathogenic Microbiology - Barbara J Howard, et al.
- 4) Mechanisms of Microbial diseases - Moselio Schaechter, et al.
- 5) Immunology an Introduction – Tizard
- 6) Immunology - Evan Roitt, et al.
- 7)

**General and Dental Pharmacology and Therapeutics**

- 1) Basic and Clinical pharmacology, Bertam G. Katzung, Appleton & Lange
- 2) Clinical Pharmacology, Laurence DR, Churchill Livingstone
- 3) Pharmacology and Pharmacotherapeutics Part I & Part II, Satoskar R.S. & Bhandarkar S. D, Popular Prakashan Mumbai.
- 4) Essentials of Medical Pharmacology, Tripathi K.D, Jaypee Brothers
- 5) Medical Pharmacology, Udaykumar, CBS publishing
- 6)

**General Medicine**

- 1) Textbook of Medicine Davidson
- 2) Textbook of Medicine Hutchinson

### **General Surgery**

- 1) Short practice of Surgery Baily & Love

### **Oral Pathology & Oral Microbiology**

- 1) A Text Book of Oral Pathology Shafer, Hine & Levy
- 2) Oral Pathology - Clinical Pathologic correlations Regezi & Sciubba.
- 3) Oral Pathology Soames & Southam.
- 4) Oral Pathology in the Tropics Prabhu, Wilson, Johnson & Daftary
- 5) Synopsis of Oral Pathology, Bhaskar, CBS publishing

### **Public Health Dentistry**

- 1) Dentistry Dental Practice and Community by David F. Striffler and Brain A. Burt, W. B. Saunders Company
- 2) Principles of Dental Public Health by James Morse Dunning, Harward University Press.
- 3) Dental Public Health and Community Dentistry Ed by Anthony Jong Publication by The C. V. Mosby Company
- 4) Community Oral Health-A system approach by Patricia P. Cormier and Joyce I. Levy published by Apple ton-Century-Crofts/ New York,
- 5) Community Dentistry-A problem oriented approach by P. C.
- 6) Dental Hand book series Vol.8 by Stephen L. Silverman and Ames F. Tryon, Series editor-Alvin F. Gardner, PSG Publishing company Inc. Littleton Massachusetts,
- 7) Dental Public Health- An Introduction to Community Dentistry. Edition by Geoffrey L. Slack and Brain Burt, Published by John Wright and sons Bristol.
- 8) Oral Health Surveys- Basic Methods, 1997, published by W. H. O Geneva available at the regional office New Delhi.
- 9) Preventive Medicine and Hygiene-By Maxcy and Rosenau, published by Appleton Century Crofts,
- 10) Preventive Dentistry-by J. O. Forrest published by John Wright and sons Bristol,
- 11) Preventive Dentistry by Murra
- 12) Text Book of Preventive and Social Medicine by Park and park,
- 13) Community Dentistry by Dr. Soben Peter.
- 14) Public Health dentistry, Sikri. CBS Publishing

### **Behavioural Science**

- 1) General Psychology- Hans Raj, Bhatia
- 2) Behavioural Sciences in Medical Practice- Manju Mehta
- 3) General psychology — Hans Raj, Bhatia
- 4) General psychology —Munn
- 5) Sciences basic to psychiatry -- Basanth Puri & Peter J Tyrer

### **Ethics**

Medical Ethics, Francis C M, Jaypee Brothers, New Delhi

### **Research methodology and Bio-statistics**

- 1) Introduction to Bio-statistics by B. K. Mahajan
- 2) Introduction to Statistical Methods by Grewal

### **Paediatric and Preventive Dentistry**

- 1) Dentistry for the Child and Adolescence - Mc. Donald.
- 2) Pediatric Dentistry (Infancy through Adolescence) - Pinkham.
- 3) Pediatric Dentistry : Total Patient Care – Stephen H.Y. Wei
- 4) Clinical Pedodontics – Sidney B. Finn
- 5) Fundamentals of Pediatric Dentistry – R.J. Mathewson
- 6) Handbook of Clinical Pedodontics - Kenneth. D.
- 7) Text Book of Pedodontics- Shobha Tandon
- 8) Pediatric Dentistry - Damle S. G.
- 9) Kennedy's Pediatric Operative Dentistry - Kennedy & Curzon.
- 10) Handbook of Pediatric Dentistry – Cameron and Widmer
- 11) Pediatric Dentistry - Richard R. Welbury
- 12) Pedodontics: A Clinical Approach - Goran Koch
- 13) Orthodontics and Pediatric Dentistry (Colour Guide) - D Millet & R Welbury
- 14) Color Atlas of Oral Diseases in Children and Adolescents - George Laskaris
- 15) Dental Management of the Medically Compromised Patient –J.W. Little
- 16) Pediatric Dentistry – Scientific Foundations and Clinical Practice – Stewart and Barber.
- 17) Clinical Use of Fluorides - Stephen H. Wei.
- 18) Understanding of Dental Caries - Niki Foruk.
- 19) Essentials of Community & Preventive Dentistry - Soben Peters.
- 20) Behaviour Management – Wright
- 21) Traumatic Injuries - Andreason.
- 22) Occlusal Guidance in Pediatric Dentistry - Stephen H. Wei / Nakata
- 23) Pediatric Oral & Maxillofacial Surgery - Kaban.
- 24) Pediatric Medical Emergencies - P. S. Whatt.
- 25) An Atlas of Glass Ionomer Cements - G. J. Mount..
- 26) Textbook of Pediatric Dentistry - Braham Morris.
- 27) Primary Preventive Dentistry - Norman O. Harris.
- 28) Preventive Dentistry - Forrester.
- 29) Contemporary Orthodontics - Profitt..
- 30) Preventive Dentistry - Depaola.
- 31) Endodontics - Ingle.
- 32) Pathways of Pulp - Cohen.
- 33) Management of Traumatized anterior Teet Hargreaves.

### **Oral Medicine and Radiology**

#### *Oral Diagnosis, Oral Medicine & Oral Pathology*

- 1) Oral Medicine, Burkit, J.B. Lippincott Company
- 2) Principles of Oral Diagnosis, Coleman, Mosby Year Book
- 3) Oral Manifestations of Systemic Diseases, Jones, W.B. Saunders company
- 4) Oral Diagnosis & Oral Medicine, Mitchell
- 5) Oral Diagnosis, Kerr
- 6) Oral Diagnosis & Treatment ,Miller

- 7) Clinical Methods, Hutchinson
- 8) Shafers, Oral Pathology
- 9) Principles and practice of Oral Medicine, Sonis.S.T., Fazio.R.C. and Fang.L
- 10)

### *Oral Radiology*

- 1) Oral Radiology White & Goaz, Mosby year Book
- 2) Dental Radiology, Weahrman,C.V. Mosby Company
- 3) Oral Roentgenographs Diagnosis, Stafne ,W.B. Saunders Co
- 4) Fundamentals of Dental radiology, Sikri, CBS Publishing.

### **Orthodontics**

- 1) Contemporary Orthodontics- William R. Proffit
- 2) Orthodontics For Dental Students- White And Gardiner
- 3) Handbook Of Orthodontics- Moyers
- 4) Orthodontics - Principles And Practice- Graber
- 5) Design, Construction And Use Of Removable Orthodontic Appliances- C. Philip Adams
- 6) Clinical Orthodontics: Vol 1 & 2- Salzmann

### **Oral and Maxillofacial Surgery**

- 1) Impacted teeth, Alling John et al
- 2) Principles of Oral & maxillofacial Surgery vol1,2&3 Peterson LJ et al
- 3) Text book of Oral & maxillofacial Surgery, Srinivasan B
- 4) Hand book of Medical emergencies in the dental office, Malamed SF
- 5) Killey's Fracture of the Mandible, Banks
- 6) Killey's Fractures of the Middle 3 of the Facial Skeleton; Banks P
- 7) The Maxillary Sinus and its Dental Implications; Mc Govanda
- 8) Killey and Kays Outline of Oral Surgery - Part 1& 2; Seward GR & et al
- 9) Essentials of Safe Dentistry for the Medically Compromised Patients; Mc Carthy FM
- 10) Oral & Maxillofacial Surgery, Vol 1& 2; Laskin DM
- 11) Extraction of Teeth; Howe GL
- 12) Minor Oral Surgery; Howe GL
- 13) Contemporary Oral & Maxillofacial Surgery; Peterson LJ
- 14) Text book of Oral &Maxillofacial Surgery , Neelima Anil Malik
- 15) Text book of Oral &Maxillofacial Surgery, SM Balaji
- 16) Principles of Oral Surgery; Moore J'R
- 17) Handbook of Local Anaesthesia, Malamed
- 18) Sedation; Malamed
- 19) Text book of Oral & Maxillofacial Surgery; Gustav O Kruger
- 20) Textbook of Local Anaesthesia; Monheim

### **Prosthodontics, and Crown & Bridge**

- 1) Syllabus of Complete denture -Charles M. Heartwell Jr. and Arthur O. Rahn
- 2) Prosthodontic treatment for edentulous patients- Carl O. Boucher
- 3) Essentials of complete denture prosthodontics by - Sheldon Winkler.

- 4) Maxillofacial prosthetics by - Willam R. Laney.
- 5) McCracken's Removable partial Prosthodontics
- 6) Removable partial Prosthodontics by - Ernest L. Miller and Joseph E. Grasso.
- 7) Stewart's Clinical Removable Partial Prosthodontics, Quintessence Publishing Co.
- 8) Fundamentals of Fixed Prosthodontics, Shillingburg, Quintessence Publishing Co.
- 9) Management of Temporomandibular Disorders and Occlusion, Jeffery P. Okeson, Mosby Year book, Inc.

### **Periodontology**

- 1) Glickman's Clinical Periodontology-Carranza

#### *Reference books*

- 1) Essentials of Periodontology and periodontics- Torquil MacPhee
- 2) Contemporary periodontics- Cohen
- 3) Periodontal therapy- Goldman
- 4) Orbans' periodontics- Orban
- 5) Oral Health Survey- W.H.O.
- 6) Preventive Periodontics- Young and Stiffler
- 7) Advanced Periodontal Disease- John Prichard
- 8) Clinical Periodontology- Jan Lindhe
- 9) Periodontics- Baer & Morris.

### **Conservative Dentistry and Endodontics**

- 1) The Art & Science of Operative Dentistry, Sturdivant, Mosby U.S.A
- 2) Principle & Practice of Operative Dentistry, Charbeneu, Varghese Publishing, Mumbai.
- 3) Grossman's Endodontic Practice, B. Suresh Chandra & V. GopiKrishna, Wolters Kluwer

*Note: 1. Book titles will keep on adding in view of the latest advances in the Dental Sciences.*

*2. Standard books from Indian authors are also recommended*



## List of Journals

- 1) Journal of Dentistry
- 2) British Dental Journal
- 3) International Dental Journal
- 4) Dental Abstracts
- 5) Journal of American Dental Association
- 6) British Journal of Oral and Maxillofacial Surgery
- 7) Oral Surgery, Oral Pathology and Oral Medicine
- 8) Journal of Periodontology
- 9) Journal of Endodontics
- 10) American journal of Orthodontics and Dentofacial Orthopedics
- 11) Journal of Prosthetic Dentistry
- 12) International Journal of Prosthodontics
- 13) Journal of Public Health Dentistry
- 14) Endodontics and Dental Traumatology
- 15) Journal of Dental Education
- 16) Dental Update
- 17) Journal of Dental Material
- 18) International Journal of Pediatric Dentistry
- 19) International Journal of Clinical Pediatric dentistry

*Note: This is the minimum requirement. More journals both Indian and Foreign are recommended for imparting research oriented education.*