SPECIFIC LEARNING OBJECTIVES

GENERAL ANATOMY

SPECIFIC LEARNING OBJECTIVES

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

Dissection of Head, Neck , Face and brain.

1)Topic: Dissection of scalp

Objectives: At the end of the dissection, the student should be able to identify-

- The 5 Anatomical layers of the scalp.
- Identify major vessels and nerves supplying scalp.
- Important 3 applied anatomy of scalp.

2)Temporal region-

Objectives: At the end of the dissection, the student should be able to identify-

- Identify temporal muscle and fascia covering it.
- Identify Blood and nerve supply of muscle.
- Applied anatomy of muscle.

3) Posterior Triangle:

Objectives: At the end of the dissection, the student should be able to identify-

- Identify the Accessory nerve & what muscle does it supply.
- Identify the Sternocleidomastoid muscle
- origin and insertion and nerve supply.
- Identify the boundaries & contents of the posterior triangle of neck.

4) Anterior triangle of neck

Objectives: At the end of the dissection, the student should be able to identify-

- The boundaries & contents of the anterior triangle of neck, and superficial veins of the neck.
- List the boundaries & enumerate at least 3 contents of carotid triangle.
- Identify external carotid artery and its 8 branches.

5) Parotid region

Objectives: At the end of the dissection, the student should be able to identify-

- The surfaces & borders of the gland, parotid duct and 5 banches of facial nerve emerging from the gland.
- Describe briefly significance of injury to facial nerve during parotidectomy,
- give at least 1 cause of parotid swellings

6) Temporo-Mandibular joint

Objectives: At the end of the dissection, the student should be able to identify-

- Objectives: At the end of the dissection, the student should be able to identify-
- Bones taking part in formation of the joint,
- the muscles of mastications producing movement at joint.
- Define important relations of the joint.
- The structures in relation with lateral pterygoid muscle .
- Branches of maxillary artery.

7) Mandibular nerve

Objectives: At the end of the dissection, the student should be able to identify-

- Identify the course, branches & distribution of the nerve, the otic ganglion.
- Identify the lingual & inferior alveolar nerves
- Identify sites of application for local anesthesia

8) Submandibular gland

Objectives: At the end of the dissection, the student should be able to identify-

- Identify the surfaces & borders of gland.
- Identify the position and connections of submandibular ganglion.

- Identify submandibular gland in relation with facial artery & hyoglossus muscle and hypoglossal nerve.

9) Thyroid gland

Objectives: At the end of the dissection, the student should be able to identify-

- The location, and parts of the thyroid gland.
- the blood supply of the gland.
- the relations of the gland to laryngeal nerve and both thyroid arteries.
- During Thyroidectomy what precautions to take.

10) Pharynx

Objectives: At the end of the dissection, the student should be able to identify-

- the parts of the pharynx & its muscles.
- Pharyngeal 3 constrictors muscles.
- the auditory tube, soft palate, palatine tonsil & piriform fossa.

11) Larynx

Objectives: At the end of the dissection, the student should be able to identify-

- laryngeal Cartilages; Muscles; Interior true and false vocal cords.
- Effects of injury to recurrent & external laryngeal nerves

12) Nose & paranasal air sinuses(saggital section)

Objectives: At the end of the dissection, the student should be able to identify-

- features of lateral wall of nose and 3 conchae.
- openings of major air paranasal sinuses in to 3 nasal meatus .
- Walls and bounderies of maxillary air sinus.

13) Tongue

Objectives: At the end of the dissection, the student should be able to identify-

- Parts of tongue; Circumvalate papillae;

- Muscles of tongue and Sensory innervation;
- clinical significance of 12th nerve.

14) Pterygopalatine fossa & ganglion

Objectives: At the end of the dissection, the student should be able to identify-

- Boundaries & Contents;
- Branches of ganglion and Maxillary artery;
- clinical significance.

15) IX, X & XI cranial nerves

Objectives: At the end of the dissection, the student should be able to identify-

- Course of the nerves
- Relations; Branches of distribution;
- Clinical significance

16) Dural venous sinuses

Objectives: At the end of the dissection, the student should be able to identify-

- identify Major dural venous sinuses and their Interconnections & drainage of venous sinuses in to internal jugular vein;
- Cavernous sinus clinical significance;
- Identify Pituitary gland and fossa.

17) Extra-ocular muscles; III, IV & VI cranial nerves

Objectives: At the end of the dissection, the student should be able to identify-

- 4 rectus and oblique muscles;
- Edinger-Westphal nucleus & ciliary ganglion;
- Demonstrate movement of eye ball by each muscle.

Brain

1) Brain stem

Objectives: At the end of the dissection, the student should be able to identify-

- Parts of brain stem;
- Major surface elevations & depressions;
- Midbrain, pons, medulla and their Nerve attachments.

2) Cerebellum & IV ventricle

Objectives: At the end of the dissection, the student should be able to identify-

- Anatomical lobes of cerebellum,dentate nucleus in cut section of cerebellum.
- 3 Peduncles;
- Floor of IV ventricle

3) Diencephalon & III ventricle(cut sections)

Objectives: At the end of the dissection, the student should be able to identify-

- parts of thalamus.
- Floor, roof and bounderies of III ventricle.
- Csf flow and openings of 3rd ventricle.

4)Cerebrum

Objectives: At the end of the dissection, the student should be able to identify-

- major lobes of the cerebrum.
- major sulci & gyri on the supero-lateral surface of cerebrum.
- Identify corpus callosum.and its parts.
- Internal capsule and its parts
- Major fibres of cerebral connection.
- Lateral ventrical and its extensions in to lobes.
- Caudate ,lentiform and thalamus nucleus and parts of nucleus

5) Arterial circle of Willis

Objectives: At the end of the dissection, the student should be able to identify-

- Ant, middle and post cerebral arteries and basilar artery Formation;
- Branches and Formation of circle of willis.
- Clinical significance (stroke).

6) Spinal cords

Objectives: At the end of the dissection, the student should be able to identify-

- WHITE AND GRAY MATTER and SPINAL NERVES AND GANGLION of spinal cords.
- Identify spinal segments and its position related to each vertebra.
- Cauda equina.
- Lumbar pucture site L4 L 5.
- Applied anatomy.

CLINICAL PROCEDURES:

a) Intramuscular injections:

- Demonstration on a living person of the following sites of injection.
- Deltoid muscle and its relation to the axillary nerve and radial nerve.
- Gluteal region and the relation of the sciatic nerve. Vastus lateralis muscle.

b) Intravenous injections & venesection:

Demonstration of veins on a living person
1. Median cubital vein
2. Cephalic vein
3. Basilic vein

4. Long saphenous vein

c) Arterial pulsations:

Demonstration of arteries and feeling of pulsation of the following arteries on a living person.

Superficial temporal
Facial
Carotid
Axillary
Brachial
Radial
Ulnar
Femoral
Popliteal
Dorsalispedis

d) Lumbar puncture:

- How to identify the inter vertebral space between L4 & L5.
- Higest point of iliac creast on both side joined together which passing through the inter vertebral space between L4 & L5.
- Used for lumbar puncture(Spinal anaesthesia,csf for diagnostic purporse).

Specific learning Objectives: General Anatomy & Anatomy of Head, Neck & Face

Topic: Introduction to Anatomy

Objectives: At the end of the lecture, the student should be able to

- Correctly define the Anatomical position of the body.
- List by memory at least 3 terms of reference & 3 terms of movement.
- Demonstrate at least 3 types of movements.

Topic: Bone

Objectives: At the end of the lecture, the student should be able to

- Describe the classification of bones based on different criteria, parts of young bone, blood supply of bones & importance of periosteum.
- List by memory classification of bones based on at least 3 criteria, main parts of a young bone, blood supply of bones & importance of periosteum.

- Identify different types of bones, and should be able to draw and label diagrams depicting parts of young bone & blood supply of bones.

Topic: Connective tissues & cartilage

Objectives: At the end of the lecture, the student should be able to

- Define the basis of classification of connective tissues and cartilages, their structure, the sites at which they are found, & the functions they perform at these sites.
- List by memory major types of connective tissues & cartilages, describe their structural features and list their important functions.
- Define the three types of cartilages.

Topic: Nervous system

Objectives: At the end of the lecture, the student should be able to

- Describe the structure of neuron, supporting connective tissues & structure of peripheral nerves
- List by memory parts of a neuron, names of supporting cell types, and levels of organization within peripheral nerves.
- Describe briefly the aspects related to nerve repair following injury.

Topic: Deep cervical fascia

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the fascial planes in the neck, specializations of deep cervical fascia, the carotid sheath, and the areas of communication with other fascial spaces.
- List the contents of carotid sheath, define the ligament of Berry & its significance.
- Describe briefly the significance of communication of deep cervical fascial spaces with other fascial spaces.

Topic: Posterior triangle of neck

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the boundaries & contents of the posterior triangle of neck, the formation, branches & distribution of cervical plexus of nerves, and the important superficial veins of the neck.
- List the boundaries & enumerate at least 3 contents of posterior triangle.

- Define attachments of sternocleidomastoid muscle.
- Describe briefly the effect of paralysis of sternocleidomastoid muscle.

Topic: Anterior triangle of neck

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the boundaries & contents of the anterior triangle of neck, tits subdivisions, and the important superficial veins of the neck.
- List the boundaries & enumerate at least 3 contents of carotid triangle.

Topic: Parotid region

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the surfaces & borders of the gland, the accessory parotid gland, parotid duct and neuro-vascular structures within the gland.
- Describe briefly the secreto-motor pathway of the gland and nerve supply of parotid fascia.
- Describe briefly significance of injury to facial nerve during parotidectomy, give at least 1 cause of parotid swellings & mumps.

Topic: Temporo-Mandibular joint

Objectives: At the end of the lecture, the student should be able to

- Classify the joint, describe briefly describe the various movements at the joint and the muscles producing them.;
- Define important relations of the joint.
- Draw and label a diagram depicting structures in relation with lateral pterygoid muscle
- Briefly describe locking & snapping of jaw

Topic: Mandibular nerve

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the course, branches & distribution of the nerve, the otic ganglion
- Define the lingual & inferior alveolar nerves
- Define sites of application for local anesthesia

Topic: Submandibular gland

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the surfaces & borders of gland.
- Define the position and connections of submandibular ganglion
- Define submandibular gland in relation with facial artery & hyoglossus muscle in relation with hypoglossal & lingual nerves

Topic: Thyroid gland

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the location, features and parts of the thyroid gland.
- Describe briefly the blood supply of the gland.
- Describe briefly the relations of the gland.

Topic: Pharynx

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the parts of the pharynx & its muscles.
- Describe briefly the nerve supply of pharyngeal mucosa & constrictors.
- Describe briefly the auditory tube, soft palate, palatine tonsil & piriform fossa.

Topic: Larynx

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Cartilages; Muscles; Interior;
- Describe briefly Nerve supply- motor & sensory;
- Describe briefly Effects of injury to recurrent & external laryngeal nerves

Topic: Nose & paranasal air sinuses

Objectives: At the end of the lecture, the student should be able to

- Describe briefly features of lateral wall of nose.
- Enumerate sites of opening of major sinuses in to nasal cavity.
- Describe briefly maxillary air sinus.

Topic: Tongue

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Parts of tongue; Circumvalate papillae;
- Describe briefly Muscles & embryological basis of their innervation; Sensory innervation;
- Describe briefly Lymphatic drainage & its clinical significance

Topic: Pterygopalatine fossa & ganglion

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Boundaries & Contents;
- Describe briefly Branches of distribution of ganglion; Maxillary artery;
- Describe briefly Pterygoid venous plexus- connections & clinical significance

Topic: IX, X & XI cranial nerves

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Course of the nerves
- Describe briefly Relations; Branches of distribution;
- Describe briefly Clinical significance

Topic: Dural venous sinuses

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Interconnections & drainage of venous sinuses;
- Describe briefly Cavernous sinus- connections, clinical significance;
- Describe briefly Pituitary gland

Topic: Extra-ocular muscles; III, IV & VI cranial nerves

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Actions of muscles;
- Describe briefly Innervation; Edinger-Westphal nucleus & ciliary ganglion;
- Describe briefly Squint

Specific learning Objectives: Brain

Topic: Brain stem

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Parts;
- Describe briefly Major surface elevations & depressions;
- Describe briefly Nerve attachments

Topic: Cerebellum & IV ventricle

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Gross anatomy;
- Describe briefly Peduncles;
- Describe briefly IV ventricle

Topic: Diencephalon & III ventricle

Objectives: At the end of the lecture, the student should be able to

- Describe briefly parts of thalamus.
- Enumerate functions of thalamus.
- Describe briefly III ventricle.

Topic: Cerebrum

Objectives: At the end of the lecture, the student should be able to

- Describe briefly major lobes of the cerebrum.
- Draw and label on a diagram major sulci & gyri on the supero-lateral surface of cerebrum.

Topic: Arterial circle of Willis

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Formation;

- Describe briefly Branches;
- Describe briefly Clinical significance

Specific learning Objectives: Thorax

Topic: Intercostal space & broncho-pulmonary segments

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Muscles;
- Describe briefly Neuro-vascular structures in inter-costal space;
- Describe briefly Definition of BP segments; Nomenclature;
- Describe briefly Clinical significance

Topic: Mediastinum

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Boundaries; Classification;
- Describe briefly Contents;
- Describe briefly anatomical basis of mediastinal shift & syndrome

Topic: Pericardium & Heart

Objectives: At the end of the lecture, the student should be able to

- Describe briefly the nature and significance of pericardium.
- Describe briefly the surfaces and borders of the heart.
- Describe briefly interior of right atrium.
- Enumerate at least 3 structures opening in to the right atrium.

Topic: Coronary circulation

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Origin, course & distribution of coronary arteries;
- Describe briefly clinical significance

Specific learning Objectives: Abdomen & Pelvis

Topic: Anterior abdominal wall & diaphragm

Objectives: At the end of the lecture, the student should be able to

- Describe briefly muscles;
- Describe briefly neuro-vascular planes;
- Describe briefly hernia;
- Describe briefly parts of diaphragm, enumerate its openings & give its nerve supply;
- Describe briefly hiccough

Topic: Disposition of abdominal viscera

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Arrangement of abdominal organs relative to each other.
- Describe briefly peritoneum- greater & lesser sacs.
- Describe briefly omentum & mesentery.

Topic: Stomach

Objectives: At the end of the lecture, the student should be able to

- Describe briefly location, features & parts of stomach.
- Describe briefly relations of stomach.
- Describe briefly lymphatic drainage and its clinical significance.

Topic: Duodenum & pancreas

Objectives: At the end of the lecture, the student should be able to

- Describe briefly location, features & parts of duodenum & pancreas.
- Describe briefly relations of duodenum & pancreas.
- Describe briefly lymphatic drainage and its clinical significance.

Topic: Kidneys

Objectives: At the end of the lecture, the student should be able to

- Describe briefly location & features of kidneys.
- Describe briefly relations of the kidneys.

Topic: Urinary bladder

Objectives: At the end of the lecture, the student should be able to

- Describe briefly location, features & parts of urinary bladder.
- Describe briefly relations of urinary bladder.

Topic: Uterus & ovaries

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Location & Parts of uterus;
- Describe briefly Broad ligament & its parts;
- Describe briefly anatomical basis of tubectomy

Specific learning Objectives: Histology

Topic: Histology of Epithelia

Objectives: At the end of the lecture, the student should be able to

- Describe briefly nature of epithelia;
- Describe briefly classification of epithelia;
- Describe briefly structural and functional aspects of epithelia

Topic: Histology of Connective tissues

Objectives: At the end of the lecture, the student should be able to

- Describe briefly nature of Connective tissues
- Describe briefly classification of connective tissues
- Describe briefly structural and functional aspects of Connective tissues

Topic: Histology of Cartilage

Objectives: At the end of the lecture, the student should be able to

- Describe briefly nature of cartilage;
- Describe briefly classification of cartilage;
- Describe briefly structural and functional aspects of cartilage
- Describe briefly significance of perichondrium

Topic: Histology of Bone

Objectives: At the end of the lecture, the student should be able to

- Describe briefly nature of bone;
- Describe briefly classification of bone;
- Describe briefly structural and functional aspects of bone

- Describe briefly significance of periosteum

Topic: Histology of Nervous system

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Peripheral nerves- appearance,
- Describe briefly connective tissue coverings

Topic: Histology of Muscle

Objectives: At the end of the lecture, the student should be able to

- Describe briefly nature of muscle;
- Describe briefly classification of muscle;
- Describe briefly structural and functional aspects of muscle

Topic: Histology of Blood vessels

Objectives: At the end of the lecture, the student should be able to

- Classify vessels;
- Describe briefly Types of arteries & veins;
- Describe briefly Structure thereof

Topic: Histology of Lymphoid tissues

Objectives: At the end of the lecture, the student should be able to

- Describe briefly nature of lymphoid tissues;
- Describe briefly major lymphoid organs;
- Describe briefly structural and functional aspects of thymus, spleen, lymph node & palatine tonsil

Topic: Histology of Integumentary system

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Layers of skin;
- Describe briefly Structural features of thick & thin skin;
- Describe briefly Hair follicles; Sweat & sebaceous glands

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SPECIFIC LEARNING OBJECTIVE

Topic: Histology of Salivary glands; Tongue

Objectives: At the end of the lecture, the student should be able to

- Describe briefly classification of glands;
- Describe briefly serous & mucous secreting acini;
- Describe briefly circumvalate papillae & taste buds

Topic: Histology of GIT-I (Tubular part)

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Four coats of tubular GIT;
- Describe briefly Parts of mucosa;
- Describe briefly peculiarities of mucosa as seen in esophagus, stomach and small & large intestine, including appendix

Topic: Histology of GIT-II (Liver, gall bladder & pancreas)

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Hepatic lobules & portal triads;
- Describe briefly absence of submucosa in gall bladder;
- Describe briefly Islets of Langerhans in pancreas

Topic: Histology of Respiratory system

Objectives: At the end of the lecture, the student should be able to

- Describe briefly Respiratory mucosa;
- Describe briefly elastic cartilage with peculiar mucosal features as seen in epiglottis;
- Describe briefly hyaline cartilage with respiratory mucosa as seen in trachea;
- Describe briefly distinction between bronchus and bronchiole;
- Describe briefly simple squamous epithelial lining of alveoli

Topic: Histology of Urinary system

Objectives: At the end of the lecture, the student should be able to

- Describe briefly transitional epithelium;
- Describe briefly stellate lumen with transitional epithelium in ureter

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

Topic: Histology of Reproductive system

Objectives: At the end of the lecture, the student should be able to

- Describe briefly ovarian follicles in various stages of development;
- Describe briefly seminiferous tubules;
- Describe briefly stellate lumen with pseudo-stratified columnar epithelium in ductus deferens

GENERAL EMBRYOLOGY

INTRODUCTION

a]what is embryology. B] Chromosomes c] karyotyping.d] significance of chromosomes.e] cell division.f] stages of meiosis and mitosis.

GAMETOGENESIS AND FEMALE SEXUAL CYCLE- a] stages of spermatogenesis.b]stagesof oogenesis.c]parts of spermatozoon.d]what is ovarian follicle, corpus luteum.e]endometrial cycle.

PRE-EMBYO PHASE OF DEVELOPMENT-a]fertilisation and implantation.b]stages of bilaminar germ disc.c]stages of trilaminar disc.d]changes in extraembryonic membranes and cavities,changes in mother.

EMBRYONIC PERIOD-4 TO 8thweek- a] folding of embryo.b] changes in germinal layers and their derivatives.c] developmental stages of human pre-embryonic and embryonic age.d] key events during 4th to 8weeks of development.

FETAL PERIOD OF DEVELOPMENT-9th week to birth-a] main characteristics of growth during fetal period.b] key events during 3rd, 4th, 5th, 6th, third trimester months.c] full term fetus,expected date of delivery.d]applied aspects.

PLACENTA, UMBILICAL CORD, FETAL MEMBRANES-a] placental formation,membrane.b] umbilical cord.c]fetal membrane.d] amniotic fluid.

FORMATION OF BODY CAVITIES AND TISSUES-a] formation of body tissues.b] glandular tissues.c]mesenchyme and its derivatives.d]formation of body cavities

SYSTEMIC EMBRYOLOGY

DEVELOPMENT OF SKIN AND ITS APPENDEGES -a] development of skin b] development of appendages of skin.

DEVELOPMENT OF MUSCULAR SYSTEM, SKELETAL SYSTEM AND LIMBS- a] histogenesis of muscles and morphogenesis.b] skeletal system development.c] development of limbs.

PHARYNGEAL APPARATUS,DEVELOPMENT OF FACE, ORAL CAVITY, NOSE PALATE AND NECK-a]pharyngeal apparatus.b]development of structures of oral cavity and pharynx.c]development of thymus,parathyroid and thyroid gland.d]development of face,nose,paranasal sinuses and palate.

DEVELOPMENT OF ALIMENTARY SYSTEM-a] formation of primitive gut,divisions derivatives.b]development of derivatives of post-laryngeal foregut.c] derivates of midgut and major events.d]hindgut derivates and development.

DEVELOPMENT OF UROGENITAL SYSTEM-a] primordia.2] development of kidneys,ureter.3]development of genital system.

RESPIRATORY SYSTEM-

a] primordial.b] derivates of organs c] anomalies

CARDIOVASCULAR SYSTEM -a] primordia.b] development of heart and vascular system c] anomalies.

NERVOUS SYSTEM -a] neurulation. b] Development of spinal cord,brain c] anomalies.d] development of autonomic system.

DEVELOPMENT OF EYE AND EAR-a development of eye,ear.b] anomalies.

APPLIED EMBRYOLOGY

TERATOLOGY, PRENATAL DIAGNOSIS AND FETAL THERAPY-a] teratology.b] congenital anomalies c] prenatal diagnosis and fetal therapy.

Thorax

Intercostal space & rt.and lt.lungs-

Objectives: At the end of the dissection, the student should be able to identify-

- Neuro-vascular structures in inter-costal space;
- Rt.and lt.lung hilum and different lodes.

- Rt and lt lung hilum and structures passing through it.

Pericardium & Heart

Objectives: At the end of the dissection, the student should be able to identify

- The surfaces and borders of the heart.
- interior of right atrium.
- at least 3 structures opening in to the right atrium.

Coronary circulation

Objectives: At the end of the dissection, the student should be able to identify

- Origin, course & distribution of coronary arteries;
- clinical significance

Abdomen

stomach

objectives-At the end of dissection, the students should be able to identify-

- Stomach borders ,surfaces,two ends .
- Blood supply and applied anatomy.
- Relations at stomach bed.

Liver

Objectives: At the end of the dissection, the student should be able to identify-

- Lobes of liver and surfaces.
- Ligaments and structures at porta hepatis.
- Relations and applied anatomy.

Pancreas

- Objectives: At the end of the dissection, the student should be able to identify-
- Lobes of pancreas and surfaces
- Blood supply.
- Relations and applied anatomy

Spleen

- Objectives: At the end of the dissection, the student should be able to identify-

- parts of spleen and surfaces
- Blood supply
- Relations and applied anatomy

Rt and lt kidneys

- Objectives: At the end of the dissection, the student should be able to identify-
- Rt and lt kidney and surfaces.
- Blood supply
- Relations and applied anatomy

Urinary bladder

- Objectives: At the end of the dissection, the student should be able to identify-
- parts of bladder and surfaces
- Blood supply
- Relations and applied anatomy

Large and small intestine

- Objectives: At the end of the dissection, the student should be able to identify-
- parts of large and small intestine and difference.
- Blood supply and peritoneal coverings.
- Relations and applied anatomy.

Uterus and ovaries

- Objectives: At the end of the dissection, the student should be able to identify-
- parts of uterus and surfaces
- Blood supply
- Relations and applied anatomy

Testis

- Objectives: At the end of the dissection, the student should be able to identify-
- parts of testis and epididymis and surfaces.
- Blood supply
- Relations and applied anatomy.

GENERAL SURGERY

SPECIFIC LEARNING OBJECTIVES

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

Serial no	Topic	Must know [Content,& Criteria]	Good to know [Condition]
1	Wound	Definition, classification, different types, investigations, treatment local & general.	Diff. diagnosis, complications & their treatment
2	Ulcer	Definition , classification, aetiology, different types, investigations, treatment local & general	Diff. diagnosis, specific ulcers, & their treatment. complications & their treatment.
3	Tumor	Definition , classification, aetiology, different types, investigations, principles of treatment of benign & malignant tumours	Diff .diagnosis, , & different types their treatment. complications & their treatment.
4	Haemorrhage	Types & classification, Methods of haemostasis , treatment.	Different methods of hemorrhage & treat. Of hemorrhagic shock.
5	Blood transfusion	Blood groups, indications of blood transfusion, technique of BT	Contraindications, complications of BT & their treat.
6	Asepsis & sterilization	Definitions, types .classification, Sterilization def., various types, technique of sterilization.	Aseptic medicines & their uses. Sterilization methods for instruments, tubes, sutures.
7	Skin infections	Common skin diseases , types, etiology, classification, clinical features, Investigations, treatment.	Diff. diagnosis, treat . of each infection completely.
8	Cyst	Definition , classification, causes ,different types, investigations, treatment	Diff. diagnosis, complications & their treatment

		local & general.	
9	Neck swellings	Triangles of neck, surgical anatomy, different neck midline & lateral neck swellings, cl. features, inv, treat.	Diff. diagnosis, treat . of each swelling completely
10	Shock	Definition , classification, aetiology, Cl. features , different types, investigations, principles of treatment of shock	Detail information of every type of shock, complications of shock & their treatment

S L O

Serial no	Topic	Must know [Content,& Criteria]	Good to know [Condition]
1	Tetanus	Definition , classification, etiology, Cl. features , different types, investigations, principles of treatment of tetanus	Different types, their treat. complications & their treat. Immunization active & passive
2	Oral cancers	Surgical anatomy of oral cavity& tongue, aetiology, clinical features classification, investigations, TNM staging treatment principles	Diff. diagnosis, imp. Specific investigations,& Treatment of individual type of cancer according to staging
3	Thyroid	Surgical anatomy of thyroid & thyroid functions, aetiology, clinical features classification, investigations, treat. of	TFTs, special investigations & specific treat. Of every diseases. Thyroid tumours & their treat. According to their

		thyroid diseases, tumour-- TNM staging treatment principles	staging.
4	Salivary glands	Surgical anatomy Sal. glands & their functions, aetiology, clinical features classification, investigations, treat. of salivary gland diseases, tumour-- TNM staging treatment principles	,special investigations & specific treat. Of every diseases. Sal. gland tumours & their treat. According to their staging.
5	Fractures	Definition , classification, aetiology, different types, investigations, treatment local & general	Diff .diagnosis, , & different types their treatment. complications & their treatment.
6	Lymphatic system	Surgical anatomy Sal. glands & their functions, aetiology, clinical features classification, investigations, treat. of Lymph. gland diseases , tumour-- TNM staging treatment principles	,special investigations & specific tret. Of every diseases. Lymph .gland tumours & their treat. According to their staging.

HEAMORRHAGE

Content-At end of lecture each student should be able to understand, development ,pathophysiology & functioning of lymphatic system

Criteria-At the end of lecture each student should know & should be able to diagnose different pathological conditions associated with lymphatic system

Condition-At end of session student should be able to do atleast 3 investigations and take at least 2 basic steps in its managment

SKIN INFECTIONS

1.Content-At the end of session student should be able to know definitions & pathophysiology of at least 10 skin infections.

2.Criteria-At the end of session student should be able to identify clinical manifestations of at least 3 of every skin infections for differential diagnosis .He should be able to do at least 3 specific investigatios for same.

3. .Condition-At the end of session student should be able to do final diagnosis & should be able to take 2 basic steps in treatment for same

SALIVARY GLAND

- Content-At the end of session student should be able to know surgical anatomy,physiology & pathophysiology,benign & malignant conditions affecting of salivary glands.
- Criteria-At the end of session student should be able to memorize at least 3 conditions affecting salivary glands for differential diagnosis & initiate managment
- Condition-At the end of session student should be able to do at least 3 investigations for final diagnosis and perform at least 2 basic procedures

NECK SWELLINGS

At end of lecture every student should understand etiology/clinical features of atleast 10 midline neck swellings

At end of lecture every student should be able to give differential diagnosis of atleast 5 midline neck swellings.

At end of lecture every student should be able to investigate & take atleast 3 basic steps to manage same

GENERAL MEDICINE

SPECIFIC LEARNING OBJECTIVES

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

1. CLINICAL FEATURES OF C. V. S.

• Signs and symptoms of c.v.s.

• Importance of each symptom in differential diagnosis.

• Clinical methods to elicit signs

• Correlation of signs and symptoms to reach provisional diagnosis.

• Importance of c. v. s. and its application in dental practice

After the lecture student must know

• Content-must know the five symptoms and all signs of c. v. s.

• Criteria-must reach the provisional diagnosis and must to differential diagnosis.

• Condition-Should be able to identify the risk factors of c. v. s. and its application in dental practice.

2. ACUTE RHEUMATIC FEVER

Definition.

Clinical features.

Diagnostic modified Jones's criteria.

Investigations to reach final diagnosis.

Complications.

Management.

Prophylaxis in dental practice

After the lecture student must know

• Contents-must apply the ten criteria of Jones to reach the provisional diagnosis.

• Criteria- must be able to carry at least three investigations to differentiate A. R. F.

• Condition-must be able to manage and and give prophylactic treatment in dental practice.

3. INFECTIVE ENDOCARDITIS (I E)

Definition.

Types of I E

Aetio-pathology

Clinical features

Investigation

Management

Prophylaxis

At the end of lecture

• Content-must know seven criteria of Duke`s to reach the provisional diagnosis.

• Criteria-Should be able to manage the case.

• Condition-identify the risk factors and apply it dental practice. (Prophylaxis)

4. CORONARY ARTERY DISEASE (CAD)

Definition.

Aetiopathology.

Classification.

Clinical feature of each type.

Complications.

Investigations.

Management.

At The End Of Lecture

• Content-must know the definitions and its classification and reach the provisional diagnosis.

• Criteria-must know the differential diagnosis, should be able to carry out investigations.

• Condition-reach the final diagnosis, manage the case and apply the knowledge in dental practice.

5. HEART FAILURE

Definition.

Types of heart failure.

Aetiopathology.

Risk factors.

Clinical features of each type.

Investigations.

Management.

At the end of lecture

• Content- student must know the definitions and classify the heart failure. Must do differential diagnosis.

• Criteria-must recognize the risk and precipitating factors to reach final diagnosis.

• Condition-must manage the case of cardiac failure during dental practice.

6. CONGINITAL HEART DISEASES

Definition.

Classification.

Clinical features of each type.

Complications.

Management.

At the end of lecture

• Content-must know the classification, must be able to differentiate the cyanotic heart diseases from noncyanotic heart diseases

• Criteria-must know the clinical features and reach provisional diagnosis

• Condition-must reach the final diagnosis should be able to manage it.

CLINICAL FEATURES OF G.I. T.

Definition of each symptom.

Classification of different G. I. T. disorder.

Sign demonstration in each disorder.

Correlation of each sign symptom to reach the diagnosis.

Application of each symptom and sign in dental practice.

At the end of lecture

• Content-must know signs and symptoms of GIT.

• Criteria-must correlate the signs and symptoms to reach the provisional diagnosis

• Condition-must identify the risk factors and apply in dental practice.

7. ACUTE HEPATITIS

Definition.

Aetiopathology.

Clinical features.

Investigations.

Final diagnosis.

Complications.

Management.

At the end of lecture

• Content-must be able to know the causes and clinical features to reach provisional diagnosis.

• Criteria-must do necessary investigations reach final diagnosis

• Condition-must manage acute hepatitis and its complications.

8. CHRONIC HEPATITIS

Definition.

Classification.

Aetiopathology.

Clinical features.

Complications.

Demonstration of various signs.

Investigations.

Management.

At the end of lecture student must know

• Content-definitions, etiology and clinical features to reach provisional diagnosis.

• Criteria-must be able to do investigations and each the final diagnosis.

Condition-must be able to manage chronic hepatitis and its complications

9. BRONCHIAL ASTHAMA

Definition.

Aetopathology.

Risk and precipitating factors.

Clinical features.

Investigations.

Management.

At the end of lecture student must know

• Content-definitions, etiology and clinical features to reach provisional diagnosis of Bronchial Asthma

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to manage acute exacerbation of asthma.

10.PULMONARY TUBERCULOSIS

Definition.

Aetiopathology.

Classification.

Clinical features.

Complications.

Management.

DOT.

At the end of lecture student must know

• Content-definitions, etiology and clinical features & diagnostic criteria to reach provisional diagnosis.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to treat pulmonary tuberculosis and its complications

11.EPILEPSY

Definition.

Classification.

Clinical features of each type.

Etiology.

Investigations.

Complications.

Management.

At the end of lecture student must know

• Content-definitions, types & etiology to reach provisional diagnosis.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to manage pt. of epilepsy in dental clinic.

12.MENINGITIS

Definition.

Etiopathology.

Clinical features.

Investigations.

Complications.

Managements

At the end of lecture student must know

• Content-definitions, etiology and clinical features to reach provisional diagnosis.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to manage the patient of meningitis and its complications

13.NUTRITION

Introduction.

Definitions.

Classification of food.

Food-in health and diseases.

Vitamins.

Clinical features of vitamin deficiencies.

Mineral disorders.

At the end of lecture student must know

• Content-definitions, etiology and clinical features of various vitamin deficiencies.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to advise the diet in vitamin deficiencies & treat it.

14.TYPHOID AND PARATYPHOID

Definition.

Types of thyroid & parathyroid disorders

Clinical features.

Investigations.

Complications

Management.

At the end of lecture student must know

• Content-definitions, etiology and clinical features to reach provisional diagnosis.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to apply the knowledge in dental practice.

15.DIPHTHERIA

Introduction.

Etiopathology

Clinical features.

Differential diagnosis

Management

Complication

Prevention

At the end of lecture student must know

• Content-definitions, etiology and clinical features to reach provisional diagnosis of diphtheria.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to manage diphtheria &apply the knowledge in dental practice

16.MALARIA

Introduction

Types of malaria

Life cycle of mosquito.

Clinical features

Laboratory diagnosis

Treatment

Prophylaxis

At the end of lecture student must know

• Content-definitions, etiology and clinical features to reach provisional diagnosis.

• Criteria-must be able to do investigations and reach the final diagnosis.

Condition-must be able to treat malaria and know the complications & prophylaxis for malaria.

17.SYPHILIS

Definition

Types of syphilis

Pathogenesis

Oral manifestations of syphilis

Investigations

Management

Prophylaxis

At the end of lecture student must know

• Content-definitions, types , etiology and clinical features to reach provisional diagnosis.

• Criteria-must be able to do investigations and reach the final diagnosis.

• Condition-must be able to treat syphilis and know its complications & prophylaxis.

BIOCHEMISTERY AND PHYSIOLOGY

SPECIFIC LEARNING OBJECTIVES

1 CHEMISTRY OF CARBOHYDRATES

At the end of lecture students should be able to,

MUST KNOW

- Define and classify carbohydrates with their functions
- Define stereoisomer,isomer,epimer and anomer
- Identify various tests done in laboratory for reducing properties of carbohydrates
- Understand the biological importance of monosaccharides , disaccharides and polysaccharides
- Describe the chemistry and importance of glycosoaminoglycans

DESIRABLE TO KNOW

- Glycosides and their importance

2 METABOLISM OF CARBOHYDRATES

At the end of lecture session, the students will come to know,

MUST KNOW

- The digestion and absorption of carbohydrates
- How to describe glycogen metabolism
- The importance of Glycolysis and Krebs cycle with energetics
- The clinical significance of blood sugar level regulation
- The significance of HMP shunt

DESIRABLE TO KNOW:

- The use of GTT in clinical practice for diagnosis of diabetes
- Glycogen storage disease
- Cori's cycle

NICE TO KNOW

- Describe regulation of Glycogen metabolism

3 FAT SOLUBLE VITAMINS

At the end of the lecture and after reading this chapter, students are expected to learn about the,

MUST KNOW

- Chemistry, dietary resources, RDA, biochemical functions and deficiency manifestations of vitamin A and D.
- Definition and differentiation between fat soluble and water soluble vitamins.

DESIRABLE TO KNOW

- Deficiency symptoms of vitamin E and K.
- Role of vitamin K in blood coagulation.
- Importance of vitamin E as an antioxidant.

4 BIOLOGICAL OXIDATION

By the end of this lesson the students should be able to,

MUST KNOW

- Discuss the role of enzymes and coenzymes in electron transport chain (ETC).
- Illustrate the flow of electrons through electron transport chain.
- Draw and label the ETC with sites of ATP formation.
- Explain how ATP is produced through oxidative phosphorylation.
- List the inhibitors of ETC and uncouples of oxidative phosphorylation.

NICE TO KNOW

- Explain chemiosmotic theory

5 WATER AND ELECTROLYTE BALANCE

After completing this chapter you will be able to,

MUST KNOW

- Enumerate the functions of water.

- List the factors that determine the body water content and describe the effects of each other..
- Describe the mechanism that regulate water and electrolyte balance in body.

NICE KNOW

- Recognize dehydration and its types and treatment.

6 DETOXIFICATION

At the end of this topic, the students shall be able to demonstrate his knowledge and understanding on the,

MUST KNOW

- Definition of detoxification, xenobiotics and the site of detoxification.
- Phase I and phase II reactions.
- Mechanism of detoxification by conjugation reaction

DESIRABLE TO KNOW

- Role of Cytochrome P- 450 in drug metabolism.

7 LIVER FUNCTION TEST

Upon completion of this lecture on liver function test, the students will be able to,

MUST KNOW

- List the normal functions of liver.
- Enumerate the various liver function tests and describe the tests based on bilirubin metabolism.
- Identify commonly requested liver function tests and the markers they involve.
- Understand the jaundice and its differential diagnostics.

NICE TO KNOW

- Memorize the serum enzymes useful for diagnosis of liver diseases.

8 CHEMISTRY OF LIPIDS

At the end of the chapter students should be able to:

MUST KNOW:

- Define & classify lipids
- Classify fatty acids with functions & Triacylglycerols.
- Classify phospholipids with functions, sphingolipids
- Describe functions of lipoproteins
- Describe functions of cholesterol

DESIRABLE TO KNOW:

- Eicosanoids,Mainly functions of prostaglandins

NICE TO KNOW:

- Role of leukotriens, and thromboxances

9 METABOLISM OF LIPIDS

At the end of the lecture session students should be able to know/describe the following:

MUST KNOW:

- Digestion and Absorption of Lipids
- Beta oxidation of fatty acids
- Synthesis and utilization of ketone bodies
- Ketosis

DESIRABLE TO KNOW:

- Overview of cholesterol and lipoprotein metabolism
- Biochemical aspects of Atherosclerosis
- Fatty liver
- Lipid profile interpretation

NICE TO KNOW:

- Overview of fatty acid synthesis
- Hyperlipoproteinemia

10 NUCLEOTIDES

At the end of the lecture session students should be able to describe:

MUST KNOW:

- Difference between nitrogenous base, nucleoside & nucleotide
- Biologically important nucleotides

DESIRABLE TO KNOW:

- Synthetic analogues of Nucleotides

11 NUCLEIC ACIDS

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- Structure of DNA
- Functions of DNA
- Types, Structure & functions of RNA.

DESIRABLE TO KNOW:

- Properties of DNA & RNA

12 METABOLISM OF NUCLEOTIDES

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- Overview of de novo synthesis of Purines and its regulation
- Salvage pathway
- Degradation of Purines
- Hyperuricemias and GOUT

NICE TO KNOW:

- Overview of pyrimidine synthesis
- Degradation of pyrimidines
- Lesch Nyhan syndrome

13 MOLECULAR BIOLOGY

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- DNA replication
- Transcription
- Genetic code & Protein synthesis
- Types of Mutations

DESIRABLE TO KNOW:

- Inhibitors of Replication,
- Inhibitors of Transcription
- Inhibitors of Protein synthesis

14 HEMOGLOBIN CHEMISTRY

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- Chemistry and functions of hemoglobin
- Types of normal hemoglobin

DESIRABLE TO KNOW:

- Hemoglobinopathies,
- Types of Abnormal Hemoglobin
- sickle cell anemia & Thalassemias

15 HEMOGLOBIN METABOLISM

MUST KNOW:

- Heme synthesis & degradation.
- Types of Jaundice

NICE TO KNOW:

- Overview of Porphyrias

16 MINERAL METABOLISM

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- Macro & Micronutrients
- Metabolism of Calcium
- Homeostasis of calcium & functions,
- Recommended dietary allowance of calcium
- Phosphorous RDA,functions
- Fluorine functions

DESIRABLE TO KNOW:

Iron & Iodine Metabolism

NICE TO KNOW:

- Disorders related to these minerals.

17 KIDNEY FUNCTION TESTS

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- Functions of Kidney
- Various renal function tests and their significance

DESIRABLE TO KNOW:

- Interpretations of Kidney function tests.

18 THYROID FUNCTION TESTS

At the end of the lecture sessions students should be able to describe:

MUST KNOW:

- Enumerate Thyroid function tests.
- Normal ranges of T3, T4 and TSH

DESIRABLE TO KNOW:

- Interpretation of tests with special reference to hypo & hyperthyroidism.

19 CHEMISTRY OF PROTEINS

At the end of the chapter students should be able to:

MUST KNOW

- Define and classify amino acids on the basis of.
  a) Their structure and chemical nature
  b) Nutritional requirement
  c) Their relative polarities of their R groups
  d) Metabolic fate
- Describe Properties of amino acids
- Describe Functions of amino acids
- Define and classify Proteins on the basis of
  a) Functional properties
  b) Chemical nature and solubility
  c) Nutritional value
- Describe Functions/ Biological importance of Proteins

NICE TO KNOW

- Biologically Important Peptides
- Structural Organization of Proteins

20 METABOLISM OF PROTEINS

At the end of the lecture session the students should be able to know/describe the following:

MUST KNOW

- Digestion and Absorption of Proteins
- Amino Acid Pool
- Different types of chemical transformations namely Transamination, Deamination, Desulphuration, Decarboxylation, Transmethylation carried out with amino acids
- Nitrogen balance
- Overview and importance of Urea cycle
- Metabolism of Glycine

NICE TO KNOW

- Disorders of aromatic amino acids like phenylketonuria, Alkaptonuria, Albinism
- Clinical significance of blood urea

21 WATER SOLUBLE VITAMINS

At the end of the lecture sessions students should be able to know about:

MUST KNOW

- Chemistry, dietary sources, RDA, biochemical functions and deficiency manifestations of water soluble vitamins (Must know in detail about Vit. C)
- Deficiency Symptoms of Vitamin C,Thiamine, Niacin, Folic acid,
- Interrelation between Folic acid and Vitamin B_{12}
- The active or coenzyme forms of vitamin B-complex and their biochemical role

NICE TO KNOW

- Pyridoxine, biotin and vitamin $B_{12,}$

22 ENZYMES

At the end of the chapter students should be able to:

MUST KNOW

- Define & classify enzymes with examples
- Describe mechanism of enzyme action

- Describe **f**actors affecting enzyme activity
- Define & describe enzyme inhibition
- Know Applications/ Significance of Competitive Inhibition
- Define coenzymes and their biochemical functions
- Know diagnostically important Serum Enzymes
- Describe isoenzymes & their diagnostic importance

NICE TO KNOW

- Therapeutic uses of enzymes
- Separation of isoenzymes with respect to LDH

23 ACID-BASE BALANCE

By the end of the chapter students should be able to know / describe:

MUST KNOW

- What are the acids & bases generated in our body
- What is pH of blood? How it is regulated
  a) Role of blood buffers
  b) Role of kidney &
  c) Respiratory mechanism for pH regulation
- Disorders of acid-base balance

24 NUTRITION

By the end of the lecture sessions students should be able to know:

MUST KNOW

- Nutrition and energy supply
- Basal Metabolism/Basal metabolic rate (BMR)
- Specific dynamic action
- Balance Diet
- Disorders related to Nutrition

DESIRABLE TO KNOW

Protein caloric malnutrition (PCM) or protein energy malnutrition (PEM) such as Marasmus and Kwashiorkor

NICE TO KNOW

- Obesity

25 INTEGRATION OF METABOLISM

At the end of the lecture students should be able to describe:

MUST KNOW

- Integration between carbohydrates, proteins and lipids metabolism.

NICE TO KNOW

- Metabolism in starvation

GENERAL PATHOLOGY AND MICROBIOLOGY

SPECIFIC LEARNING OBJECTIVES

❑ Cell Injury &(Introduction to cellular adaptations)

The student shall understand now, revise at home and recapitulate at examinations the following concepts:

- Homeostasis
    - Adaptations: Physiological, Pathological, and Premalignant.
    - Causes of cell injury
    - Mechanism of cell injury
- Cell injury spectrum
- Reversible Irreversible cell injury
- Nuclear changes
    - Hydropic change (Cloudy Degeneration: Kidney)
    - Hyaline change.

❑ Amyloidosis

The student shall understand now, revise at home and recapitulate at examinations the following concepts :

- Amyloidosis:
- Definition :
- Physical Structure: Beta pleated
- Special stain: Congo red
- Classification Based on: Chemical Structure
- Body distribution
- Etiology
- Why does Amyloidosis harm?
- Diagnosis Morphology: Biopsy: Kidney. Gingiva. Rectal
- Other organs
- Prognosis harm?
- Diagnosis Morphology : Biopsy : Kidney. Gingiva. Rectal Other organs

❑ Necrosis :

The student shall understand now, revise at home and recapitulate at examinations the following concepts :

- Cell injury (recapitulation)
- Definition
- Morphological changes common to all types of necrosis
- Different types of necrosis
- Cause, mechanism and morphology of different type of necrosis.

❑ Apoptosis

At the end of the lecture student should know….

- Definition
- Mechanism
- Necrosis X Apoptosis,Role of Apoptosis,Morphology

❑ Inflammation Introduction

The student shall understand now, revise at home and recapitulate at examinations the following concepts:

- Definition of Inflammation
    - Basic 'Defensive' body response to any type of Injurious Agent : Physical, chemical. biological, or immunological
- Inflammation X Infection
- Differences between Acute and chronic Inflammation
- Vascular response
    - Cellular response
- Bad effects of inflammation : Double edged sword
- Triggers of Inflammation
    - Termination of Inflammation

❑ Inflammation : Vascular Changes

The student shall understand now, revise at home and recapitulate at examinations the following concepts:

- The Inflammation is the Defense mechanism of the body in vascularised organisms
- Involves Vascular and Cellular events
- The soldiers of the body, the WBCs, who are normally present inside the blood vessels move to the site of the attack (Injury)
- Process involves Vascular events (Blood vessel changes)& The Cellular events Movement of the soldiers: WBCs from inside the blood vessel to the site of attack (Injury) & The details there of.

❑ Vascular events :

- Vasodilatation : Redness
- Immediate transient response
- Immediate sustained response
- Delayed prolonged leakage
- Leukocyte mediated injury to endothelium
- Neo-Anglo-genesis; Immature vessels leaky
- Increased Permeability of Blood vessels

- Exudation of protein rich fluid :
- Oedema :
- Swelling
- Stasis
- Pre-requisite to cellular events

❑ CELLULAR EVENTS:

- Margination, Rolling, pavementing,
- Diapedesis : EXTRAVASATION
- Chemotaxis
- Leukocyte Activation
    - PHAGOCYTOSIS
- Phago-Lysosome

❑ Cellular Degenerations / Changes

The student shall understand now, revise at home and recapitulate at examinations the following concepts:

- Reversible X Irreversible changes
- Biochemical metabolic changes post injury
- Cloudy change / Hydro pic Change: Simple swelling of cell and all cell organelles. : Causes, Morphology,
- Fatty Change : Causes correlated to patho-physiology
    - Morphology
    - Consequences/ Fate

❑ Chemical mediators of Inflammation

The student shall understand now, revise at home and recapitulate at examinations the following concepts :

- Definition
- General principles of action
- Source : Plasma, Cells, Synthesized de novo
- Vasoactive Amines
- Arachidonic Acid metabolites
- Lysosomal Components
- Cytokines
- Chemokines

- Oxygen derived free radicals
- Plasma derived chemicals: Coagulation, Kinin & Complement systems.

❑ Chronic Inflammation :

The student shall understand now, revise at home and recapitulate at examinations the following concepts :

- Fate of Acute Inflammation
- Definition of Chronic Inflammation
- Causes of Chronic Inflammation
- Morphology : Cells, Tissue destruction, Repair
- Morphological types of Chronic Inflammation
- Pathogenesis of granuloma

❑ Repair & Regeneration

The student shall understand now, revise at home and recapitulate at examinations the following concepts

✓ Must know :

- The difference between Regeneration & Repair
- The steps in process of Repair
- What is Granulation Tissue
- Differences between Healing by first intention & that by secondary intention
- Factors affecting healing
- Complications of repair process
- Healing of bone

❑ Tuberculosis

At the end of the lecture student should know

- Epidemiology of TB
- Causative organism
- Routes of Infection
- Pathogenesis
- Clinico-Pathological types
- Morphology
- Mycobacterium Avium Intracellulaire Complex
- Diagnosis

❑ Typhoid

At the end of a lecture student should be able to answer

- Definition, Causative organism

- Incubation period, Route of transmission
- Pathogenesis
- Morphology
- Typhoid nodule / Granuloma
- Individual Organs : Intestines, Spleen, Liver,LNs
- Metastatic foci (Specific changes : Rare)
- Nonspecific changes due to toxemia & inf.
- Diagnosis
- Difference seen in Paratyphoid

❑ Syphilis

At the end of the lecture student should must know

- Sexually Transmitted Diseases' (STD)
- Causative organism
- Spread
- Stages : Clinical manifestation, lesions, infectivity, gross and microscopic morphology of different lesion

Good to know….

- Congenital syphilis
- Diagnosis

❑ Oedema:

The student shall understand now, revise at home and recapitulate at examinations the following concepts

- Normal distribution of body water
- Definition : Oedema / Edema
- Aetiopathological categories of Oedema (Classification)Exudate X Transudate
- Morphology: Clinical: Pitting, Periorbital, Dependent. Pathological: Cardiac, Renal, Hepatic etiology.
- Acute & Chronic Pulmonary oedema

❑ Hyperemia & Congestion

The student shall understand now, revise at home and recapitulate at examinations the following concepts

- Differences between Hyperemia and Congestion

- CPVC Liver :
- Etiology
- Morphology : Gross & Microscopic CPVC Lung:
  - Etiology
  - Morphology : gross & Microscopic
- Hyperemia & Congestion

❑ Shock:
At the end of the lecture student should explain

- Definition of Shock
- Aetiopathological Categories of shock
- Compensatory mechanisms deployed by the body
- Stages of shock
- Morphology in different organs
  It will be good to know….
- Maintenance of normal Blood Pressure

❑ Thrombosis :

The student shall understand now, revise at home and recapitulate at examinations the following concepts

- Normal balance between fluid blood and clot formation on vessel wall injury : factors affecting
- Definition: Thrombus ; Embolism; Thromboembolism
- Aetio-Pathological factors governing Thrombo-genesis (Formation of Thrombus) : Virchow's Triad
- Morphology : Gross : Microscopic Arterial X Venous Thrombi
- Venous Thrombi X Post Mortem Clots
- Fate of Thrombus
- Clinical Correlation

❑ Embolism :
The student shall understand now, revise at home and recapitulate at examinations the following concepts

- Definition
- Different varieties of Embolism including rare varieties like air embolism
- Saddle embolism

- Pulmonary Embolism
- Systemic embolism
- Paradoxical embolism
- Air embolism/ Caisson's disease, Fat embolism. Amniotic fluid embolism
- Effect of embolism

❑ Infarction
At the end of the lecture at least 50% student should

- Define Infarction / Infarct

- Understand
- Causes
- Classification
- Morphology
- Predisposing causes
- & Clinical correlation
- Of Infarct
- Enumerate causes of the red & white infarct

❑ Immunology :- At the end of the lecture student must know….

- Normal
- Immunity & immune system
- Normal immune responses – cell mediated immunity
- Humoral immunity

b) Abnormal

- Hypersensitivity diseases
  - Good to know
- Autoimmune diseases, SLE,RA
- Transplant Rejection
- Immunodeficiency – HIV-AIDS

❑ AIDS
At the end of the lecture student must know….

- Normal

- History
- Magnitude of problem : Epidemiology
- Definition
- Routes of transmission
- The Virus
- Pathogenesis

❑ At the end of the lecture it will be good to know

- Clinical features
- Summary of Opportunistic Infections
- Tumors
- CNS manifestations
- Morphology
- Different tests to diagnose and prognosis

❑ Anemias :

At the end of the lecture student must know….

- Normal
- Definition
- Classification
- Red cell indices
- Hemopoiesis
- Morphology

Good to know

- Clinical picture

❑ Iron Deficiency Anemia

At the end of the lecture student must know and should Revise later o

- Definition,
- Normal values,
- Classification :
- Etiological
    - Morphological
    -
    - Learn:
- Iron Deficiency Anemia
- Etiology
- Clinical picture
- Investigations : Hematological

- Chemical
- Differential Diagnosis

❑ Megaloblastic Anemia
- Definition of Megaloblastic Anemia
- Aetio -Pathogenesis
- Morphology common to all types of Megaloblastic Anemia
- Mechanism of Vit B12 absorption
- Pernicious Anemia
- Anemia of Folate Deficiency
- Lab Diagnosis
- Differential Diagnosis

❑ Hemorrhagic Diseases; Coagulation Cascade & Disorders of Coagulation Decreased Sequestration Dilutional survival
- Normal haemostatic Mechanism & Coagulation cascade
- Common investigation to assess the haemostatic mechanism
- Clinical differences between bleeding caused by platelet def / dysfunction and that caused by Def of Clotting factors
- Hemophilia
- Von Will brand disease
- Christmas disease

❑ Hemorrhagic Diseases :Decreased Sequestration Dilutional survival
❑ Platelet disorders
- Thrombocytopenia : causes
    - NEOPLASM: At the end of the lecture student must know and should Revise later on Definition, Classification & Nomenclature
- Definition of Neoplasia
- Broad classification of neoplasia
- What is the need for classification?
- Principles behind naming the tumors (Nomenclature)
- Specific Benign and Malignant names of tumors arising from epithelial and connective tissue origin.

❑ Differences between Benign and Malignant tumors
- Clinical differences

- Morphological
- Gross
- Microscopic Concept of Anaplasia
- Molecular
- Prognostic

❑ Laboratory Diagnosis of Cancer
- Histological & Cytological methods
- Histochemistry: Special stains: Reticulin, Congo red etc.
- Immuno-histochemistry
- Molecular Diagnosis : Genetic analysis
- Tumor markers

Good to know
- Flow cytometry

❑ Leukemia's

At the end of the lecture student must know and should Revise later on
- Definition of Leukemia
- Classification of all Leukemia
- Derivation of different blood cells from Pleurieripotent Stem cells in Bone Marrow
- Maturation of Myeloid cells in BM
- Morphological differences between Myeloblast and Lymphoblast

Acute Myeloid Leukemia Acute Lymphoid Leukemia

Pathophysiology

Classification Morpholog and Diagnosis

At the end of the lecture student must know and should Revise later on

❑ Diseases of Lymph Nodes
- Architecture of normal Lymph node
- Reactive Lymphadenitis
- Acute nonspecific Lymphadenitis
- Chronic nonspecific lymphadenitis
- Granulomatous lymphadenitis
- Neoplastic proliferation

- Hodgkin's Lymphoma (HL) Differences
- Classification
- Non-Hodgkin's Lymphoma (NHL) Evolution

❑ Osteomyelitis:
At the end of the lecture student must know and should Revise later on

- Osteomyelitis
- Definition
- Causative organism
- Clinically :
- Pathogenesis
- Morphology : Gross :Sequestrum, Involucrum Microscopy
- Tuberculous Osteomyelitis ; Psoas abscess

❑ Metabolic Diseases of Bone
At the end of the lecture student must know and should Revise later on

- Rickets & Osteomalacia : Definition
- Cause
- Metabolism Vit D
- Functions' of Vit D
- Predisposing conditions for rickets & Osteomalacia
- Normal bone development & Pathogenesis
- Morphology
- Osteoporosis : Types, Causes, Pathogenesis, Morphology
- Hyper parathyroidism : Osteitis fibrosa cystica, Brown tumor

❑ Tumors of Bone :
At the end of the lecture student must know and should Revise later on

- Classification based on WHO guidelines
- Age of affection, bone affected, morphology (Gross and Microscopy) and relevant X ray findings and sub classification of following
- Osteogenic Sarcoma
- Ewing's tumor
- Fibrous Dysplasia
- Aneurysmal Bone Cyst

❑ Diseases of the oral cavity

At the end of the lecture student must know and should Revise later on

- Inflammatory & Reactive nodular lesions
- Inflammatory / Reactive ulcerations
- Common infections
- Premalignant Lesions
- Sq cell Ca
- Odontogenic cysts
- Odontogenic tumors
- Lichen Planus
- Caries covered in Microbiology seminar

❑ Diseases of the Salivary Glands

At the end of the lecture student must know and should Revise later on

- Normal
- Functions of saliva
- Inflammatory diseases : Sial-adenitis
- Enlargement of salivary glands : Miscellaneous
- Immunity mediated diseases : Sjogren's syndrome

❑ Tumors :

At the end of the lecture student must know and should Revise later on

- Simplified Classification based on WHO
- Age at presentation, Gland affected, malignant potential of each variety

❑ Diabetes Mellitus

At the end of the lecture student must know and should Revise later on

- Definition & Classification of Diabetes
- Pathogenesis of type I & type II diabetes.
- Metabolic (complications) in diabetes. (Alterations)
    - Morphology (histopathology) in organs & tissues

- Acute Metabolic complications
- Diabetic Ketoacidosis
- Hyperosmolar non-ketotic coma
- Hypoglycemia
- Laboratory diagnosis of Diabetes –

- (Various tests to diagnose & evaluate status of diseases)

❑ Cardiovascular System
At the end of the lecture student must know and should Revise later on

- Heart Failure
- The functional anatomy of heart
- The effects of cardio-vascular dysfunction
- The concept of heart failure and its different types : (Rt) Heart Failure, (Lt) Heart failure, Biventricular failure, Forward failure, Backward failure

❑ Hypertension
At the end of the lecture student must know and should Revise later on

- Definition
- Normal values
- Effects of Hypertension
- Classification
- Pathogenesis
- Morphology : Target org

❑ Infective Endocarditis
At the end of the lecture student must know and should Revise later on

- Definition
- Classification
- Etiology
- Pathogenesis
- Morphology
- Clinical picture &
- Diagnosis of Infective Endocarditis

❑ Atherosclerosis
At the end of the lecture student must know and should Revise later on

- Arteriolosclerosis
- Atherosclerosis : Definition
- Risk factors

- Natural history (American heart Association classification)
- Morphology
- Adverse effects
- Pathogenesis

❑ Ischemic Heart Disease
At the end of the lecture student must know and should Revise later on

- The functional anatomy of Coronary arteries
- Definition of IHD
- Different syndromes of IHD :
- Angina Pectoris,
- Myocardial Infarction,
- Chronic IHD,
- Sudden cardiac death
- The Pathogenesis of IHD
- The Morphological changes and diagnostic tests for different clinical syndromes

❑ Gangrene and pathological calcification
At the end of the Lecture students must know-

- Difference between dystrophic and metastatic calcification with at least 3to 4 examples of each.
- Differences between Dry and wet gangrene.
- Etiopathogenesis of Dry and Wet gangrene.

❑ Shock

- At the end of the lecture students must know, understand and should be able to write following questions in the examination.

- Students should also be able to apply this knowledge in clinical setting if required or if such condition occurs in clinical setting.

- Define shock and give classification.

- Septic shock – etiopathogenesis with examples of septic shock.

❑ Carcinogenesis-Molecular basis
At the end of the lecture every student should know…….

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SPECIFIC LEARNING OBJECTIVE

- What is meant by carcinogen
- Details of molecular basis of carcinogenesis
- Student should write short notes on
- Proto-oncogene-name of proto-oncogenes along with name of a diseases in which it is seen.
- Anti-oncogenes/ tumor suppressor gene

PHARMACOLOGY

SPECIFIC LEARNING OBJECTIVES

1. Introduction

Must know

- definition of Pharmacology, drug, pharmacodynamics, pharmacokinetics, therapeutics, clinical pharmacology, pharmacy, pharmacopoeia,

Enumerate Sources of drugs with examples.

Good to know – toxicology

2. Routes of drug administration

Must know

Merits and demerits of various routes of drug administration like oral, parenteral including sublingual, subcutaneous etc

Good to know

Examples of special drug delivery systems.

3. Absorption

Must know

- Processes involved and factors influencing drug absorption & bioavailability, First pass metabolism.

Good to know

- Nature of biological cell membrane

4. Distribution

Must know

- Distribution of drugs, volume of distribution, Redistribution. Importance of plasma protein binding.

Good to know

barriers for distribution of drugs

5. Metabolism

Must know

- Definition, sites of metabolism, Importance of induction and inhibition of metabolism with suitable examples.

Good to know

– factors affecting biotransformation

6. Excretion

Must know

Routes of excretion of drugs, Renal excretion. First order and zero order kinetics, Plasma half life, Repeated drug administration

Good to know

cumulation and clearance of drugs

7. Pharmacodynamics- I

Must know –

Definition, How drugs act? Sites of drug action. Efficacy and potency

8. Pharmacodynamics II

Must know

Mechanism of drug action,Receptors, affinity and efficacy. Agonists and antagonists. Types of receptors

Good to know

– transducer mechanisms,dose response curve

9. Combined effect of drugs —

Must know –

Drug antagonism, summation and synergism,

Good to know –

Drug interactions, shifting of curves

10.and 11 Adverse effects of drugs I and II --

Must know –

undesirable effects, side effects, toxic effects, Classification of adverse effects, Manifestations of drug toxicity

Good to know –

Types of allergies

12. Factors modifying effects and doses of drugs -

Must know –

various factors affecting drug action, Tolerance, drug dependence

Good to know -

Calculation of dosage of drugs

Implications of General principles of pharmacology in Clinical dentistry.

Autonomic Nervous System

1. **Introduction to ANS** –

Must know –

Involuntary control of vital functions.Importance of autonomic nervous system. Differences between sympathetic and parasympathetic nervous system

Good to know -

Neuro-humoral transmission.

2. **Introduction to sympathetic nervous system** –
Must know
Group characteristics of cateholamines and noncatecholamines, Effect of stimulation of alpha and beta receptors.
Good to know –
Synthesis of catecholamines

3. and 4.Adrenergic drugs I and II -
Must know –
Classification of adrenergic drugs**,**actions,adverse effects ,uses and contraindications to adrenaline, actions, adverse effects, uses and contraindications to other sympathomimetic drugs.

5. Alpha adrenergic blockers –
Must know
Classification,actions, adverse effects & therapeutic uses
Good to know -
contraindications to Alpha adrenergic blockers

6. Beta adrenergic blockers—
Must know -
classification, actions ,adverse effects ,uses and contraindications to Beta adrenergic blockers

7. **Cholinergic drugs**
Must know -
Classification, actions ,adverse effects ,uses of cholinergic drugs.
Good to know
contraindications to Cholinergic drugs

8. Anticholinergic drugs—
Must know –
Classification,actions,adverse effects,usesand contraindications to Anticholinergic drugs

9. Skeletal muscle relaxants –
Good to know –

Classification, actions ,adverse effects ,uses and contraindications to Skeletal muscle relaxants ,Implications of these drugs in clinical dentistry

Cardiovascular drugs

1 and 2. Antihypertensive drugs I and II –

Must know –

Classification of antihypertensive drugs, their mechanism of action, adverse effects and therapeutic uses

Good to know –

Management of hypertensive emergencies

3. Diuretics –

Must know –

definition, classification with examples of diuretics, their uses.

Good to know –

diverse clinical indications of diuretics

4 and 5. Antianginal drugs I and II–

Must know –

Classification of Antianginal drugs, adverse effects and uses of nitrates

Good to know –

various types of angina and treatment

6. Cardiac glycosides –

Must know –

- Mechanism of action and adverse effects of Digoxin

Good to know –

congestive heart failure and management

7. Treatment of shock –

Must know –

various types of shock, anaphylactic, cardiogenic, hypovolemic shock and treatment

Good to know –

plasma expanders and intravenously given fluid

Blood

1. Hematinics –

Must know –

definition of anaemia, oral iron preparations, indications of parenteral iron therapy, examples of parenteral iron preparations

Good to know –

Iron absorption, transport and excretion, aetiology of anaemia

2. Anticoagulants –

Must know –

warfarin , heparin, comparison of both, indications and adverse effects of anticoagulants

Good to know –

drug interactions with anticoagulants

3. Coagulants –

Must know –

styptics and examples of commonly used styptics, haemostasis in dentistry

Good to know –

coagulation cascade and clotting factors

Autocoids

1. Prostaglandins and leukotrines –

Must know –

Importance of Prostaglandins

Good to know –

Leucotrines

2. Histamines and antihistamines –

Must know –

Actions of histamine, classification ,adverse effects & uses of antihistaminics,differences between first and second generation antihistaminics.

3. Respiratory System –

Must know –

classification of bronchodilators, mechanism of action of salbutamol, how is it different from adrenaline

Good to know –

Management of bronchial asthma

Total 40 +/- in first term

Central nervous system

1. Barbiturates –

Must know –

definition of sedative and hypnotics, classification of barbiturates, adverse effects of barbiturates

Good to know –

normal sleep pattern, treatment of barbiturate poisoning

2. Benzodiazepines –

Must know –

classification of benzodiazepines, therapeutic uses of diazepam, compare and contrast barbiturates with benzodiazepines

Good to know -

Mechanism of action diazepam

3 4. Opioid Analgesics I and II –

Must know –

classification of opioid analgesics, uses and adverse effects of morphine, precautions and contraindications of morphine therapy

Good to know –

pharmacological actions of opiods with respect to various receptors

5 and 6. NSAIDs I and II –

Must know –

classification of NSAIDs, names of commonly used NSAIDs, therapeutic uses and adverse effects of aspirin, comparison of aspirin with paracetamol

Good to know –

Treatment of , migraine, trigeminal neuralgia, rheumatic arthritis

7 and 8. General Anaesthetics Iand II –

Must know –

Classification of general anaesthetics, examples of inhalational and intravenously given general anaesthetics, , preanaesthetic medication

Good to know –

stages of general anaesthesia, properties of ideal anaesthetic agent, complications of anaesthesia

9. Local Anaesthetics –

Must know –

classification of local anaesthetics, mechanism of action of Lignocaine, rationale of combination of adrenaline with Lignocaine, types of local anaesthesia

Good to know

Complications of spinal anesthesia

10. Antipsychotic drugs –

Must know –

Classification of antipsychotic drugs

Good know –

Actions, uses and adverse effects

11. Antidepressant drugs –

Must know –

Classification of antidepressant drugs

Good know –

Actions, uses and adverse effects

12. Antiepileptic drugs –

Must know –

Classification of antiepileptic drugs, Phenytoin – adverse effects, treatment of status epilepticus

Good to know –

Different types of seizures and treatment

Endocrine system

1. Thyroid and antithyroid drugs –

Must know –

classification of antithyroid drugs, mechanism of action and therapeutic uses of propylthiouracil, Lugol's iodine and radioactive iodine

Good to know –

synthesis of thyroid hormone, functions of it

2. Oral antidiabetic drugs –

Must know –

classification of oral antidiabetic drugs, their indications , differences between sulfonylureas and biguanides,

Good to know –

Newer oral antidiabetic agents.

3. Insulin –
Must know –
Actions, uses and types of Insulin , Insulin analogues
Good to know –
Mechanism of action of insulin

4 and 5. Corticosteroids I and II –
Must know
Classification,Uses and adverse effects of corticosteroids
Good to know—
contraindications to corticosteroids

6. Calcium metabolism—
Must know
Importance of Vitamin D
Good to know
Calcitonin and parathormone

G.I.T.
1. Antidiarrhoeal drugs --
Must know –
Classification,ORS
Good to know –
drug treatment of diarrhea.

2. Drugs used in constipation –
Must know –
Classification of these drugs
Good to know
Treatment of constipation

3. Antiemetics –
Must know –
Classification of antiemetic drugs.

4. Drugs used in peptic ulcer –
Must know
Classification of drugs used in treatment of peptic ulcer

Good to know—
factors aggravating acid-peptic disease

Chemotherapy
1. Introduction to chemotherapy —
Must know
spectrum of activity, bactericidal and bacteriostatic drugs. Classification of chemotherapeutic agents
Good to know –
History of chemotherapy define terms Chemotherapy, antibiotics ,AMA, Mechanism of action of these agents,

2. Sulfonamides --
Must know –
Cotrimoxazole , Mechanism of action and toxicity of these agents

3. Fluroquinolones -
Must know –
Classification ,mechanism of action , spectrum of activity, uses and adverse effects of fluroquinolones

4.and 5. Penicillins I and II-
Must know –
Classification, mechanism of action, spectrum of activity ,uses and adverse effects of Penicillins .

6. Cephalosporins –
Must know
Classification ,mechanism of action , spectrum of activity ,uses and adverse effects of Cephalosporins .

7. Macrolides –
Must know—
mechanism of action , spectrum of activity ,uses and adverse effects of Azithromycin

8. Aminoglycosides—
Must know
Classification and spectrum of activity of aminoglycisides

9. Broad spectrum antibiotics –
Classification and spectrum of activity of Broad spectrum antibiotics

10. Antianaerobic drugs—
Must know-
Classification and spectrum of activity of antianaerobic drugs

11. and 12.Antitubercular drugs I and II –
Must know –
Names of antitubercular drugs
Good to know ---
mechanism of action , spectrum of activity ,uses and adverse effects of Antitubercular drugs

13. Antileprotic drugs -
Good to know ---
mechanism of action , spectrum of activity ,uses and adverse effects of Antileprotic drugs

14. Antiviral drugs –
Must know –
names of antiinfluenza drugs, antiretroviral agents,
universal precautions for prevention of HIV
Good to know –
regimens of HIV

15. Antifungal drugs –
Must know –
imidazoles
Good to know –
griseofulvin
16. Antimalignancy drugs –
Must know
Enumerate anti-malignancy drugs

17. Principles of Antimicrobial drug therapy --
Must know –
advantages and disadvantages of combination of AMAs. Chemoprophylaxis
Good to know –

Resistance, cross resistance, Superinfection.

Miscelleneous

1. Antiseptics and disinfectants –

Must know –

Definition of antiseptics and disinfectants, commonly used in dental practice

2. Dental pharmacology –

Must know – Mouth washes, Astringents, Obtundents, Dentrifices, desensitizing agents

Good to know –

mummifying agents

3. Emergencies in dental practice –

Must know –

anaphylactic shock, acute attack of angina pectoris, syncope

Good to know – status asthmaticus, status epilepticus

4. Vitamins -

Must know –

Vitamin B Complex, D,C

Good to know -

Total 40 +/-5 in Second term

Practicals

1. Introduction -

Must know –

definition of prescription, parts of prescription

2. Weights and measures –

Must know –

basic units of weights and measures,

Good to know -

calculations of percentages of solution

3. Alkaline saline mouth wash –

Must know –

actions of sodium bicarbonate and sodium chloride

Good to know –

systemic uses of sodium bicarbonate

4. Antiseptic mouth wash – Must know – action of potassium permanganate
Good to know – calculation of percentages
5. Gum paint - Must know – definition of astringents and action
Good to know – examples of astringents

6. Obtundent -
Must know –
definition of obtundent, actions of thymol, phenol,camphor
Good to know –
eutectic material

7. and 8.Tooth powder and Tooth paste -
Must know –
definition of dentrifices, components and ingredients of dentrifices
Good to know –
examples of abrasive agents, humectants, flavouring agents, binding agents ,

Single Drug Therapy –
Drug of choice –

All must know
1. Autonomic nervous system (2)
2. Cardiovascular system
3. Central nervous system(2)
4. Vitamins and nutrition
5. Endocrines
6. Miscelleneous
7. Chemotherapy

Correction of wrong prescription (2)
Total 20 +- 2
Tutorials

Teaching of PG students -- All topics good to know

1 Indroduction
2 Routes of drug administration
3 Adverse effects of drugs
4 Drug interactions
5 Factors modifying drug action
6 Adrenergic drug

7 Adrenergic blockers
8 Parasympathetic drugs
9 Anticholinergic drugs
10 Antihypertensive drugs
11 Antianginal drugs
12 Opioid analgesics
13 NSAIDs
14 Local Anaesthetics
15 General Anaesthetics
16 Oral Antidiabetic drugs
17 Insulins
18 Corticosteroids
19 Principles of chemotherapy
20 Fluoroquinolones
21 Penicillins
22 Cephalosporins
23 Macrolides & Antianaerobic drugs
24 Adverse effects of antibimicobials
25 Choice of antibimicobials

ORAL PATHOLOGY

SPECIFIC LEARNING OBJECTIVES

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SPECIFIC LEARNING OBJECTIVE

Developmental Disturbances of Oral and Paraoral Structures

At the end of the lecture the student should be able to

- Classify and enumerate the developmental disturbances affecting the oral and para-oral structures

- Classify, enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental **disturbances of jaws** which include
    1. Agnathia
    2. Micrognathia
    3. Macrognathia
    4. Facial hemihypertrophy
    5. Facial Hemiatrophy

- Classify and enumerate the developmental disturbances affecting the teeth under the headings of size, shape, number, structure and eruption.

- Define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental disturbance in

1. Shape of Teeth
Gemination
Fusion
Concrescence
Dilaceration
Dens Invaginatus
Dens Evaginatus
Taurodontism
Talons Cusp
Supernumerarty Root

2. Number of Teeth
Anodontia
Supernumerary Teeth
Predeciduous Dentition
Post Primary Dentition

3. Size of Tooth
Microdontia
Macrodontia

4. Structure of Teeth
Amelogenesis Imperfecta
Environmental Enamel Hypoplasia
Dentinogenesis Imperfecta
Dentine Dysplasia
Regional Odontodysplasia

5. Eruption of Teeth
Premature Eruption
Eruption Sequestrum

- Classify, enumerate ,define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental **disturbance in tongue** which include
  1. Aglossia/Microglossia
  2. Macroglossia
  3. Ankyloglossia
  4. Cleft Tongue
  5. Fissured Tongue
  6. Median Rhomboid Glossitis
  7. Benign Migratory Glossitis
  8. Hairy TongueLingual Varices
  9. Lingual Thyroid Nodule
- Enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental **disturbance of oral lymphoid tissue** which include
  1. Reactive Lymphoid Hyperplasia
  2. Lymphoid Hamartoma
  3. Angiolyphoid Hyperplasia with Eosinophilia
  4. Lymphoepithelial cyst

- Classify, enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental **disturbance of Lips and Palate** which include
  1. Congenital Lip & Commissural Pits & Fistulas
  2. Van Der Woude Syndrome
  3. Cleft Lip & Cleft Palate
  4. Chelitis Glandularis
  5. Chelitis Granulomatosa
  6. Heridetry Intestinal Polyposis Syndrome
  7. Labial & Oral Melanotic Macule

- Classify, enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental **disturbances of the Oral Mucosa** which include
  1. Fordyce's Granules
  2. Focal Epithelial Hyperplasia

- Classify, enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes

associated with the developmental **disturbances of the Gingiva** which include

1. Fibromatosis Gingivae
2. Retrocuspid Papillae

- Classify, enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the developmental **disturbances of the Salivary Glands** which include
    1. Aplasia
    2. Xerostomia
    3. Hyperplasia of Palatal Glands
    4. Developmental Lingual Mandibular Salivary Gland Depression
    5. Anterior Lingual Depression

- Classify, enumerate, define, describe the etiopathogenesis, clinical features, clinical significance, histopathology features (if any) and syndromes associated with the **Fissural Cysts of the Oral Region** which include
    1. Nasopalatine Duct Cyst
    2. Median Palatal Cyst
    3. Globulomaxillary Cyst
    4. Median Mandibualr Cyst
    5. Nasoalveolar Cyst
    6. Palatal &Alveolar Cyst of Newborn
    7. Thyroglossal Tract Cyst
    8. Epidermal Inclusion Cyst
    9. Dermoid Cyst
    10. Heterotropic Oral Gastrointestinal Cyst

Dental Caries

At the end of the lecture the student should be able to

- Define & Classify Dental Caries
- Describe in detail the etio-pathogenesis of Dental Caries including the theories which include
    1. The Legend of Worms
    2. Endogenous Theories
    3. Chemical Theory
    4. Parasitic Theory
    5. Millers Chemico-parasitic Theory/Acidogenic Theory (Most Accepted)
    6. Proteolytic Theory

7. Proteolytic Chelation theory
8. Sucrose-chelation theory

- Describe in detail the role of
    1. Carbohydrates in Dental Caries
    2. Microorganisms/Plaque in Dental Caries which include Pioneer bacteris, S. Mutans, S.Sanguis, S.Salivaris, Lactobacilli, Actinomyces, Veilonella, S.Mitior
    3. Acids in Dental Caries including critical pH and Stephan's Curve.
    4. Host factors in Dental Caries which include composition of teeth, morphologic characteristics of teeth, position of teeth in the arch, composition & pH of saliva, quantity and viscosity of saliva, antibacterial properties of saliva, diet factor and systemic factors.
- Describe in detail the clinical features and classification of dental caries.
- Describe in detail the histopathology and ultra structure of Enamel and Dentinal caries
- Describe in detail the diagnostic aids for dental caries.
- Describe in detail the methods of caries control including chemical. Nutritional and mechanical measures.
- Describe in detail the Caries Activity Tests which include Lactobacillus Colony Count Test, Colorimetric Snyder Test, Swab Test, Salivary S.Mutans Level Test, S.Mutans Dip-Slide Method, Buffer Capacity Test, Enamel Solubility Test and Salivary Reductase Test.

Diseases of Pulp and Peri-apical Tissues

At the end of the lecture the student should be able to

- Describe in detail the etiological factors and pathogenesis of Diseases of the Pulp.
- Classify Pulpitis in detail.
- Write in detail the etiopathogenesis, clinical features, radiologic features, histologic features and treatment and prognosis of
    1. Focal Reversible Pulpitis
    2. Acute Pulpitis
    3. Chronic Pulpitis
    4. Chronic Hyperplastic pulpitis
    5. Gangrenous Necrosis of the Pulp.

- Write in detail the etiopathogenesis, clinical features, radiologic features, histologic features and treatment and prognosis of diseases of the Periapical tissues which include
    1. Acute Apical Periodontitits
    2. Chronic Apical Periodontitits
    3. Periapical Granuloma
    4. Apical Periodontal Cyst
    5. Residual Cyst
    6. Periapical Abcess
- Define and classify Osteomyelitis.
- Write in detail the etiopathogenesis, clinical features, radiologic features, histologic features and treatment and prognosis of diseases of the Periapical tissues which include
    1. Acute Suppurative Osteomyelitis
    2. Chronic Suppurative Osteomyelitis
    3. Chronic Focal Sclerosing Osteomyelitis
    4. Chronic Diffuse Sclerosing Osteomyelitits
    5. Chronic Osteomyelitis with Proliferative Periostitis/ Garres Osteomyelit

Odontogenic Tumor

At the end of the lecture the student should be able to

Define and classify Odontogenic tumors

Ameloblastoma

- Define ameloblastoma
- Describe the types of ameloblastoma
- Explain the pathogenesis of ameloblastoma
- Describe the Clinical features:most common site, presentation, age and gender prediliction
- Describe Radiographic features and Histopathological features
- Explain the histological Variants of ameloblastoma
- Write in brief about treatment of ameloblastoma

Adenomatoid Odontogenic tumour

- Describe Pathogenesis of Adenomatoid Odontogenic tumour
- Describe the Clinical features, Radiographic features and Histopathological features
- Write in brief about treatment of Adenomatoid Odontogenic tumour

Calcifying epithelial Odontogenic tumour /Pindborg's tumour

-
- Describe Pathogenesis of Calcifying epithelial Odontogenic tumour
- Describe the Clinical features, Radiographic features and Histopathological features
- Describe Driven snow appearance
- Write in brief about treatment of Calcifying epithelial Odontogenic tumour

Squamous Odontogenic tumour

- Describe Pathogenesis of Squamous Odontogenic tumour

- Describe the Clinical features, Radiographic features and Histopathological features

Ameloblastic fibroma

- Describe Pathogenesis of Ameloblastic fibroma
- Write about Clinical features,Radiographic features and Histopathological features

Ameloblastic fibro odontoma

- Describe the Pathogenesis of Ameloblastic fibroodontoma
- Write about Clinical features,Radiographic features and Histopathological features

Odontoma

- Define odontome and enumerate the types of odontome
- Describe Etiology of odontome
- Describe the Clinical features Radiographic features and Histologic features of odontome
- Signify the Clinical importance of odontome.

Odontogenic Fibroma

- Peripheral Odontogenic Fibroma
- Central Odontogenic Fibroma
- Describe the Pathogenesis of Peripheral Odontogenic Fibroma and Central Odontogenic Fibroma
- Describe the Clinical features,Radiographic features and Histopathological features
- Know about the treatment and prognosis

Odontogenic myxoma

- Write about the Origin of tumour

- Describe the Clinical features,Radiographic features and Histopathological features
- Know about the treatment and prognosis

Malignant Odontogenic tumours

Metastasizing ameloblastoma

- Define Metastasizing ameloblastoma
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis

Ameloblastic carcinoma

- Define Metastasizing ameloblastoma
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis
- Differentiate between malignant ameloblastoma and Metastasizing ameloblastoma

Odontogenic cysts

Define cyst and classify odontogenic cysts

Dentigerous cyst

- Define dentigerous cyst and describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis

Radicular cyst

- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis
- Know arcading pattern

Odontogenic keratocyst

- Define dentigerous cyst and describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis
- Know Picket fence appearance
- Know the reasons for recurrence of kertocyst
- Write in brief about Jaw cyst basal cell nevus, bifid rib syndrome

Dental lamina cyst of the newborn

- Write about Bohn's nodules and Epstein's pearls
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis

Gingival cyst of the adult

- Describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features

Calcifying Odontogenic cyst

- Describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about liesegang rings

- Write about the Treatment and prognosis

Lateral periodontal cyst

- Define and describe the etiopathogenesis of lateral periodontal cyst
- Describe the Clinical features,Radiographic features and Histopathological features
- Know about botryoid Odontogenic cyst
- Write about the Treatment and prognosis

Regressive alterations of the teeth

- Enumerate the regressive alterations of teeth
- Write about the Definition , etiology, clinical manifestation of attrition, management of attrition
- Write about the Definition , etiology, clinical manifestation of attrition, management of abrasion
- Write about the Definition , etiology, clinical manifestation of attrition, management of abrasion
- Define abfraction
- Describe the clinical features and management of abfraction.
- Classify and describe pulp calcifications
- Describe hypercementosis
- Write about cementicles
- Describe dead tracts.

PRE MALIGNANT LESIONS & CONDITIONS:

At the end of the lecture the student should be able to

Define premalignant lesions & conditions with examples

Leukoplakia
Define what is leukoplakia and preleukoplakia
Classify leukoplakia with special emphasis on its etiology.
Molecular pathogenesis- **GOOD TO KNOW**

Preleukoplakia
Describe its clinical features

Dyplasia
Define dysplasia with features
Classify and explain in detail Mild, moderate & severe dysplasia

Erythroleukoplakia & erythroplakia
Define erythroplakia and explain in detail the Etiology, Clinical features, Histopathological features
Molecular pathogenesis- **GOOD TO KNOW**
Management & prognosis

Oral Sub Mucous Fibrosis
Define OSMF along with the other names.
Etiology in detail
Pathogenesis- **GOOD TO KNOW**
Describe in detail Clinical features, Histopathological features
Very early
Early
Moderately advanced
Advanced
Management in detail
Surgical techniques- **GOOD TO KNOW**

Nicotine Palatinus & Actinic Cheilosis
Etio-pathogenesis - **GOOD TO KNOW**
Clinical features
Histopathological features
Management

Lichen Planus
Classification
Etio-pathogenesis in detail
Specific & non specific hypothesis- **GOOD TO KNOW**
Describe clinical features, Histopathological features
Max joseph clefts- **GOOD TO KNOW**
Colloid bodies
Management

MALIGNANT TUMORS

At the end of the lecture the student should be able to

Squamous Cell Carcinoma
Define carcinoma and squamous cell carcinoma
Describe in detail etiology
Molecular pathogenesis- **GOOD TO KNOW**
Carcinogenesis- **GOOD TO KNOW**
Clinical features, Grading & Staging of SCC
Metastasis
Routes of metastasis- **GOOD TO KNOW**
Explain in detail Histopathological features
Well differentiated
Moderately differentiated
Poorly differentiated
Histological variants of OSCC- **GOOD TO KNOW**
Radiological features
Management
Radical neck dissection & commando operation- **GOOD TO KNOW**

Verrucous carcinoma
Describe in detail Etiology, Clinical features, Histopathological features
Management

Basal Cell Carcinoma
Describe in detail Etiology, Clinical features, Histopathological features
Management

Malignant Melanoma
Describe in detail Etiology, Clinical features, Histopathological features
Types
Radial growth
Vertical growth
ABCDE rule
Management
Clarks classification- **GOOD TO KNOW**
BANS- **GOOD TO KNOW**

SARCOMAS

At the end of the lecture the student should be able to

Fibrosarcoma
Describe in detail Etiology, Clinical features, Histopathological features
Herring bone pattern
Management

Kaposis's Sarcoma
Etiology
Clinical features
Histopathological features
Management

Osteosarcoma
Etiology
Clinical features
Radiographic features in detail with a special emphasis on:
Sunburst appearance
Codmans triangle
Cumulus cloud appearance
Histological features
Osteoblastic
Chondroblastic
Fibrolastic
Management

GOOD TO KNOW
Malignant fibrous histiocytoma
Liposarcoma
MPNST
Angiosarcoma
Synovial sarcoma
Leiomyosarcoma
Rhabdomyosarcoma

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

SALIVARY GLAND PATHOLOGY

At the end of the lecture the student should be able to

Salivary Gland lesions
Mucocele
Etiology
Know the Types with differences between the two variants
Mucous retention &
Mucous Extravasation phenomenon
Clinical features
Histopathological features
Management

Ranula
Describe in detail Etiology, Clinical features, Histopathological features
Management

Sialolithiasis
Other names
Describe in detail Etiology, Clinical features, Histopathological features
Radiographic features
Management

Sialorrhea
Etiology
Clinical features
Treatment

Xerostomia
Know the various Etiological factors
Clinical Features
Know the Management and clinical consideration

Sjogren's Syndrome
Sicca syndrome
Etiology
Clinical features
Histopathological features
Antinuclear antibodies- **GOOD TO KNOW**

Sialography- **GOOD TO KNOW**
Radiographic features
Management

Necrotizing Sialometaplasia
Etiology
Clinical features
Histopathological features
Management

Salivary Gland tumors
Classification of S.G tumors
Pleomorphic Adenoma
In detail about Ductal cells
Luminal & Abluminal cells
Etiology
Clinical features
Common site of occurance
Histopathological features
Differentiate the different Histological types
Myoepithelioma
Carcinoma ex pleomorphic adenoma- **GOOD TO KNOW**
Management
Differential diagnosis of S.G tumors- **GOOD TO KNOW**

Oncocytoma
Oncocytes
Describe in detail Etiology, Clinical features, Histopathological features
Special stains for oncocytes
Management
Difference between oncocytoma & oncocytosis- **GOOD TO KNOW**

Warthin's Tumor
Describe in detail Etiology, Clinical features, Histopathological features
Management
Differential diagnosis- **GOOD TO KNOW**

Mucoepidermoid Carcinoma
Describe in detail Etiology, Clinical features, Histopathological features
Know the morphology, and functions of different types of cells

Mucous cells
Epidermoid cells
Intermediate cells
Clear cells
Grading of tumor
Low grade
Intermediate grade
High grade
Management
Special stains & mucicarmine- **GOOD TO KNOW**

Polymorphous low grade adenocarcinoma
Describe in detail Etiology, Clinical features, Histopathological features
Indian file appearance- **GOOD TO KNOW**
Management

Adenoid cystic carcinoma
Etiology
Clinical features
Histopathological features
Cribriform pattern
Tubular pattern
Solid variant
Management

GOOD TO KNOW
Monomorphic adenoma
Canalicular adenoma
Basal cell adenoma
Ductal papilloma

BACTERIAL INFECTIONS

At the end of the lecture the student should be able to

Scarlet fever
Describe in detail Etiology, Clinical features, Histopathological features
Strawberry tongue
Raspberry tongue

Pastia lines- GOOD TO KNOW
Management

Diphtheria
Describe in detail Etiology, Clinical features, Histopathological features
Diptheritic membrane
Bull neck
Complications
Diagnosis- culture methods
Management

Syphilis
Describe in detail Etiology, Clinical features
Primary syphilis/ chancre
Secondary syphilis/ mucocutaneous patches
Tertiary syphilis/ gumma
Condylomata lata
Congenital syphilis
Mulberry molars
Hutchinson incisor
Hutchinson's triad
Histopathological features
Diagnostic tests- VDRL, TPHA
Management

Tuberculosis
Describe in detail Etiology, Clinical features, Histopathological features
Etiology
Clinical features
Primary TB
Secondary TB
Miliary TB
Scrofula
langhan's giant cells
Tubercle
Diagnosis- AFB, ZN stain, patch test (Montaux test)- **GOOD TO KNOW**
Management- BCG vaccine
Anti tubercular drugs- **GOOD TO KNOW**

Leprosy
Etiology
Clinical features
Multibacillary
Paucibacillary
Leonine facies
Histopathological features- leprae cells
Diagnosis
Management

Actinomycosis
Describe in detail Etiology, Clinical features, Histopathological features
Sulfur granules
Diagnosis
Management

GOOD TO KNOW
Impetigo
Tonsillitis & pharyngitis
Gonorrhea
Noma
Cat scratch diseas

FUNGAL INFECTIONS

At the end of the lecture the student should be able to

Candidiasis
Describe in detail the etiology
Clinical features
Types
Describe the classification in detail
Sulfur granules
Histopathological features
Diagnosis
Management

GOOD TO KNOW
Histoplasmosis
Blastomycosis
Coccidiomycosis
Cryptococcosis
Zygomycosis

Aspergillosi

VIRAL INFECTIONS

At the end of the lecture the student should be able to

Herpes Simplex
Explain the Types- HSV-I & II and the difference between the two
Primary herpes
Secondary herpes
Acute herpetic gingivostomatitis
Herpetic whitlow
Herpes labialis
Explain the Etiology
Clinical features
Histopathological features- Tzanck cells, ballooning degeneration
Diagnosis
Management

Chicken pox/ Herpes Zoster
Describe in detail Etiology, Clinical features, Histopathological features
Diagnosis
Complications
Management

Rubeola
Etiology
Clinical features- kopliks spots
Histopathological features- warthin finkeldey giant cells
Diagnosis
Complications
Management

Mumps
Etiology
Clinical features
Histopathological features
Diagnosis
Complications
Management

HIV

Describe in detail the Etio-pathogenesis
Clinical features
Classification of oral manifestations of HIV
Kaposis sarcoma
Histopathological features
Diagnosis- ELISA, WESTERN BLOT
Complications
Management- anti retroviral therapy

GOOD TO KNOW

Infectious mononucleosis
Structure & life cycle of -Human herpes virus
Herpes Simplex virus
Varicella zoster virus
Cytomegalovirus

Diseases of bone and joints

At the end of the lecture student should be able to

Classify diseases of bone

Osteogenesis imperfecta:

Etiopathogenesis

Clinical features

Classification of Osteogenesis imperfecta

Oral manifestation

Radiographic features

Histologic findings

Treatment and prognosis

Marfans syndrome:

Clinical features

Oral manifestation

Osteopetrosis:

Etiology

Clinical features

Oral manifestation

Radiographic features

Laboratory findings

Histologic features

Treatment and prognosis

Fibrous dysplasia:

Etiology

Clinical features : types of fibrous dysplasis

Oral manifestation

Radiographic features

Histologic features

Treatment and prognosis

McCune- Albright syndrome:

Clinical features

Laboratory findings

Histologic features

Treatment and prognosis

Cherubisum

Etiology

Clinical features

Oral manifestation

Radiographic features

Laboratory findings

Histologic features

Treatment and prognosis

Pierre Robin Malformation

Etiology

Clinical features

Oral manifestation

Radiographic features

Treatment and prognosis

Apert syndrome:

Etiology

Clinical features

Oral manifestation

Radiographic features

Treatment and prognosis

Cleidocranial dysplasia:

Etiology

Clinical features

Oral manifestation

Radiographic features

Treatment and prognosis

Down syndrome:

Etiology

Clinical features

Oral manifestation

Radiographic features

Treatment and prognosis

Paget's disease:

Etiology

Clinical features

Oral manifestation

Radiographic features

Laboratory findings

Histologic features

Treatment and prognosis

Cementoblastoma:

Clinical features

Oral manifestation

Radiographic features

Histologic features

Treatment and prognosis

Ankylosis:

Etiology

Classification

Clinical features

Radiographic features

Treatment and prognosis

Osteoarthritis:

Clinical features

Radiographic features

Treatment and prognosis

Diseases of blood and blood forming organs

At the end of the lecture student should be able to enumerate and describe

Diseases involving red blood cells

Anemia:

Definition

Classification

Pernicious anemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Histologic features
- Treatment and prognosis

Thalassemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Iron deficiency anemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Sickle cell Anemia

- Etiology

Clinical features

Oral manifestation

Laboratory findings

Radiographic features

Treatment and prognosis

Erythroblastosis Fetalis

Pathogenesis

Clinical features

Oral manifestation

Laboratory findings

Treatment and prognosis

Diseases involving white blood cells

Leukopenia

Causes of leukopenia

Agranulocytosis

Etiology

Clinical features

Oral manifestation

Laboratory findings

Radiographic features

Treatment and prognosis

Cyclic neutropenia

Etiology

Clinical features

Oral manifestation

Laboratory findings

Radiographic features

Treatment and prognosis

Leukocytosis

Courses of neutrophilia, eosinophilia, basophilia, lymphocytosis and monocytosis

Diseases involving blood platelets

Purpura

Mechanism of blood clotting

Enumerate Bleeding disorders

Primary thrombocytopenia

Clinical features

Oral manifestation

Laboratory findings

Treatment and prognosis

Thrombotic thrombocytopenic purpura

Clinical features

Oral manifestation

Laboratory findings

Treatment and prognosis

Diseases involving specific blood factors

Hemophilia

Etiology

Clinical features

Oral manifestation

Laboratory findings

Treatment and prognosis

Von Willebrand's disease

Etiology

Clinical features

Oral manifestation

Laboratory findings

Radiographic features

Treatment and prognosis

Diseases of the Skin

At the end of the lecture student should know

Ectodermal Dysplasia

Etiology

Clinical features

Oral manifestation

Histologic findings

Treatment and prognosis

Psoriasis

Etiology

Clinical features

Oral manifestation

Histologic findings

Treatment and prognosis

Erythema multiforme

Types of Erythema multiforme

Stevens Johnson syndromes

Etiology

Clinical features

Oral manifestation

Histologic findings

Treatment and prognosis

White sponge nevus

Etiology

Clinical features

Oral manifestation

Histologic findings

Treatment and prognosis

Pemphigus

Types of pemphigus

Etiopathogenesis

Pemphigus vulgaris

Clinical features

Oral manifestation

Histologic features

Immunoflorescent testing

Treatment and prognosis

Pemphigus foliaceus

Clinical features

Oral manifestation

Histologic findings

Immuno florescent testing

Treatment and prognosis

Paraneoplastic pemphigus

Clinical features

Oral manifestation

Histologic findings

Immunoflorescent testing

Treatment and prognosis

Familial Benign Pemphigus

Clinical features

Oral manifestation

Histologic findings

Treatment and prognosis

Cicatricial Pemphigoid

Etiology

Clinical features

Oral manifestation

Histologic findings

Immunoflorescent testing

Differential diagnosis

Treatment and prognosis

Bullous Pemphigoid

Clinical features

Oral manifestation

Histologic findings

Immunoflorescent testing

Treatment and prognosis

Epidermolysis Bullosa

Epidermolysis bullosa simplex

Junctional epidermolysis bullosa

Dystrophic epidermolysis bullosa

Etiology

Epidermolysis Bullosa Simplex

Clinical features

Oral manifestation

Histologic findings

Junctional epidermolysis bullosa

Clinical features

Oral manifestation

Histologic findings

Epidermolysis bullosa Dystrophic, Dominant, Recessive

Clinical features

Oral manifestation

Histologic findings

Systemic Lupus Erythromatous

Etiology

Clinical features

Oral manifestation

Histologic features

Laboratory Findings: LE cells

Immunoflorescent testing

Differential diagnosis

Treatment and prognosis

Discoid Lupus Erythromatous

Etiology

Clinical features

Oral manifestation

Histologic features

Laboratory Findings: LE cells

Immunoflorescent testing

Differential diagnosis

Treatment and prognosis

Systemic sclerosis:

Etiology

Clinical features

Oral manifestation

Histologic features

Laboratory Findings: LE cells

Immunoflorescent testing

Differential diagnosis

Treatment and prognosis

Ehlers- Danlos syndrome:

Clinical features

Oral manifestation

Histologic features

Treatment and prognosis

Diseases of the nerves and muscles

At the end of the lecture student should know

Disturbances of fifth cranial nerve

Trigeminal neuralgia

Etiology

Clinical features

Oral manifestation

Differential diagnosis

Laboratory Findings

Treatment and prognosis

Auriculotemporal syndrome (frey's syndrome)

Etiology

Clinical features

Oral manifestation

Treatment and prognosis

Disturbances of seventh cranial nerve

Bell's palsy:

Etiology

Clinical features

Oral manifestation

Differential diagnosis

Laboratory Findings

Treatment and prognosis

Atypical facial pain:

Etiology

Clinical features

Eagle's syndrome

Carotid artery syndrome

Treatment and prognosis

Diseases of muscles:

Classify diseases of muscles

Dystrophies

Etiology

Clinical features

Oral manifestation

Differential diagnosis

Laboratory Findings

Treatment and prognosis

Myotonias:

Etiology

Clinical features

Oral manifestation

Differential diagnosis

Laboratory Findings

Treatment and prognosis

Myasthenias:

Myasthenia gravis:

Etiology

Clinical features

Oral manifestation

Differential diagnosis

Laboratory Findings

Treatment and prognosis

Diseases of periodontium

At the end of the lecture student should know

Deposits on teeth

Dental stains

Halitosis

Classification of periodontal diseases

Gingival diseases

Factors affecting gingival diseases

Clinical features

Histologic features

Treatment and prognosis

Necrotizing gingivostomatitis

Necrotizing ulcerative gingivititis

Clinical features

Predisposing factors

Bacteriologic examination

Histologic features

Treatment and prognosis

Desquamative gingivitis

Clinical features

Histologic features

Treatment and prognosis

Gingival abscess:

Clinical features

Histologic features

Treatment and prognosis

Gingival enlargememt

Classification

Clinical features

Histologic features

Treatment and prognosis

Periodontitis

Chronic periodontitis

Clinical feature

Bactriologic examination

Histologic features

Radiographic features

Treatment and prognosis

Aggressive periodontitis

Clinical feature

Bactriologic examination

Histologic features

Radiographic features

Treatment and prognosis

Spread of oral infection

At the end of the lecture student should know

Focal infection

Mechanism of focal infection

Foci of infection

Significance of foci of infection

Cellulitis

Etiology

Clinical features

Radiographic features

Histologic features

Treatment and prognosis

Ludwig's angina

Etiology

Clinical features

Laboratory findings

Histologic features

Treatment and prognosis

Infections of specific tissue spaces

Important spaces in maxillofacial region

Spread of infection from maxillary teeth

Etiology

Clinical features

Laboratory findings

Histologic features

Treatment and prognosis

Spread of infection from mandibular teeth

Etiology

Clinical features

Laboratory findings

Histologic features

Treatment and prognosis

Space of body of mandible

Physical and chemical injuries of the oral cavity

At the end of the lecture student should know

Effect of heat

Effect of restorative material

Bruxism

Etiology

Clinical features

Treatment

Fracture of teeth

Etiology

Clinical features

Classification

Treatment

Cracked tooth syndrome

Physical injuries of bone

Traumatic cyst

Etiology

Clinical features

Radiographic features

Histologic features

Treatment and prognosis

Physical injuries of soft tissue

Tooth brush trauma

Traumatic ulcer

Etiology

Clinical features

Histologic features

Treatment and prognosis

Inflammatory fibrous hyperplasia

Etiology

Clinical features

Histologic features

Treatment and prognosis

Inflammatory papillary hyperplasia

Etiology

Clinical features

Histologic features

Treatment and prognosis

Mucous retention phenomenon

Etiology

Clinical features

Histologic features

Treatment and prognosis

Ranula

Etiology

Clinical features

Histologic features

Treatment and prognosis

Retention cyst of maxillary sinus

Etiology

Clinical features

Histologic features

Radiographic features

Treatment and prognosis

Sialolithiasis:

Etiology

Clinical features

Chemical and physical features

Histologic features

Treatment and prognosis

Osteoradionecrosis:

Etiology

Clinical features

Histologic features

Treatment and prognosis

Healing of oral wounds

At the end of the lecture student should know

Factors affecting wound healing

Complication of wound healing

Healing of biopsy wound

Primary healing

Secondary healing

Exfoliative cytology

Interpretation of cytology report

Healing of extration wound

Immediate reaction following extraction

First week wound

Second week wound

Third week wound

Fourth week wound

Complication in healing of extraction wound

Dry socket

Fibrous healing of extraction wound

Oral aspect of metabolic diseases

At the end of the lecture student should know

Disturbance in mineral metabolism

Calcium, phosphorus

Requirement and absorption

Excretion

Functions

Osteoporosis and deficiency of calcium

Trace elements

Iodine, iron, zinc, fluoride

Avitaminosis:

Fat soluble vitamins:

Requirement, absorption, hypervitaminosis of Vit A, Vit D, Vit E, Vit K.

Vitamin D deficient Rickets

Clinical features

Oral manifestation

Osteomalacia:

Clinical features

Oral manifestation

Renal rickets

Water soluble vitamins:

Requirement, absorption, functions, deficiency states of Vit B, Vit C

Disturbances in hormone metabolism

Pituitary group of hormone

Hytpopituitarism

Clinical features

Hytperpituitarism

Clinical features

Thyroid hormone

Clinical features of Hypothyroidism and hyperthyroidism

Brown tumor

Hypoparathyroidism

Pancreatic hormone: insulin

Diabetes mellitus

Clinical features

Oral manifestation

Oral aspect of metabolic diseases

At the end of the lecture student should know

Recurrent aphthous stomatitis

Etiology

Classification of aphthous ulcer

Clinical features

Oral manifestation

Immunologic abnormalities

Predisposing factors

Histologic features

Differential diagnosis

Treatment

Behcet's syndrome

Etiology

Clinical features

Oral manifestation

Laboratory findings

Histologic features

Treatment and prognosis

Reiter's syndrome

Etiology

Clinical features

Oral manifestation

Laboratory findings

Histologic features

Treatment and prognosis

Sarcoidosis:

Etiology

Clinical features

Oral manifestation

Laboratory findings

Histologic features

Treatment and prognosis

Wegeners granulomatosis

Etiology

Clinical features

Oral manifestation

Histologic features

Treatment and prognosis

Chronic granulomatous diseases

Etiology

Clinical features

Oral manifestation

Histologic features

Treatment and prognosis

Angioedema:

Etiolopathogenesis

Clinical features

Oral manifestation

Treatment and prognosis

Contact stomatitis and dermatitis:

Etiology

Clinical features

Oral manifestation

Histologic features

Treatment and prognosis

Lichenoid reaction:

Etiology

Clinical features

Oral manifestation

Histologic features

Treatment and prognosis

ODONTOGENIC TUMORS

At the end of the lecture the student should be able to

Define and classify Odontogenic tumors

Ameloblastoma

- Define ameloblastoma
- Describe the types of ameloblastoma
- Explain the pathogenesis of ameloblastoma
- Describe the Clinical features:most common site, presentation, age and gender prediliction
- Describe Radiographic features and Histopathological features
- Explain the histological Variants of ameloblastoma
- Write in brief about treatment of ameloblastoma

Adenomatoid Odontogenic tumour

- Describe Pathogenesis of Adenomatoid Odontogenic tumour
- Describe the Clinical features, Radiographic features and Histopathological features
- Write in brief about treatment of Adenomatoid Odontogenic tumour

Calcifying epithelial Odontogenic tumour /Pindborg's tumour

- Describe Pathogenesis of Calcifying epithelial Odontogenic tumour
- Describe the Clinical features, Radiographic features and Histopathological features
- Describe Driven snow appearance
- Write in brief about treatment of Calcifying epithelial Odontogenic tumour

Squamous Odontogenic tumour

- Describe Pathogenesis of Squamous Odontogenic tumour
- Describe the Clinical features, Radiographic features and Histopathological feature

Ameloblastic fibroma

- Describe Pathogenesis of Ameloblastic fibroma
- Write about Clinical features,Radiographic features and Histopathological features

Ameloblastic fibro odontoma

- Describe the Pathogenesis of Ameloblastic fibroodontoma
- Write about Clinical features,Radiographic features and Histopathological features

Odontoma

- Define odontome and enumerate the types of odontome
- Describe Etiology of odontome
- Describe the Clinical features Radiographic features and Histologic features of odontome
- Signify the Clinical importance of odontome.

Odontogenic Fibroma

- Peripheral Odontogenic Fibroma

- Central Odontogenic Fibroma
- Describe the Pathogenesis of Peripheral Odontogenic Fibroma and Central Odontogenic Fibroma
- Describe the Clinical features,Radiographic features and Histopathological features
- Know about the treatment and prognosis

Odontogenic myxoma

- Write about the Origin of tumour
- Describe the Clinical features,Radiographic features and Histopathological features
- Know about the treatment and prognosis

Malignant Odontogenic tumours

Metastasizing ameloblastoma

- Define Metastasizing ameloblastoma
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis

Ameloblastic carcinoma

- Define Metastasizing ameloblastoma
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis
- Differentiate between malignant ameloblastoma and Metastasizing ameloblastoma

Odontogenic cysts

Define cyst and classify odontogenic cysts

Dentigerous cyst

- Define dentigerous cyst and describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis

Radicular cyst

- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis
- Know arcading pattern

Odontogenic keratocyst

- Define dentigerous cyst and describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis
- Know Picket fence appearance
- Know the reasons for recurrence of kertocyst
- Write in brief about Jaw cyst basal cell nevus, bifid rib syndrome

Dental lamina cyst of the newborn

- Write about Bohn's nodules and Epstein's pearls
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about the Treatment and prognosis

Gingival cyst of the adult

- Describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features

Calcifying Odontogenic cyst

- Describe the pathogenesis
- Describe the Clinical features,Radiographic features and Histopathological features
- Write about liesegang rings
- Write about the Treatment and prognosis

Lateral periodontal cyst

- Define and describe the etiopathogenesis of lateral periodontal cyst
- Describe the Clinical features,Radiographic features and Histopathological features
- Know about botryoid Odontogenic cyst
- Write about the Treatment and prognosis

Regressive alterations of the teeth

- Enumerate the regressive alterations of teeth
- Write about the Definition , etiology, clinical manifestation of attrition, management of attrition
- Write about the Definition , etiology, clinical manifestation of attrition, management of abrasion
- Write about the Definition , etiology, clinical manifestation of attrition, management of abrasion
- Define abfraction
- Describe the clinical features and management of abfraction.
- Classify and describe pulp calcifications
- Describe hypercementosis
- Write about cementicles
- Describe dead tracts.

At the end of the lecture the student should be able to describe/write about the following topics.

DEVELOPMENT AND GROWTH OF TEETH

1. Oro pharyngeal membrane.
2. Oral ectoderm
3. Dental lamina
4. Fate of dental lamina
5. Cell rest of serres
6. Vestibular lamina
7. Ectomesenchymal cells
8. Origin of ectomesenchymal cells
9. Enamel organ
10. Dental papilla
11. Dental sac
12. Successional lamina
13. Distal lamina and role in development of 1^{st} 2^{nd} and 3^{rd} molar
14. Physiologic and morphologic stages of tooth development
15. Membrana preformativa
16. Reciprocal induction and law of organogenesis
17. Transient structures
18. Epithelial diaphragm
19. Cervical loop

20. HER sheath
21. Cell rest of Malassez
22. Development of single and multi rooted teeth
23. Development of dentin, cementum and alveolar bone
24. Formation of apical foramina and accessory canal
25. Molecular aspects
26. Clinical consideration

AMELOGENESIS

1. Life cycle of ameloblast
2. Stages in life cycle of ameloblast
3. Tomes process
4. Formation of rods and inter rods substance
5. Formation of organic matrix and Mineralization of enamel
6. Maturation of enamel
7. Reduced enamel epithelium
8. Junctional epithelium
9. Applied aspects

ENAMEL

1. What is enamel
2. Functions
3. Composition
4. Physical & chemical properties of enamel
5. Microscopic & ultrastructure of enamel
6. Direction of enamel rods
7. Surface structures
8. Hyocalcified structures
9. Age changes
10. Applied aspects

DENTINOGENESIS

1. Formation of odontoblasts
2. Formation of odontoblastic processes
3. Formation of dentinal tubules
4. Tomes fibres
5. Formation of organic matrix and mineralization
6. Clinical considerations

DENTIN

1. What is dentin
2. Functions
3. Composition
4. Physical & chemical properties
5. Microscopic & ultrastructure
6. Types
7. Hypocalcified structures
8. Theories of dentinal sensitivity
9. Theories of mineralization
10. DEJ
11. Age and functional changes
12. Clinical consideration

PULP

1. What is pulp
2. Coronal and radicular pulp
3. Functions
4. Development of pulp
5. Pulp chamber & root canal
6. Microscopic & ultrastructure
7. Blood and nerve supply
8. Cells of pulp
9. Age changes
10. Clinical consideration

CEMENTUM

1. What is cementum
2. Functions
3. Composition
4. Physical & chemical properties
5. Microscopic & ultrastructure
6. Types
7. Cementogenesis
8. Age changes
9. Clinical considerations

PERIODONTAL LIGAMENT

1. Structure
2. Shape
3. Cells
4. Fibres

5. Proprioception and other functions
6. Blood and nerve supply
7. Clinical considerations

ALVEOLAR BONE

1. What Is bone
2. Functions
3. Composition
4. Bundle bone/lamina dura
5. Cribriform plate
6. Cortical plate
7. Microscopic & ultrastructure
8. Types
9. Nerves and blood supply
10. Physiological changes
11. Clinical considerations

ORAL MUCOUS MEMBRANE

1. Definition
2. Functions
3. Classification
4. Microscopic and ultramicroscopic structure of epithelium, basement membrane & connective tissue
5. Non keratinocytes
6. Age changes & clinical considerations

GINGIVA

1. Definiton
2. Gingival sulcus
3. Formation of gingiva and sulcus
4. Depth of gingival sulcus
5. Properties of gingiva
6. Types
7. Col and stippling
8. Microscopic and ultramicroscopic structure
9. Gingival fibres
10. Nerve & blood supply
11. Functions

12. Clinical considerations
13. Shift of dento gingival junctions, Clinical crown and anatomic crown.
14. Attachment epithelium and epithelial attachment

HARD PALATE

1. Landmarks
2. Microscopic & ultra microscopic structures
3. Incisive foramen and papilla
4. Nerve & blood supply
5. Clinical considerations

TONGUE

1. Parts
2. Sulcus terminalis
3. Foramen caecum
4. Papillae
5. Taste buds
6. Nerve & Blood supply
7. Clinical considerations

VERMILION BORDER

1. What is vermilion border
2. Reason for dryness and color

LINING MUCOSA

1. Areas covered by lining mucosa
2. Functions
3. Microscopic & ultramicroscopic structure
4. Blood & nerve supply
5. Clinical considerations

SALIVARY GLAND

1. Development & growth
2. Classification
3. Anatomical landmarks
4. Innervations & blood supply
5. Microscopic & ultramicroscopic structure
6. Functions
7. Composition & Functions of saliva

8. Demilunes
9. Myoepithelial/ basket cells
10. Age changes
11. Clinical considerations

ERUPTION

1. Definition
2. Theories of eruption
3. Most accepted theory
4. Fibronexus
5. Gubernacular canal and cord
6. Clinical considerations

SHEDDING

1. Definition
2. Odontoclasts
3. Shedding of deciduous teeth
4. Mechanism of shedding
5. Clinical considerations

MAXILLARY SINUS

1. Development
2. Structure
3. Functions
4. Nerve & blood supply
5. Clinical considerations

HISTOCHEMISTRY OF ORAL TISSUES

1. Fixation techniques
2. Steps of tissue processing
3. Ground section
4. decalcification

Specific learning objectives

1. Diseases of bone and joints

At the end of the lecture student should be able to

Classify diseases of bone

Osteogenesis imperfecta:

- Etiopathogenesis
- Clinical features
- Classification of Osteogenesis imperfecta
- Oral manifestation
- Radiographic features
- Histologic findings
- Treatment and prognosis

Marfans syndrome:

- Clinical features
- Oral manifestation

Osteopetrosis:

- Etiology
- Clinical features
- Oral manifestation
- Radiographic features
- Laboratory findings
- Histologic features
- Treatment and prognosis

Fibrous dysplasia:

- Etiology
- Clinical features : types of fibrous dysplasis
- Oral manifestation
- Radiographic features
- Histologic features
- Treatment and prognosis

McCune- Albright syndrome:

- Clinical features
- Laboratory findings
- Histologic features
- Treatment and prognosis

Cherubisum

- Etiology

- Clinical features
- Oral manifestation
- Radiographic features
- Laboratory findings
- Histologic features
- Treatment and prognosis

Pierre Robin Malformation

- Etiology
- Clinical features
- Oral manifestation
- Radiographic features
- Treatment and prognosis

- Apert syndrome:
  - Etiology
  - Clinical features
  - Oral manifestation
  - Radiographic features
  - Treatment and prognosis

Cleidocranial dysplasia:

- Etiology
- Clinical features
- Oral manifestation
- Radiographic features
- Treatment and prognosis

Down syndrome:

- Etiology
- Clinical features
- Oral manifestation
- Radiographic features
- Treatment and prognosis

Paget's disease:

- Etiology
- Clinical features
- Oral manifestation
- Radiographic features

- Laboratory findings
- Histologic features
- Treatment and prognosis

Cementoblastoma:

- Clinical features
- Oral manifestation
- Radiographic features
- Histologic features
- Treatment and prognosis

Ankylosis:

- Etiology
- Classification
- Clinical features
- Radiographic features
- Treatment and prognosis

Osteoarthritis:

- Clinical features
- Radiographic features
- Treatment and prognosis
-

2. <u>Diseases of blood and blood forming organs</u>

Diseases involving red blood cells

Anemia:

- Definition
- Classification

Pernicious anemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Histologic features
- Treatment and prognosis

Thalassemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Iron deficiency anemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Sickle cell Anemia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Erythroblastosis Fetalis

- Pathogenesis
- Clinical features
- Oral manifestation
- Laboratory findings
- Treatment and prognosis

Diseases involving white blood cells

Leukopenia

Causes of leukopenia

Agranulocytosis

- Etiology

- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Cyclic neutropenia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

Leukocytosis

Courses of neutrophilia, eosinophilia, basophilia, lymphocytosis and monocytosis

Diseases involving blood platelets

Purpura

- Mechanism of blood clotting
- Enumerate Bleeding disorders

Primary thrombocytopenia

- Clinical features
- Oral manifestation
- Laboratory findings
- Treatment and prognosis

Thrombotic thrombocytopenic purpura

- Clinical features
- Oral manifestation
- Laboratory findings
- Treatment and prognosis

Diseases involving specific blood factors

Hemophilia

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Treatment and prognosis

Von Willebrand's disease

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Radiographic features
- Treatment and prognosis

3. <u>Diseases of the Skin</u>

At the end of the lecture student should be able to

Ectodermal Dysplasia

- Etiology
- Clinical features
- Oral manifestation
- Histologic findings
- Treatment and prognosis

Psoriasis

- Etiology
- Clinical features
- Oral manifestation
- Histologic findings
- Treatment and prognosis

Erythema multiforme

- Types of Erythema multiforme
- Stevens Johnson syndromes
- Etiology
- Clinical features
- Oral manifestation
- Histologic findings
- Treatment and prognosis

White sponge nevus

- Etiology
- Clinical features
- Oral manifestation
- Histologic findings
- Treatment and prognosis

Pemphigus

- Types of pemphigus
- Etiopathogenesis
- **Pemphigus vulgaris**
- Clinical features
- Oral manifestation
- Histologic features
- Immunoflorescent testing
- Treatment and prognosis

Pemphigus foliaceus

- Clinical features
- Oral manifestation
- Histologic findings
- Immuno florescent testing
- Treatment and prognosis

Paraneoplastic pemphigus

- Clinical features
- Oral manifestation
- Histologic findings
- Immunoflorescent testing
- Treatment and prognosis

Familial Benign Pemphigus

- Clinical features
- Oral manifestation
- Histologic findings
- Treatment and prognosis

Cicatricial Pemphigoid

- Etiology

- Clinical features
- Oral manifestation
- Histologic findings
- Immunoflorescent testing
- Differential diagnosis
- Treatment and prognosis

Bullous Pemphigoid

- Clinical features
- Oral manifestation
- Histologic findings
- Immunoflorescent testing
- Treatment and prognosis

Epidermolysis Bullosa

Epidermolysis bullosa simplex

Junctional epidermolysis bullosa

Dystrophic epidermolysis bullosa

Etiology

Epidermolysis Bullosa Simplex

- Clinical features
- Oral manifestation
- Histologic findings

Junctional epidermolysis bullosa

- Clinical features
- Oral manifestation
- Histologic findings

Epidermolysis bullosa Dystrophic, Dominant, Recessive

- Clinical features
- Oral manifestation
- Histologic findings

Systemic Lupus Erythromatous

- Etiology
- Clinical features

- Oral manifestation
- Histologic features
- Laboratory Findings: LE cells
- Immunoflorescent testing
- Differential diagnosis
- Treatment and prognosis

Discoid Lupus Erythromatous

- Etiology
- Clinical features
- Oral manifestation
- Histologic features
- Laboratory Findings: LE cells
- Immunoflorescent testing
- Differential diagnosis
- Treatment and prognosis

Systemic sclerosis:

- Etiology
- Clinical features
- Oral manifestation
- Histologic features
- Laboratory Findings: LE cells
- Immunoflorescent testing
- Differential diagnosis
- Treatment and prognosis

Ehlers- Danlos syndrome:

- Clinical features
- Oral manifestation
- Histologic features
- Treatment and prognosis

4. <u>Diseases of the nerves and muscles</u>

At the end of the lecture student should know

Disturbances of fifth cranial nerve

Trigeminal neuralgia

- Etiology

- Clinical features
- Oral manifestation
- Differential diagnosis
- Laboratory Findings
- Treatment and prognosis

Auriculotemporal syndrome (frey's syndrome)

- Etiology
- Clinical features
- Oral manifestation
- Treatment and prognosis

Disturbances of seventh cranial nerve

Bell's palsy:

- Etiology
- Clinical features
- Oral manifestation
- Differential diagnosis
- Laboratory Findings
- Treatment and prognosis

Atypical facial pain:

- Etiology
- Clinical features
- Eagle's syndrome
- Carotid artery syndrome
- Treatment and prognosis

Diseases of muscles:

Classify diseases of muscles

Dystrophies

- Etiology
- Clinical features
- Oral manifestation
- Differential diagnosis
- Laboratory Findings
- Treatment and prognosis

Myotonias:

- Etiology
- Clinical features
- Oral manifestation
- Differential diagnosis
- Laboratory Findings
- Treatment and prognosis

Myasthenias:

Myasthenia gravis:

- Etiology
- Clinical features
- Oral manifestation
- Differential diagnosis
- Laboratory Findings
- Treatment and prognosis

5. <u>Diseases of periodontium</u>

At the end of the lecture student should know

Deposits on teeth

Dental stains

Halitosis

Classification of periodontal diseases

Gingival diseases

- Factors affecting gingival diseases
- Clinical features
- Histologic features
- Treatment and prognosis

Necrotizing gingivostomatitis

Necrotizing ulcerative gingivititis

- Clinical features
- Predisposing factors
- Bacteriologic examination
- Histologic features

- Treatment and prognosis

Desquamative gingivitis

- Clinical features
- Histologic features
- Treatment and prognosis

Gingival abscess:

- Clinical features
- Histologic features
- Treatment and prognosis

Gingival enlargememt

- Classification
- Clinical features
- Histologic features
- Treatment and prognosis

Periodontitis

Chronic periodontitis

- Clinical feature
- Bactriologic examination
- Histologic features
- Radiographic features
- Treatment and prognosis

Aggressive periodontitis

- Clinical feature
- Bactriologic examination
- Histologic features
- Radiographic features
- Treatment and prognosis

6. <u>Spread of oral infection</u>

At the end of the lecture student should know

Focal infection

Mechanism of focal infection

Foci of infection

Significance of foci of infection

Cellulitis

- Etiology
- Clinical features
- Radiographic features
- Histologic features
- Treatment and prognosis

Ludwig's angina

- Etiology
- Clinical features
- Laboratory findings
- Histologic features
- Treatment and prognosis

Infections of specific tissue spaces

Important spaces in maxillofacial region

Spread of infection from maxillary teeth

- Etiology
- Clinical features
- Laboratory findings
- Histologic features
- Treatment and prognosis

Spread of infection from mandibular teeth

- Etiology
- Clinical features
- Laboratory findings
- Histologic features
- Treatment and prognosis

Space of body of mandible

7. Physical and chemical injuries of the oral cavity

At the end of the lecture student should know

Effect of heat

Effect of restorative material

Bruxism

- Etiology
- Clinical features
- Treatment

Fracture of teeth

- Etiology
- Clinical features
- Classification
- Treatment

Cracked tooth syndrome

Physical injuries of bone

Traumatic cyst

- Etiology
- Clinical features
- Radiographic features
- Histologic features
- Treatment and prognosis

Physical injuries of soft tissue

Tooth brush trauma

Traumatic ulcer

- Etiology
- Clinical features
- Histologic features
- Treatment and prognosis

Inflammatory fibrous hyperplasia

- Etiology
- Clinical features
- Histologic features
- Treatment and prognosis

Inflammatory papillary hyperplasia

- Etiology
- Clinical features
- Histologic features
- Treatment and prognosis

Mucous retention phenomenon

- Etiology
- Clinical features
- Histologic features
- Treatment and prognosis

Ranula

- Etiology
- Clinical features
- Histologic features
- Treatment and prognosis

Retention cyst of maxillary sinus

- Etiology
- Clinical features
- Histologic features
- Radiographic features
- Treatment and prognosis

Sialolithiasis:

- Etiology
- Clinical features
- Chemical and physical features
- Histologic features
- Treatment and prognosis

Osteoradionecrosis:

- Etiology
- Clinical features
- Histologic features
- Treatment and prognosis

8. <u>Healing of oral wounds</u>

At the end of the lecture student should know

Factors affecting wound healing

Complication of wound healing

Healing of biopsy wound

- Primary healing
- Secondary healing

Exfoliative cytology

Interpretation of cytology report

Healing of extration wound

- Immediate reaction following extraction
- First week wound
- Second week wound
- Third week wound
- Fourth week wound

Complication in healing of extraction wound

- Dry socket
- Fibrous healing of extraction wound

9 Oral aspect of metabolic diseases

At the end of the lecture student should know

Disturbance in mineral metabolism

Calcium, phosphorus

- Requirement and absorption
- Excretion
- Functions
- Osteoporosis and deficiency of calcium

Trace elements

Iodine, iron, zinc, fluoride

Avitaminosis:

Fat soluble vitamins:

Requirement, absorption, hypervitaminosis of Vit A, Vit D, Vit E, Vit K.

Vitamin D deficient Rickets

Clinical features

Oral manifestation

Osteomalacia:

Clinical features

Oral manifestation

Renal rickets

Water soluble vitamins:

Requirement, absorption, functions, deficiency states of Vit B, Vit C

Disturbances in hormone metabolism

Pituitary group of hormone

Hytpopituitarism

Clinical features

Hytperpituitarism

Clinical features

Thyroid hormone

Clinical features of Hypothyroidism and hyperthyroidism

Brown tumor

Hypoparathyroidism

Pancreatic hormone: insulin

Diabetes mellitus

Clinical features

Oral manifestation

10 <u>Oral aspect of metabolic diseases</u>

At the end of the lecture student should know

Recurrent aphthous stomatitis

- Etiology
- Classification of aphthous ulcer

- Clinical features
- Oral manifestation
- Immunologic abnormalities
- Predisposing factors
- Histologic features
- Differential diagnosis
- Treatment

Behcet's syndrome

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Histologic features
- Treatment and prognosis

Reiter's syndrome

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Histologic features
- Treatment and prognosis

Sarcoidosis:

- Etiology
- Clinical features
- Oral manifestation
- Laboratory findings
- Histologic features
- Treatment and prognosis

Wegeners granulomatosis

- Etiology
- Clinical features
- Oral manifestation
- Histologic features
- Treatment and prognosis

Chronic granulomatous diseases

- Etiology
- Clinical features
- Oral manifestation
- Histologic features
- Treatment and prognosis

Angioedema:

- Etiolopathogenesis
- Clinical features
- Oral manifestation
- Treatment and prognosis

Contact stomatitis and dermatitis:

- Etiology
- Clinical features
- Oral manifestation
- Histologic features
- Treatment and prognosis

Lichenoid reaction:

- Etiology
- Clinical features
- Oral manifestation
- Histologic features
- Treatment and prognosis

ORTHODONTICS

SPECIFIC LEARNING OBJECTIVE

Lecture (1). Introduction to Orthodontics

- At the end of the session the student will understand the importance of orthodontic treatment, its aims and objectives.
- Explaining the terminology, Aims and objectives of orthodontic treatment
- To make the students understand orthodontic definition, orthodontic treatment at different levels- preventive, interceptive and corrective orthodontics, various treatment protocols.

Lecture (2). Development of Dentition

- At the end of the session the student must have understood the intricate process of tooth development and eruption, mixed dention period until all the teeth have erupted into occlusion.
- Explaining different stages of human tooth development and related anomalies.
- Explaining the development of gum pads and its anatomy,
- self correcting conditions, chronology of eruption of deciduous and permanent teeth
- describing the mixed dentition phases and development of occlusion, theories of eruption.
- It is desirable for the student to know the basics of Dental anatomy and histology.

Lecture (3). General Principles of Growth and Development

- At the end of the session the student is able to understand various growth patterns, apply various methods to study growth, diagnose abnormal variation in the growth of human body in general and the jaws and face in particular. This diagnosis would further help the student to formulate a treatment plan based on the evidences gathered in case of an abnormal growth and development pattern.
- To make the student understand the terminology of growth and development and various theories of growth and development in humans, role of genetics and environmental factors in growth and development of an individual.
- Explaining the importance of understanding the timings of growth of various tissues in the body, growth and development of craniofacial structures, jaws prenatally and postnatally. The process of growth in general body tissues, cranium, upper and lower jaws
- Explaination of various methods for studying growth.

- It is desirable for the student to know the basics of Human Anatomy and physiology.

Lecture (4). Normal Occlusion and its Characteristics.

- At the end of the session the student is able to understand the definition of occlusion and its features in adult dentition.
- Describing various terminologies related to Normal Occlusion and Malocclusion.
- Explaining Andrews six keys for Normal Occlusion.
- It is desirable for the student to know the basics of Dental anatomy

Lecture (5). Classification of malocclusion

- At the end of the session the student should be able to identify and classify the malocclusion observed in a patient.
- Enumerating different classification systems, their advantages, and limitations.
- It is desirable for the student to know the difference between the ideal, normal, and malocclusion.

Lecture (6). Etiology of Malocclusion-Local and general factors

- At the end of the session the student is able to understand the meaning of malocclusion, local and general causes of malocclusion, differentiate between normal occlusion and malocclusion, local and general causes of various malocclusion conditions.
- Explaining the classification and local factors responsible for etiology of Malocclusion.
- Explaining the Role of local and general factors in developing Malocclusions.
- It is desirable for the student to know the basics of Dental anatomy.

Lecture (7). Diagnostic Aids in Orthodontics

- At the end of the session the student is familiar with various essential and non-essential diagnostic aids used in orthodontics. He/she is able to choose the appropriate diagnostic aid for a given orthodontic case.
- A detail case history discussion, providing knowledge of latest diagnostic tools used in orthodontics.
- It is desirable for the student to know general case history taking for a dental/general patient with a clinical situation.

Lecture (8). Biology of orthodontic tooth movement

- At the end of the session the student is able to understand the biological bases of orthodontic tooth movement (changes at the cellular level), optimal orthodontic force and its effectiveness in bringing about orthodontic tooth movement.
- Different theories of tooth movement, Biological Phases of orthodontic tooth movement, frontal resorption and undermining resorption/hyalinization.
- It is desirable for the student to know dental histology, anatomy and physiology, general pathology.

Lecture (9). Diagnosis and treatment planning in Orthodontics

- At the end of the session the student is able to diagnose any malocclusion or anomaly in a given orthodontic patient and also evolve an appropriate treatment plan.
- Diagnosis and treatment planning of Angle's Class I, II and III (dental/skeletal) malocclusion conditions is taught in detail.
- It is desirable for the student to know the diagnostic aids, classification and etiology of malocclusion, various orthodontic appliances.

Lecture (10). Habits

- At the end of the session the student should be able to identify habit as an etiological factor, if any, for a presenting malocclusion.
- Classification of habits and their etiological factors, clinical features, different treatment modalities-age specific, should be understood.
- It is desirable for the student to know the child pshychology, facial and dental development.

Lecture (11). Preventive orthodontics

- At the end of the session the students should be able to -
  Understand importance of preventive orthodontic procedures;
  Enumerate different preventive procedures;
  Their clinical relevance of different procedures.
- Explaining various preventive orthodontic procedures with clinical situations.

- It is desirable for the student to know that prevention is better than cure, and timely assessment of the need for an orthodontic intervention.

Lecture (12). Interceptive orthodontics

- At the end of the session the students should be able to

I. Understand the meaning and importance of interceptive orthodontics
II. Enumerate different interceptive procedures
III. clinical relevance of different procedures

- It is desirable for the student to know that prevention is better than cure, and timely assessment of the need for an orthodontic intervention.

Lecture (13). Corrective Orthodontics

- At the end of the session the students should be able to understand the importance and difference between preventive, interceptive and corrective orthodontic procedures. Various corrective orthodontic treatment procedures.

Lecture (14). Removable orthodontics

- At the end of the session the students should be able to
  - Understand different components of Removable appliances
  - Understand uses and importance of active and passive components.
  - Understand advantages, disadvantages, and limitations of removable appliances
  - Understand difference between removable and fixed appliances.

Lecture (15) Functional Orthopaedic appliances

- At the end of the session the students should be able to
- Understand classification of functional appliances with examples
- Understand uses and importance of functional appliances.
- Understand advantages, disadvantages, and limitations of functional orthopaedic appliances
- History and Philosophy of functional orthopaedic appliances, design and fabrication of different appliances

Lecture (16). Fixed orthodontics

- At the end of the session the students should be able to

- Understand different components of the Fixed appliances
- Enumerate different types of fixed appliances.
- Understand uses and importance of active and passive components.
- Understand advantages, disadvantages, and limitations of fixed appliances

Lecture (17). Surgical Orthodontics

- At the end of the session the student will know what is surgical orthodontics, when to advise a patient for surgical orthodontic treatment, advantages and disadvantages of orthognathic surgeries. Patient selection criteria. Pre- and post- surgical orthodontic procedures.
- An introduction to orthognathic surgical procedures.
- Explaining the diagnosis and treatment planning involved.
- It is desirable for the student to know the basics of orthodontics, human head and neck anatomy, dental anatomy, Infection control, Sterilization and Asepsis protocols, Anaesthesia and minor dental surgical procedures, dental occlusion and jaw relations.

Lecture (18). Anchorage

- At the end of the session the student should be able to understand the concept and application of anchorage in orthodontics.
- Anchorage classification and preparation, types of anchorage, factors affecting anchorage are explained in detail.
- It is desirable for the student to know basics of orthodontic appliances and their mode of action, study model/space analyses.

Lecture (19). Biomechanics in Orthodontics

- At the end of the session the student should be able to understand various orthodontic treatment mechanics and dynamics of tooth movement with orthodontic appliances.
- Undersanding the concept of orthodontic force and its magnitude applied to bring about various tooth movements. Knowledge of the force application and the moments generated are required to design the orthodontic appliance for treatment of a particular malocclusion.
- It is desirable for the student to know basic physics and terminologies, dental anatomy, mechanical properties of different orthodontic wires and springs.

Lecture (20). Methods of gaining space

- At the end of the session the student should be able to understand various orthodontic methods of gaining space to correct the malocclusion conditions.
- It is desirable for the student to know study model analysis, total space analysis, cephalometric analysis.

Lecture (21). Adult Orthodontics

- At the end of the session the student should be able to recognize the need for adults to undergo an orthodontic treatment procedure and selection of such a patient for orthodontic treatment. The student will be able to understand and appreciate the inter-disciplinary approach needed during the treatment of an adult patient. The student also understands the treatment mechanics and shortcomings related with the adult Orthodontics.
- To explain the importance of documenting detailed medical and dental history, expectations of the treatment outcome from an adult orthodontic patient.
- To explain the various orthodontic appliances as treatment options in adults after evaluating the medical and dental health.
- To understand adult orthodontics it is desirable for the student of having understood various treatment modalities available for treating malocclusions in adolescent patients, General medical conditions prevailing in adult patients, age related periodontal conditions in adults, dental anatomy and bone physiology.

Lecture (22). Minor surgical procedures in orthodontics

- At the end of the session the student should be able to understand various minor surgical procedures.
- Clinical importance of various minor surgical procedures like Frenectomy, Pericision, etc.
- It is desirable for the student to know the orthodontic diagnostic procedure.

Lecture (23). Retention and Relapse in Orthodontics

- At the end of the session the student should be able to understand “what is Relapse in orthodontics? When does it happen? And how to prevent it.”
- Theorms of retention are explained in detail.
- It is desirable for the student to know the different orthodontic treatment modalities, etiology of maloclusion.

Lecture (24). Genetics in Orthodontics

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

- At the end of the session the student should be able to understand genetic variations and mutations causing various malocclusions and syndromes. The genes (hox genes) responsible for growth of orofacial region.
- Understanding the terminologies involved in human genetics. Explaination to various genetic disorders having effects on orofacial region.
- It is desirable for the student to know basic human genetics. Structure of DNA, Role of m-RNA, transcription and translation, interons and exons, gene splicing.

PROSTHODONTICS
SPECIFIC LEARNING OBJECTIVES

Specific Learning Objectives for III and IV B.D.S. Theory Classes

Complete Denture Prosthodontics

1. Anatomy and physiology of edentulous mouth

After completion of the theory class student should be able to:

a. Discuss in brief physiology of edentulous maxilla and mandible.
b. Discuss anatomical landmarks of maxilla and mandible and mention significance of each landmark as related to complete dentures.
c. Diuscuss the role of muscles affecting border moulding of the maxillary and mandibular edentulous arches.
d. Identify various freni and muscles that influence them.
e. Identify the local and systemic factors that affect the reaction of basal and alveolar bone to pressure and tension
f. Identify the different major and minor salivary glands of the mouth and their locations.
g. Identify local, systemic and external factors that affect the quantity and quality of salivary secretion.

2. Biomechanics of edentulous state which includes effects of ageing and RRR

After completion of the theory class student should be able to:

a. Enumerate the differences in the support mechanisms for natural dentition and complete dentures
b. Explain briefly each of changes in vertical face height, temporomandibular changes (including centric relation) esthetic changes, behavioural and adaptive responses.
c. Explain briefly the gross and microscopic pathology of RRR
d. Explain briefly the pathophysiology and pathogenesis of RRR
e. Explain the etiology of RRR

3. Preprosthetic considerations

After completion of the theory class student should be able to:

a. Define pre prostheic surgery according to latest GPT
b. What are the challenges faced in the prosthodontic rehabilitation of a completely edentulous patient.
c. Discuss the goals of pre prosthetic surgery for an edentulous patient.

d. Discuss the principles of patient evaluation and treatment planning for a patient undergoing pre prosthetic surgery.
e. Classify pre prosthetic surgical procedures for a completely edentulous patient.
f. Discuss with indications various osseous corrections for a completely edentulous patient.
g. Discuss surgical techniques for soft tissue corrections in completely edentulous patient.

4. Theories of impression making in complete dentures

After completion of the theory class student should be able to:

a. Define impression
b. Discuss in detail the different theories of making of edentulous impressions.
c. Enumerate advantages and disadvantages of these theories.

5. Objectives of Impression Making (Complete Dentures)

After completion of the theory class student should be able to:

a. Enumerate the 5 objectives of impression making in complete dentures
b. Define retention in relation to complete dentures according to the latest GPT. Enumerate and describe the factors that affect retention.
c. Define stability in relation to complete dentures according to the latest GPT. Enumerate and describe the factors that affect stability.
d. Define support in relation to complete dentures according to the latest GPT. Enumerate and describe the factors that affect support.
e. Describe in brief the influence of impression making on aesthetics and preservation of remaining structures.
f. The standard definition of primary impression and secondary impression of complete dentures as given in the Glossary of Prosthodontic Terms- 8th edition.

6. Steps in primary impression:

After completion of the theory class student should be able to:

a. Define Impression for complete denture.
b. Discuss various materials used for PI of completely edentulous patients with their advantages and disadvantages.
c. Define Impression trays and classify them.
d. Briefly discuss the following steps of impression making using impression compound

a. Selection and adjustment of tray
b. Manipulation of material
c. Loading and preshaping
d. Impression making
e. Reading the impression for anatomical landmarks and inaccuracies.

e. Briefly discuss the following steps of impression making using alginate
   a. Selection and adjustment of tray
   b. Manipulation of material
   c. Loading
   d. Impression making
   e. Reading the impression for anatomical landmarks and inaccuracies.
f. Discuss in brief the disinfection protocol for impressions made with impression compound and alginate
g. Discuss specific precautions and care during impression pouring.

7. Steps in Final impression:

After completion of the theory class student should be able to:

a. Discuss various materials used for border moulding and final impression making with their advantages and disadvantages.
b. Discuss the five objectives of impression making.
c. Discuss the spacer design for selective pressure
d. Discuss sequential border molding with anatomic and functional considerations.
e. Discuss in detail procedure of impression making including manipulation, loading, tray placement and moulding of the tissues.
f. Read the impression for details, extension and inaccuracies.
   Discuss in brief the disinfection protocol for impressions made

8. Posterior Palatal Seal (PPS)

After completion of the theory class student should be able to:

a. Define PPS according to latest Glossary of Prosthodontic Terms.
b. Explain the anatomy of PPS area.
c. Define anterior and posterior vibrating lines.
d. Explain the methods to determine anterior and posterior vibrating lines.
e. Enumerate and explain the types of soft palate configurations and associated PPS configurations.
f. Explain how does PPS help in retention of complete dentures.
g. Enumerate and explain methods of recording or establishing PPS.

h. Explain its significance/functions in complete denture.
i. Effect of over post damming and its correction.
j. Effect of under post damming and its correction.

9. Biological Considerations for Maxillomandibular Relations

After completion of the theory class student should be able to:

a. Recall form memory the classification of Maxillomandibular relationships
b. Enumerate the various anatomic structures affecting the Maxillomandibular Relations
c. Recall from memory the exact definition of Temporomandibular Joint according to the latest Glossary of Prosthodontic Terms.
d. Describe in breif the Temporomandibular joint under the following headings:
1. Anatomy of the TMJ (Bony structures and the soft tissue structures)
2. Ligaments and muscles attached to the TMJ along with their functions.
e. Describe the muscles of mastication along with their origins and insertions and actions.
f. Describe the mandibular rest position.
g. List the various types of mandibular movements that occur includong Bennett movement.
h. Describe the border movements of the mandible in all the three planes.
i. Describe the envelope of motion.
j. Describe the feedback mechanism for mandibular movements.

10. Articulators:

After completion of the theory class student should be able to:

a. Define articulator according to the latest Glossary of Prosthodontic Terms.
b. Explain the purpose of an articulator.
c. Classify articulators according to adjustability and list the differences between them.
d. Discuss three point articulator or Mean value articulator with the explanation for both the names including numerical mean values.
e. Classify articulators based on the theories of occlusion.
f. Classify articulators based on the position of condylar element.
g. Describe all the parts and basic requirements of an articulator.
h. Mention advantages and limitations of an articulator.

11. Orientation Jaw Relation

After completion of the theory class student should be able to:

a. Recall from memory the exact definition of Orientation Jaw Relation.
b. Describe the importance of recording orientation jaw relation in removable and fixed Prosthodontics.
c. Recall from memory the exact definition of Hinge Axis according to the latest Glossary of Prosthodontic Terms.
d. Recall from memory the exact definition of a Face Bow according to the latest Glossary of Prosthodontic Terms.
e. List from memory the classification of Face Bows and describe them in brief.
f. Describe the differences between kinematic and arbitrary face bows.
g. Describe from memory the different parts of the face bow along with their function.
h. Recall from memory what are anterior and posterior reference points when doing a face bow transfer.
i. Explain in brief the procedure of a face bow transfer.

12. Vertical Jaw Relation (Complete Dentures)

After completion of the theory class student should be able to:

a. Recall from memory the standard definition of vertical jaw relation, vertical dimension at rest and vertical dimension of occlusion as given in the Glossary of Prosthodontic Terms- 8th edition.
b. Enumerate and Describe at least 5 methods of recording vertical dimension at rest.
c. Enumerate and Describe all the mechanical and physiological methods of recording vertical dimension of occlusion.
d. List at least 5 effects each of increased and decreased vertical dimension of complete dentures.

13. Horizontal Jaw Relation (Complete Dentures)

After completion of the theory class student should be able to:

a. The standard definition of centric relation and eccentric jaw relation as given in the latest Glossary of Prosthodontic Terms.
b. Significance of centric jaw relation in relation to completely edentulous patients..
c. Explain the concept of harmony between centric relation and maximum intercuspation in relation to complete dentures.

d. List and describe in detail the various methods of recording centric jaw relation.

14. Transfer of jaw relation to articulator:

After completion of the theory class student should be able to:

a. Definition of articulator.
b. What are the guide lines to be followed to transfer jaw relation to mean value articulator.
c. Discuss the significance of thread relation.
d. Discuss the significance of incisal pin.

15. Artificial Teeth Selection for Edentulous Patients:

After completion of the theory class student should be able to:

a. Describe the methods or techniques followed to select the size, shape and shade of anterior artificial teeth for completely edentulous patients..
b. Enumerate the various pre-extraction records that can be used as a guide for teeth selection of an edentulous patient.
c. Describe the role of dentogenic concept pertaining to anterior teeth selection for an edentulous patient.
d. Describe the factors affecting posterior teeth selection based on size, form and material for an edentulous patient.

16. Occlusion in Complete Dentures and Theories of Occlusion

At the end of the theory class student should be able to:

a. Define occlusion according to the latest Glossary of Prosthodontic Terms.
b. What is the need to study occlusion for an edentulous patient?
c. Mention the differences between natural and artificial teeth.
d. What are the requirements of complete denture occlusion?
e. Mention the various theories of occlusion for completely edentulous patients.
f. List advantages and disadvantages of each theory of occlusion for a completely edentulous patient.

17. Occlusal Schemes and Balanced Occlusion:

After completion of the theory class student should be able to:

a. Enumerate various occlusal schemes that can be used for artificial teeth arrangement for a completely edentulous patient.
b. Write in brief about each of the following occlusal schemes:
   Anatomic/ semi-anatomic balanced occlusion
   Neutrocentric occlusion
   Lingualized occlusion
   Monoplane occlusion
c. Write advantages and disadvantages of the following occlusal schemes:
   Lingualized occlusal scheme
   Monoplane occlusal scheme
d. Describe the factors affecting balanced occlusion according to Hanau.
e. Mention advantages and disadvantages of balanced occlusion developed for an edentulous patient.

18. Try- In

After completion of the theory class student should be able to:

a. Recall the standard definition of 'Trial Denture' as given in the latest Glossary of Prosthodontic Terms.
b. Recall the standard definition of 'Trial Placement' or 'Try-in' as given in the latest Glossary of Prosthodontic Terms.
c. Explain the importance of the Try-in appointment.
d. List - in sequence - the checkpoints followed and methods to correct possible errors - while evaluating the Retention and Stability of the Trial Dentures.
e. List - in sequence - the checkpoints followed and methods to correct possible errors - while evaluating the Aesthetics of the Trial Dentures.
f. List - in sequence - the checkpoints followed and methods to correct possible errors - while evaluating the Vertical Dimension of the Trial Dentures.
g. List - in sequence - the checkpoints followed and methods to correct possible errors - while evaluating the Centric Relation of the Trial Dentures.
h. List - in sequence - the checkpoints followed and methods to correct possible errors - while evaluating the Occlusion of the Trial Dentures.

19. Correction of Occlusal Discrepancies in Complete Dentures

After completion of the theory class student should be able to:

a. Describe the 3 main reasons for changes in occlusion during processing of Complete Dentures.
b. Reacall from memory the exact definition of remount procedure according to the latest Glossary of Prosthodontic terms.
c. Enumerate atleast 4 advantages of extra oral occlusal correction over intraoral occlusal correction.
d. Describe the steps in a laboratory remount procedure.
e. Describe the steps in a clinical remount procedure.
f. Describe in brief the procedure of selective grinding for correction of occlusal discrepancies.

20. Denture Insertion and Instructions

After completion of the theory class student should be able to:

a. Describe the different criteria of evaluation of the complete denture before inserting in the patient's mouth.
b. Explain as to how to evaluate a finished and polished denture in the patient's mouth for accurate extension of borders and occlusion.
c. Explain methods to correct any problems associated with denture borders or occlusion in patient's mouth.
d. List from memory at least ten instructions to be given to the patient post insertion of the denture.

21. Post Insertion Problems

After completion of the theory class student should be able to:

a. List atleast 10 postinsertion problems.
b. Describe the dignosis and treatment of the postinsertion problems.

22. Immediate Dentures

After completion of the theory class student should be able to:

a. Recall the standard definition of 'Immediate Dentures' as given in the latest Glossary of Prosthodontic Terms.
b. List at least 4 overall advantages of Immediate Dentures.
c. List at least 4 overall disadvantages of Immediate Dentures.
d. List at least 10 differences between Conventional Immediate Dentures (CID) and Interim Immediate Dentures (IID).
e. Explain the basic procedure followed during making of an Immediate Denture.

23. Single Complete Dentures

After completion of the theory class student should be able to:

a. Describe from memory a single complete denture and state how it is different from a Complete denture.
b. Describe the different factors associated with a single complete denture when opposing with natural teeth, removable prosthesis or a fixed prosthesis.
c. Identify Combination Syndrome and list from memory at least four clinical features associated with it
d. Analyze conditions leading to development of Combination syndrome.
e. Devise treatment plan to prevent development of Combination syndrome in patients with only mandibular anterior teeth opposing completely edentulous arch.

24. Tooth supported over-dentures

After completion of the theory class student should be able to:

a. Describe from memory the GPT definition of tooth supported over dentures.
b. List from memory the Indications, contra indications, advantages and disadvantages of implant and tooth supported over dentures .
c. Describe in short the various preparations designs/types of abutment teeth.

Removable Partial Denture Prosthodontics

1. Classification of partially edentulous arches

After completion of the theory class student should be able to:

a. Enumerate accurately the requirements of an acceptable method of classification for RPD
b. Enumerate accurately the Kennedy classification for partially edentulous arches
c. Enumerate accurately Applegate's rules for applying to the Kennedy classification.
d. Classify partially edentulous arches when shown

2. Biomechanics of removable partial dentures

After completion of the theory class student should be able to:

a. Identify and explain the mechanism of action of all the six simple machines.
b. Identify the three classes of levers and relate them to the function of a RPD

c. Identify and explain the possible movements of a RPD
d. Identify the components that prevent the movements of a RPD
e. Explain the mesial rest concept in relation to distal extension RPD

3. Major and minor connectors

After completion of the theory class student should be able to:

a. Identify all the components of a RPD
b. Define a major connector and enumerate at least 3 (out of 5) guidelines for designing and locating a major connector
c. Identify ALL the mandibular and maxillary major connectors
d. Discuss the indications, characteristics and location of all the major connectors, both maxillary and mandibular
e. Define a minor connector and list the functions of minor connector
f. Identify ALL the different types of minor connectors

4. Rests and rest seats

After completion of the theory class student should be able to:

a. Define a rest and discuss purposes of a rest
b. Identify ALL the different types of rests
c. Enumerate the form of different rests and identify the requirements for each rest seat with their indications.

5. Direct Retainers (Removable Partial Dentures)

After completion of the theory class student should be able to:

a. Standard definition of direct retainer and direct retention as given in the latest Glossary of Prosthodontic Terms.
b. Classification of Direct retainers as used in cast partial dentures, i.e. intracoronal and extracoronal and list all their respective subtypes with their details.
c. Enumerate and describe the 6 principles of clasp design .
d. Enumerate and describe the various components of a direct retainer assembly.
e. Enumerate atleast 4 differences between circumferential and bar clasps.

f. List the different direct retainer assemblies indicated for distal extension cases. Describe RPI system in detail.

6. Indirect Retainers

After completion of the theory class student should be able to:

a. Define from memory indirect retainers with a hundred percent accuracy
b. Explain the requirement of an indirect retainer
c. explain the mechanism of action of indirect retention along with factors affecting it.
d. list from memory at least five types of indirect retainers.
e. Enumerate atleast four auxillary functions of indirect retainers.

7. Principles in Removable Partial Denture Designing

After completion of the theory class student should be able to:

a. Describe the biomechanical considerations (machines, levers and fulcrum lines) in designing removable partial denture.
b. Appreciate the difference between tooth supported and tooth and tissue supported removable partial denture.
c. Describe the various factors influencing the magnitude of stress transmitted to the abutment tooth/teeth.
d. Describe the use of various components in fulfilling the essentials of partial denture design.

8. Surveying

After completion of the theory class student should be able to:

a. Recall the standard definition of ‘Surveyor’ as given in the latest Glossary of Prosthodontic Terms.
b. Recall the standard definition of ‘Surveying’ as given in the latest Glossary of Prosthodontic Terms.
c. List the objectives of Surveying.
d. List the uses of a Surveyor.
e. List the parts of a Surveyor.
f. List 2 differences in design between a Ney and Wills (or Jelenko) Surveyor.
g. Recall the standard definition of ‘Survey Line’ as given in the latest Glossary of Prosthodontic Terms.
h. State Blatterfein’s classification of Survey Lines.
i. Explain the importance of Tripoding.

j. Recall the standard definition of 'Path of Insertion' as given in the latest Glossary of Prosthodontic Terms.
k. Recall the standard definition of 'Guiding Planes' as given in the latest Glossary of Prosthodontic Terms.
l. Explain the factors influencing the Path of Insertion.

9. Removable partial denture mouth preparation

After completion of the theory class student should be able to:

a. Describe from memory all the conditions where mouth preparation is needed, both in terms of hard and soft tissues
b. Describe from memory all the various surgical procedures for correction of both hard and soft tissues
c. Describe from memory all the various non surgical procedures for management of both hard and soft tissues

10. Abutment Preparation for Cast Partial Denture

After completion of the theory class student should be able to:

a. List the methods to prepare Retentive Undercuts on abutment teeth.
b. List the specifications for preparation of Guiding Planes for abutments adjacent to tooth supported segments and for abutments adjacent to distal extension segments.
c. List the specifications for preparation of Occlusal, Cingulum and Incisal Rest Seats on abutments.

Fixed Partial Denture Prosthodontics

1. Principles of occlusion

After completion of the theory class student should be able to:

a. Define, according to the latest GPT, each of : Occlusion, group function occlusion, mutually protected occlusion/ canine protected occlusion, centric relation, maximum intercuspal position, incisal guidance, condylar guidance, transverse horizontal axis, (terminal hinge axis), Bennett angle, Bennett movement.
b. List different types of occlusal schemes seen in natural dentition and enumerate characteristics of each with their advantages and indications.

2. Periodontal considerations

After completion of the theory class student should be able to:

a. Define each of : Biologic width, crown-root ratio, free gingival margin, fremitus, hemisection, crown lengthening, occlusal trauma, trauma from occlusion.
b. Explain the anatomy of gingiva, periodontium, dentogingival junction.
c. Enumerate steps in examination, diagnosis and treatment planning of periodontal conditions.

3. Principles of Tooth Preparation

After completion of the theory class student should be able to:

a. List the principles that govern tooth preparation with respect to biologic, mechanical and esthetic considerations.
b. Describe in detail the various biological considerations to be followed during tooth preparation.
c. Describe in detail the various mechanical considerations to be followed during tooth preparation
d. Describe in detail the various aesthetic considerations to be followed during tooth preparation
e. List the advantages, disadvantages and indications of different margin designs.

4. Restoration of Endodontically Treated Teeth

After completion of the theory class student should be able to:

a. Explain the differences in endodontically treated teeth versus vital teeth with reference to tooth structure loss, physical and esthetic change in tooth structure.
b. Explain pretreatment evaluation of endodontically treated teeth with regards to endodontic, periodontic, restorative and esthetic evaluation.
c. Explain the prognosis of endodontically treated teeth as dependant on the amount of residual tooth structure, tooth position and occlusal forces with more emphasis on ferrule effect.
d. Recall from memory the definition of post and core as given in Pathways of the Pulp: Chapter 21 ; 9th edition.
e. List different post systems under the categories of rigid, non-rigid and custom post.
f. List and explain the advantages, disadvantages, indications and precautions of different post systems such as custom cast, prefabricated parallel and prefabricated tapered etc.

g. List and explain the advantages, disadvantages, indications and contraindications of different core materials such as amalgam, glass ionomer, composite resin and cast core.
h. Explain the step by step procedure for
    i) Post space preparation with regards to conservation of tooth structure, retention and resistance form.
    ii) Preformed post placement including rigid and non-rigid posts and core built up.
    iii) Cast post and core fabrication by the direct and indirect technique.

5. Tissue management and impression making in fpd

After completion of the theory class student should be able to:

a. Enumerate the prerequisites of making a proper impression-tissue health, saliva control, displacement of gingival tissues.
b. Enumerate and briefly explain different techniques of saliva control
c. Enumerate and briefly explain different techniques of displacement of gingival tissues.
d. Enumerate the different impression materials used for making impressions for FPDs and their indications, advantages and disadvantages.
e. Enumerate the different impression techniques for FPD and briefly explain each of them.

6. Temporisation (Provisionalisation) for Fixed Partial Denture Patients

After completion of the theory class student should be able to:

a. Recall from memory the exact definition of provisional (interim/temporary) restorations according to the latest Glossary of Prosthodontic Terms.
b. Describe from memory the requirements of provisional (interim/temporary) fixed restorations
c. Describe the external and internal surface forms used to make provisional (interim/temporary) Restorations.
d. List the various materials used for making provisional fixed restoration.
e. Describe the advantages and disadvantages of the various materials used for making provisional (interim/temporary) restorations.
f. Describe the procedure of the various methods of making provisional (interim/temporary) restorations.

g. Describe the advantages and disadvantages of the various methods of making provisional (interim/temporary) restorations.

7. Pontic design

After completion of the theory class student should be able to:

a. Define pontic according to the latest Glossary of Prosthodontic Terms.
b. Enumerate and explain the principles of pontic designing.
c. Classify and describe pontics according to design and materials.
d. Explain specific indications, advantages and disadvantages for each pontic design.

8. Fixed partial denture retainers

After completion of the theory class student should be able to:

a. Describe from memory the GPT definition retainers used in fixed prosthesis.
b. Recall from memory the list of different retainers used in fixed prosthesis.
c. List from memory the Indications, contra indications, advantages and disadvantages of different retainers used in fixed prosthesis.

9. Connectors in Fixed Partial Denture

After completion of the theory class student should be able to:

a. Define connector of FPD according to latest Glossary of Prosthodontic Terms.
b. Enumerate types of connectors with their indications.
c. Enumerate principles of connector designing.

10. Shade Determination

After completion of the theory class student should be able to:

a. Define colour and its three characteristics i.e. hue, chroma and value
b. Enumerate the general principles of shade selection
c. Describe the shade selection sequence
d. explain metamerism , flouresence, translucence and opalescence with respect to shade determination

11. Resin Bonded Bridges

After completion of the theory class student should be able to:

a. Have knowledge of the definition of resin bonded bridges (RBB's)
b. Explain the various types of Resin bonded bridges

c. List, and explain atleast 6 advantages of resin bonded bridges .
d. List, and explain atleast 4 disadvantages of resin bonded bridges
e. List atleast 4 indications and contraindications of resin bonded bridges.
f. Explain and sequence the design, preparation and bonding for resin bonded bridges.
g. Explain Diagnosis and Treatment Planning for resin bonded bridges.

12. Luting Agents and Cementation Procedures (Fixed Partial Dentures)

After completion of the theory class student should be able to:

a. Enumerate the ideal requirements of luting agents.
b. List the various temporary luting agents alongwith their advantages and disadvantages.
c. List the various permenant luting agents alongwith their advantages and disadvantages.
d. Describe in brief the step by step procedure for cementation of a fixed partial denture.

Maxillofacial Prosthesis

After completion of the theory class student should be able to:

a. Describe in brief what are the various types of maxillofacial prostheses.
b. Describe in short the types of maxillary defects
c. Describe from memory the Glossary of Prosthodontic Terms definition of an obturator.
d. Describe the different types of obturators along with their indications.
e. Describe the materials used for maxillofacial prosthesis in brief.

Implantology for under graduates

After completion of the theory class student should be able to:

a. Describe the Basic anatomy planning for implants under the following headings
    a. Bone morphology Maxillary and Mandibular arch
    b. Classification of edentulous spaces
    c. Gingival morphology and ideal gingival levels
    d. Enumerate ways to modify bone and gingival morphology

b. Describe the classification of implants
c. Describe the various components of implants
d. Describe the basic implant imaging sequences or techniques under the following headings
    a. Iopa with grid
    b. Rvg
    c. opg
    d. Ct scan
    e. Cone beam
e. Describe the Pre planning with prosthesis in mind pertaining to the following
    a. Mock casts
    b. Mock surgery
    c. Surgical guides
f. Describe the Basic surgical instruments
g. Describe the Basic surgical protocol
h. Enumerate different advanced surgical protocols
i. Describe the Post implant maintenance
j. Describe the Prosthetic phases
k. Describe the Final maintenance of the implant and the prosthesis

Specific Learning Objectives

Subject: II B.D.S Pre-Clinical Prosthodontics

1) **Orientation, Introduction to Prosthodontics,Complete Denture**
    1. Definition of Prosthodontics, Prosthesis.

2. Branches of Prosthodontics
3. Types of Prostheses.
4. Clinical and Laboratory steps of Complete Denture Fabrication.

2) **Applied anatomy-Maxillary arch**

1.Discuss anatomical landmarks of maxilla and mention significance of each landmark as related to complete dentures.

a) Limiting Structures : Labial frenum, Labial Vestibule, Bucaal frenum, Buccal Vestibule, Posterior Palatal seal area,

b) Supporting Structures : Hard palate, Soft palate, Residual alveolar ridge, Maxillary Tuberosity, Palatal rugae.

c) Relief Structures: Incisive Papilla, Mid-palatine raphae, Fovea palatini,Tori

2. Types of Bone: Compact and cancellous.

3. Classification of oral mucosa.

3) **Applied anatomy-Mandibular arch**

1. Discuss anatomical landmarks of maxilla and mention significance of each landmark as related to complete dentures.

a) Limiting Structures: Lingual Frenum, Labial Frenum, Labial vestibule, Buccal frenum, Buccal vestibule, Alveolingual sulcus.

b) Supporting Structures: Residual Alveolar ridge, Buccal shelf area, Retromolar pad,

c) Relief Structures: Mental foramen, Mylohyoid ridge, Genial Tubercles, Tori.

4) **Impressions in Complete Dentures**

After completion of the theory class student should be able to:

1. Define: Impression, Complete denture impression.
2. Principles of impression making.
3. Discuss in detail the theories of impression making in complete dentures.
4. Enumerate the 5 Objectives of impression making in complete dentures.
5. Classification of Impression Techniques in Complete Dentures.
6. Materials in Impression making in complete dentures.

5) **Objectives of Impression making in Complete Dentures.**

1. Define retention in relation to complete dentures according to the latest GPT. Enumerate and describe the factors that affect retention.

2. Define stability in relation to complete dentures according to the latest GPT. Enumerate and describe the factors that affect stability.
3. Define support in relation to complete dentures according to the latest GPT. Enumerate and describe the factors that affect support.
4. Describe in brief the influence of impression making on aesthetics and preservation of remaining structures.

6) **Jaw relation procedures**

Orientation Jaw Relation

After completion of the theory class student should be able to:

1. Recall from memory the exact definition of Orientation Jaw Relation.
2. Describe the importance of recording orientation jaw relation in removable and fixed Prosthodontics.
3. Recall from memory the exact definition of Hinge Axis according to the latest Glossary of Prosthodontic Terms.
4. Recall from memory the exact definition of a Face Bow according to the latest Glossary of Prosthodontic Terms.
5. List from memory the classification of Face Bows and describe them in brief.
6. Describe the differences between kinematic and arbitrary face bows.
7. Describe from memory the different parts of the face bow along with their function.
8. Recall from memory what are anterior and posterior reference points when doing a face bow transfer.
9. Explain in brief the procedure of a face bow transfer.

Vertical Jaw Relation (Complete Dentures)

After completion of the theory class student should be able to:

1. Recall from memory the standard definition of vertical jaw relation, vertical dimension at rest and vertical dimension of occlusion as given in the Glossary of Prosthodontic Terms- 8th edition.
2. Enumerate and Describe at least 5 methods of recording vertical dimension at rest.
3. Enumerate and Describe all the mechanical and physiological methods of recording vertical dimension of occlusion.

4. List at least 5 effects each of increased and decreased vertical dimension of complete dentures.

Horizontal Jaw Relation (Complete Dentures)

After completion of the theory class student should be able to:

1. The standard definition of centric relation and eccentric jaw relation as given in the latest Glossary of Prosthodontic Terms.
2. Significance of centric jaw relation in relation to completely edentulous patients..
3. Explain the concept of harmony between centric relation and maximum intercuspation in relation to complete dentures.
4. List and describe in detail the various methods of recording centric jaw relation.

7) **Teeth Selection**

After completion of the theory class student should be able to:

1. Describe the methods or techniques followed to select the size, shape and shade of anterior artificial teeth for completely edentulous patients..
2. Enumerate the various pre-extraction records that can be used as a guide for teeth selection of an edentulous patient.
3. Describe the role of dentogenic concept pertaining to anterior teeth selection for an edentulous patient.
4. Describe the factors affecting posterior teeth selection based on size, form and material for an edentulous patient.

8) **Teeth Arrangement**

1.Principles of Anterior teeth arrangement

2. Principles of Posterior teeth arrangement.

9) **Articulations**

After completion of the theory class student should be able to:

1. Define articulator according to the latest Glossary of Prosthodontic Terms.
2. Explain the purpose of an articulator.
3. Classify articulators according to adjustability and list the differences between them.
4. Discuss three point articulator or Mean value articulator with the explanation for both the names including numerical mean values.
5. Classify articulators based on the theories of occlusion.
6. Classify articulators based on the position of condylar element.

7. Describe all the parts and basic requirements of an articulator.
8. Mention advantages and limitations of an articulator.

10) **Occlusion in Complete Dentures**

At the end of the theory class student should be able to:

1. Define occlusion according to the latest Glossary of Prosthodontic Terms.
2. What is the need to study occlusion for an edentulous patient?
3. Mention the differences between natural and artificial teeth.
4. What are the requirements of complete denture occlusion?
5. Mention the various theories of occlusion for completely edentulous patients.
6. List advantages and disadvantages of each theory of occlusion for a completely edentulous patient.

11) **Introduction to RPD,Classification,Applegate Rules**

After completion of the theory class student should be able to:

1. Enumerate the requirements of an acceptable method of classification for RPD
2. Enumerate accurately the Kennedy classification for partially edentulous arches
3. Enumerate the Applegate's rules for applying to the Kennedy classification.
4. Classify partially edentulous arches when shown.
5. Enumerate the parts/components of RPD.

12) **Introduction to FPD and Parts of FPD.**

After completion of the theory class student should be able to:

1. Define a fixed partial denture.
2. Enumerate the components of a fixed partial denture.
3. Types of fixed partial dentures according to the material

Specific Learning Objectives for Ist and II B.D.S. Theory Classes

Dental Materials

1. **Structure of matter , Physical and Mechanical Properties of Dental Materials.**

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

After completion of the theory class student should be able to understand the following topics.

1) The various physical properties
2) Absorptions and absorption resistance
3) Viscosity
4) Structural and stress relaxation
5) Creep and flow
6) Color and color perception
7) Thermophysical properties
8) Tarnish and corrosion
9) Give the classification and causes of tarnish and corrosion
10) Describe methods for protection against corrosion
11) Corrosion of dental restorations
12) Clinical significance of galvanic current
13) Understanding of mechanical properties
14) Stress and strain
    a. Tensile stress
    b. Compressive stress
    c. Shear stress
    d. Flexural stress
15) Mechanical properties based on elastic deformation
    a. Young's modulus/ modulus of elasticity
    b. Dynamic Young's modulus
    c. Flexibility
    d. Resilience
    e. Poisson's ration
16) Strength properties
    a. Proportional limit
    b. Elastic limit
    c. Yeild strength
    d. Plastic reformation
    e. Cold working
    f. Diametric tensile stress
    g. Flexural strength
    h. Impact strength
17) Mechanical properties of tooth structure
18) Mastication forces and stress
19) Toughness
20) Fracture toughness

21) Brittleness
22) Ductility & Malleability
23) Measurement of ductility and hardness
24) Stress concentration factors
25) Criteria for selection of restorative material

2. Impression materials

After completion of the theory class student should be able to

1) Classify of impression materials.
2) Give the composition, properties, manipulation , indications, advantages, disadvantages, clinical applications of the following materials:
    a) Non-acqueous elastomeric impression materials- Polysulfide, Condensation silicone, Addition silicone, Polyether.
    b) Hydrocolloids- Agar-agar and alginate.
    c) Inelastic impression materials- Zinc oxide Eugenol impression paste, Impression compound, Impression plaster.
3) Enumerate and explain the impression techniques.
4) Write about the infection control in impressions.

3. Gypsum products

After completion of the theory class student should be able to

1) Classification of gypsum products.
2) Explain manufacturing process of gypsum products.
3) Describe the different theories of setting reactions of gypsum products.
4) Describe the different types of gypsum products.
5) Explain mechanism of setting expansion and hygroscopic setting expansion.
6) Describe factors controlling setting time of gypsum products.
7) Explain manipulation of gypsum products.

4. Waxes in dentistry

After completion of the theory class student should be able to

1) Classification of dental waxes.
2) Composition of dental waxes- Inlay wax, Sticky wax, casting wax.
3) Enumerate the properties of dental waxes.
4) Enumerate and explain Ideal requirements of inlay waxes.

5. Dental Polymers & Denture Base resins

After completion of the theory class student should be able to

1) Enumerate application of resin in dentistry
2) Classify Polymers in dentistry
3) Enumerate the ideal requirements of Polymers
4) Explain the Physical and mechanical properties with respect to Polymers.
5) Chemistry of polymers
    a. Addition polymerization
    b. Stages in additional polymerization
    c. Inhibition o f addition polymerization
    d. Step-growth Polymerizaiton
6) Copolymerization
7) Acrylic dental resins
    a. Acrylic resins
    b. Methyl Methacrylate
    c. Poly (methyl Methacrylate)
    d. Multifunctional Methacrylate and acrylate resins.
8) Types of Acrylic Resins
9) Heat-activated denture base resin
10) Chemically activated denture base resin
11) Comparison of Heat activated and chemically activated denture base resin
12) Light activated denture base resin
13) Microwave resins
14) Physical properties of denture base resins
    a. Polymerization shrinkage
    b. Porosity Water absorption
    c. Solubility
    d. Processing stress
    e. Crazing Strength
    f. Creep
    g. Miscellaneous properties
15) Compression molding technique
16) Injection molding technique
17) Denture repair
18) Reline
19) Rebasing
20) Resin teeth for prosthetic application

6. <u>Ceramics</u>

After completion of the theory class student should be able to

1) Define Ceramics
2) Enumerate uses of dental ceramics
3) Classify dental ceramics
4) Explain composition of dental ceramics
5) Enumerate properties of dental ceramics.
6) Explain manufacturing process of dental ceramics.
7) Describe methods of strengthening dental ceramics.
8) Describe methods of porcelain condensation.
9) Explain methods of bonding porcelain to metal.
10) Explain metal ceramic restoration, all ceramic restoration.
11) Explain sintering procedure of porcelain.

7. <u>Investment materials</u>

After completion of the theory class student should be able to

1) Define an Investment material.
2) Requirements of the invest materials
3) Overview on the application of investment material
4) Give the basic composition of investment materials.
5) Explain how do we compensate for the casting shrinkage
6) Classification of investment material based on composition.
7) Gypsum bonded investment material.
    a. Composition
    b. Silica
    c. Modifiers
    d. Setting time.
    e. Normal setting expansion
    f. Hygroscopic expansion
    g. Effect of composition
    h. Effect of Water/Powder ratio
    i. Effect of spatulation
    j. Shelf life of the investment
    k. Effect of time of immersion
    l. Effect of confinement
    m. Effect of added water
    n. Thermal expansion
    o. Effect of chemical modifiers.
    p. Thermal contraction
    q. Porosity and storage
8) Phosphate bonded investment.
    a. Composition

   b. Setting reaction
   c. Setting and thermal expansion
   d. Working and setting time
8. Ethyl silicate-bonded investment.
9. Summary

10. <u>Dental Casting Alloys & metallurgy</u>

After completion of the theory class student should

1) Know the History of casting alloys.
2) Enumerate the desirable properties of dental casting alloys
3) Classification of dental casting alloys
   a. Noble metal
   b. Predominantly base metal alloys
   c. Karat and fineness
   d. Identification of alloys by principle elements
4) Describe the alloys for all-metal and resin-veneered restorations
5) High noble and Noble alloys for Metal-ceramic
6) Base metal alloys for cast metal and metal-ceramic prostheses
7) Biological Hazards and precautions
8) Guidelines for selection and use of base metals for crown and bridge application
9) Partial denture alloys
10) Alternative to cast metal technique

11. <u>Casting Procedures</u>

After completion of the theory class student should be able to understand

1) Know the History.
2) Enumerate the basic steps Of Casting Procedure
3) Sprue former and its attachment
4) Crucible formers
5) Casting rings and liners
6) Investing procedure
7) Wax Burnout
8) Casting Of Alloy Into Mould Heat Source
9) Machines To Induce Casting Force
10) Recovery And Cleaning Of Casting
11) Causes of casting defects
   a. Classification of dental casting
   b. Distortion
   c. Surface roughness
   d. Irregularities

e. Discoloration
f. Air bubbles
g. Water films
h. Rapid heating rates
i. Liquid/ Powder ratio
j. Prolonged heating
k. Temperature of the alloy
l. Casting pressure
m. Composition of the investment
n. Foreign Bodies
o. Impact of molten alloy
p. Pattern position
q. Carbon inclusion
r. Other causes
s. Porosity
t. Incomplete casting
u. Summary

12. Finishing & Polishing materials

After completion of the theory class student should be able to

1) Enumerate all the cutting, grinding,finishing and polishing agents .
2) Enumerate properties of all finishing and polishing agents.
3) Describe finishing and polishing procedures.

13. Biocompatibility of Dental materials.

After completion of the theory class student should be able to

1) Describe adverse effects from exposure to dental materials.
2) Explain different tests for Biocompatibility.
3) Explain occupational hazards for dental personnel

14. Dental implants

After completion of the theory class student should be able to understand

1) History of dental implants.
2) Classification of implants.
    a. Implant design.
    b. Implant properties.
    c. Attachment mechanisms
3) Implant components
4) Clinical success of dental implant

5) Implant materials
    a. Metallic implants
    b. Ceramic and ceramic-coated implant systems
    c. Polymers
    d. Other implant materials
6) Selection of an implant material
7) Biocompatibility of implants
8) Biomechanics
9) Summary.

15. Wrought metal alloys :

Taught by Orthodontics Department.
Please provide the SLO's with respect to this topic.

16. Soldering and welding

Taught by Orthodontics Department.
Please provide the SLO's with respect to this topic.

ORAL MEDICINE

SPECIFIC LEARNING OBJECTIVES

1. Bite wing radiography

1. Enumerate Indication
2. Technique

2. Occlusal radiography

1. Enumerate Indication,Mandibular- anterior mandibular occlusal, cross-sectional mandibular occlusal, and lateral mandibular occlusal

3. Panaromic radiography

- Definition
- Advantages
- Principles of image formation
- Interpreting the panaromic image
- Super imposition and ghost images

4. Extraoral rdiography

- Enumerate Indications
- Technique

5. Introduction to Oral Medicine and Radiology

- Student is introduced to the department,
- functioning of the department,
- protocol of the department.

6. Oral diagnostic process

- Understand the concept of Oral Diagnostic process
- Describe the various components of Oral diagnostic process
- Describe the significance of Case history recording, general intra oral and extra oral examination

- Formulate provisional diagnosis based on the relevant findings
- Describe various investigative methods
- Formulate final diagnosis and prescribe appropriate treatment plan

7. Clinical diagnosis of pulpal, periapical and pericoronal diseases

- Enumerate common pulpal, periapical and pericoronal diseases
- Diagnose pulpal, periapical and pericoronal diseases based on their clinical features

8. History of radiology, nature of radiation and property of X rays

- Describe the evolution of radiology
-
- Enumerate the properties of X rays

9. Production of X- rays, Factors affecting quality and quantity of X-ray beam

1.Understand and describe the physical basis of production and nature of electro magnetic radiation, X rays in particular

10. Intra-oral Periapical Radiography

- Enumerate the intra-oral periapical radiographic techniques
- Describe the indications of intra-oral periapical radiography
- Compare and contrast bisecting the angle and paralleling cone technique

11. Image Processing

- Understand the concept of latent image
- Enumerate the methods of image processing: conventional and digital
- Describe the steps involved in image processing, including the composition of processing solutions

12. Image Receptors and Accessories

- E numerate various image receptor systems
- Describe the contents of X ray film packet and their significance
- Describe the constitution of X ray films
- Describe the composition and applications of following imaging accessories:
    - Intensifying screens
    - Film holders
    - Grids
    - X ray film cassettes

13. Ideal Radiograph and Projection Geometry

- Describe the characteristics of ideal radiographs
- Describe the principles of projection geometry
- Describe the clinical implications of principles of projection geometry

14. Radiation Protection

- Understand the benefits and possible hazards involved with use of x rays.
- Describe the steps taken to reduce the hazards.
- Identify the different sources of radiations
- Describe the means to minimize exposure from dental examinations.

15. Radiation Biology

- Identify the effects of ionizing radiation on living systems
- Describe the changes that result in modification of biological molecules.
- Describe the alterations in cells and organisms that persists for hours, decades and possibly even generations.

16. Bite-wing radiography

- Describe the radiographic technique
- Describe the indications of bite-wing radiograph
- Limitations of bite-wing radiograph

17. Occlusal radiography

- Describe the radiographic technique
- Describe the indications of occlusal radiograph
- Limitations of occlusal radiograph

18. Panoramic radiography

- Understand the principle of working of panaromic radiograph
- Describe the radiographic technique
- Describe the indications of panaromic radiograph
- Limitations of panaromic radiograph

19. Extra-oral radiography

- Describe the most common extra oral radiographs
- Selection of appropriate projection for the pertinent diagnostic task
- Describe the technique
- Describe the indications of various extra oral radiographs
- Describe the limitations of various extra oral radiographs

20. Object Localization

- Understand the need for object localization
- Describe the various techniques of object localization

21. Radiographic anatomy

- Identify radiographic appearances of normal structures
- Appreciate the wide range of variation in the appearance of normal anatomy

22. Basics of Interpretation of radiographs

- Provide a step by step analytical process that can be applied to the interpretation of diagnostic images
- Systematic approach to identify all the normal anatomy, pathology and its variations

23. Radiographic diagnosis of dental caries, periapical disease and periodontal disease

- Diagnose pulpal, periapical and periodontal diseases based on their radiographic features
- Limitations of radiographs to diagnose pulpal, periapical and periodontal diseases based on their radiographic features

24. Ulcerative and vesiculo-bullous lesions of oral mucosa (including types of oral lesions)

- Classify ulcerative and vesiculo-bullous lesions of oral mucosa
- Diagnose various ulcerative and vesiculo-bullous lesions of oral mucosa based on their clinical features.
- Describe the treatment options for various ulcerative and vesiculo-bullous lesions of oral mucosa.

25. Infections of oral and peri-oral tissues Classify infections of oral and perioral tissues

- Diagnose various infections of oral and perioral tissues based on their clinical features.
- Describe the treatment options for infections of oral and perioral tissues.

26. Red and White lesions of oral mucosa (including concept of premalignancy)

classify Red and White lesions of oral mucosa

- Diagnose Red and White lesions of oral mucosa based on their clinical features.
- Describe the treatment options for various Red and White lesions of oral mucosa

27. Oro-facial Pain

- Define and classify orofacial pain

- Differential diagnosis of orofacial pain
- Management of orofacial pain.

28. Cysts of oral and maxillo-facial tissues

- Define and classify cysts of oral and maxillo-facial tissues.
- Describe clinical features of each
- Describe radiographic features of each.

29. Benign neoplasia of oral and maxillo-facial tissues

- Define and classify benign neoplasia of oral and maxillo-facial tissues.
- Describe clinical features of each
- Describe radiographic features of each

30. Malignant neoplasia of oral and maxillo-facial tissues

- Define and classify benign neoplasia of oral and maxillo-facial tissues.
- Describe clinical features of each
- Describe radiographic features of each

31. Salivary Gland Diseases

- Classify the various salivary gland diseases.
- Identify the signs and symptoms that are suggestive of salivary gland dysfunction.
- Describe the diagnostic approaches to the patient with salivary gland disease.
- Describe the imaging of salivary glands

32. Advances in Imaging

- Enumerate various Advances in Imaging
- Learn the principles of each

- Know the indications of each

33. Temporomandibular Joint Disorders with imaging of TMJ

- Describe the functional anatomy of TMJ
- Classify various TMJ disorders.
- Assess TMJ
- Describe the imaging of TMJ.
- Describe the radiographic features of various TMJ disorders.
- Describe the management of TMJ disorders.

34. Oral manifestations of HIV

- Enumerate oral manifestations of HIV

35. The medically compromised patient : oral manifestations and modifications in dental treatment

- Identify various medically compromised conditions.
- Describe oral manifestation of various medical conditions .
- Dental management of medically compromised patient

36. Diseases of bone manifested in jaws.:

- Classify various diseases of bone manifested in jaws.
- Describe the signs and symptoms of various diseases of jaw bones.
- Describe the radiographic features of various diseases of jaw bone.
- Describe the management if necessary.

37. Endocrinal disorders : oral manifestations and modifications in dental treatment

- Identify various Endocrinal disorders
- Describe oral manifestation of Endocrinal disorders
- Dental management of Endocrinal disorders

38. Bleeding and Clotting disorders

- Identify various Bleeding and Clotting disorders
- Describe oral manifestation of Bleeding and Clotting disorders
- Dental management of Bleeding and Clotting disorders

39.Diseases of tongue

Classify Diseases of tongue

- Diagnose Diseases of tongue based on their clinical features.
- Describe the treatment options for various Diseases of tongue

40. Forensic Odontology

- Defination of Forensic Odontology
- Scope of Forensic Odontology

41. Pigmentation of oral tissues

- Classify Pigmentation of oral tissues
- Diagnose Pigmentation of oral tissues
- Describe the treatment options for various Pigmentation of oral tissues

42. Diseases of maxillary sinus

- Describe the development and variations of maxillary sinus.
- Classify and describe the diseases associated with maxillary sinus.
- Describe the signs and symptoms associated with diseases of maxillary sinus.
- Describe the imaging of maxillary sinus.
- Describe the management of diseases of maxillary sinus.

43. Immunological disorders

- Identify various Immunological disorders

- Describe oral manifestation of Immunological disorders
- Dental management of various Immunological disorders

PUBLIC HEALTH DENTISTRY
SPECIFC LEARNING OBJECTIVES

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

Year: IV BDS

Competency: Theory

COMPETENCIES AND OBJECTIVES

Competencies expected for BDS course from every student at the end of IV BDS:

Cognitive Domain

At the end of IV BDS, all the dental students should be able

- Apply basic sciences knowledge regarding etiology, diagnosis and management of the prevention, promotion and treatment of all the oral conditions at the individual and community level.
- Identify social, social, economic, environmental and emotional determinants in a given individual patient or a community for the purpose of planning and execution of Community Oral Health Program.
- Know the basic principles and designs of conducting research.

Affective Domain

- Adopt ethical principles in all aspects of Community Oral Health Activities and research.

At the end of IV BDS, all the dental students should be able to:

1.Introduction to Dental Public Health

1. Define health (by WHO) from memory with 100% accuracy.
2. Enumerate from memory all the phases of public health with years with 100% accuracy.
3. Define from memory Public health (Winslow) and Dental Public health with 100% accuracy.
4. Enumerate from memory all the tools of public health with 100% accuracy.
5. Differentiate between private practice and public health dentistry from memory giving at least 4 points with 100% accuracy.

Lecture (Power point presentation, Chalk and talk method)

2.Milestones in dental public health, Concepts of health and disease

1. Enumerate from memory at least 10 important milestones in Dental public health with 100% accuracy.

2. Enumerate from memory at least 4 important milestones in dental public health in Indian context with 100% accuracy.

3. Enumerate from memory all the concepts of health and describe 2 points about each.

4. What is epidemiological triad? Name all the three factors under the triad from memory with 2 examples of each with 100% accuracy.

5. Describe the concept of multifactorial causation with an example.

6. Enumerate from memory both the phases of natural history of disease with an example.

7. Describe with a diagram and example the web of causation.

8. Explain iceberg of diseases with an example and diagram.

9. Explain spectrum of disease with a diagram.

Lecture (Power point presentation, Chalk and talk method)

3.Levels of Prevention

1. Enumerate from memory all the levels of prevention with the modes of intervention giving 2 examples of each.

2. Enumerate from memory at least 2 examples of primordial level of prevention.

Lecture (Power point presentation, Chalk and talk method)

4. Social Sciences

1. Enumerate from memory five branches of social sciences.

2. Enumerate from memory all the structural aspects of society.

3. Enumerate from memory the functional aspects of society.

4. Enumerate from memory theories of behaviour change.

5. Enumerate from memory at least 8 attitudes of underprivileged people towards health care with 100% accuracy.

6. Enumerate from memory all the different social classes with 100% accuracy.

Lecture (Power point presentation, Chalk and talk method)

5. Introduction and Data presentation

1. Who is father of biostatistics?

2. Define data accurately.

3. Enumerate from memory all the types of data.

4. Enumerate from memory all the methods of data collection.

5. Enumerate from memory all the methods of data presentation with 2 examples each.

Lecture (Power point presentation, Chalk and talk method)

6. Sampling and sampling designs

1. Define sampling accurately.

2. Enumerate from memory all types of probability sampling.

3. Enumerate from memory all types of non-probability sampling.

4. Enumerate from memory all types of errors in sampling.

Lecture (Power point presentation, Chalk and talk method)

7. Measures of central tendency and measures of dispersion

1. Enumerate from memory all types of the measures of central tendency with 100% accuracy.

2. Explain mean with an example.

3. Explain median with an example.

4. Explain mode with an example.

5. Enumerate from memory all types of the measures of dispersion with 100% accuracy.

6. Explain standard deviation with an example.

7. Explain standard error with an example.

8. Explain variance with an example.

9. Explain degree of freedom with an example.

Lecture (Power point presentation, Chalk and talk method)

8. Normal curve and tests of significance

1. What is normal curve?

2. What is alternate name for normal curve?

3. Enumerate from memory any 6 characteristics of normal curve with 100% accuracy.

4. What is standard normal curve?

5. What is level of significance?

6. Enumerate all tests of significance.

7. Who gave student t-test?

8. Enumerate 2 applications of t-test.

9. Enumerate the types of t-test.

10. What is the use of chi-square test?

11. What is ANOVA? State 2 applications of ANOVA.Lecture (Power point presentation, Chalk and talk method)

9. Hypothesis and steps in formulating hypothesis

1. Enumerate from memory all types of research.

2. What is hypothesis?

3. Enumerate from memory types of hypothesis accurately.

4. What is null hypothesis?

5. Enumerate from memory all the steps in formulating hypothesis accurately

Lecture (Power point presentation, Chalk and talk method)

10. Finance in Dentistry part-1

1. Enumerate from memory all the mechanisms of payment for dental care.

2. What is private fee for service?
3. What is post payment plans?
4. What is commercial insurance?
5. What is private third party payment?

Lecture (Power point presentation, Chalk and talk method)

11. Finance in Dentistry part-2

1. What is delta dental plan?
2. What is blue cross?
3. What is Health maintenance organisation?
4. What is independent practice association?
5. What is Medicaid?
6. What is medicare?
7. What is ESI?
8. What is CGHS Lecture (Power point presentation, Chalk and talk method)

12. Health care for the Community

1. Enumerate from memory the levels of health care in India accurately.
2. Describe the 3-tiers health system administration in India.
3. Enumerate from memory all staffing pattern for a subcentre.
4. Enumerate from memory at least 3 important functions of the primary health centre (PHC).
5. Enumerate from memory the difference between a health centre and hospital accurately (at least 4).
6. Enumerate from memory (at least 4) the indigenous systems of medicine.

Lecture (Power point presentation, Chalk and talk method)

13. Planning

1. What is goal?
2. What is plan?

3. What is objective?
4. Enumerate from memory (at least 3) uses of planning.
5. Enumerate from memory all types of health planning accurately.
6. Enumerate from memory all the steps in planning process accurately.
7. Draw the planning cycle accurately.

Lecture (Power point presentation, Chalk and talk method)

14. Evaluation

1. Enumerate from memory all the types of evaluation accurately.
2. Explain relevance evaluation with an example.
3. Explain process evaluation with an example.
4. Explain effectiveness evaluation with an example.
5. Explain impact evaluation with an example.
6. Explain formative evaluation with an example.
7. Explain summative evaluation with an example.
8. Enumerate all the steps in evaluation.

Lecture (Power point presentation, Chalk and talk method)

15. Cultural Anthropology

1. What are folkways, mores, taboo?
2. Enumerate all branches of cultural anthropology accurately.
3. What are beliefs and values?
4. How culture affects oral health (at least 4 examples)?

Lecture (Power point presentation, Chalk and talk method)

16. Child psychology

1. Enumerate all Psychodynamic and behaviour learning theories and write at least 4 points for each.
2. What is id, ego and superego?

3. Enumerate 5 stages of classical psychoanalytical theory by Sigmund Freud and write at least 4 points about it.

4. Enumerate 5 stages of developmental task theory by Erik Erikson and write at least 4 points about it.

5. Describe classical conditioning theory by Ivan Pavlov and write at least 4 points about it.

6. Describe theory of Operant conditioning theory by BF Skinner and write at least 4 points about it.

7. Describe theory of cognitive development by Jean Piaget and write at least 4 points about it.

Lecture (Power point presentation, Chalk and talk method)

17. Behaviour Management

1. Enumerate any 6 techniques in communicative management.

2. What is HOME?

3. What is Frankl behavioral rating scale?

4. What is systematic desensitization?

5. What is negative reinforcement?

6. What is Tell- Show – Do technique?

7. What is modelling? Lecture (Power point presentation, Chalk and talk method)

18. Establishing and Managing Dental office

1. What is goal of practice management?

2. Enumerate from memory at least 4 aspects of dental office setting.

3. Enumerate from memory the 3 ways of private practice.

4. Enumerate from memory at least 4 requirements of place for dental practice.

5. Enumerate from memory at least 4 factors affecting selection of equipments.

6. Enumerate from memory at least 4 factors affecting selection of location for dental practice.

Lecture (Power point presentation, Chalk and talk method)

19. General Epidemiology

1. Define epidemiology accurately.

2. Enumerate from memory aims of epidemiology (at least 2).

3. Enumerate from memory all branches of epidemiology accurately.

4. Classify epidemiological studies accurately.

5. Enumerate from memory at least 2 principles of epidemiology.

6. Enumerate from memory all the tools of measurement in epidemiology.

7. Define incidence & prevalence accurately.

8. Enumerate from memory types of prevalence accurately.

9. Define morbidity, impairment handicap and disability accurately.

10. Enumerate from memory different types of rates (at least 4).

Lecture (Power point presentation, Chalk and talk method)

20. Descriptive epidemiology

1. Enumerate from memory all steps in descriptive epidemiology accurately.

2. Define epidemic, endemic and pandemic accurately.

3. Classify epidemics accurately.

4. Enumerate from memory time trends in a disease occurrence accurately.

5. Draw following graphs accurately:

- Common source epidemic
- Common source, continuous or repeated exposures
- Propagated epidemics

6. What is bimodality?

7. Enumerate from memory at least 4 uses of descriptive epidemiology accurately.

Lecture (Power point presentation, Chalk and talk method)

21. Analytical epidemiology

1. Enumerate from memory 4 steps in conducting case control studies.

2. Enumerate from memory bias in case control studies (at least 2) accurately.

3. Enumerate from memory the advantages and limitations of case control studies accurately (at least 3 each).

4. Enumerate from memory differences in case control and cohort studies (at least 4).

5. Define cohort. Enumerate from memory all types of cohort studies.

6. Define odds ratio and relative risk accurately.

7. Enumerate from memory at least 2 bias in cohort studies.

8. What is causal association?

9. What is confounding factor?Lecture (Power point presentation, Chalk and talk method)

22. Experimental epidemiology

1. What is experimental epidemiology?

2. Enumerate from memory all types of experimental studies accurately and write 4 points for each.

3. What is randomization?

4. What is blinding?

5. What is allocation concealment?

6. What is evidence based medicine?

7. Enumerate from memory all types of randomised controlled trials.

8. Enumerate from memory all types of association accurately

. Lecture (Power point presentation, Chalk and talk method)

23. Introduction to Indices & Indices for oral hygiene assessment

1. Define indices and classify them accurately.

2. Enumerate from memory at least 4 ideal requisites of an index accurately.

3. Enumerate from memory uses of an index (at least 3) accurately.
4. Enumerate from memory objectives of an index (at least 3).
5. Enumerate from memory criteria for selecting an index (at least 3).
6. Enumerate from memory author and year for OHI/OHI-S.
7. Enumerate from memory all the indices for measuring oral hygiene.
8. Enumerate at least 3 uses of OHI-S index.

Lecture (Power point presentation, Chalk and talk method)

Practical demonstration in clinics for recording of Oral hygiene index, Simplified oral hygiene index

24.Indices for measurement of plaque, debris, calculus & gingival indices.

1. Define plaque, calculus & Debris accurately.
2. Enumerate from memory all indices for measurement of plaque.
3. Enumerate from memory indices for measuring calculus.
4. Enumerate from memory all indices for measuring gingival inflammation.
5. Enumerate author and year for following accurately:

- Turesky- Gilmore- Glickman modification of Quigley-Hein plaque index
- Plaque index
- Gingival index
- Russel's Index

6. Enumerate specifications of CPI Probe (at least 4).
7. WHO dentition status Lecture (Power point presentation, Chalk and talk method)

Practical demonstration in clinics for recording of Gingival index, plaque index, Community Periodontal Index, Community Periodontal Index and treatment needs and WHO dentition status

25. Caries Fluorosis Indices and miscellaneous Indices

1) Enumerate accurately author, year and scoring criteria for the following:

2) DMFT index

3) DMFS index

4) deft index

5) defs index

6) Dean's fluorosis index.

7) Enumerate from memory all the modifications of DMFT index

8) Enumerate from memory all caries indices.

9) Enumerate from memory all fluorosis indices.

10) Enumerate from memory different orthodontic indices.

11) Write a note on Dental Aesthetic index.

Lecture (Power point presentation, Chalk and talk method)

Practical demonstration in clinics for recording of DMFT index, DMFS index, deft index, defs index,Deans fluorosis index

26. Survey part-1

1. Define survey accurately.
2. What is Pilot survey?
3. What is National pathfinder survey?
4. Enumerate from memory all index ages and age groups with 100% accuracy.
5. Give an example of stratified cluster sampling.
6. Why age 12 years is global monitoring age?

Lecture (Power point presentation, Chalk and talk method)

27. Survey part-2

1. Enumerate from memory all types of survey accurately.
2. Write all the steps in designing a survey accurately.
3. Enumerate from memory ADA types of examination accurately.

Lecture (Power point presentation, Chalk and talk method)

28. Epidemiology of Dental Caries -

Part 1

1. Define and classify dental caries accurately.
2. Enumerate from memory host factors for Dental caries (at least 3).
3. Describe with diagram Keyes triad and its modification.
4. Describe role of micro-organisms in dental caries.
5. Explain saliva and its role in dental caries.
6. Enumerate from memory all levels of prevention and modes of intervention for dental caries with at least 2 examples each accurately.

Lecture (Power point presentation, Chalk and talk method)

29. Epidemiology of Dental Caries -

Part 2

1. Levels of prevention for dental caries?
2. Enumerate ideal properties of chemotherapeutic agents(at least 5)
3. Write short notes on: Hopewood house study
4. Short note about caries vaccine.
5. Turku sugar study.
6. Mechanical measures for dental caries control.
7. Write at least 5 measures of preventing caries.

Lecture (Power point presentation, Chalk and talk method)

30. IDA

1. Enumerate from memory (at least 4) objectives of IDA accurately.
2. Enumerate from memory (at least 4) functions of IDA accurately.
3. Where is the head quarter of IDA?
4. Enumerate from memory all members of IDA accurately
5. Enumerate from memory all the office bearers of IDA.
6. Who is the president of IDA?
7. When was IDA established?

8. When are the elections of IDA conducted?
9. Who can be a member of IDA?

Lecture (Power point presentation, Chalk and talk method)

31. DCI

1. When was DCI formed?
2. Enumerate the composition of DCI.
3. Enumerate from memory at least 4 the functions of DCI accurately.
4. Who is the president of DCI?
5. Where is the headquarters of DCI?

Lecture (Power point presentation, Chalk and talk method)

32. Dental Ethics

1. What is Ethics?
2. What is Hippocratic oath?
3. When was Code of Ethics implemented in India?
4. Enumerate the ethical principles
5. What is Maleficence?
6. Enumerate the types of consent accurately.
7. What is informed consent?
8. Enumerate a few ethical rules for dentist.

Lecture (Power point presentation, Chalk and talk method)

33. COPRA

1. Who are liable for COPRA?
2. Who are not liable for COPRA?
3. What are the Do's and Don't for doctors?
4. When was COPRA implemented?
5. State the 3 tier system for lodging the complaint.
6. What is the compensation at district level?

7. What is implied consent?
8. What is expressed consent?
9. What is proxy consent?
10. What is declaration of Geneva?

Lecture (Power point presentation, Chalk and talk method)

34. Water

1. What are the properties of portable water?
2. What are the sources of water?
3. What are the uses of water?
4. What is Rapid sand filtration?
5. What is slow sand filtration?
6. Enumerate from memory at least 2 water analysis tests.
7. What is the difference between Rapid and Slow Sand Filter?
8. Enumerate from memory at least 4 methods of household water purification.
9. What is chlorine break point?
10. Enumerate from memory at least 4 specifications of sanitary wells.

Lecture (Power point presentation, Chalk and talk method)

35. Pollution- Air, Noise & Radiation

1. Enumerate from memory at least 4 adverse health effects of air pollution.
2. Enumerate from memory the toxic and irritant gases responsible for air pollution.
3. Enumerate from memory at least 4 measures used to control air pollution.
4. Enumerate from memory the 4 categories given by WHO to control air pollution.
5. Enumerate from memory natural sources of radiation.
6. What is Roentgen?
7. Enumerate at least 4effects of radiations.

8. What is dosimetry?
9. What is film badges?
10. What is noise?
11. What is the range of frequency which a normal ear can hear?
12. What are the principles of noise control?

Lecture (Power point presentation, Chalk and talk method)

36. Disposal of Wastes

1. What are types of waste?
2. Sources of refuse?
3. What is Banglore method of waste disposal?
4. Enumerate all the methods of waste disposal accurately.
5. What is controlled tipping?
6. What are types of controlled tipping?
7. What is composting?
8. What are the types of composting?
9. What is mechanical composting?
10. What is solid waste?
11. What is difference between garbage and rubbish?

Lecture (Power point presentation, Chalk and talk method)

37. Hospital Waste Management

1. Enumerate from memory different categories of waste.

2. Classify healthcare waste accurately.
3. Enumerate from memory at least 4 sources of healthcare waste.
4. Enumerate from memory at least 2 risk groups.
5. Enumerate from memory all the acts formulated for waste management.
6. Enumerate from memory the steps in waste disposal.
7. Enumerate from memory colour coding of waste materials accurately.

8. Enumerate from memory all the treatment and disposal modalities for healthcare waste.

9. Enumerate from memory accurately which colour coded bag are sharps disposed.

10. How will you dispose off extracted teeth?

Lecture (Power point presentation, Chalk and talk method)

38. Dental Auxiliaries

1. Define from memory dental auxiliaries with 100% accuracy.

2. Classify dental auxiliaries with 100% accuracy.

3. Enumerate from memory non-operating auxiliaries accurately.

4. Who is the father of dental hygiene?

5. Enumerate from memory at least 4 functions on school dental nurse.

6. Who was TA Hunter?

7. Enumerate from memory at least 4functions dental hygienist accurately.

8. Who was Irene Newman?

9. Enumerate from memory at least 4 functions of EFDA.

10. Enumerate from memory degrees of supervision of auxiliaries.

Lecture (Power point presentation, Chalk and talk method)

39. Health Agencies

1. Enumerate from memory at least 4 health agencies around the world accurately.

2. Enumerate from memory at least 4 non-governmental health agencies accurately.

3. Enumerate from memory at least 4 voluntary health agencies in India.

4. Enumerate from memory at least 4 functions of UNICEF.

5. Enumerate from memory at least 4 functions of Red Cross.

6. Enumerate from memory at least 4 NGO's. Lecture (Power point presentation, Chalk and talk method)

40. WHO

1. Enumerate from memory at least 4 functions of WHO accurately.

2. Enumerate from memory all the headquarters and regional office of WHO with 100% accurately.

3. Enumerate from memory World health day themes by WHO for last 5 years accurately.

4. Enumerate from memory at least 4 functions of oral health Unit of WHO.

5. Who is the Director General of WHO?

6. Who is the Director General of oral health unit of WHO?

Lecture (Power point presentation, Chalk and talk method)

41. Introduction to Fluorides

1. Enumerate from memory at least 6 important milestones of water fluoridation with 100% accuracy.

2. Who discovered Colorado stains?

3. Who and when discovered fluoride in water?

4. What was the method used to identify fluoride in water?

5. Who conducted shoe leather survey?

6. Where and when was first community water fluoridation carried out?

Lecture (Power point presentation, Chalk and talk method)

42. Fluoride delivery systems

1. Enumerate all mechanism of actions of fluoride.

2. Enumerate all methods Fluoride delivery.

3. What is choking off effect?

4. What is Knutson's technique?

5. State from memory concentration of fluoride in enamel, dentin and pulp with 100% accuracy.

6. State from memory ppm of fluoride and method of application of 1.23% APF gel with 100% accuracy.

7. State from memory ppm of fluoride and method of application of 2% Neutral sodium fluoride with 100% accuracy.

8. State from memory ppm of fluoride with 100% accuracy and method of application of Stannous fluoride.

9. What is Brudevold's technique?

10. What is Muhler's technique?

11. What is Amine fluoride?

12. Compare APF gel and APF solution (at least 3 points) accurately.

13. Enumerate from memory fluoride compounds used in mouthrinses (at least 2) accurately.

14. Enumerate from memory at least 2 factors affecting topical fluoride deposition in teeth.

Lecture (Power point presentation, Chalk and talk method)

Practical demonstration in clinics of 1.23% APF gel application

43. Fluoridation and defluoridation

1.Enumerate from memory at least 4 community water fluoridation studies accurately

2.State Galagan and vermillion's formula for estimating amount of fluoride to be added to water for daily consumption with 100% accuracy.

3.State from memory at least 4 limitations of community water fluoridation.

4.Enumerate from memory at least 2 fluoride compounds used in water fluoridation.

5.Enumerate from memory all the equipments for water fluoridation accurately.

6.State with 100% accuracy levels of fluoride in School water supply.

7.State the mechanism of defluoridation.

8.What is dry feeder.

9.What is solution feeder.

10.Enumerate from memory at least 4 salient features of Nalgonda technique.

11.Enumerate from memory chemicals used in defluoridation.

12.State ppm of fluoride used in salt fluoridation with 100% accuracy.

13.Enumerate from memory at least 2 advantages for salt fluoridation accurately.

14.Enumerate from memory at least 2 disadvantages for salt fluoridation.

15.Enumerate from memory at least 2 advantages of milk fluoridation.

16.Enumerate from memory at least 2 disadvantages of milk fluoridation.

Lecture (Power point presentation, Chalk and talk method)

44. Toxicity of fluorides

1.State from memory with 100% accuracy the STD and CLD of fluoride.

2.State from memory with 100% accuracy optimum concentration of fluoride in community water.

3.State recommended schedule for use of fluoride in very young children.

4.How do you differentiate between fluorosis and hypoplasia? (at least 4 points)

5.State emergency treatment for fluoride overdose.

6.What is acute toxicity of fluorides?

7.What is genu valgum?

8.Enumerate from memory with 100% accuracy at least 4 signs and symptoms of chronic fluoride toxicity.

9.Enumerate from memory with 100% accuracy at least 2 skeletal features of chronic fluoride toxicity.

Lecture (Power point presentation, Chalk and talk method)

45. Pit and fissure sealants

1.Enumerate from memory with 100% accuracy any two milestones in the history of pit and fissures.

2.Enumerate from memory with 100% accuracy different types of pits and fissures.

3.Enumerate from memory with 100% accuracy any two indications of pit and fissure sealants.

4.Enumerate from memory with 100% accuracy any two contra indications of pit and fissure sealants.

5.State from memory with accuracy the steps in the procedure of application.

6.What is Preventive Resin Restoration?

7.Enumerate from memory with 100% accuracy generations of Pit and fissure sealants.

8.Classify pit and fissure sealants with 100% accuracy.

9.What is prophylactic odontomy?

10.What is the percentage of etchant used for etching?

Lecture (Power point presentation, Chalk and talk method)

Practical demonstration in clinics for pit and fissure sealant application and preventive resin restoration

46. Caries Activity tests

1.What is caries activity?

2.What is caries susceptibility?

3.What is caries risk assessment?

4.State from memory the ideal requirements of caries activity test.

5.Snyder's test?

6.Albans test?

7.Ora test?

8.Streptococcus mutans colony count test?

9.What are the colour indicators used for snyder test?

10.Why paraffin blocks are used for collection of saliva?

11.Enumerate from memory at least 2 advantages of Caries Activity tests.

12.Enumerate from memory at least 2 disadvantages of Caries Activity tests.

13.What is Lactobacillus colony count test?

Lecture (Power point presentation, Chalk and talk method)

47. Caries Vaccine

1.State molecular pathogenesis of S. mutans.

2.Enumerate from memory types of vaccines accurately.

3.What is window of infectivity.

4.State mechanism of action of caries vaccine.

5.What is Glycosyltransferase?

6.Enumerate from memory at least 2 adverse effects of caries vaccine.

7.Enumerate from memory all the modes of administration of vaccine.

8.What is replacement therapy?

9.What is Lantibiotic? Lecture (Power point presentation, Chalk and talk method)

48. ART

1.Where ART was introduced?

2.Enumerate from memory at least 4 indications of ART accurately.

3.Enumerate from memory all the principles of ART with 100% accuracy.

4.Enumerate from memory all the instruments used of ART accurately.

5.Enumerate from memory all the materials used for ART accurately.

6.Enumerate from memory at least 4 contraindications of ART.

7.Which type of GIC is used for ART?

8.Enumerate all the post application instructions for ART.

9.ART sealant?

10.What is finger pressure technique?

11.Enumerate from memory at least advantages of GIC?

12.First material to be used in ART?

13.State from memory evaluation criteria for ART.

Lecture (Power point presentation, Chalk and talk method)

Practical demonstration in clinics of ART

49. Epidemiology and prevention of Malocclusion

1. State Angle's classifications of malocclusion.

2. State levels of prevention with modes of intervention for malocclusion.

5. Enumerate from memory at least 4 unfavourable sequels of malocclusion.

6. State Dewey's modification.

7. Explain thumb sucking habit.

8. Explain Dunlop's hypothesis.

9. Explain Long face syndrome.

10. State at least 2 requirements of space maintainers.

11. What is anterior cross bite?

12. Serial extraction?

13. Muscle exercises?

Lecture (Power point presentation, Chalk and talk method)

50. Epidemiology of prevention of Oral Cancer

1.Etiology and risk factors for oral cancer?

2.What are precancerous lesions and condition?

3.Enumerate from memory all the levels of prevention and modes of intervention with 2 examples each for oral cancer.

4.Enumerate from memory types of smoking tobacco.

5.Enumerate from memory type of smokeless tobacco.

6.State from memory composition of betel quid.

7.State from memory at least 3 reasons for reverse smoking.

8.State from memory at least 4 constituents of cigarette smoke.

Lecture (Power point presentation, Chalk and talk method)

51. Epidemiology of prevention of Oral Cancer

1.Enumerate from memory TNM staging.

2.Enumerate from memory at least 2 examples of regulatory approach in prevention of oral cancer.

3.Enumerate from memory at least 2 indications exfoliative cytology.

4.Enumerate from memory steps in Punch biopsy.

5.What is chemoprevention?

6.Enumerate from memory at least 4 differences between benign and malignant tumours accurately.

7.Enumerate from memory at least 4 places of Cancer registry of India accurately.

8.State the significance of no tobacco day.

9.State from memory the theme of no tobacco day for 2015 with 100% accuracy.

Lecture (Power point presentation, Chalk and talk method)

52. Epidemiology and Prevention of Periodontal Disease

1.What is Periodontium?

2.Define gingiva with 100% accuracy.

3.What is specific plaque hypothesis?

4.Enumerate from memory at least 4 local factors in etiology of periodontal diseases accurately.

5.State from memory concept of pathogenesis of periodontitis accurately.

6.Enumerate from memory at least 4 general factors in etiology of periodontal diseases accurately.

7.Enumerate from memory at least 4 iatrogenic factors for periodontal diseases accurately.

8.Enumerate from memory at least 4 risk factors in development of periodontal diseases accurately.

9.Enumerate from memory at least 2 cultural factors as risk factors for periodontal diseases accurately.

Lecture (Power point presentation, Chalk and talk method)

53. Epidemiology and Prevention of Periodontal Disease

1.Enumerate from memory all the levels of prevention and modes of intervention with 2 examples each about periodontal diseases.

Lecture (Power point presentation, Chalk and talk method)

54. Health Education

1.Enumerate from memory all the approaches to achieve health and write 2 points for each.

2.Enumerate from memory all the principles of Health Education accurately.

3.Enumerate from memory all the contents of Health Education accurately.

4.Enumerate at least 4 visual aids for health education accurately and write 2 points for each.

5.Enumerate all the Media used for health education for general population accurately and write 2 points for each.

6.Enumerate from memory at least 4 differences between health education and propaganda accurately and write 2 points for each.

7.

Enumerate from memory all the audio aids accurately and write 2 points for each.

8.Enumerate from memory all the combination of audio-visual aids accurately and write 2 points for each.

Lecture (Power point presentation, Chalk and talk method)

Practical Demonstration of different methods of health education by group activity

55. Health

education and health promotion 1. Enumerate from memory at least 4 methods of group health education accurately and write 2 points for each.

2.Enumerate from memory at least 4 barriers to health education accurately and write 2 points for each. Define health promotion accurately.

3.Enumerate 5 priority action areas according to Ottawa Charter and write 2 points for each.

4.Enumerate 5 approaches to health promotion and write 2 points for each.

Lecture (Power point presentation, Chalk and talk method)

56. School Health Program Part -1

1. Important elements/components of school dental health program?

2. Enumerate from memory at least 2 advantages of school dental health program.

3. Explain Tattletooth program.

4. What is incremental dental care program?

5. Enumerate from memory at least 4 ideal requisites for school dental health program.

6. Enumerate from memory at least 2 aspects of school health services.

Lecture (Power point presentation, Chalk and talk method)

57. School Health Program Part -2

1.Blanket referral?

2.Enumerate from memory at least 2 advantages of school based dental clinic accurately.

3.Enumerate from memory at least 2 advantages disadvantages of school based dental clinic accurately.

4.What is Askov dental demonstration?

5.What is SHARP?

6.What is Comprehensive dental care?

Lecture (Power point presentation, Chalk and talk method)

58. Plaque control

1. Enumerate from memory all the mechanical plaque control aids and write 2 points for each.

2. Explain in brief the ionic toothbrush.

3. Enumerate from memory all the tooth brushing techniques and state an indication of each accurately.

4. Enumerate at least 4 effects of improper tooth brushing accurately.

6. Enumerate at least 2 instructions for maintenance of toothbrushes. Lecture (Power point presentation, Chalk and talk method)

59. Plaque control

Part -2

1.Explain in short the parts of Powdered interdental brushes.

2.What is Water pik?

3.What is gingival physiotherapy?

4.Enumerate at least 2 indigenous oral hygiene aids and write 2 points for each.

5.State from memory classification of chemical plaque control agents accurately.

6.What is substanitivity?

7.What is pin cushion effect?

8.Enumerate from memory at least 6 disclosing agents accurately.

Lecture (Power point presentation, Chalk and talk method)

60. Occupational hazards in dentistry

1.Enumerate from memory all the types of occupational hazards accurately and write 4 points for each.

2.Enumerate from memory at least 4 biological occupational hazard accurately.

3.Enumerate from memory at least 4 chemical occupational hazards accurately.

4.Enumerate from memory at least 4 physical occupational hazards accurately.

5.Enumerate from memory at least 4 psychological occupational hazards accurately.

6.What is dental ergonomics?

7.Enumerate at least 6 ergonomic rules regarding appropriate positioning of the dentist

Lecture (Power point presentation, Chalk and talk method)

Practical demonstration of dentist and patient position on dental chair

CONSERVATIVE DENTISTRY

SPECIFIC LEARNING OBJECTIVES

ENDODONTICS

Diseases of pulp and periapical tissues

- Introduction
- Classification of etiological factors
- Microbial irritants
  - Dentin permeability
  - Caries
  - Defence of dentin to caries
  - Microorganisms in dentin
  - Reparative dentin formation
  - Other causes for bacterial ingress-traumatic,surgical,idiopathic
- Mechanical and Thermal irritants
- Chemical irritants
- Radiant irritants
- Systemic causes of pulpal injury
- Pulpitis— "inflammation"
- Immunologic reactions
- Pulpal pain
- Intra pulpal pressure
- Vitality tests
- Dynamics of development of pulpitis from caries
- PULPAL PATHOLOGIES

- Classifications-Grossman, Ingle,Weine(comparative)
- Pathophysiology
- Diagnosis and Treatment planning
- SEQUELAE of "pulpal" pathology
- Prevention of pulpal injury
- DIABETES and the Dental pulp

- Conclusion

Rationale of endodontic treatment

Introduction

Theories of spread of infection

Culprit of endodontic pathology

Portal for entry of microorganisms

Inflammation

Role of antibiotics

Endodontic implications

Principles of endodontic treatment

- Introduction
- Rubber dam
- Sterilization and disinfection

PERIRADICULAR DISEASES

1. Role of Bacteriology and Immunolgy in peri- radicular disease
2. Classification of periradicular diseases
3. Clinical signs, symptoms, radiographic features of each type
4. Periradicular diseases of non-endodontic origin
5. Differential diagnosis
6. Treatment planning in periapical diseases

ACCESS CAVITY PREPARATION IN ENDODONTICS

1. Need for proper access preparation

2. Designing Coronal Access based on root canal anatomy
3. Rules For Proper Access Preparation
4. Principles Of Endodontic Cavity Preparation
5. Krasner's Laws
6. Armamentarium
7. Preparation Of Area For Treatment
8. Access Cavity Preparation for Individual Teeth
9. Challenges and Modifications in varying clinical situations

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ROOT CANAL SEALERS

1. Definition.
2. Ideal Requirements.
3. Classification.
4. Composition.
5. Properties**.**
6. Advantages and disadvantages of each sealer.
7. Recent advances.

CLEANING AND SHAPING OF THE ROOT CANAL SYSTEM

1. Need to eliminate bacteria
2. Objectives of cleaning and shaping the root canal
3. Instruments and irrigants
4. Grossman's rules for shaping the root canal
5. Techniques of canal preparation
6. Use of irrigation devices
7. Importance of Endosonics
8. Management of curved canals

ROOT CANAL INSTRUMENTS

1. Need of instruments in root canal therapy
2. Objectives of instrumentation
3. Classification of instruments
4. Need for standardization of instruments
5. Standardization of root canal instruments
6. Materials used in manufacturing
7. NiTi instruments vs Stainless steel instruments

8. Exploring instruments
9. Cleaning and shaping instruments
10. Hand and rotary instruments
11. Instrument design
12. Choice of endodontic instruments

ENDODONTIC IRRIGANTS AND INTRACANAL MEDICAMENTS

1. To know the importance of thorough cleaning & debridement the root canal.
2. Desirable properties for an endodontic irrigant.
3. Classification.
4. Factors affecting efficacy of irrigant.
5. Irrigation guidelines.
6. Recent advances in irrigating solutions.
7. MTAD
8. Need for intracanal medicaments.
9. Classification of intracanal medicaments.
10. Ideal Requirements of intra canal medicaments.
11. Factors that predispose teeth to infection.
12. Mode of Action.
13. Intracanal medication.
14. Draw backs of ICMs.

WORKING LENGTH DETERMINATION

1. Definition
2. Significance of calculating Working Length.
3. Methods of determining working length.
4. Advantages and disadvantages of various methods.
5. Electronic Apex locators.
6. Classification of apex locators.
7. Mode of action of apex locators.
8. Contraindication of electronic apex locators.

MICROBIOLOGY AND CULTURAL TECHNIQUES IN ENDODONTICS

1. Bacterial pathways into the pulp.
2. Types of endodontic infections.
3. Bacteria present in endodontic infections.
4. Types of endodontic infections.
5. Primary intra radicular infections.
6. Secondary intra radicular infections.
7. Persistent intra radicular infections
8. Importance of E faecalis.
9. Other microbes causing endodontic disease.
10. Detection and Identification of endodontic pathogens using various cultural techniques.
11. Microbial Culture
12. Phase contrast and Dark field Microscopy.
13. Biofilm.

OBTURATION

1. Definition.
2. Ideal requisites for root canal filling material.
3. Gutta – percha.
4. Composition of gutta percha.
5. Techniques of Obturation.
6. Need for three dimensional Obturation.

RESTORATION OF ENDODONTICALLY TREATED TOOTH

1. General considerations for restoration.
2. Objective of restoration of endodontically treated tooth.
3. Basic components of the post endodontic restoration.
4. Classification of posts.
5. Post space preparation.

Endodontic Mishaps

1. Classification
2. Mishaps during Diagnosis, Radiographic Techniques
3. Mishaps during access cavity preparation
4. Mishaps during Biomechanical Preparation
5. Mishaps during Obturation.
6. Miscellaneous.

ENDODONTIC RETREATMENT

1. Potential factors affecting success of endodontic therapy.
2. Decision of conventional retreatment v/s microsurgery.
3. Gaining access to the root canal system.
4. Post removal using various systems.
5. Gaining access to apical terminus**.**
6. Knowledge about the Solvents used for dissolution of GP**.**
7. Solid material removal**.**
8. Removal of silver points.

ENDODONTIC EMERGENCIES

1. Definitions.
2. Classification.
3. Diagnosis.
4. Treatment

ENDO-PERIO INTERRELATIONS

1**.** Pathways between pulp and periodontium

2. Classification

3. Treatment alternatives

SURGICAL ENDODONTICS

1. Definition.

2. Classification.

3. Indications and contraindications.

4. Recent advances

DENTAL MATERIALS

INTRODUCTION TO RESTORATIVE MATERIALS

- Knowledge of restorative materials
- Selection of restorative material according to clinical scenario
- Factors affecting selection of restorative materials

CAVITY LINERS BASES AND VARNISHES

- Definition of cavity liners, bases and varnishes
- Uses of cavity liners, bases and varnishes
- Justification of use of cavity liners, bases and varnishes
- Clinical scenario in which cavity liners, bases and varnishes are to be used

ZINC PHOSPHATE CEMENT

- Knowledge regarding properties of restorative materials
- Selection of restorative material according to clinical scenario and application
- Factors affecting selection of restorative materials
- Manipulation of the material

  Uses , advantages and disadvantages of the materials

ZINC POLYCARBOXYLATE CEMENT AND SILICATE CEMENT

- Knowledge regarding properties of restorative materials
- Selection of restorative material according to clinical scenario and application
- Factors affecting selection of restorative materials
- Manipulation of the material
- Uses , advantages and disadvantages of the material

DENTAL AMALGAM AND TOXICITY

- Knowledge regarding properties of restorative materials
- Selection of restorative material according to clinical scenario and application
- Factors affecting selection of restorative materials
- Manipulation of the material
- Uses , advantages and disadvantages of the material
- Toxicity and precautions in handling the material.

DEFINITION, IDEAL REQUIREMENTS AND CLASSIFICATION OF DENTAL CEMENTS

- Definition of dental cements
- Ideal requirements of restorative material
- Classification of dental cements.
- Knowledge regarding general properties of cements

CALCIUM HYDROXIDE CEMENT AND GUTTAPERCHA

- Knowledge regarding properties of restorative materials
- Selection of restorative material according to clinical scenario and application
- Factors affecting selection of restorative materials
- Manipulation of the material
- Uses , advantages and disadvantages of the material

ZINC OXIDE EUGENOL CEMENT

- Understand the composition of ZOE
- Understand setting reaction of ZOE
- Uses and clinical applications

IMPRESSION MATERIALS IN RESTORATIVE DENTISTRY

- What are impression materials?

- Classification
- Selection of impression material
- Advantages and disadvantages
- Pouring of an impression
- Sterilization and disinfection of an impression

Composite Resins

- Definition of composite resins
- Composition
- Classification
- Selection of composite resin
- Advantage and disadvantage of each type
- Methods of curing

DENTIN BONDING AGENTS

- Definition of bonding
- Enamel and dentin bonding
- Mechanism of bonding
- Generations of DBAs
- Clinical steps

DIRECT FILLING GOLD

- Advantages of Gold as a restorative material
- Classification of DFG
- Selection of cases
- Clinical steps

Glass Ionomer Cement

- Setting reaction of GIC
- Selection of cases and indications
- Steps in restoration
- Precautions in restorations

DIE MATERIALS AND DIE SYSTEMS

- What are die materials?
- Classification
- Selection of die materials
- Compatibility with impression material

ABRASIVE & POLISHING AGENTS

- Definition
- Factors affecting the rate of abrasion
- Factors affecting the efficiency of abrasion
- Design of the abrasive instrument
- Types of abrasives
- Polishing

CASTING DEFECTS

- Classification of casting defects
- Recognition of casting defects
- Steps in prevention of casting defects

OPERATIVE DENTISTRY

Introduction to conservative dentistry, scope and future of conservative dentistry

- History
- Instrumentation – hand to rotary

- Rotary – slow – high- ultrahigh
- Material aspects

Principles of cavity preparation

- Principles related to enamel and dentin preservation, prevention by extension as per G V BLACK.
- Initial and final cavity preparation – various steps in detail.
- Cavosurface margin
- Understanding nomenclature of angles and walls.

Dental caries

- Definition
- Etio-pathogenesis
- Theories
- Prevention
- Control
- Treatment

Amalgam restorations

- Clinical considerations
- Indications/contraindications
- Clinical technique for Class I, Class I compound, Class II and class V amalgam restorations

Armamentarium for cavity preparation

- Definitions
- Classifications
- Hand cutting instruments
- Rotary instruments
- Auxillary instruments

- Sterilization
- Sharpening
- Instruments grasp

Control of pain

- Definition
- Methods of pain control – non invasive, invasive

Pulpal protection

- Pulpal response to traumatic stimuli
- Effects of operative trauma on pulp
- Material aspects
- RDT
- Deep carious lesions management

Anterior restorations

- Importance of esthetics
- Modified cavity preperation
- Color dynamics
- Shade selection
- Types of materials – micro, nano hybrid

Isolation

- Introduction
- Goals of isolation
- Classification
- Devices used
- Rubber Dam
- Optra Dam

Debris and fluid evacuation equipment

- Saliva ejectors
- High speed evacuators
- Svedopter

Fluid absorbing materials

- Cotton rolls
- Throat shields
- Absorbent paper pads and wafers
- Tissue retraction, Tongue guards , Tongue Depressors Cheek and lip retractors Optra Gate Gingival retraction
- Mouth Props

Examination, diagnosis and treatment plan in operative dentistry

- Definition
- Need for identification and restoration
- Clinical picture and symptoms
- Methods of diagnosis
- Recent advances

Infection control

- Introduction
- Important definations
- Infection control rationale,goal and regulation.
- Office design and cross infection control.
- Characteristics of microorganism ,oral microbiology and infection control.
- Protective barriers.
- Instrument processing .
- Sterilization and disinfection.
- Laboratory aspesis.

- Dental unit water asepsis.
- Conclusion

VITAL PULP THERAPY

- Physiology of the pulp
- Treatment options for caries
- Selection of cases for IPC and DPC
- Steps in treatment
- Prognosis

VARIOUS DESIGNS IN AMALGAM CLASS II RESTORATIONS

- ☐ Indications for Class II amalgam restorations
- ☐ Designs of Class II amalgam restorations
- ☐ Case selection criteria for Class II amalgam restorations
- ☐ Cavity preparations steps for Class II amalgam restorations

TISSUE MANAGEMENT

- ☐ What is gingival tissue management?
- ☐ Classification of GTM
- ☐ Selection of particular type of GTM in clinical scenario
- ☐ Clinical steps in GTM

Minimal Intervention Dentistry

- What is minimal intervention dentistry?
- Classification of procedures involved in MID
- Clinical steps in MID
- Prevention of caries

MANAGEMENT OF DEEP CARIOUS LESIONS

- Clinical picture of deep carious lesions

- Procedures in management of deep carious lesions
- Selection of procedure
- Clinical steps
- Materials used
- Follow up and prognosis

NON CARIOUS LESIONS OF TEETH

- what are non carious lesions?
- classification and definition of each
- clinical diagnosis
- Treatment options for each

SPEEDS IN DENTISTRY

- classification of speeds
- advantages and disadvantages of each range of speeds
- selection of particular speed range for a procedure

Investment Materials

- What are investment materials?
- Classification
- Selection of investment materials
- Lab steps in investing

Contacts and Contours of Restorations

- Importance of contacts and contours
- Definition
- Types of contacts and contours
- Pitfalls of not maintaining contacts and contours

DIAGNOSIS OF DENTAL CARIES AND RECENT ADVANCES

- Definition
- Need for identification and restoration
- Clinical picture and symptoms
- Methods of diagnosis
- Recent advances

Failures of amalgam restorations

- Types of amalgam restorations
- Reasons for failure
- Recognition of failures
- Remedial measures

Instruments & Instrumentation for tooth Preparation

- Classification of instruments
- Instrument design, parts
- Instrument formula
- Usage of instruments
- Sharpening of instruments
- Instrument grasps

HYPERSENSITIVE DENTIN AND ITS TREATMENT

- Definition
- Theories of Dentin Hypersensitivity
- Symptoms, clinical features, diagnosis
- Treatment planning

RESPONSE OF PULP TO OPERATIVE PROCEDURES AND RESTORATIVE MATERIALS

- Description of operative procedures
- Description of restorative materials together with their toxic effects
- Methods of prevention of injury to the pulp

BLEACHING OF TEETH

- Classification of bleaching procedures
- Mechanism of bleaching
- Materials available
- Selection of cases
- Clinical steps
- Follow up and instructions

PORCELAIN INLAYS & ONLAYS

- What are inlays and onlays?
- Selection of cases
- Clinical steps
- Lab steps
- Use of CAD CAM
- Luting of restorations

Cast Metal Restorations

- introduction and historical perspective
- some relevant properties of gold and gold alloys
- advantages and disadvantages of cast restorations
- indications and contraindications for cast gold restorations
- preliminary requirements for cast restorations
- principles governing tooth preparation for cast restorations

Complex Amalgam Restorations

- Need for complex amalgam restorations
- Designs of complex amalgam restorations
- Instruments used in complex amalgam restorations

PEDODONTICS

SPECIFIC LEARNING OBJECTIVES

Lecture (1) Introduction to paediatric dentistry.

- At the end of the session the student will understand the importance of paediatric treatment, its aims and objectives.
- Explaining the terminology, Aims and objectives of paediatric dentistry.
- To make the students understand paediatric treatment at different levels – preventive, interceptive and corrective.

Lecture (2) Development of Occlusion.

- At the end of the session the students must have understood the importance of occlusion in primary and permanent dentition.
- Explaining periods of occlusal development, predentate period, development of gum pads and its anatomy.
- Explaining about self-correcting conditions, chronology of eruption of deciduous and permanent teeth.

Lecture (3) Differences between primary and permanent teeth.

- At the end of the session the student must have understood the basic differences between primary and permanent teeth
- Should be able to understand the histologic and morphological differences between primary and permanent teeth.
- Explaining the thickness of enamel, shape of roots, pulp chamber anatomy etc.

Lecture (4) Developmental anomalies of teeth.

- At the end of the session the students must have understood the etiology, clinical feature and treatment planning.
- Explaining developmental alteration in the size of teeth, shape of the teeth, and Developmental alteration of structure.

Lecture (5) Paediatric restorative dentistry.

- At the end of the session students must have understood the basics and procedure of restorative materials used in the paediatric dentistry.

- Explaining the differences in cavity preparation, properties of different restorative materials.
- Should be able to understand the indications and contraindications of restorative materials and mechanism of action of the same.

Lecture (6) Dental Caries.

- At the end of the session student must have understood the history of dental caries, different theories related to caries , classification and etiology of caries formation
- Explaining the keys triad, socioeconomic status, dietary habits, etc. and the influence of these factors in the formation of dental caries, and the preventive measures.
- To make the students understand epidemiology of caries, histology, current concepts, food sugar substitutes, caries vaccine etc.

Lecture (7) Eruption of teeth and teething disorder.

- At the end of the session student must have understood the process of tooth development and eruption.
- Clinical features of teething disorder and treatment protocol regarding it.

Lecture (8) Preventive dentistry.

- At the end of the session student must have understood the objectives and procedure of topical fluoride, pit and fissure sealant and PRR.
- Explain the role of diet, and dietary habits.
- To make students understand diet counselling, plaque control and role of fluorides in prevention of dental caries.

Lecture (9) Pulp and peri-radicular diseases.

- At the end of the session student must have understood the basics of pulp and peri-radicular tissues.
- Explain about the histology and structure of pulp, different pulpal and periapical diseases, and diagnosis of pulp pathology.

- Student must have understood what is normal to diagnose the pathology related to it.
- Reaction of pulp and peri-radicular tissue to an injury or an insult.

Lecture (10) Pulp therapy.

- At the end of the session student must have the basic understanding of the pediatric endodontics.
- Explain the objectives, and procedure of pulp therapy.
- To make the students understand indirect pulp capping, direct pulp capping, pulpotomy, current concepts in pulpotomy, pulpectomy, methods of obturation of primary teeth,apexification, apexogenesis and the different materials used as a medicament in pulp therapy.
- Student must be able to distinguish between indications and contraindications of different pulp therapy procedures.

Lecture (11) Oral Habits.

- At the end of the session student must have understood the etiology, clinical features and treatment for different oral habits
- Explain the theories related to it and psychological basis of habits.
- To make the students understand about the classification of habits, and the different types of habits like; thumb sucking, pacifier habit, tongue thrusting , mouth breathing , bruxism , lip biting, nail biting, self-injurious habits etc.

Lecture (12) Space maintainer.

- At the end of the session student must have understood the basics of space maintainer i.e. requirement of space maintenance, definition, classification, indications .etc.
- Explain the procedure and fabrication of different space maintainers and space regainers.
- To make the students understand changes seen after premature loss of teeth, general guidelines for management of space maintenance, fixed space maintainers, functional space maintainers, removable space maintainers, and space regainers.

Lecture (13) Trauma.

- At the end of the session student must have the basic understanding of the trauma to oral and perioral structures
- Explain the different etiological factors, and treatment protocols for the different classes of fractures.

- Student must have understood the emergency management of traumatic injuries.
- Explain Ellis classification of dental caries, response of oral tissues to trauma, mechanism of dental injury, examination and diagnosis, management of traumatic injuries, storage media, splinting, periodontal healing reactions and effect of traumatic injuries on developing dentition.

Lecture (14) Child Psychology.

- At the end of this session student must have understood the basics of child psychology.
- Explain the different theories, and know about the students view and learning of different theories.
- To make the Students understand approaches in psychology and different theories like classical psychoanalytical theory/ psychosexual theory, theory of cognitive development, classical conditioning , operant conditioning, social learning theory, hierarchy of needs etc.

Lecture (15) Behaviour Management.

- At the end of the session student must have the basic understanding of the different behaviour modification and management techniques.
- Explain about different management techniques and application of different techniques.
- To make students understand factors influencing child's behaviour in dental office, role of dentist in child's behaviour, pre-appointment behaviour modification, use of euphemism, TSD, Desensitization, Modeling, behaviour shaping, contingency management, coping, voice control, hypnosis, HOME, and use of protective stabilization techniques.

Lecture (16) Special Child.

- At the end of the session the student must have the basic understanding of the term special child.
- Explain the different handicapping conditions and management techniques.
- Definition, classification and general management.
- To make the students understand about the different handicapping conditions such as mental retardation, cerebral palsy, childhood autism, visual impairment, hearing loss, recommendations of AAPD.

PERIODONTICS

SPECIFIC LEARNING OBJECTIVE

1.Alveolar bone

- **Content**
  - Definition
  - Composition
  - Different synonym
  - Functions
  - Summary
- **Learning objective**
  - To know the definition, composition and its functions

2.Oral malodor

Content

- Classification
- Etiology
- Physiology
- Treatment
- Summary

Learning objectives

- To understand the physiology of the development of oral malodor
- To know the treatment modality for the same

3.Dental calculus

Contents

- Definition
- Classification
- Composition

- Predisposing factors
- Summary

Learning objectives

- To understand the difference between plaque, calculus and materia alba
- To know the composition of calculus
- To understand the predisposing factors and its future complication if not removed at time

4.Furcation involvement and its treatment

- Content
  - Classification of furcation defect
  - Etiologic factors
  - Treatment options
  - Summary
- To know the definition and classification of furcation involvement
- To understand the various surgical and non surgical treatment modalities for the same

Learning objectives

- To know the definition and classification of furcation involvement
- To understand the various surgical and non surgical treatment modalities for the same

5.Diagnosis and management of endodontic-periodontic lesions

Content

- Factors initiating pulpal and periradicaular diseases
- Biologic effects of pulpal infection on periodontal tissue
- Treatment considerations.

Learning objectives

- To understand endo-perio lesion and its development sequel. So that a proper treatment plan can be made according to the case.

6.Host modulation therapy

Content

- Systemically administered agents
- Locally administered agents
- Sub- antimicrobial dose doxycycline
- Summary

Learning objectives

- To know the various agents which can modulate host response
- To know the role of sub antimicrobial-dose of doxycyclin

7.Periodontal flap

Contents

- Classification of flap
- Flap design
- Incisions
- Suturing technique
- Summary

Learning objectives

- To know the various types of flap design

- To understand the various technique for suturing

8.Periodontal plastic and esthetic surgery

Contents

- Miller's classification
- Etiologic factors
- Technique to increase attached gingiva
- Technique to deepen the vestibule
- Technique to remove the frenum

Learning objectives

- To recognize the various factors involved in development of mucogingival problem
- To understand the different technique involved for the corrcetion of the same

9.Phase 1 periodontal therapy

Contents

- Rationale
- Treatment sessions
- Sequence of procedure
- Results
- Healing
- Decision to refer for specialist treatment

Learning objectives

- To establish a proper sequel of treatment plan in a patient

10.Phase II periodontal therapy

Objectives of surgical phase

- Evaluation after phase I therapy
- Indications for periodontal

Learning objectives

- To understand the conditions for phase II therapy after phase I

11.Plaque control

Contents

- Toothbrush
- Dentrifrice
- Interdental cleaning aids
- Chemical plaque control
- Disclosing agent
- Patient motivation and education

Learning objectives

- To know the various types of brushing technique and the use of chlorhixidene mouthwash and disclosing agent.

12.Reconstructive periodontal surgery

Contents

- New attachment
- Periodontal reconstruction
- Reconstructive surgical technique
- Summary

Learning objectives

- To understand the difference between new attachment, reattachment and other outcomes of reconstructive surgery

- To know the various reconstructive surgical technique

13.Resective osseous surgery

Contents

- Factors in selection of resective surgery
- Methods of resective osseous surgery
- Post operative maintenance
- Summary

Learning objectives

- To know the indications and contraindications of osseous surgery
- To understand the sequential steps involved in osseous resective technique

14.Scaling and root planning

Contents

- Classification of periodontal instrument
- Principles of instrumentation
- Principles of scaling and root planing
- Instrument sharpening

Learning objectives

- To know the basic periodontal instruments
- To understand the principles of instrumentation
- To develop a skill for the detection of calculus and its removal from the tooth and root surfaces

15. Sonic and ultrasonic instrumentation

Contents

- Mechanism of action

- Advantages
- Disadvantages

Learning objectives

- To know about the power driven instruments and its advantages over hand instruments.

16.Treatment of acute gingival disease

Contents

- Acute necrotizing ulcerative gingivitis
- Acute pericoronitis
- Acute herpatic gingivostomatitis

Learning objectives

- To recognize a proper acute condition and accordingly manage the case.

17. Treatment of gingival enlagement

Contents

- Chronic inflammatory enlargement
- Drug associated enlargement
- Gingival enlargement in pregnancy
- Leukemic gingival enlargement

Learning objectives

- To understand the various conditions for gingival enlargement and then plan the treatment accordingly.

18. Treatment of periodontal abscess

Contents

- Classification of abscess
- Difference between gingival and periodontal abscess
- Specific treatment approaches

Learning objectives

- To understand the background of abscess, its formation and the possible sequel if not treated at time.
- To know the various treatment options for the same

ORAL SURGERY
SPECIFIC LEARNING OBJECTIVE

SINHGAD DENTAL COLLEGE AND HOSPITAL
SPECIFIC LEARNING OBJECTIVE

Objectives for Theory - 3rd Year Student

1. **Sterilization and Asepsis**– Students should be able to

- Define from memory different terminologies like sterilization, disinfection and Asepsis.
- Enumerate and explain from memory different methods and techniques for sterilization, disinfection and Asepsis.
- Enumerate from memory sterilization of common instruments and materials using commonly available sterilizing methods or agents.
- Explain from memory basic aseptic measures taken for routine surgeries like surgeon and patient preparation and OT behaviours.
- Explain from memory proper dispose of waste materials including clinical waste.

2. **Local Anesthesia-** Students should be able to

- Define from memory local anesthesia and explain anatomy and physiology of nerve and generation and progression of nerve impulse.
- Enumerate and explain from memory different theories of mechanism of action of local anesthetic agent.
- Enumerate from memory commonly available LA agent and pharmacokinetics of commonly used agent.
- Enumerate and explain from memory different techniques like infiltration, field and nerve block.
- List indications and contraindications, and advantages and disadvantages from memory of different techniques like infiltration, field and nerve block.
- Enumerate from memory common complications of LA administration.
- Explain from memory different preventive measures and optimal management of complications.

3. **Exodontia** – Students should be able to

- To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant

laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.

- Enumerate from memory common indications and contraindications for extraction.
- Enumerate from memory basic clinical and radiological examination of a patient requiring extraction.
- Explain from memory basic Principles of exodontia and various methods of extraction and common instruments and armamentarium required.
- Enumerate from memory common intraoperative and post-surgical complications of extractions, different preventive measures and optimal management.

4. **Hemorrhage and shock-** Students should be able to

- Classify from memory different types of hemorrhage and shock with their pathophysiology.
- To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about different shocks.
- Explain from memory basic primary and secondary hemostasis, common coagulopathies and their diagnosis with their possible management.
- Enumerate from memory different methods of arresting bleeding intraoperatively and postoperatively from extraction socket in particular.
- Enumerate from memory different topical and systemic hemostatic agents, their indications and contraindications and advantages or disadvantages.

5. Impactions– Students should be able to

- To obtain proper clinical history, methodical examination of the patient, radiographic evaluation and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.

- Explain from memory basic terminologies classify the impacted teeth and should be able to explain the difficulty of surgery after radiographic interpretation e.g. WAR line interpretation.
- Enumerate from memory common indications and contraindications for extraction.
- Enumerate from memory basic clinical and radiological examination of a patient requiring extraction.
- Explain from memory basic surgical flaps and common instruments and armamentarium required.
- Enumerate from memory common intraoperative and post-surgical complications of extractions, different preventive measures and optimal management e.g. excessive bleeding, paresthesia and dry socket.

6. **Infections of the oral cavity-** Students should be able to

- Explain from memory clinical history, methodical examination of the patient, radiographic evaluation and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
- Enumerate from memory different anatomical spaces which can be involved due to odontogenic infections.
- Enumerate from memory the boundaries of potential anatomical spaces
- Explain from memory clinical features both local and systemic and radiological findings of isolated and multiple space involvement including Ludwig's angina.
- Explain from memory emergency procedures required like airway management in Ludwig's angina and incision and drainage of different neck spaces.
- Enumerate from memory rationale of empirical and definitive antibiotic therapy in the management of space infections.

7. **Precancerous lesions-** Students should be able to
    - Explain from memory basic terminologies precancerous lesion and condition and enumerate each.
    - Explain from memory biological basis of precancerous lesion.
    - To obtain proper clinical history, methodical examination of the patient, radiographic evaluation and order relevant laboratory tests

and interpret them and to arrive at a reasonable diagnosis about the condition.

- Explain from memory medical or surgical interventions required.

8. **General Anesthesia-** Students should be able to

- Define from memory general anesthesia and explain different stages of general anesthesia.
- Enumerate and classify GA agent and explain from memory mechanism of action of general anesthetic agent.
- List indications and contraindications, and advantages and disadvantages from memory of general anesthesia.
- Enumerate from memory common preanesthetic evaluation of a patient and explain routine preanesthetic medications.
- Explain from memory different preventive measures and optimal management of complications.

9. **Medical Emergencies.** Students should be able to

- Enumerate from memory common medical emergencies and explain clinicopathophysiology.
- Enumerate from memory Prevention of medical emergencies.
- Explain from memory clinical presentation and prompt management of developing medical emergencies.
- Explain from memory ABC applied for any medical emergencies.
- Explain from memory Basic Life Support.
- Enumerate from memory common emergency drugs their indications and contraindications.

10.Pre-prosthetic surgeries. Students should be able to

- Enumerate from memory common preprosthetic surgeries for maxilla and mandible
    - Eg.alveoplasty, tori removal, frenectomy and vestibuloplasty .
- Explain from memory indications, limitations advantage and disadvantages of common corrective surgeries.
- Explain from memory clinical and radiological features of common conditions requiring surgeries.
- Explain from memory surgical steps of each procedure.
- Enumerate from memory complications their possible preventions and management.

11.<u>Maxillary Sinus.</u> - Students should be able to.

- Explain from memory basic anatomy and physiology of maxillary sinus.
- Enumerate from memory acute and chronic diseases of maxillary sinus. pathogenesis of cyst and its expansion.
- Explain from memory etiopathogenesis of common conditions like OAC and oroantral fistula.
- Explain from memory clinical and radiological features of common conditions like OAC and oroantral fistula.
- Explain from memory basic surgical procedures for OAF repair like closure with different flaps eg. Buccal advancement, palatal rotation, combination and buccal fat pad.
- Enumerate from memory common indications and contraindications and advantages and disadvantages of different procedures of OAC/OAF repair
- Enumerate from memory common intraoperative and post-surgical complications of surgery, different preventive measures and optimal management.

Objectives for Teaching – Final Year

1. <u>Cysts and pathologies</u>- Students should be able to

- Explain proper clinical history, systematic examination of the patient, radiographic explanation and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
- Explain from memory basic terminologies and classify the odontogenic and non odontogenic cysts including WHO classification.
- Enumerate from memory pathogenesis of cyst and its expansion.
- Enumerate from memory clinical and radiological features of common odontogenic cysts like radicular, dentigerous and OKC.
- Enumerate from memory of macroscopic and microscopic features of aspirated contents and therefore should explain diagnostic importance of aspiration.
- Explain from memory basic surgical procedures like enucleation and marsupialization and their combination for surgical management of the lesion.

- Enumerate from memory common indications and contraindications and advantages and disadvantages of enucleation and marsupialization.
- Enumerate from memory common intraoperative and post-surgical complications of surgery, different preventive measures and optimal management e.g. incomplete removal, fracture and recurrence.
- Explain from memory adjunctive treatments like chemical cauterization and resection of aggressive cyst like OKC.

2. **Salivary gland disorders.** Students should be able to

- Explain from memory anatomy and physiology of major salivary glands and their ductal system
- Classify from memory common salivary gland disorders.
- Explain from memory pathogenesis of salivary gland disorders like sialolithiasis, sialedinitis, infective and tumors.
- Enumerate from memory clinical and radiological features including sialography of salivary gland disorders like sialolithiasis, sialedinitis, infective and tumors.
- Enumerate from memory medical and surgical management of different conditions.
- Enumerate from memory common intraoperative and post-surgical complications of surgery, different preventive measures and optimal management.

3. **Mid-face fractures-** Students should be able to

- Explain proper clinical history, systematic examination of the patient, radiographic explanation and to arrive at a reasonable diagnosis about the surgical condition.
- Explain from memory basic terminologies and anatomy of the midface and classify the mid face fractures.
- Enumerate from memory clinical and radiological features of mid face fractures like Le forte I ,II ,III ZMC and NOE fracture
- Explain from memory the emergency procedures for life threatening conditions like airway compromise and developing shock and explain delayed definitive treatments options
- Explain from memory basic of fracture healing and the basic procedures applied for fracture management like reduction, immobilization and fixation.

- Enumerate from memory common indications and contraindications and advantages and disadvantages of open reduction and closed reduction techniques for fracture management.
- Enumerate from memory common surgical approaches of mid face for ORIF.
- Explain from memory fixation devices like wire osteosynthesis and miniplate osteosynthesis and explain the use of instruments and armamentarium needed for treatment.
- Enumerate from memory pre-operative, intraoperative and postoperative complications their possible preventions and management.

4. <u>Mandibular fractures</u> -Students should be able to

- Explain proper clinical history, systematic examination of the patient, radiographic explanation and to arrive at a reasonable diagnosis about the surgical condition.
- Explain from memory basic terminologies and anatomy of the mandible and classify the mandibular fractures.
- Enumerate from memory pathognomonic clinical and radiological features of mandibular fractures like Subcondylar fracture.
    - Symphysis and Parasymphysis fracture
    - Body and angle fracture
- Explain from memory the emergency procedures for life threatening conditions like airway compromise and developing hemorrhagic shock and explain delayed definitive treatments options.
- Explain from memory basic of fracture healing and the basic procedures applied for fracture management like reduction, immobilization and fixation.
- Enumerate from memory common indications and contraindications and advantages and disadvantages of open reduction and closed reduction techniques for fracture management.
- Enumerate from memory common surgical approaches of mandible for ORIF.
- Explain from memory fixation devices like wire osteosynthesis and miniplate osteosynthesis and reconstruction plate and explain the use of instruments and armamentarium needed for treatment.
- Enumerate from memory pre-operative, intraoperative and postoperative complications their possible preventions and management

5. **<u>Temporomandibular joint anatomy and disorders</u>** Students should be able to

- Explain from memory basic anatomy and pathophysiology of TMJ and can classify TMJ disorders.
- Define from memory different conditions like TMJ ankylosis, subluxation and dislocation and explain their etiopathophysiology.
- Enumerate from memory diagnostic clinical and radiological features of conditions like TMJ ankylosis, subluxation and dislocation.
- Differentiate from memory subluxation and dislocation and explain from memory basic procedures for management acute and chronic dislocation.
- Explain from memory basic procedures for management of TMJ ankylosis including Kaban's protocol and can define and explain procedures like, condylectomy, gap arthroplasty and interpositional arthroplasty.
- Explain from memory basic incisions and approaches to TMJ and for harvesting few interpositional graft.
- Enumerate from memory common intraoperative and post-surgical complications of surgery, different preventive measures and optimal management e.g. incomplete removal and recurrence.

6. **<u>Neurologic disorders</u>.** Students should be able to

- Explain from memory anatomy and physiology of cranial nerves mainly trigeminal and facial.
- Classify from memory nerve injuries and explain clinical examination of Trigeminal and Facial nerve.
- Explain from memory diagnosis and enumerate medical and surgical management of facial paralysis.
- Define and enumerate from memory neuralgia like trigeminal and glossopharyngeal.
- Enumerate from memory medical and surgical management of different neuralgia.

7. **<u>Orthognathic surgery</u>** Students should be able to

- Define from memory orthognathic surgery and aims and objectives of the same.
- Enumerate from memory different procedures for mid face and mandible.

- Enumerate from memory different skeletal and developmental conditions requiring corrective orthognathic surgery
- Explain proper clinical history, systematic examination of the patient, radiographic explanation and to arrive at a reasonable diagnosis about the surgical condition.
- Explain from memory common procedures for mandible and midface
    - E.g. BSSO and Genioplasty for mandible,
    - Leforte osteotomies and rapid maxillary expansion for midface.
- Explain from memory indications, limitations advantage and disadvantages of common orthognathic procedure like BSSO and Genioplasty for mandible, Leforte osteotomies and rapid maxillary expansion.
- Enumerate from memory common surgical approaches of mandible for and midface.
- Explain from memory fixation devices like wire osteosynthesis and miniplate osteosynthesis and explain the use of instruments and armamentarium needed for procedure.
- Enumerate from memory pre-operative, intraoperative and postoperative complications their possible preventions and management.

8. <u>Cleft lip and Palate</u> - Students should be able to

- Mention from memory incidences, prevalence and classification of cleft lip and palate.
- Explain from memory normal development of fetus in IU life and causes of different anomalies like cleft lip and palate.
- Explain from memory clinical features of cleft and palate patients
- Explain from memory multidisciplinary approach for successful treatment of cleft lip and palate patients.
- Explain from memory staged surgical interceptions like cleft lip is operated earliest, followed by palatal repair and alveolar bone grafting at the end along with correction of residual defects.
- Explain from memory in brief Millers technique for cleft lip repair and utility of adjunctive common procedures for mandible and midface
    - E.g. BSSO and Genioplasty for mandible,
    - Leforte osteotomies and rapid maxillary expansion for midface.
- Enumerate from memory pre-operative, intraoperative and postoperative complications their possible preventions and management.

9. <u>Implants</u>. Students should be able to

- Define and classify from memory different implants.

- Explain from memory concept of Osseo integration.
- Explain proper clinical history, systematic examination of the patient, radiographic explanation of residual bone and to arrive at a reasonable diagnosis about the surgical condition.
- Explain from memory indications, limitations advantage and disadvantages of common implants.
- Enumerate from memory common adjunctive procedures like bone grafting, sinus lift and ridge split.
- Explain from memory steps of implant fixation and enumerate and explain the use of instruments and armamentarium needed for procedure.
- Enumerate from memory pre-operative, intraoperative and postoperative complications their possible preventions and management.