

RETEST AND ANSWER SHEETS
(SAMPLE)

I.

1)

Oral mucous membrane:

The epithelial layer covering the whole oral cavity with the mucous like substance to form mucous membrane is called oral mucous membrane. The oral mucous membrane helps in several functions like flavour speech, mastication, maintaining water balance in oral cavity, by producing lysozyme which acts as first line of defense against bacteria entering body, etc.

It is classified to two types of these specialised mucosa.

It is classified into nonkeratinised epithelium and keratinised epithelium.

Keratinised epithelium

keratinised epithelium consists of several layers like

stratum corneum, stratum granulosum, stratum intermedium, stratum

basale. It is made of stratified squamous keratinised epithelium consisting

of a brown pigment called 'melanin'.

Taste buds:

* Taste buds are minute microscopic villi like projections present only on the dorsal surface of tongue meant for receiving and sensitizing the taste of the food we eat.

* Taste buds work with the major help of saliva for converting the taken food into bolus formation and making the chemicals present in the food soluble in it by mastication and saliva only sensitizes the receptors in taste buds.

⇒ Thus the taste of the food can be perceived.

* Taste buds are projected organells ending with the tip which consists of receptors, in it.

Functions of taste buds (Mechanism):

The food taken in is involved in mastication with the help of saliva. As well as the food has been masticated, the chemical substances which present on the food has been dissolving in the saliva.

The chemicals which present in the saliva then binds and sensitises the receptors which are present on the tip of the microscopic taste buds.

As well as the taste receptors are stimulated, the impulse (afferent) from the receptors pass thgh the nerves.

In this place, we have to mention that the anterior 2/3 rd of the tongue is supplied by cordalymphatic nerve which is a branch of facial nerve (CN7) and posterior one third is supplied by glossopharyngeal nerve for taste sensation purpose only, respectively.

The receptors stimulated in anterior two third sends afferent impulses via the cordalymphatic nerve and the receptors present in the posterior one third sends impulses via glossopharyngeal nerve.

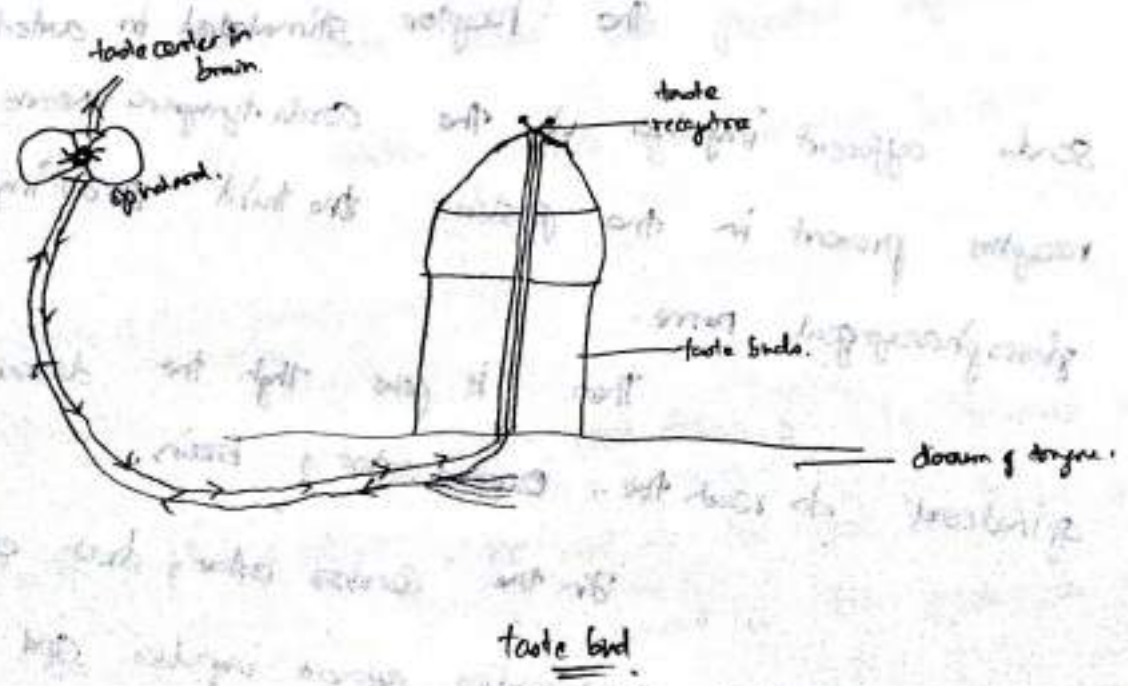
Then it pass thgh the dorsal column of the spinalcord to reach the cerebral cortex of brain.

In the cerebral cortex of brain efferent impulses are created for corresponding afferent impulses and it is carried by

The same nerves but parasympathetic fibres. and correspondingly taste of the food can be felt. This reflex action requires time about 0.3 sec to happen. ~~about~~

Numerous taste buds are present within the centrally located foliate papillae which show its velvety appearance with red colour prominence.

Central part of tooth is meant for salty taste, tip of it meant for salty taste, sides are meant for sweetness, bottom of tongue (root) meant for bitter taste, middle part for pungent taste.



29

Permanent Mandibular First Molar:

- + largest tooth in mandibular arch
- + length is higher mesiodistally than buccolingually
- + shorter crown cervicoocclusally, but other dimensions are higher.
- + Mesiodistal width of the three mandibular molars is \geq (greater or equal to) the mesiodistal width of the anterior. All premolars in mandibular arch.
- + situated posterior to mandibular second premolars.
- + has no predecessor.
- + double rooted tooth with 5 cusps.

Chronology:

Beginning of Calcification \Rightarrow At Birth.

Enamel completion \Rightarrow 2½ - 3 yrs.

Eruption \Rightarrow 6 - 7 yrs.

Root completion \Rightarrow 9 - 10 yrs.

Measurements:

Cervicoocclusal length of the crown \Rightarrow 7.5 mm.

\Rightarrow 14 mm.

length of the root

Mesiodistal diameter of crown \Rightarrow 10.5 mm.

Mesiodistal diameter of crown at Cervix \Rightarrow 9 mm.

Labiolingual diameter of Crown \Rightarrow 11 mm.

Labiolingual diameter of Crown at Cervix \Rightarrow 9 mm.

Curvature of Cervical line - Mesial \Rightarrow 1 mm.

Curvature of Cervical line - Distal \Rightarrow 0.0 mm.

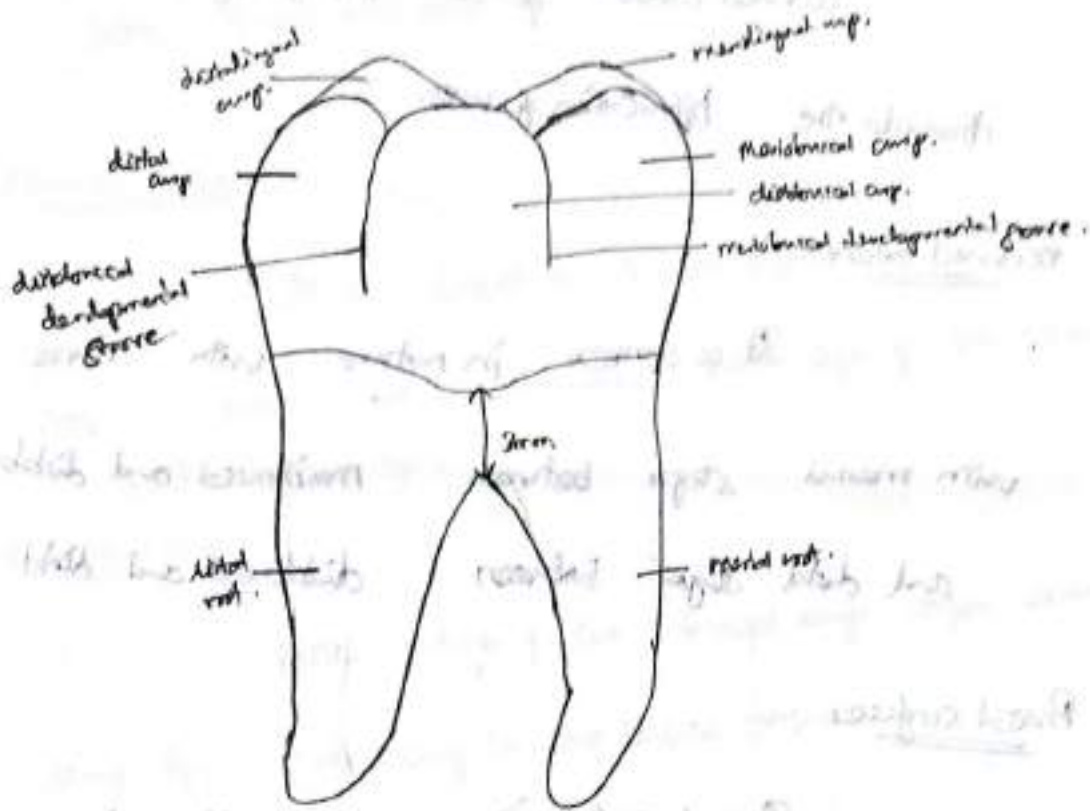
Buccal aspect:



Shape:

The shape of the Crown is trapezoidal in shape roughly.

Outlines of the Crown:



Merid outline:

Score the Cervical line. There is a slight concavity in the surface of mesial outline and there is a ~~convexity~~ convexity reaching the mesiodistal cusp tip.

Distal outline

It passes straight above the cervical line and curves with convexity to reach the distolingual cusp. After the junction of contact area between occlusal and middle thirds, the outline passes convexly.

Cervical outline:

Cervical outline passes straightly with a small curve towards the bifurcation of roots.

occlusal outline:

It is convex in nature with three angles with mesial slope between mesibuccal and distobuccal angles and distal slope between distobuccal and distal angles.

Buccal surface:

Buccal surface is convex with the presence of three angles Mesibuccal, distobuccal, distal angles. of buccal surface the mesibuccal is largest, distal is smallest. Mesiolingual angle also seen as they are in the highest than the buccal angles.

Both Mesibuccal and distobuccal angles are divided by Mesibuccal developmental groove and ends in the middle one.

Distobuccal and distal angles are divided by Distobuccal developmental groove and ends in cervical one and

9
Mesial and Distal roots are ^{both} 2 roots can be seen from two angles.

The bifurcation starts from below the cervical line rather than in other teeth. Buccocervical ridge at the Cervical Third of crown to prevent parulis proximally.

Mesobuccal ang:

It is largest in buccal surface. wider of all angles.

Leads plaster at buccal surface. Mesial slope of buccal ang and in mesobuccal ang tip.

Distobuccal ang:

Distal slope of the buccal ang ~~also~~ ends in the distobuccal ang tip. central ang in the buccal surface.

Distal ang:

It is the minor ang and smallest of all angles

Outlines of root:

Mesial outline:

Mesial root:

mesial outline of mesial root is concave from cervical line and the apical part curves distally ~~distally~~
 distal outline of mesial root is concave from bifurcation

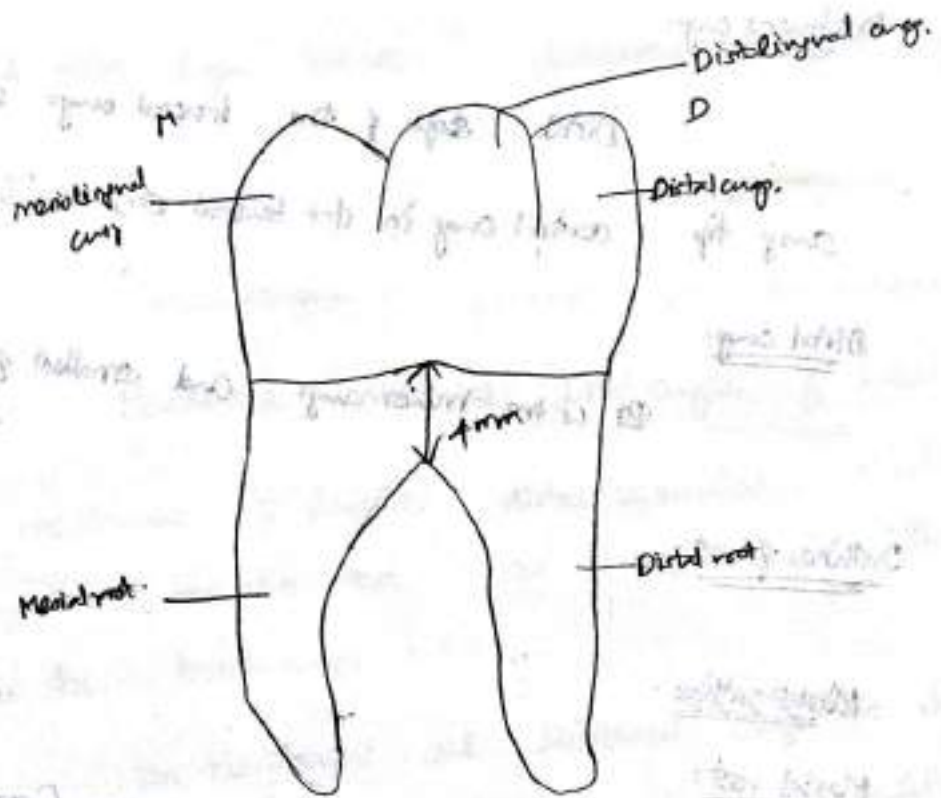
Distal root:

medial ^{active} root of distal root is concave from bifurcation

Distal outline of distal root is convex from the cervical line

and curves distally in apical third of root.

Lingual aspect:



Shape of Crown:

From is given trapezoidal in shape.

Outlines of crown

Medial outline:

straight above the cervical line and curves at junction area convexly to end in the mesolingual cusp tip.

Distal outline:

slightly convex convexity to reach the distal cusp tip.

Cervical outline:

almost straight with the curvature slightly towards the

Distal outline (crown):

Distal outline:

Convex occlusal outline with mesial slope covering the mesolingual cusp and distal slope covering distolingual cusp at their respective tips.

Lingual surface:

Convex in nature with three cusps are seen. The lingual surface is at higher height than buccal surface. The higher two cusps, the mesolingual and distolingual cusps are there. Distal cusp which is a minor cusp is also there along with distolingual cusp. Mesolingual cusp and distolingual cusps are separated by a lingual developmental groove.

Mesial and distal roots are seen. Buccal surface of root trunk
seen. Here bifurcation starts at junction below the cervical line
as either the other members.

Outlines of the roots:

Mesial root:

Mesial outline of mesial root starts with concavity from the cervical line and curves
distally at the apical third as like buccal surface.

Distal outline of distal root starts with concavity

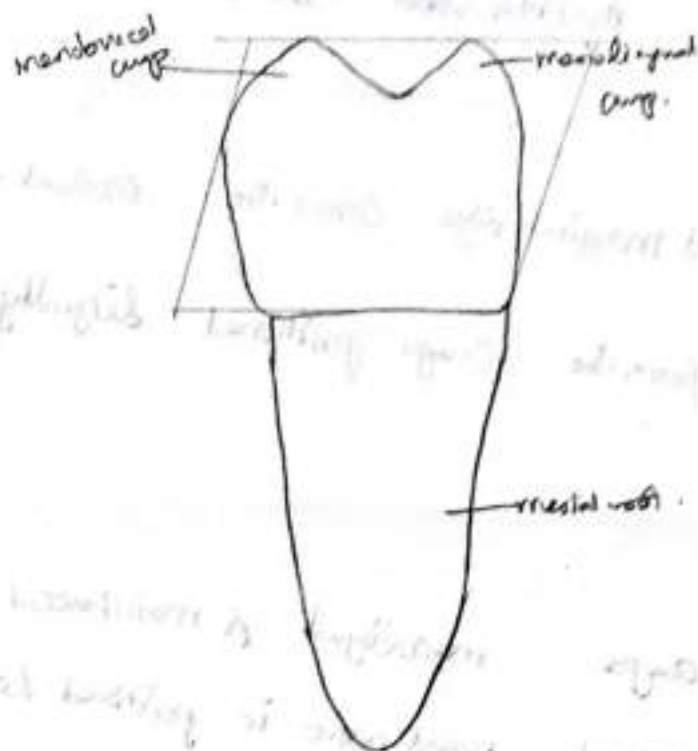
Distal outline of mesial root starts from bifurcation with
concavity and ends in apical part.

Distal root:

Mesial outline of distal root is concave in nature.

Distal outline of distal root is convex in nature and
curves distally at the apical third

Moral aspect:



Shape of Crown:

Crown is rhomboidal in shape roughly.

Outlines of Crown:

Buccal outline:

Convex from the cervical line to the contact area which is present junctional at between the middle and apical one third of crown. Then passes with concavity to reach the mesiodistal angle.

Lingual outline:

Pass straight away from the cervical line and then at the contact area pass convexity to reach the mesiodistal angle.

Cervical outline:

almost straighter ~~with~~ from the buccal to lingual

occlusal outline:

Medial marginal ridge covers the occlusal outline of the mandibular
mesial groove from the cusp positioned lingually

Medial angle:

two cusps mesiodistal & mesiofacial angles can be seen
from this aspect. mesial angle groove is positioned lingually.

mesial root can be seen from this aspect. ~~mesial root~~
seen from the cervical to apical third in the centre. slight depression

Outline of root:

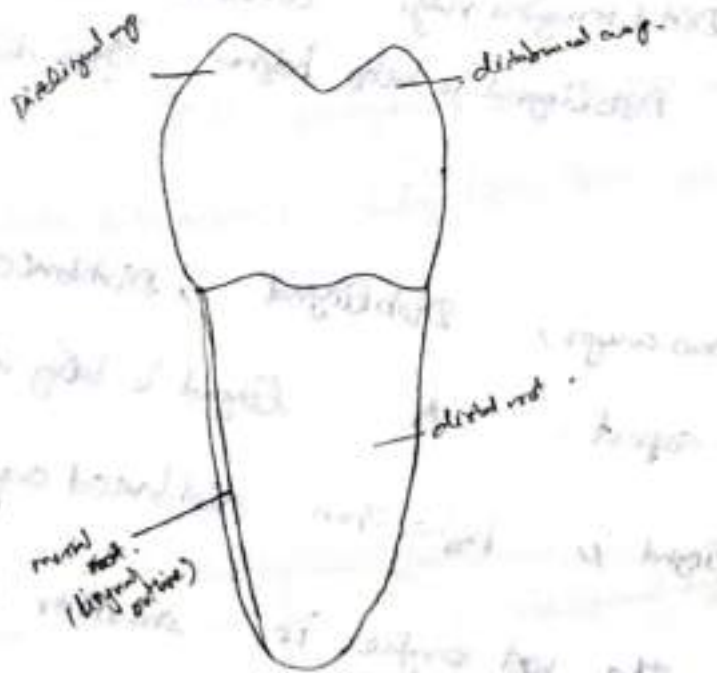
lingual outline of mesial root is about convex from

the cervical to apical part of the whole root.

Buccal outline of mesial root is also even convex from

the cervical to apical, the whole part of root.

Distal aspect:



Shape of Crown:

Apical crown is roughly rhomboidal.

Outlines of Crown:

Buccal outline:

It is almost slightly convex from cervical line to the apex.

Lingual outline:

straight line from the cervical line and passes convex from the apical third of crown to tip.

Cervical outline:

Cervical outline passes first towards the apex and then towards the apex from buccal to lingual.

occlusal outline:

Distal marginal ridge covers the occlusal outline of distal ang almost convex Distolingual is being higher than distobuccal ang.

Distal surface:

two cusps, Distolingual, Distobuccal Can be seen from this aspect. A lingual is being at the height, the

Distolingual is higher than distobuccal ang.

the root surface is smoother but sometimes with lighter depression in the center from cervical to apical third

lingual outline of mesial root can also be seen.

Outline of root:

The Buccal outline of distal root is convex from cervical to apical third of root.

The lingual outline of distal root is about straight from cervical to apical third of root.

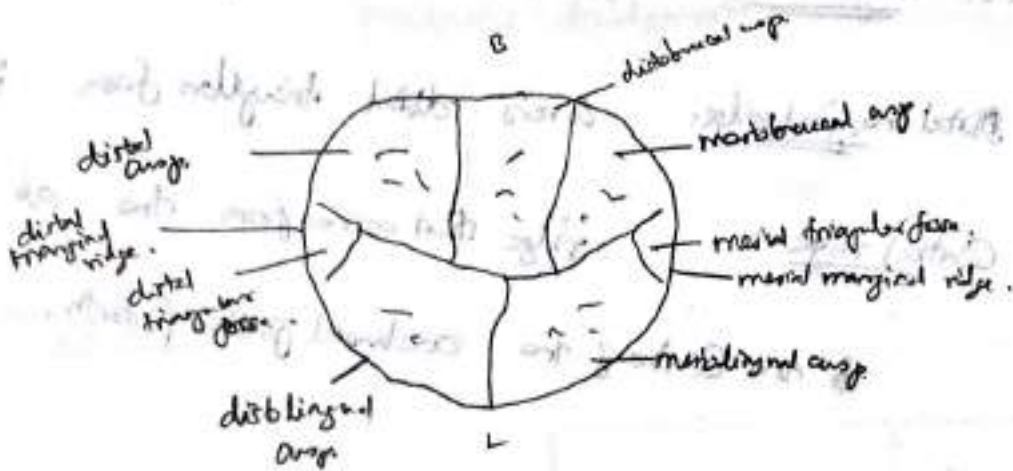
to lingual outline of mesial root Can also be seen

Occlusal aspect:

Shape of Crown:

It is parabolic in shape with five sides with five angles. mesiodistal dimension is being higher than distal buccolingual dimension.

Cusps:



five cusps: Mesiolingual, distolingual \Rightarrow lingual

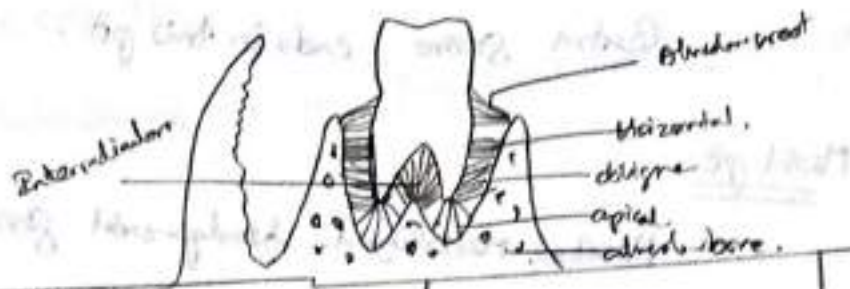
Mesio-buccal, distobuccal, distal \Rightarrow buccal.

distal cusp to minor cusp, others are major cusps.

Mesio-buccal cusp is wider and ends in flat end.

Distobuccal cusp is also wider and ends in rounded ends.

Distal cusp is minor and smallest full but ends in sharp end, with top of occlusal.



Name	Origin	Insertion	Function
Apical	space of the root	spreads in fan shaped irregular fashion and inserts into abductor socket bone.	prevents vertical and lateral tooth movement
Endoradicular	Present in multirooted tooth. Endoradicular septum between roots.	abductor system	prevents movement

-3/2-

83) Cementoenamel junction:

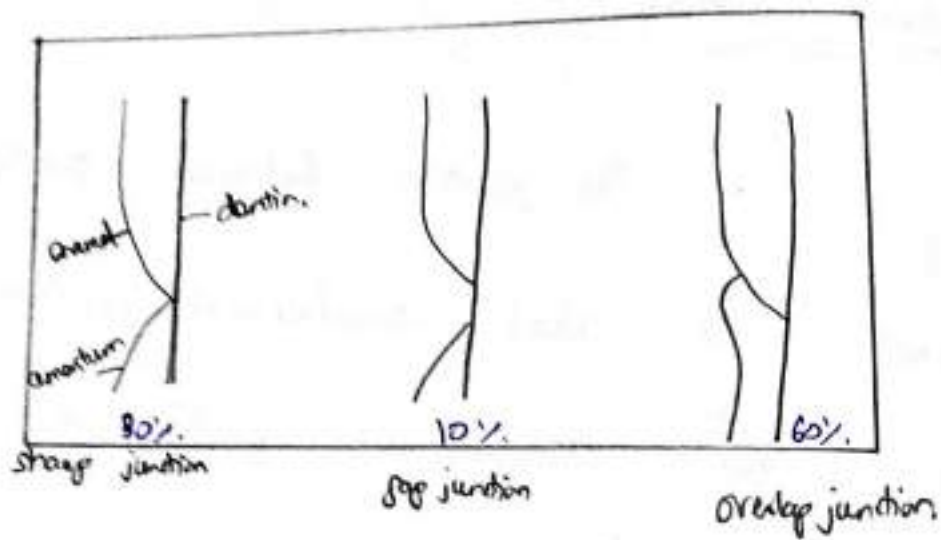
The junction between the Cementum and the enamel is called Cementoenamel junction. But due to various factors, the Cementoenamel junction are proportionate in 10%, 30%, 60%.

Based on the type of the Cementoenamel junctions they are classified into,

- sharp junction / Butt junction
- gap junction
- overlap junction.

Sharp junction:

It is seen in about 80% of the teeth. The Cementum sharply ends in relation with the enamel of Cementoenamel junction.



Gap junction:

It is seen in 10% of teeth. Here the enamel and dentin do not join. There is some space where between the enamel and dentin is exposed. This is because due to the slow deposition of Hertwig's epithelial root sheath so that the cementoblastic cells do not come in contact with the dentin and cannot differentiate to deposit enamel.

Overlap junction:

It is seen almost roughly about 60% of teeth. In this the enamel of one tooth overlaps the enamel of the other tooth. This is due to the fact that the dentin cells surrounding the odontoblastic cells during cementum deposition come in contact with odontoblast and differentiate to form cementum.

and they also deposit cementum on the surface of the enamel.

The thickness of enamel over the cementum is almost equal.

69

Hypocalcified structure of enamel:

Hypocalcified structure of enamel includes the special structures seen in enamel including enamel lamellae, enamel tufts etc.

Enamel lamellae:

They are sheet like structures passing longitudinally from the surface of enamel to the cementum, across the cementum junction.

So they can be well defined in horizontal or transverse sections. Enamel lamellae are like the cracks occurring in the surface of the enamel due to masticatory forces on the surface while crossing the plane of tension.

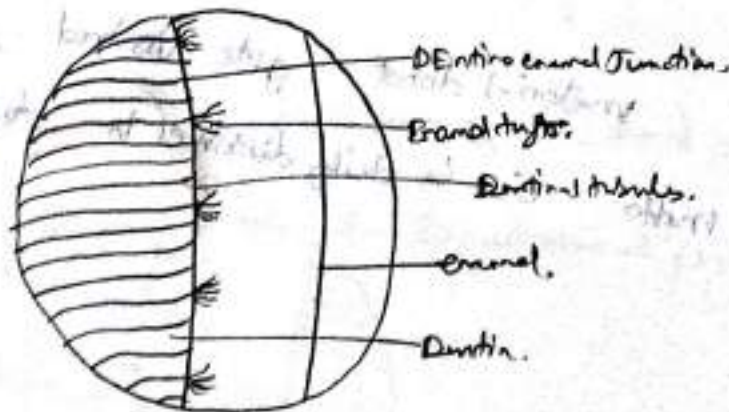
Enamel tufts

Enamel tufts are many, small, ribbonlike projections lying at the Ameloblast junction. They pass longitudinally, and they can be well identified under horizontal sections. They are numerous in number than enamel lamellae.

They appear like they get branched from the stem and pass away. But each of them are free branches. As they seem like a tuft of grass they are called so.

They are present within the inner one third of enamel some extend to middle third. These are also

Hypocalcified structures of enamel.



key of occlusion:

Incisor:

Maxillary central incisors meet on occludes with anteriorly to the mandibular central incisor. The incisal tip of the mandibular central incisor meet on anteriorly to the incisal edge of the maxillary central incisor.

Incisor's crown:

Maxillary lateral incisor also on anterior to the mandibular lateral incisor.

Canine:

Maxillary canine occludes anteriorly to the mandibular canine with the incisal tip. For tearing purpose they are assembled so.

Molars relation:

The mesiolingual cusp of maxillary 1st molar occludes with mesial groove of the mandibular 1st molar tooth.

The distolingual cusp of maxillary 2nd molar tooth meet on anteriorly to the distal groove of the mandibular 2nd molar tooth.

Maxillary 3rd molar occludes with distal groove on the mandibular 3rd molar tooth.

2/2

3) Primary dentine

The ^{innermost} ameloblasts cells in the stage of organizing stage,
distally, the nucleus shifts proximally (columns
stratum intermedium) / The ~~golgi~~ golgi and centrioles are
then transferred to the distal side and then mitochondria and other
cell organelles are scattered throughout the cell. The cell become

columnar due to the

Due to the increase in size of cell, the acellular

zone present between the ^{innermost} ameloblastic cells and the dental papilla
cells gets decreased and fully occupied by the IEE ameloblastic cells

The IEE ameloblastic cells went on ~~over~~ adjacent
with the dental papilla cells and differentiate into odontoblasts
cells.

The differentiated odontoblastic cells then went
on secreting the matrix for dentin later it leads to mineralization

maxo Post motor:

First evidence of Calcification → At birth

Enameal completed → 2-4 yrs.

Erythra → 7-8 yrs.

Root completa → 10-11 yrs.

transient epithelium

enamel rod formation

At birth → Calcification of enamel

2-4 yrs → Enamel completed

7-8 yrs → Erythra

10-11 yrs → Root completa



CHETTINAD DENTAL COLLEGE AND RESEARCH INSTITUTE
KANCHIPURAM DISTRICT

I
NAME OF THE EXAM.

(RETEST)
I/II/III INTERNAL / MODEL EXAMINATION

Sl.No. / 2014 - 15

SUBJECT

Oral Histology

FOR INSTITUTION USE ONLY

DATE

11/7/15

REGISTER NUMBER

541416008

31

SUBJECT CODE

888888

SECTION
A/B

Bernisha
Signature of the Candidate

Signature of the Chief Superintendent / Invigilator

I
Answered Page
Number to
be filled by
the Candidate

Q.No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I	1	8													
II	20	22	24	27	30	34	37	39							
III															

II

MARKS TO BE FILLED BY THE EXAMINER

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III																
In Words															GRAND TOTAL	31

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SECOND VALUATION

III

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FIRST VALUATION

Oral Mucosa

Classification:

⇒ Masticatory Mucosa

⇒ Lining mucosa
(on)

⇒ Reflecting Mucosa.

⇒ Specialised Mucosa.

⇒ Masticatory mucosa are present in gingiva
hard palate and mandible

⇒ Lining mucosa are in soft palate, lips,
cheeks and floor of the mouth.

⇒ Reflecting mucosa are in cheeks, lips,
line of angle of mouth.

Specialized mucosa:

⇒ Masticatory mucosa are specialised
mucosa they are present in gingiva and
hard palate.

⇒ Specialised mucosa present in tongue

Tongue: (specialised mucosa)



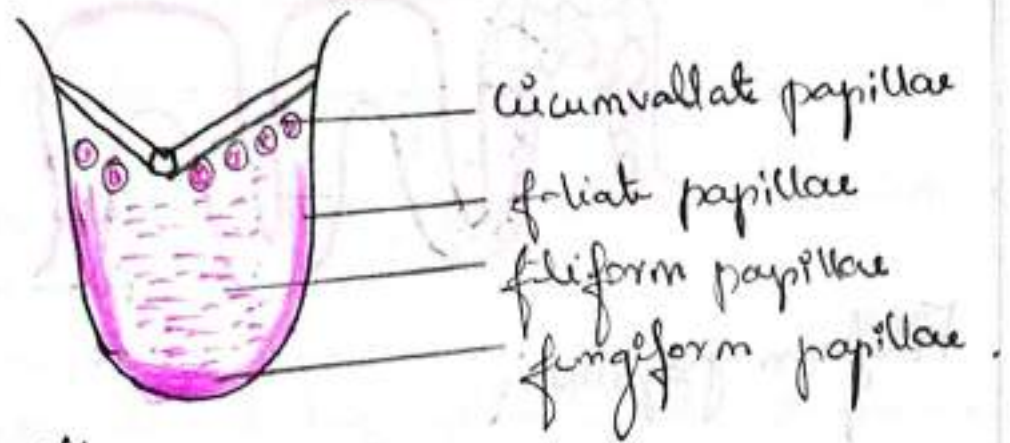
posterior part of tongue
Sulcus terminalis
Anterior two-third of tongue.

⇒ Tongue consist of body of tongue in Anterior two third and base of tongue in posterior one-third. Sulcus terminalis separate body and base of tongue.

⇒ Epithelial projection in the tongue are called papillae.

papillae of tongue:

- i) Fungiform papillae
- ii) filiform papillae
- iii) circumvallate papillae
- iv) foliate papillae.



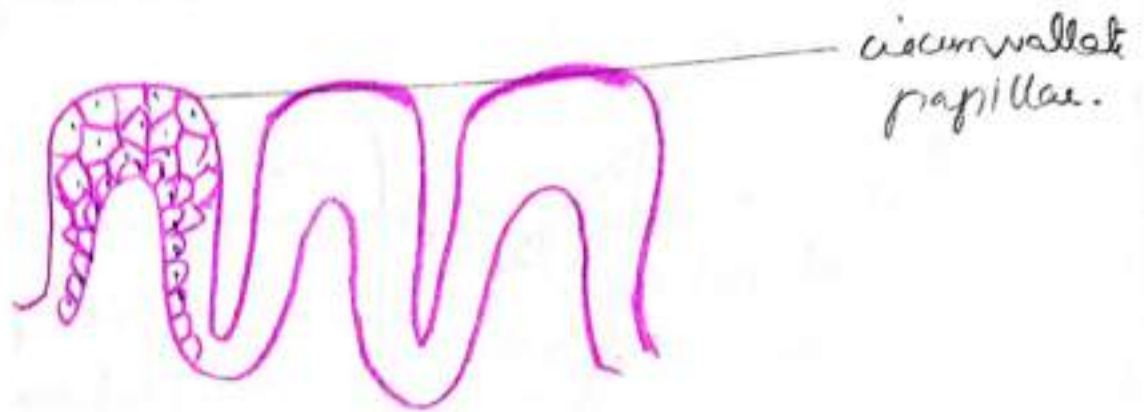
Circumvallate papillae:

⇒ They are located in front of sulcus terminalis. There are 11-12 circumvallate papillae.

⇒ They are surrounded by deep circular furrow their connection to the tongue is only possible at narrow base.

⇒ Numerous taste buds are present in the lateral surface of papillae.

Function: They help to wash the food element in the trough of papillae. They play major role in lingual lipase digestive enzyme. that hydrolyse triglycerides into diglycerides, monoglycerides, and emulsify fat.



Filiform papillae:

- ⇒ They are thread shape
- ⇒ They are fine pin pointed with core
- ⇒ They are lined by stratified squamous keratinised epithelium
- ⇒ They have no taste bud.
- ⇒ They are found in the dorsum of tongue.



- ⇒ They are valvate.

Fungiform papillae:

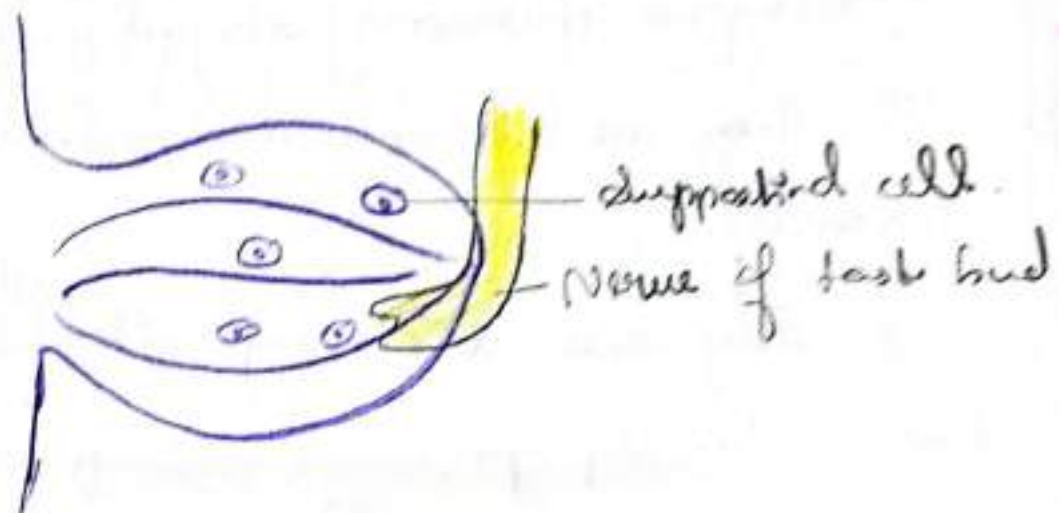
bad shot 5

- ⇒ They are mushroom shaped papillae
- ⇒ They are numerous reddish brown prominent.
- ⇒ They are lined by stratified squamous nonkeratinised epithelium.
- ⇒ They contain numerous connective tissue.
- ⇒ Taste bud are present in fungiform papillae.

Foliate papillae:

- ⇒ Numerous fold are present in foliate papillae.
- ⇒ In between fold taste bud are present.
- ⇒ They are present in the lateral surface of tongue.
- ⇒ They are lined by stratified squamous keratinised epithelium.

Taste bud:



⇒ Taste bud are ovoid in epithelial organ which contain taste receptor. Sensory nerve innervate taste bud. They are chorda tympani nerve from anterior two-third of tongue, glossopharyngeal nerve and vagus nerve.

⇒ Taste pore

⇒ Taste canal

⇒ Supporting cell

→ Neuroepithelial cell

→ Phloem of Nerve.

⇒ Taste bud lead to small opening called taste pore.

7
⇒ Taste pore leads to narrow space. Supporting cells are present in between them.

⇒ Supporting are initially barrel shaped outer and inner it is spindle shaped

⇒ In between supporting cell 10-12 Neuroepithelial cells are present they act as receptors for taste stimulus.

⇒ Taste bud are separated from connective tissue by basal lamina.

Numerous plexus of nerve reach taste bud.

Location:

⇒ Numerous on trough of circumvallate papillae.

⇒ lateral surface of tongue

⇒ Fungiform papillae.

⇒ Foliate papillae

⇒ posterior part of epiglottis

2)

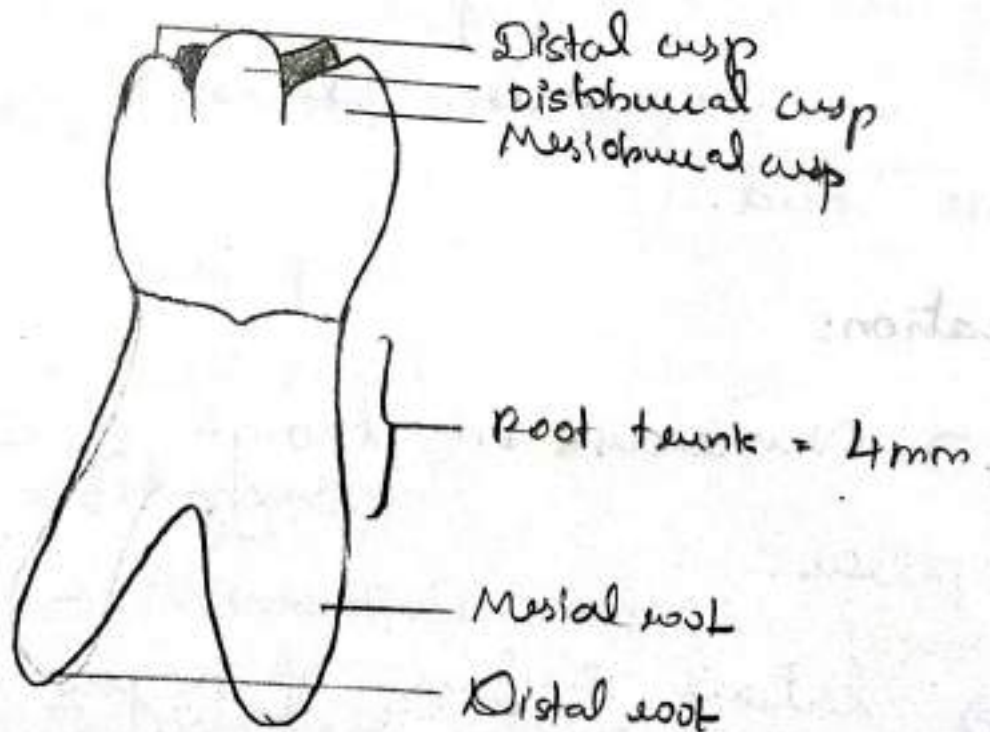
MANDIBULAR FIRST MOLAR:

⇒ They are the first tooth to erupt in mandibular arch

⇒ play role in mastication and comminution of food

⇒ They function in anchorage and 'single corner stone of teeth'

⇒ It is ^{not} wider buccolingually than mesiodistal aspect:



⇒ Buccal aspect is trapezoidal outline

Five cusp are seen from this aspect

- ⇒ Mesio buccal cusp
- ⇒ Distobuccal cusp
- ⇒ Mesiolingual cusp
- ⇒ Distolingual cusp
- ⇒ Distal cusp.

⇒ Lingual cusp are seen because they are at longer level than the buccal cusp.

Size of cusp:

⇒ Mesio buccal cusp is wider mesiodistally than distobuccal cusp, distobuccal cusp is wider than distal cusp.

⇒ Mesiolingual and distolingual cusp are almost are at equal to distobuccal cusp.

Development groove

- ⇒ Mesio buccal developmental groove
- ⇒ Distobuccal developmental groove.

Mesio-buccal developmental groove: It is the line of demarcation between mesio-buccal cusp and disto-buccal cusp.

Disto-buccal developmental groove: It is the line of demarcation between disto-buccal cusp and distal cusp.

Mesial outline: Mesial outline concave at cervical third and then convex.

Distal outline: It is straight at cervical third and convex.

Root: Two roots are seen

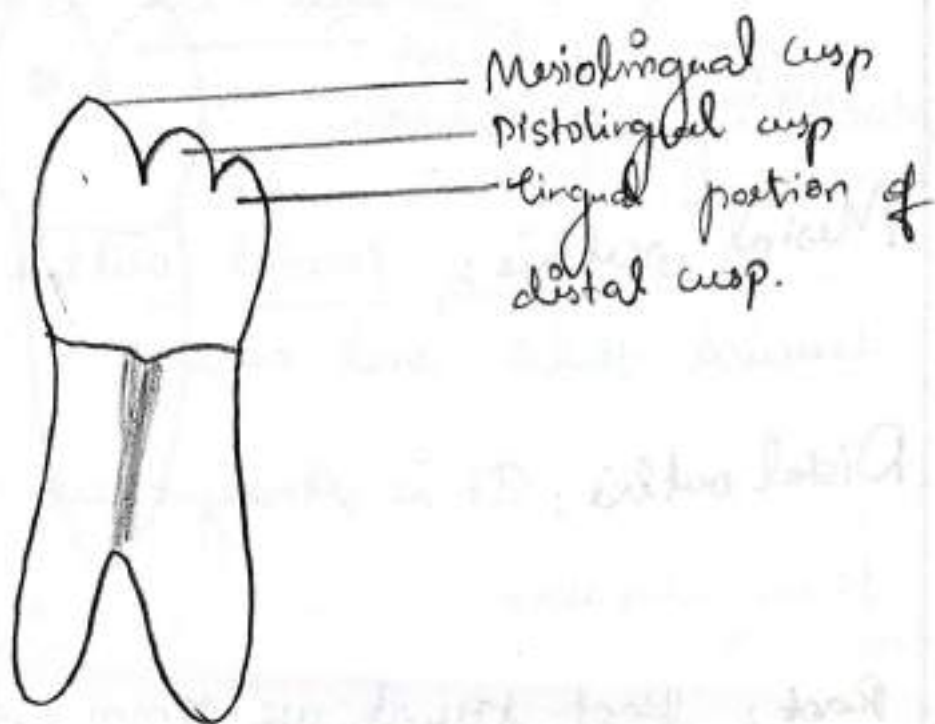
⇒ Mesial root and distal root.

⇒ Root trunk is 4mm from buccal

⇒ Mesial buccal cusp is one-third to mesial root from buccal

Cervical line: Cervical line is apically dipping towards root.

Lingual aspect



⇒ Three cusp are seen
Mesiolingual cusp
Distolingual cusp
lingual portion of distal cusp.

Development groove:

Lingual developmental groove: It is the line of demarcation between mesiolingual and distolingual cusp.

Lingual cusp are higher level than buccal cusp.

⇒ cross'

Cervical line: Cervical line is dipping toward root bifurcation.

Mesial outline: Mesial outline is concave at cervical third and convex.

Distal outline: It is straight at cervical third and then convex.

Root: Root trunk are 5mm from this aspect
⇒ Developmental depression are seen in root bifurcation.

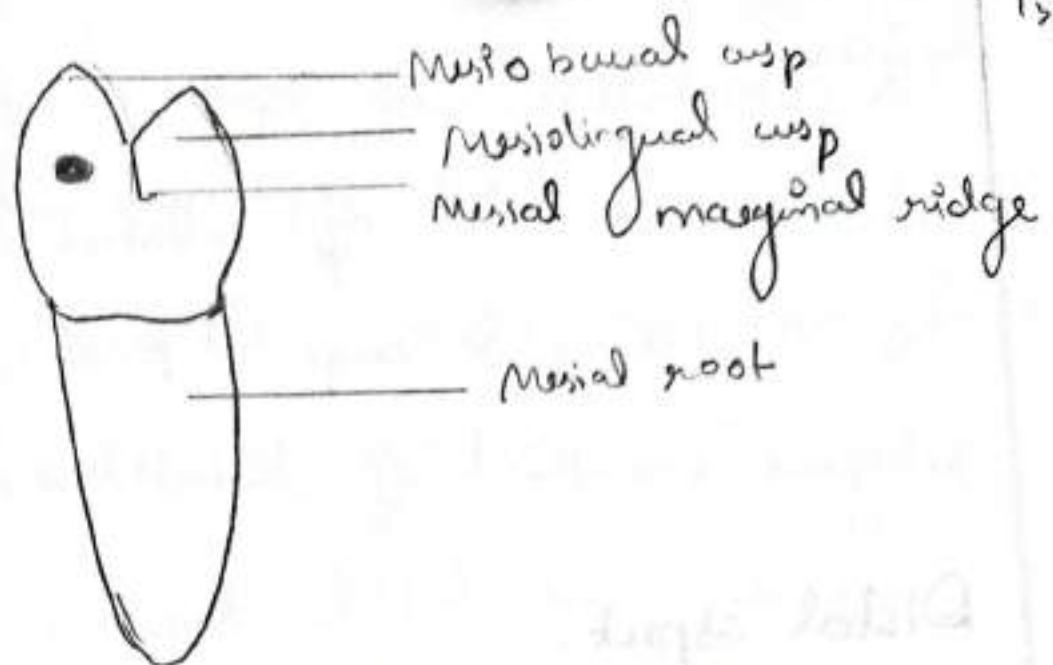
⇒ Mesial root and distal roots are seen.

⇒ Mesial and distal surface of crown seen.

MESIAL ASPECT

⇒ Mesio buccal cusp and Mesiolingual are seen.

⇒ Mesial marginal ridge lies between mesio buccal and mesiolingual cusp.



⇒ Buccal outline: Buccal outline is concave at cervical third and convex.

Lingual outline: Lingual outline is convex.

Mesially buccolingual measurement is greater than distally.

Mesial contact area is between cervical line and mesial cusp tip.

Cervical line is roughly irregular.

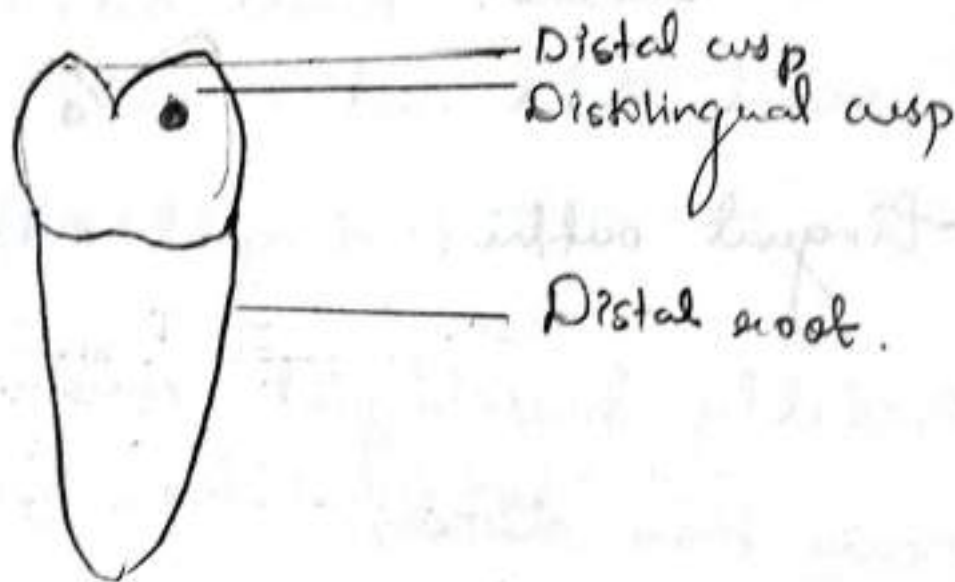
Mesial surface is broader than distal surface.

Mesial contact area is broader.

⇒ Mesio buccal cusp tip is formed from buccal one-third of mesial root.

⇒ Mesiolingual cusp tip is formed from lingual one-third of distal root.

Distal aspect.



⇒ Two cusp are seen distolingual cusp and distal cusp.

⇒ Cervical line is roughly irregular.

⇒ Distal marginal ridge line between distolingual cusp and distal cusp.

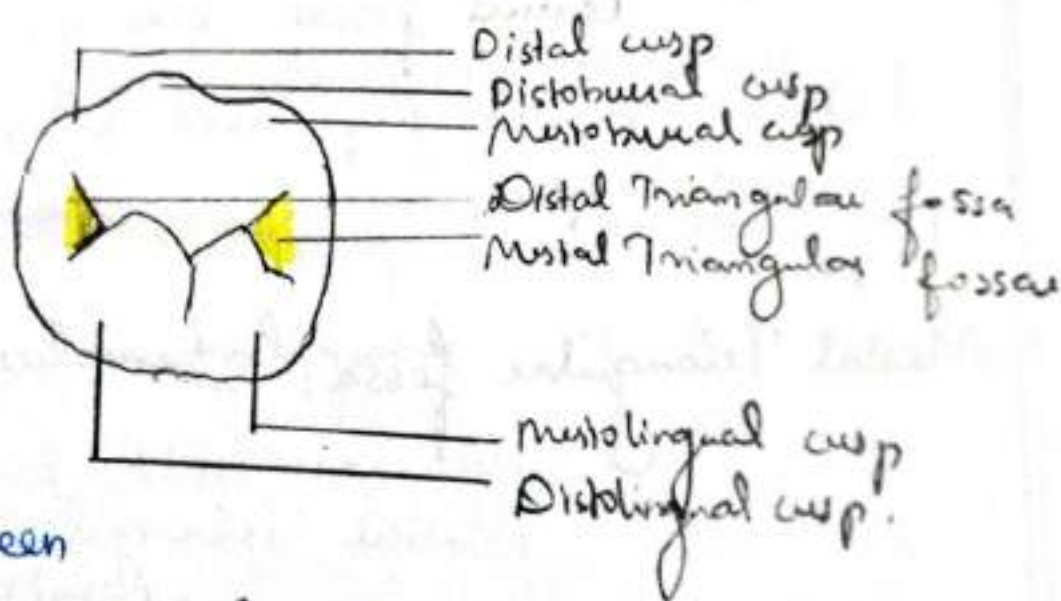
⇒ Distal contact area lies between cervical line and distal cusp tip.

⇒ Buccal outline is concave and then convex.

⇒ Lingual outline is convex.

⇒ Only one root distal root are seen in distal aspect.

Occlusal aspect:



5 cusp are seen

⇒ Mesiobuccal cusp

⇒ Distobuccal cusp

⇒ Distal cusp

⇒ Mesiolingual cusp

⇒ Distolingual cusp.

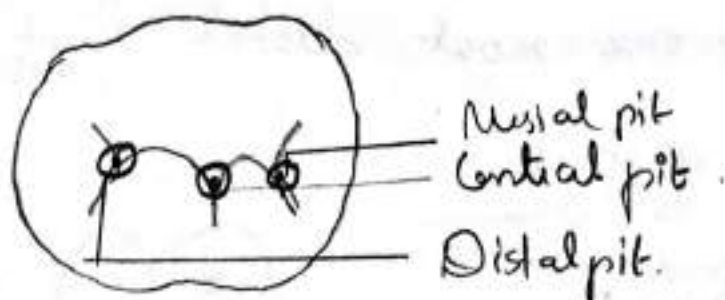
It is wider base Mesiodistally than buccolingual

Fossae:

Major Fossa → Central fossa, distal fossa

Minor Fossa → Mesial Triangular fossa,

distal triangular fossae.



Central fossae:

Central fossae lies in concave area between buccal cusp and lingual cusp. Central pit lies in it.

Mesial Triangular fossa:

Mesial Triangular fossa lies distal to mesial marginal ridge. It is bounded by mesiobuccal cusp, mesiolingual cusp and distobuccal cusp. Mesial pit lies in it.

Distal Triangular fossae:

It is seen mesial to distal marginal ridge. It is bounded by distal cusp distobuccal cusp and distolingual cusp. Distal pit lies in it.

Developmental groove:

- ⇒ Mesio buccal developmental groove
- ⇒ Distobuccal development groove
- ⇒ Lingual developmental groove
- ⇒ Central developmental groove.

Mesio buccal developmental groove: It lies between mesio buccal and distobuccal cusp and continues on buccal surface.

Distobuccal developmental groove: It lies between distobuccal and distal cusp and lies in buccal surface.

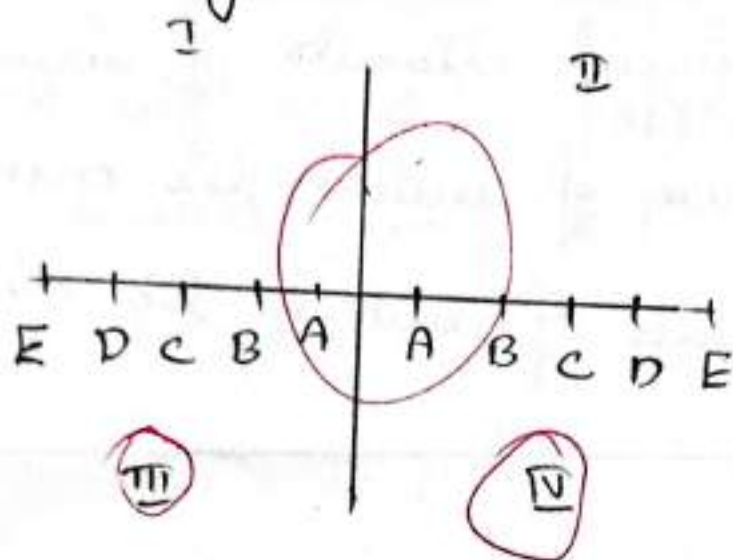
II SHORT NOTE

1) FDI system:

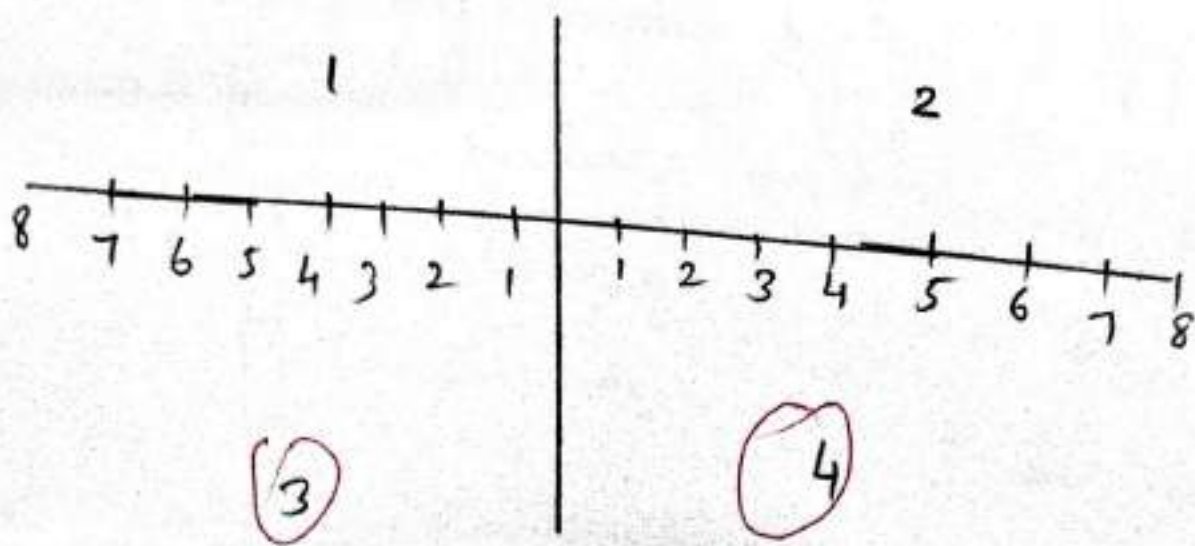
⇒ FDI system is based on four quadrants

⇒ It is widely accepted system.

FDI in primary dentition.



FDI system in permanent dentition:



Merits:

- ⇒ FDI system is easy to use
- ⇒ No signs and symbols are used
- ⇒ Only number system are used so it is easily typing in computer.
- ⇒ No confusion between right and left side of teeth are available.
- ⇒ Alphabet are used in primary dentition to differentiate from permanent dentition.
- ⇒ It is widely accepted.

Eg: In permanent dentition.

permanent maxillary first molar is written as 16, 26.

Demerits:

In Federal system, alphabet are used in primary dentition.

2) Bundle Bone:

⇒ The place where principal fibres of periodontal ligament are embedded!

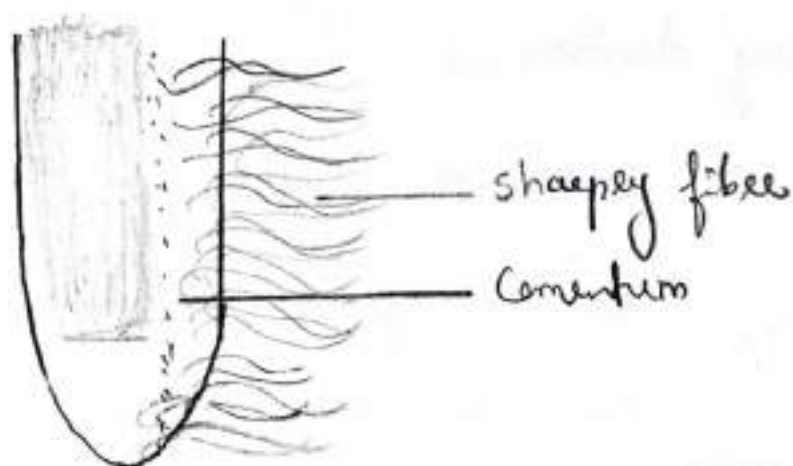
⇒ They are seen in area of resorbtion and apposition. Bundle Bone are numerous Sharpey's fibre.

⇒ Sharpey's fibre are regular and are in bundle so they are called Bundle Bone

⇒ Sharpey's fibre are seen perpendicular to the surface of teeth.

⇒ They are well mineralised in primary cementum and partially mineralised in secondary cementum.

⇒ Sharpey's fibre are numerous in the alveolar bone than cementum. So called alveolar bone proper.



⇒ when the thickness of cementum is less Sharpey's fibres cross entire thickness of cementum

Sharpey's fibres help in binding tooth to alveolar bone.

Lamina dura:

Alveolar bone proper is called lamina dura. Because of increase radiopacity of thick bone without septa.

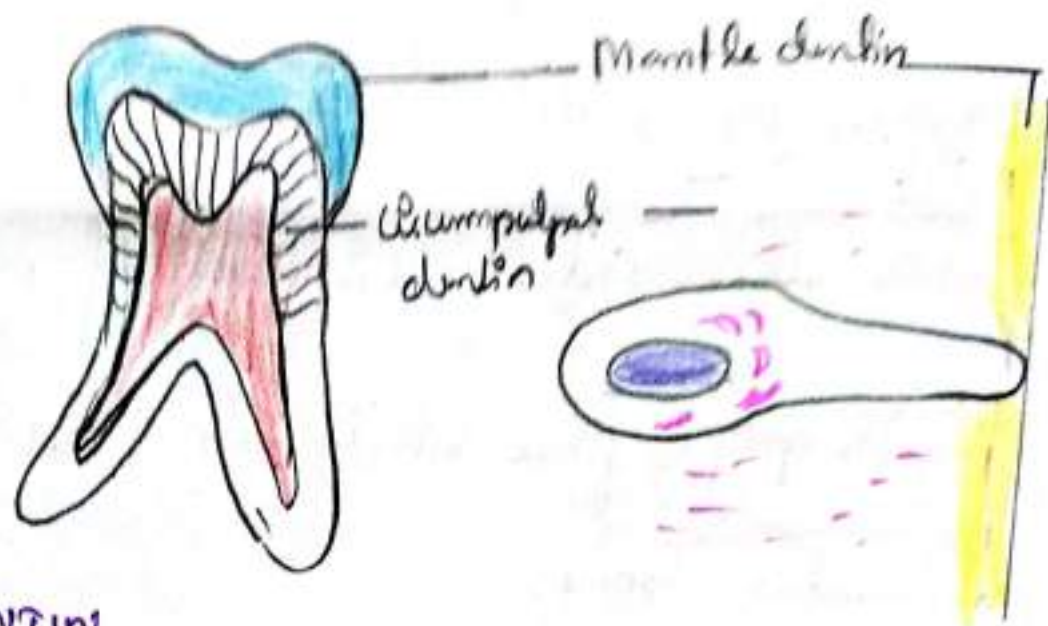
X-ray which permit to penetrate and not to show any mineral content

They are seen surrounding to tooth.

3) primary dentin:

⇒ Mantle dentin

⇒ Circumpulpal dentin.



MANTLE DENTIN

⇒ Mantle dentin are first formed dentin.

⇒ They are about 20µm thickness below the dentinoenamel junction.

⇒ Matrix vesicle is needed for their mineralization.

⇒ Mantle dentin undergo globular or linear mineralization.

⇒ They contain glycoprotein, proteoglycan, amino acid.

Mantle dentin differs from other part of dentin by

⇒ They are less mineralized.

⇒ They have numerous collagen bundles

⇒ Matrix vesicle is visible for their mineralised.

Mantle dentin close the cracks in enamel dentin that is abraded dentin.

⇒ They are set perpendicular to the dentinal tubules and mineralization occurs at long axis.

Circumpulpal dentin:

⇒ The remaining part of dentin form the circumpulpal dentin.

⇒ They undergoes globular mineralization.

Globular mineralisation

Growth of crystals



Deposition of crystal



fusion of globular mass



A single layer of globular mass is formed



Apatite crystals

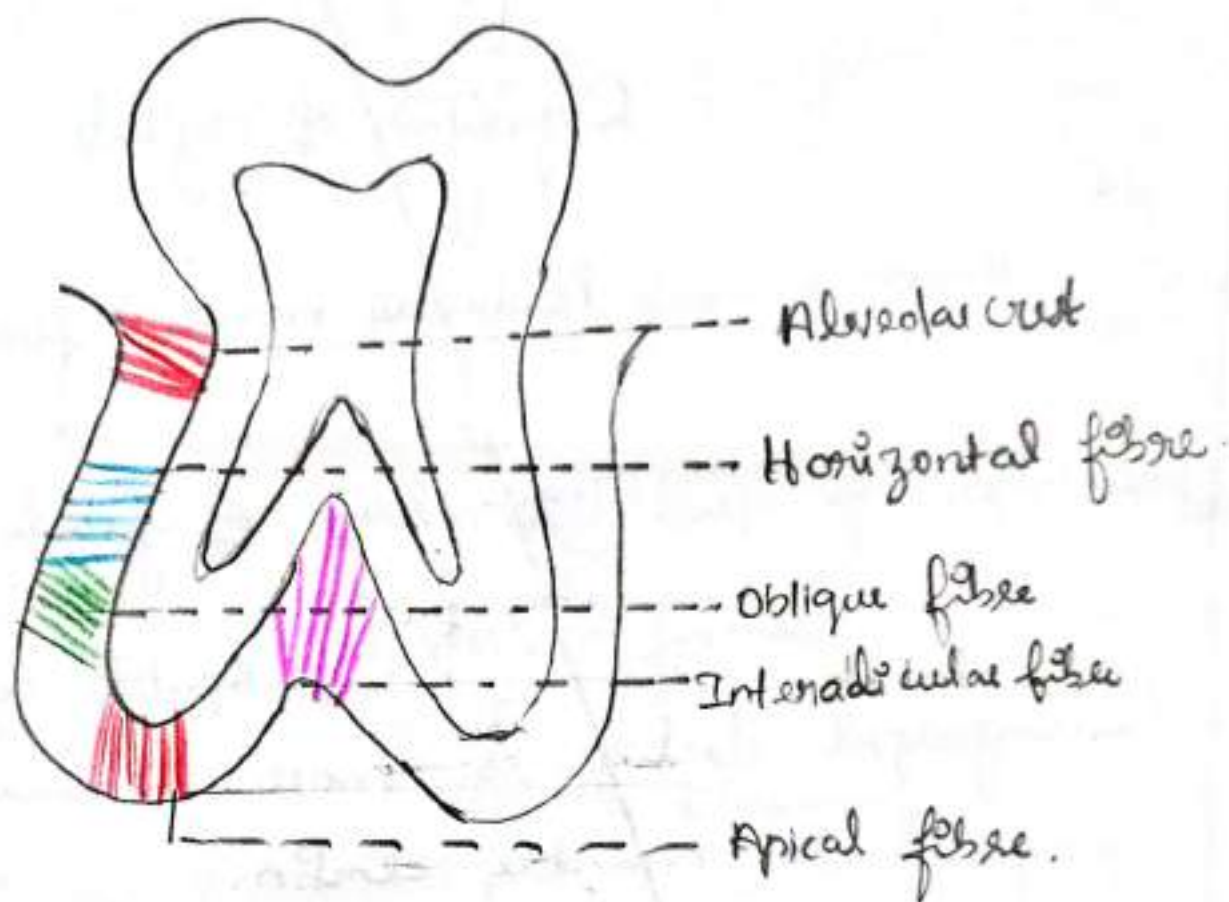


Initiate mineralisation.

⇒ Circumpulpal dentin is more mineralized when compared with mantle dentin. They lie below the mantle dentin.

⇒ Circumpulpal dentin which forms dentin matrix and undergoes globular mineralisation.

5) Principal fibres:



Alveolar crest:

Alveolar crest extent from the cement to the alveolar crest of bone.

Function: It resist intrusive force, extrusive force and tilting force.

Horizontal fibre:

⇒ They are seen apical to alveolar crest

→ They occupy one-third, perpendicular to the surface of root.
⇒ They even at long axis perpendicular to the surface of root.

⇒ They are parallel to the occlusion plane of teeth.

Function:- They resist tipping force and have intrusive force.

Oblique fibre:

They are numerous and occupy two-third of periodontal ligament space.

Function: They resist tipping force and vertical force.

⇒ They are in coronal from the cementum to alveolar bone. They are seen in oblique orientation.

Apical fibre:

They extend from the cementum to the root tip.

Function:- They resist luxation of teeth.

They provide tipping force.

They protect the roots from damage and provide blood vessel, nerve and lymphatic vessel.

Interradicular fibre:

They extend from the interradicular region to cementum.

They are seen in multicoated teeth.

Function: prevent luxation

present in furcation area.

6) Hypocalcified structure of enamel.

33 49

⇒ Enamel spindle

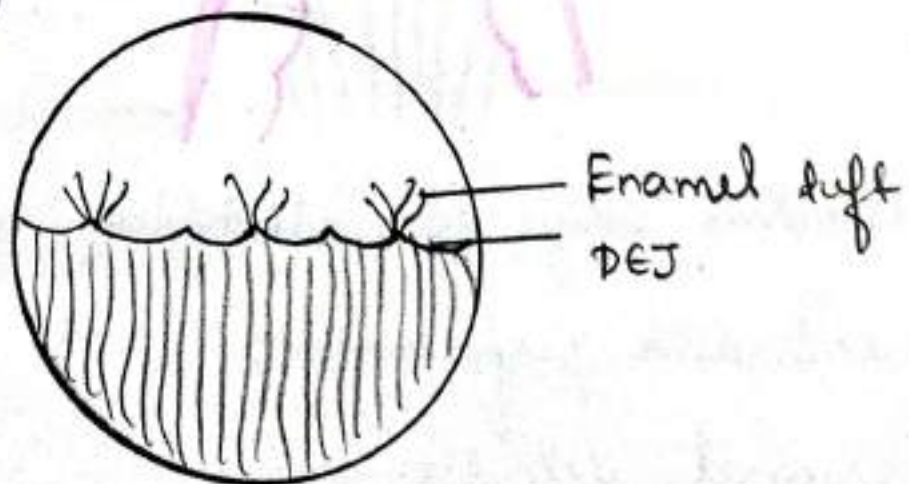
⇒ Enamel tuft

⇒ Enamel lamellae:

Enamel Tuft:

⇒ Hypocalcified structure of enamel appears as gear shaped structure called Enamel tuft. They extend from the dentino enamel junction.

⇒ Hypocalcified ribbon like structure arising from dentinoenamel junction:



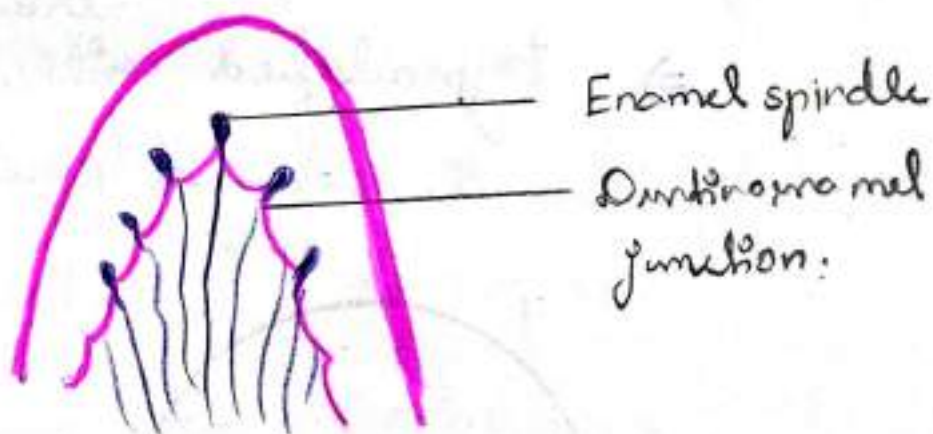
⇒ Tuftlin is the protein present in the enamel tuft.

⇒ They are seen from outer $\frac{1}{5}$ th to inner $\frac{1}{3}$ rd of thickness of enamel.

⇒ They are regular, periodical and frequent

⇒ They help in mechanical interlocking between enamel and dentin.

Enamel spindle:



Terminal edges of odontoblast pierce the membrana preformativa and form enamel spindle.

They are hypocalcified structure. arising

from dentin/enamel junction.

⇒ They are perpendicular to the odontoblast dir. in.

⇒ They are parallel to ameloblast, odontoblast

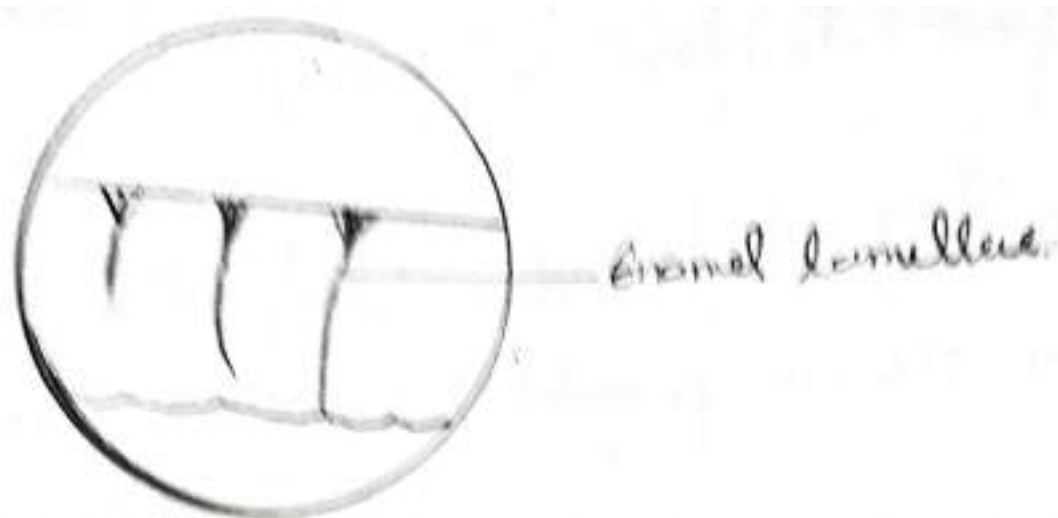
⇒ Some of the odontoblast which pierces the membrane performativa and reach ameloblast will form enamel spindle.

Clinical significance:

Dental caries are more in the region of enamel spindle and enamel tuft as they are hypocalcified structures.

Enamel lamellae.

⇒ They are thin sheet like structure arise from tooth surface towards the dentin.



Type A: Hypocalcified rod like structures form the Type A lamellae.

Type B: Organic matrix of dentinal tubules lamellae filled with calcified tissue.

Type C lamellae: Salivary proteins form type C lamellae.

⇒ They appear black in transmitted light.

Type A lamellae seen in enamel and

Type B and C lamellae in dentin.

of Occlusion:

incisor:

⇒ Mesial slope of maxillary canine occlude with distal slope of mandibular canine

⇒ Distal slope of maxillary canine occlude with mesial slope of mandibular first premolar.

Molar: **MANDIBULAR SECOND MOLAR**

Maxillary first molar:

⇒ Mesiofacial cusp of mandibular second molar occlude with mesial marginal ridge of maxillary second molar

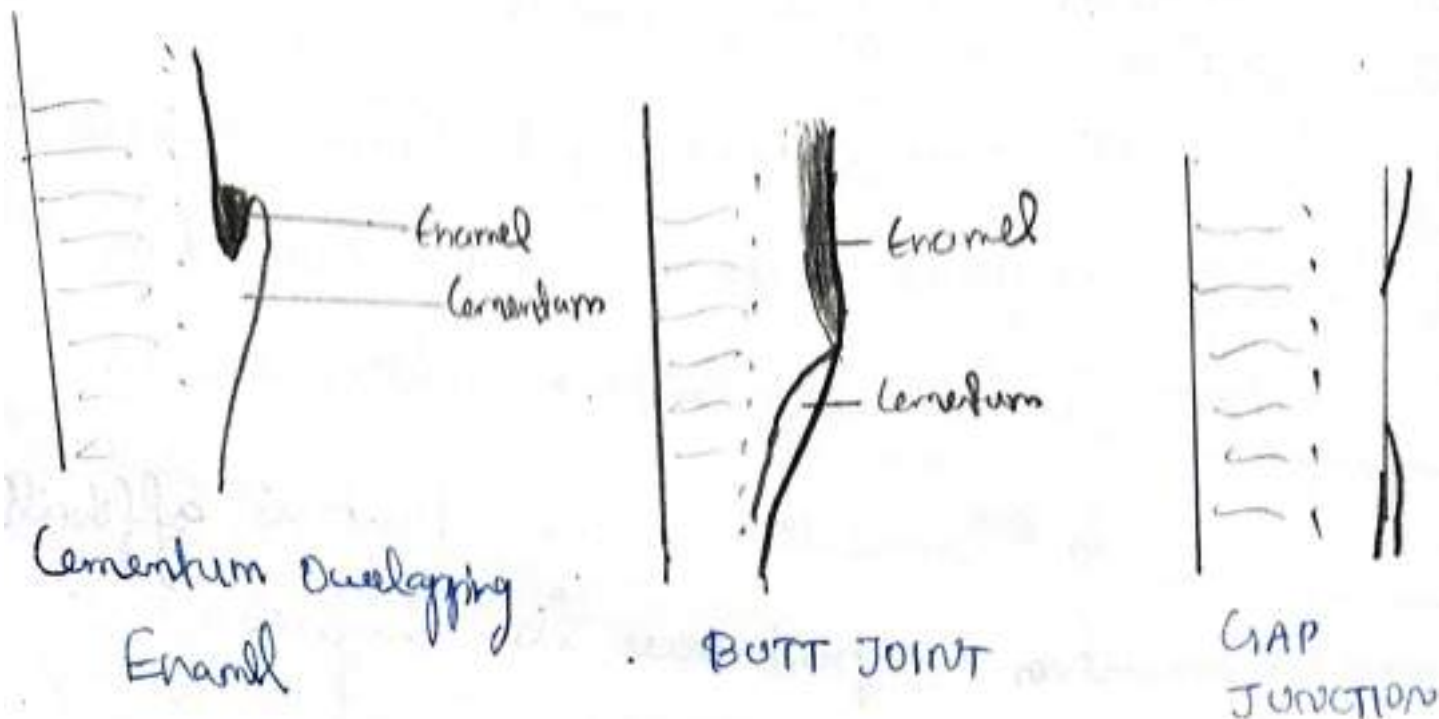
⇒ Distofacial cusp of mandibular second molar occlude with ~~the~~ central fossa of maxillary second molar.

⇒ Distolingual cusp of mandibular second molar occlude with lingual groove of maxillary second molar

0 1/2

⇒ Mesiolingual cusp occlude between first and second upper molar.

Enamel Junction:



⇒ Cementum and Enamel meet in cervical position at various point.

⇒ In 30% of teeth cementum meet enamel in sharp point (BUTT JOINT)

⇒ 10% of teeth cementum and Enamel does not meet. This is because enamel epithelium delayed its separation from der

⇒ there is no cementoenamel junction.

⇒ Instead a zone of root is devoid of cementum

16
⇒ In 60% of teeth Cementum overlapping enamel. This is because.

⇒ Inner enamel epithelium degenerates in cervical portion and connective tissue come in direct contact with enamel.

⇒ Connective tissue that is affiliated Cementum deposit over its surface.

⇒ Also fibrous cementum that is cementoblast deposited which cause recession of cementum causes Cementum overlapping enamel.

⇒ In deciduous teeth cementum and enamel meet in a sharp point edge to edge.

⇒ Recent studies found fourth type of CE junction that is enamel overlapping Cementum.



CHETTINAD DENTAL COLLEGE AND RESEARCH INSTITUTE

KANCHIPURAM DISTRICT

80

I
NAME OF THE EXAM

RC TEST
++II/III-INTERNAL/ MODEL EXAMINATION-

Sl. No. / 20 -

SUBJECT

Dental Anatomy & Oral Histology

FOR INSTITUTION USE ONLY

DATE

01.07.2016

REGISTER NUMBER

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SECTION

A/B

SUBJECT CODE

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I
Answered Page
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II

MARKS TO BE FILLED BY THE EXAMINER

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CHENNAI

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Bundle No.

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Examiner Name in CAPITALS

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SECOND VALUATION

III

MARKS TO BE FILLED BY THE EXAMINER

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II		1/2	1	1 1/2	3	3	3 1/2			2							14 1/2	
III																		
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FIRST VALUATION

I Essay

1. Oral mucous membrane :-

It is the soft mucous lining around the oral cavity. It is classified as

- * lining mucosa - lip, cheek, vestibule, soft palate
- * masticatory mucosa - gingiva and hard palate
- * specialised mucosa - dorsum of tongue

Mucosa of palate

Hard palate - It is ~~no~~ ^{part} immovable ~~part~~ keratinized epithelium. It consist of

incisive papillae

palatine rugae

epithelial peaks.

The mucosa lining the hard palate is masticatory mucosa

Incisive papilla

It connects the hard palate with inferior part of nose.

It is often concerned with Jacobson's organ. This becomes vestigial at 12-13 weeks of gestation.

It is more useful and prominent in animals.

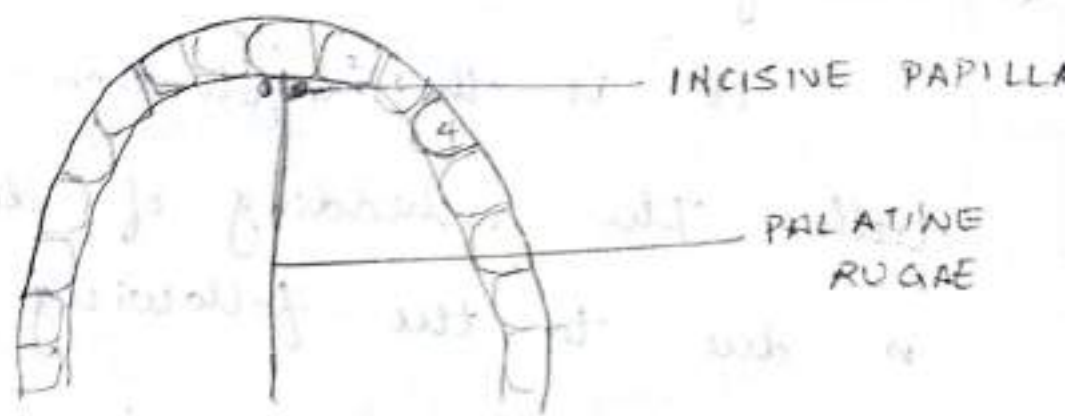
Palatine rugae

It extends from the incisive papilla to the hard palate.

It is covered by horizontal process of maxillary bone.

Epithelial pearls

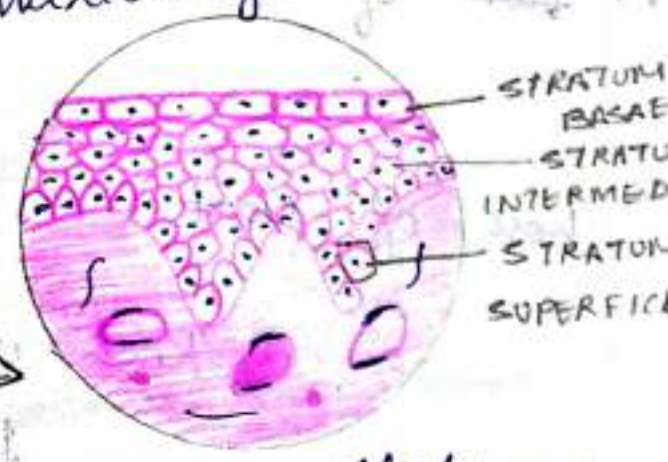
These are present in the remnants of enamel organ in the anterior and posterior regions of the cavity.



Hard palate is keratinized hence to withstand the masticatory force.

Embryonic development of hard palate is by the fusion of maxillary and fronto nasal process.

Soft palate



It is lined by lining epithelium

It is non-keratinized. It has three layers of epithelium

- * **Stratum basale** - These are cuboidal cells. with Golgi complex, mitochondria, endoplasmic reticulum
- * **Stratum intermedium** - These are polyhedral cells with flat nucleus
- * **Stratum superficiale** - These are columnar cells

2. Shedding

It is the exfoliation of deciduous teeth. The shedding of deciduous teeth is due to the following reasons

- i) loss of root
- ii) Loss of bone
- iii) Reduced regeneration of epithelial periodontal fibres
- iv) ~~loss~~ of increased masticatory force

loss of root

Root weakens



Differentiates the osteoclast cells



activation of the osteoclast cells



resorption of the bone matrix occurs.



tooth germ weakens



shedding



n) loss of bone

Increased jaw growth



facial bone develops



alveolar bone resorbs around

the tooth at the centre

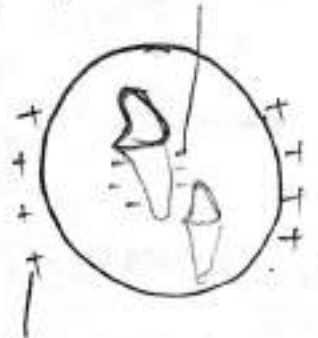


space is created



bone formation occurs at periphery

bone resorption



bone formation

iii) Increased masticatory force

Increase in jaw growth

↓
Increase in masticatory force

↓
weakening of the deciduous teeth

↓
shedding occur. due to decrease in capacity to withstand the masticatory force as ageing occur.

iv) Reduced regeneration of periodontal fibres.

Increased jaw growth

↓
Increase in masticatory force

↓
PDL fibres degeneration occur

↓
reduced contact between cementum and bone.

↓
tooth weakens

↓
reduced rate of regeneration of
fibres

↓
∴ shedding of deciduous
teeth occur.

Shedding in anterior dentition.

As the jaw growth occurs,
following increased masticatory forces,
there occurs regeneration of periodontal
fibres. The ~~posterior~~ permanent dentition
is placed lingual to the root of the
primary dentition in the bony crypt. As aging occurs, the
root of the primary teeth weakens with
increased osteoclastic activity. Thus
as the primary dentition sheds the permanent

move buccally and occlusally and occupies the position of the primary anterior.



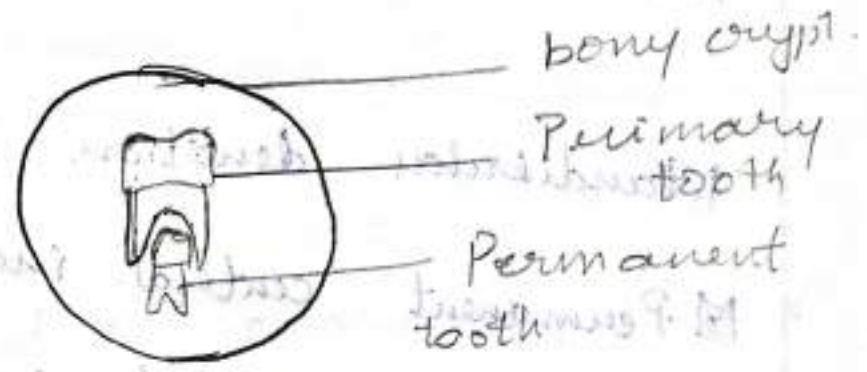
lingually placed permanent dentition.

Shedding of antero posteriors

The shedding of posteriors occur in a slightly varied manner due to the presence of bifurcated roots and multiroot. Here the permanent dentition occupies the place below the root trunk in the area of bifurcation in the primary dentition. Hence as to the similar reasons of increased masticatory forces, increased jaw growth and reduced regression the shedding of

the posterior dentition also occur.

Initially the root resorption occurs in the area of bifurcation; hence as the degeneration of primary root occurs the permanent posterior move more occlusally. The growing of permanent dentition also provides force for the shedding of primary posteriors.



Teething

Eruption of permanent teeth is called teething.

Maxillary

Permanent

Permanent

dentition

central incisor

lateral incisor

- 7-8 years

- 8-9 years.

Permanent canines

9-10 years

Permanent first premolar

10-~~11~~¹¹ years

Permanent second premolar

10-12 years

Permanent first molar

6 years

Permanent second molar

12 years

Permanent third molar

18 years.

Mandibular dentition.

Permanent central incisors

6-7 years

Permanent lateral incisors

7-8 years

Permanent canine

10-11 years

Permanent first premolars

10-12 years

Permanent second premolars

11-12 years

Permanent first molar

6 years

Permanent second molar

12 years

Permanent third molar

18 years.

4

Short notes

2. Decalcified section - Decalcification is done to study the soft tissue components. It is the process by which inorganic components are washed out and organic components are retained. It ~~is~~ is used to study ^{like} pulp.

1/2

3. Apical foramen

* It is found in radicular pulp at the ~~the~~ apical region.

* It provides the ^{path for} entry for the nerves and blood vessels from the surrounding tissues

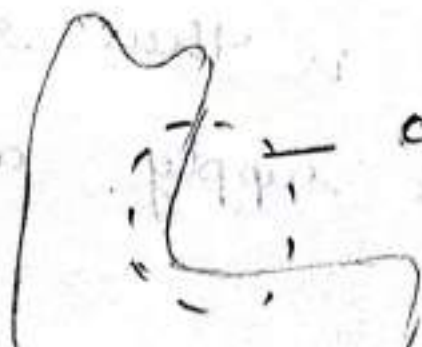
* It is thus responsible for ~~the~~ the vascular supply and innervation of pulp.



apical foramen

The increase in diameter of the apical foramen may also provide pathway for the bacteria to occur thereby causing infection in the pulpal region.

4. Curve of Spree - It is named after the person who discovered it.
 It is a curve obtained / formed from the anterior teeth towards the posterior till the ^{anterior of} mandibular temporomandibular joint.

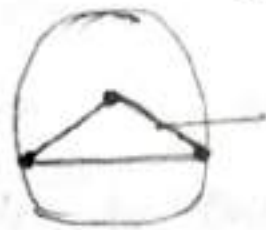


CURVE OF SPREE

Curve of Wilson - It was found by Wilson. On examining it by the posterior aspect of skull it forms a triangular outline equilateral on all the three side ~~line~~ with the base by the two right and left curve of Spreng and centre set globella.



On examining the curve by posterior aspect:



Equilateral triangle.

Innervation of tongue:-

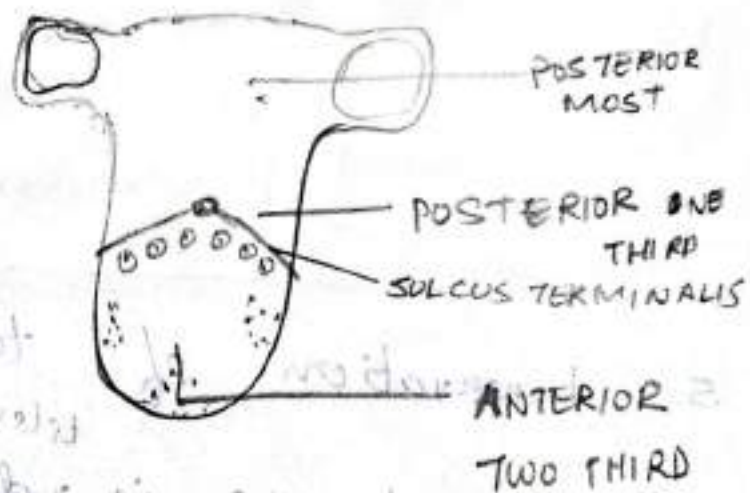
The tongue is laterally divided by the presence of sulcus terminalis as anterior two third part posterior one third part and.

posterior most part.

The anterior two-third is supplied by chorda tympani nerve for special sensation & lingual nerve for general sensation.

The posterior one-third is supplied by glossopharyngeal ~~hypoglossal~~ nerve for both general and special sensation ~~by vagus nerve~~

The posterior most by vagus nerve.



6- That Hunter - Schreger Bands

These are alternate light and dark bands.

These ~~are~~ are of various width ^{is} and appear ~~of~~ oblique in reflected light. They are made of dia zones and para zones.

They are visible in the two third of enamel thickness.

They are formed due to difference in mineralization and permeability. Most accepted ~~is~~ concept is due to difference in the enamel rods orientation.

During horizontal cross section of enamel the enamel rods travel right angle to the surface of enamel.

Due to the right and left movement of bands they appear as light and dark band.

When the enamel rod is cut in centre the rods travel from the region of cut to

When optical light is passed through it it exhibits the light band appearance at finite intervals called as Fraunhofer lines.

REASON:

When the optical light is passed in opposite direction, the light is being reflected by fine and hence they appear as dark light bands & are called Fraunhofer lines.

(3)

7. Cemento dental junction

* The junction formed between cementum and dentin is called cemento-dental junction.

* It is scalloped in deciduous dentition but app. appears as fine junction in the permanent dentition.

→ The organic composition of the 17 dentinal tubules and the cementum is same however on staining cementum are more intensely stained.

* ~~But~~ It is visible in optical and electron microscope better.

* It is composed of glycoamino-glycans, proteoglycans and mucosaccharides.

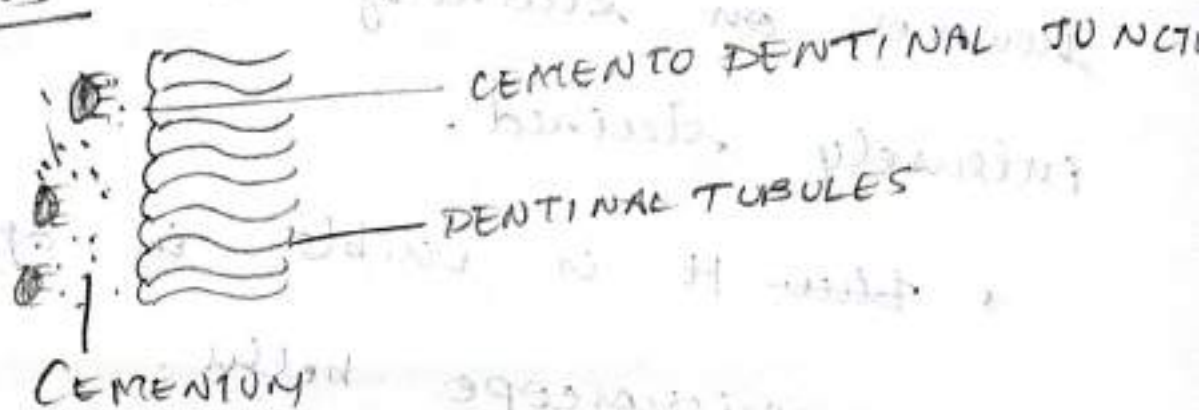
→ A region is seen between the dentin and cementum which appears structureless hence it is called structureless layer or Hyaline layer.

→ It is not composed of either the dentinal tubules or the cementum matrix.

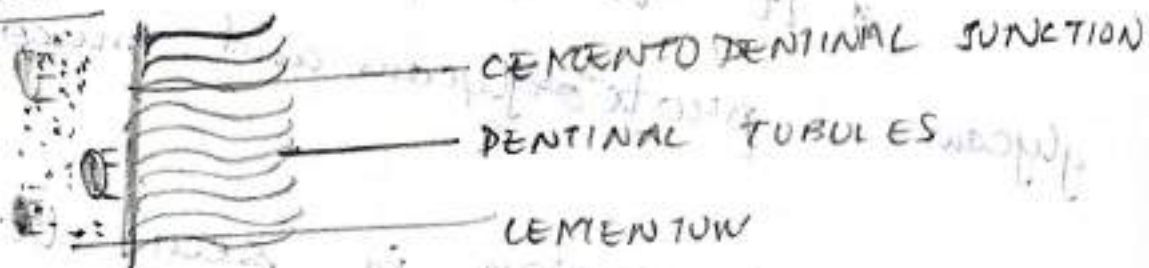
→ It appears like perismatic enamel since it is in non-collagenous amorphous form.

The function of this layer is probably to seal the sensitivity.

DECIDUOUS



PERMANENT



3/2

10. Bundle Bone

It is a component of alveolar bone proper.

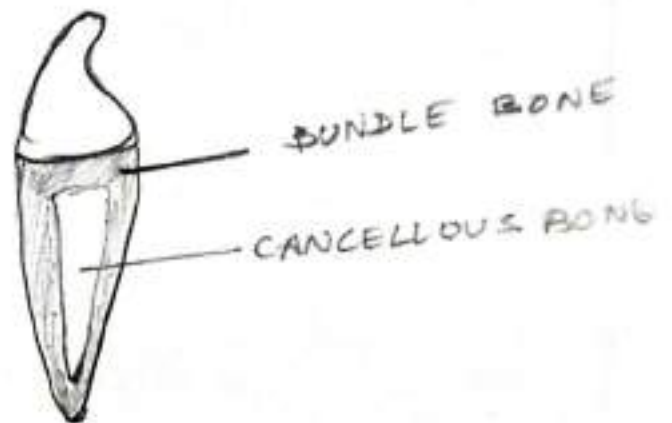
It consists of Sharpey's fibres arranged perpendicularly from the periodontal ligament attached to the bone surface.

It is arranged in bundles so the ¹⁹
name bundle bone.

Sometimes the bundle bone is absent
in alveolar bone proper.

It is surrounded adjacently by
the \rightarrow cancellous bone.

It is lined by lamina dura.



D. SNEHA
7/17



CHETTINAD DENTAL COLLEGE AND RESEARCH INSTITUTE

KANCHIPURAM DISTRICT

NAME OF THE EXAM

~~I~~ ~~II~~ ~~III~~ INTERNAL / MODEL EXAMINATION (RETEST)

Sl. No. / 20

SUBJECT

ORAL HISTOLOGY & TOOTH MORPHOLOGY.

FOR INSTITUTION USE ONLY

DATE

7-7-17

REGISTER NUMBER

7 4

SECTION

SUBJECT CODE

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II

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FIRST VALUATION

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SALIVARY GLAND

Synopsis:

* Definition

* Introduction

* Classification

* Serous acini

* Mucous acini

* Clinical significance.

* Definition:

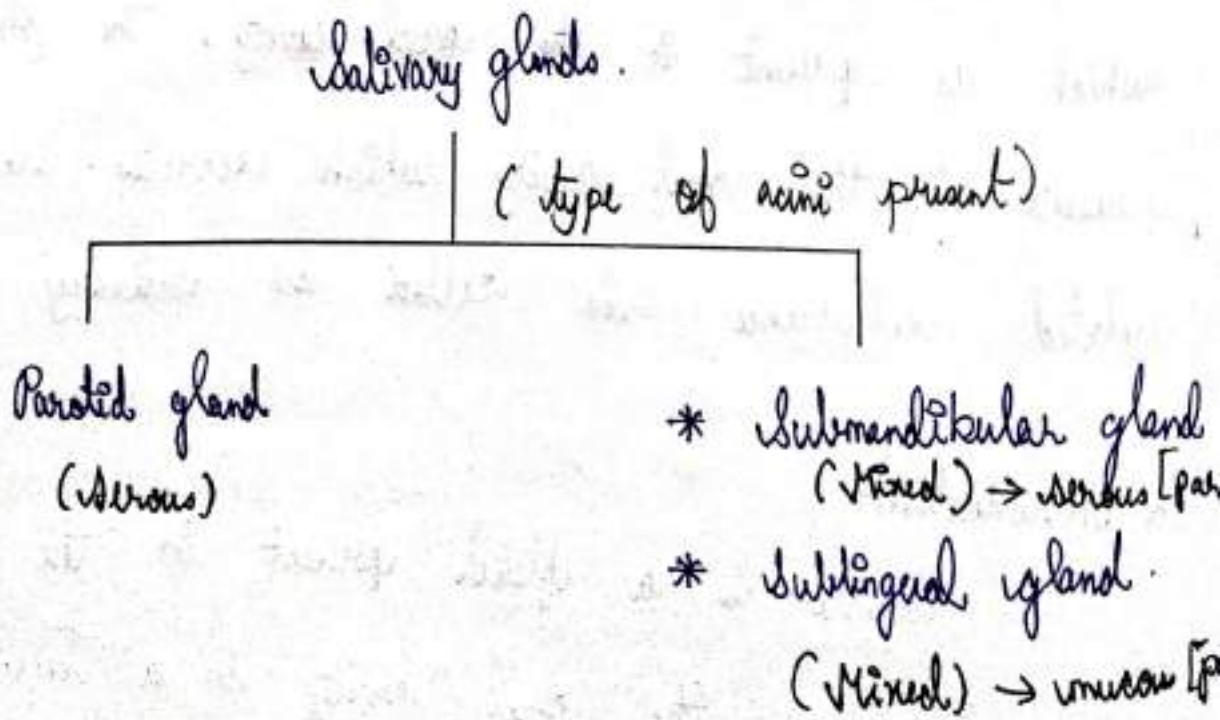
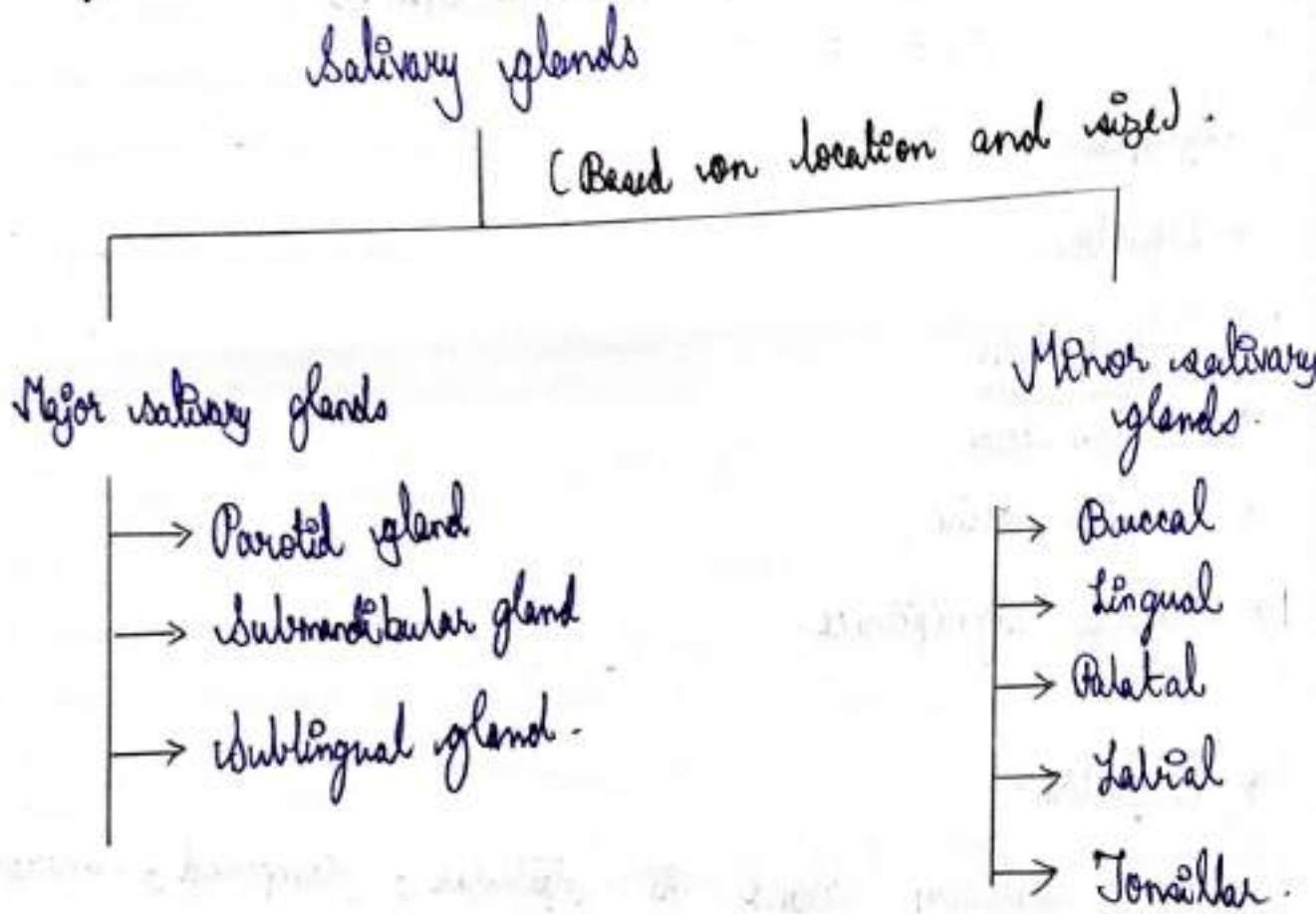
Salivary gland is tubular, compound, mucoserous gland (tubuloserous) which is present in the oral cavity. The gland which is present in the oral cavity which secretes saliva and related substance is called as salivary gland.

* Introduction:

Saliva is a fluid present in the mouth which helps to keep the oral cavity in a moist condition.

The primitive oral cavity is called as stomodaeum.

* Classification:



* Serous acini:

(i) Light microscopic features:

* It is spherical / circular in shape.

* It has pyramidal shaped acini

* The nucleus is spherical and it is placed in the basal 3rd of the acini,

* The lumen is narrow

* The presence of zymogen granules in the apical portion of the acini.

* It takes up eosin / and hematoxylin stain.

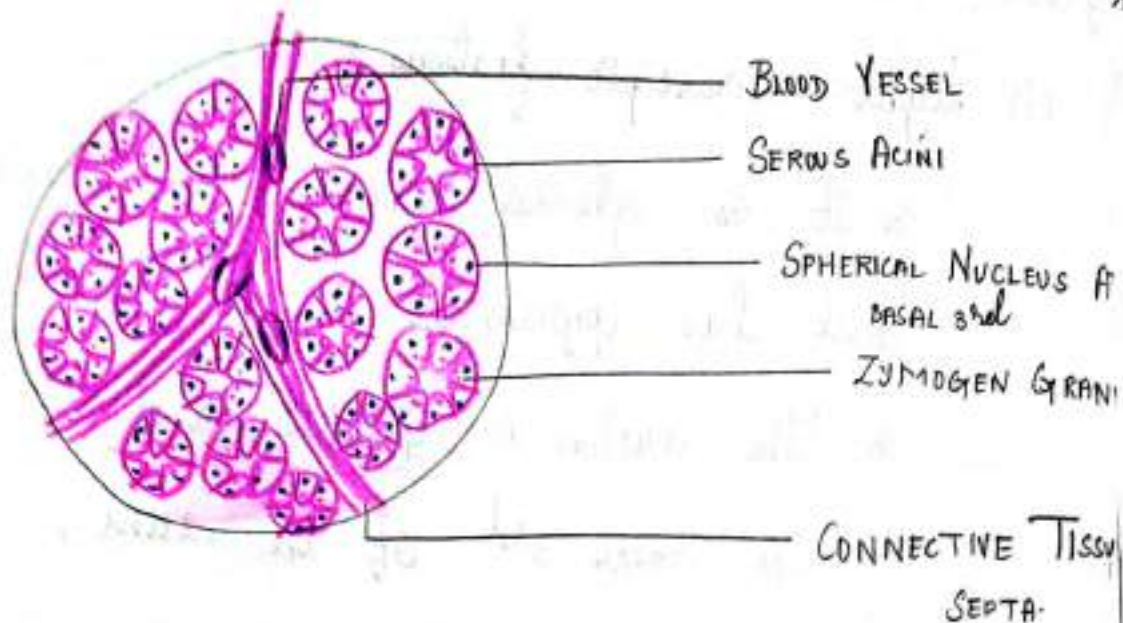
(ii) Electron microscopic features:

* It consists of cytoplasmic organelles such as rough endoplasmic reticulum, mitochondria, lysosome, etc.

* It consists of gap junctions, tight junction and zona adherence.

* The two acini are attached together by

circumvallate attachment.



SEROUS SALIVARY GLAND.

- * It is filled with mucus i.e., lumen is filled with mucus.
- * It secretes proteinaceous substance and its mucus is watery thick. (saliva nature), saliva is ~~watery~~ thick.
- * The purely serous glands are parotid gland which is major salivary gland and Von-Ekber's gland is a minor salivary gland which is present below the circumvallate papillae.
- * There are 6-8 acini in a cell with basal base and pointed apex.

* Mucous acini:

(i) Light microscopic features:

* It is tubular in shape

* It consists of flattened nucleus which is placed in the base of the acini

* It has a larger lumen compared to the serous acini

* It takes up alcian blue stain

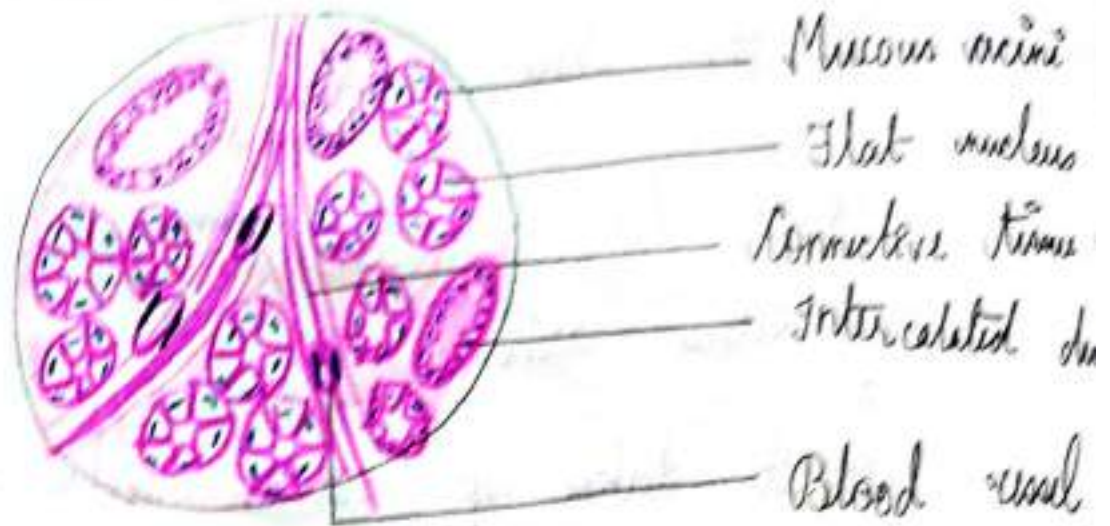
(ii) Electron microscopic features:

* The nucleus is flat and placed in the basement because the carbohydrates present in the cell push the nucleus towards the base.

* The lumen is ~~not~~ free of mucous secretion. since the zymogen granules are absent.

* The saliva is watery in nature and made up of fat.

* The sublingual salivary gland is partially mucous and palatine glands i.e. anterior $\frac{2}{3}$ rd of hard part is mucous (purely).



* It has broad base and blunt apex.

* Clinical application:

(i) Pythiom

TOOTH MORPHOLOGY: 46.

Synopsis:

- * Introduction
- * Measurement
- * Chronology
- * Aspects
- * Conclusion.

* Introduction:

- (i) The sixth tooth from the midline of the dental arch.
- (ii) There were totally two mandibular first molars.
- (iii) These teeth help in mastication.
- (iv) It is prone to dental caries.
- (v) It is also called as six year teeth.
- (vi) Mandibular molars are large mesiodistally compared to buccolingual. (970)

* Measurement :

Length of the crown - 7.5 mm

Length of the root - 14 mm

Mesiodistal diameter of the } crown - 11 mm

Mesiodistal diameter of the } crown at cervix - 10 mm

Buccolingual diameter of the } crown - 10 mm

Buccolingual diameter of the } crown at cervix - 9.0 mm

* Chronology:

Calcification - 3-4 months

Enamel completion - 1-2 years

Eruption - 6 years

Root completion - 8-11 years.

* Tooth numbering:

Universal system \rightarrow 31

FDI system \rightarrow ~~46~~ 46

Zsigmondy Palmer \rightarrow 11

Vicktor Haderup \rightarrow 1-

* Aspects:

(i) Buccal:



* Buccally it is inclined.

* Mesially: It is convex at the apex and it becomes somewhat concave near the cervical position.

* Distally: It is convex at the apex and straight till the cervical position.

* All the five cusps are seen from this aspect

* The distal root:

Distal: It is concave at the cervical portion and it gradually becomes convex and it is slightly inclined towards the midline to show that it is mesially inclined. Mesial: It is concave.

* The mesial root:

Distal: It is concave.

Mesial: It is concave at the cervical portion and convex till the apex and tilted

* It is trapezoid in shape.

* ~~Long~~ Palatal:



* It is slightly inclined.

* Its mesial and distal sides are concave at the cervical portion and convex at the apical portion.

* Root: Mesial: The root is inclined distally.

Distal: The root is outside the contact area.

* Mesial:



* Three cusps are seen from this aspect.

* Only mesial root is seen in this aspect.

* Distal:

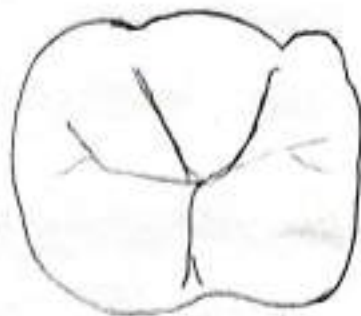


* Three cusps are seen from this aspect.

* single root is seen.

* Occlusal:

It is hexagon in shape (outline).



It has two triangular fossae and three grooves which terminate in a pit.

Write notes on:

Victor Hadrup system:

PERMANENT DENTITION

7+ 6+ 5+ 4+ 3+ 2+ 1+	+1 +2 +3 +4 +5 +6 +7
7- 6- 5- 4- 3- 2- 1-	-1 -2 -3 -4 -5 -6 -7.

PRIMARY DENTITION.

50 + 40 + 30 + 20 + 10 +	+01 +02 +03 +04 +5
50 - 40 - 30 - 20 - 10 -	-01 -

E+D + C + B + A+	+A +B +C +D +E
E- D- C- B- A-	-A -B -C -D -E.

Formation of root:



Survival loop



Apical foramen

Inner enamel epithelium fuse with outer enamel epithelium and extend till the end to the cervical loop at the end and it fuses to form the apical bone and root forms.

6.) Root growth theory:

Mech:

(i) Root grows till the formation of the tooth eruption.

(ii) Only when the root grows it hits the hard substance called bone and helps eruption.

(iii) It interacts with the connective tissue ~~receptor~~ and that fluid helps in the eruption.

2/4/2

* Demerits:

Once after the crown is completed only root is completed after 2-3 years. So this is a major demerit.

Decalcification:

The ~~hard~~^{soft} tissues which cannot be studied using other methods can be studied using decalcification method.

The tooth is put in a decalcification medium the inorganic substance gets degraded and organic 4% of substance remains.

The remaining substance after decalcification is studied using light microscope.

Stomatode cementum

* It is also called as Hyaline cartilage of Meibom and Smith.

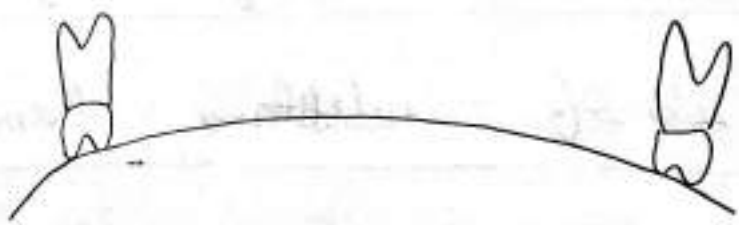
1

100) Curve of Spee and monson.



Curve of Spee.

2



Curve of monson.



Lelander bodies:

- * It is small microscopic structures present in the ~~meso~~-keratinized epithelium.
 - * It was discovered by ~~the~~ Lelander in 1838 a French scientist.
-
-



CHETTINAD DENTAL COLLEGE AND RESEARCH INSTITUTE

KANCHIPURAM DISTRICT

D. Sreedharisoo

NAME OF THE EXAM: ~~I-II-III INTERNAL MODEL EXAMINATION~~ (RETEST)
 SUBJECT: Oral Pathology
 DATE: 14.9.18
 REGISTER NUMBER: 5 4 1 5 1 6 0 8 3
 SUBJECT CODE:

Sl. No. 120

FOR INSTITUTION USE ONLY

SECTION A/B

[Signature]
 Signature of the Candidate

Signature of the Chief Superintendent / Invigilator

I
 Answered Page Number to be filled by the Candidate

Q. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I	1														
II	4	5		7	8	10	11	12	13	15					
III															

$$\frac{312}{70}$$

II

MARKS TO BE FILLED BY THE EXAMINER

Q. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I															
II															
III															

In Words: _____ GRAND TOTAL:

CHETTINAD DENTAL COLLEGE & RESEARCH INSTITUTE
CHENNAI

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Examiner Name in CAPITALS _____

SECOND VALUATION

III

MARKS TO BE FILLED BY THE EXAMINER

Q. No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
I															
II															
III															

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FIRST VALUATION

[Signature]
 Signature of the Examiner

3/2

ESSAY:

FIBRO-OSSEOUS LESIONS:

ETIOPATHOGENESIS:

* Fibro-Osseous lesions occur with the bone deformity.

* If the endocrine is affected it causes hyperthyroidism, and increase in growth hormones and cortisol and precocious ~~puberty~~.

~~If the pub~~ puberty.

* If the osteoblast are affected it causes deformity in the growing bones forming cafe-au-lait.

* If the osteoclasts are affected it causes deformity in ~~the~~ Albersen syndrome.

CLINICAL FEATURES:

~~The Fibro-Osseous lesions~~

The Fibrous Dysplasia is divided into four types:

- * Monostotic Fibrous Dysplasia. ✓
- * Polyostotic Fibrous Dysplasia. ✓
- * Craniofacial Fibrous Dysplasia. ✓
- * Cherubism. ✓

* MONOSTOTIC FIBROUS DYSPLASIA

- It occurs mainly in 80-90%
- The bone deformity is less when compared to the Polyostotic Fibrous Dysplasia.
- The affected sites are: Femur, ribs, humerus.
- It occurs mainly in age of 10-30 age group.
- Increase in size of maxilla shows leontine appearance.

* POLYOSTOTIC FIBROUS DYSPLASIA

- It occurs in 30-40%
- The sites involved are: Femur, tibia, humerus, shoulder bones, ribs, upper extremities and clavicles.
- The structural deformity occurs with the weakening of the bones and the weight-bearing bones are bowed.

- 2 types of syndromes involved: (Cafe-au-lait sp)
 - Jaffe's syndrome
 - Albright's syndrome

* CRANIOFACIAL FIBROUS DYSPLASIA

- It involves: The Ethmoid bones, sphenoid, maxilla and the mandible, temporal bones.
- There will be blindness, diplopia, exophthalmos due to the involvement of the orbital bones.
- Hearing loss occurs due to the involvement of the sphenoidal bones.

* CHERUBISM:

- Cherubism occurs mainly in children.
- Cherubism occurs in male gender.
- Mandible is being affected.
- The defect is cured when children become adults.

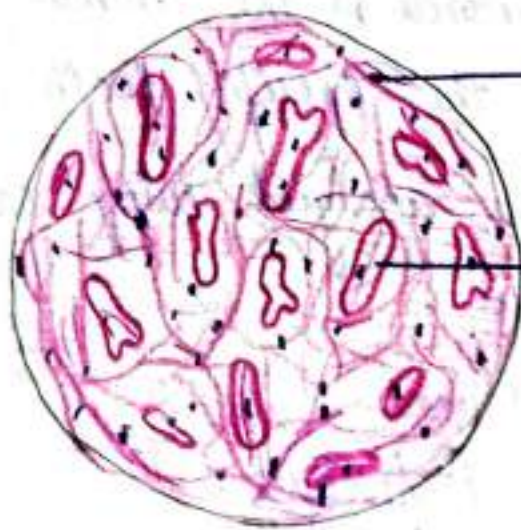
RADIOGRAPHIC FEATURES:

* The Radiographic feature shows a ground glass appearance or C-shaped appearance.

* Cotton wool appearance is also seen.

* Paul d'orange appearance is seen.

HISTOPATHOLOGIC FEATURES:



CONNECTIVE TISSUE.

FIBROUS DYSPLASIA
(BONY TRABACULAE).

- * There are many connective tissue seen.
- * Bony trabeculae are seen.
- * The osteoblasts are seen and osteoclast are seen.

TREATMENT:

- * A small lesion is removed by the surgery.
- * A large lesion cannot be removed by surgery.

II SHORT NOTES.

11. BITE MARKS:

Bite marks are the individual tooth markings that form an evidence.

USES OF BITE MARKS:

* Bite marks are used evidence to the victims of the criminal records or the animal bitings.

* It shows the specific tooth significance.

The Bite marks are analysed using casts, Impression moulds and dentures.

ANALYSIS OF BITE MARKS:

- * Confirmed Analysis.
- * Partial Analysis.
- * Undefined Analysis.

12.

LUDWIG'S ANGINA:

- * Ludwig's Angina is the severe form of cellulitis.
- * It involves all the space - submandibular, sublingual and submental.
- * If all three submandibular space, sublingual space and submental space is involved it shows the true Ludwig's Angina.

CLINICAL FEATURES:

- * It occurs in old age.
- * No age prediction is seen.
- * The enlargement is painful, shiny, taut, tenderness is seen.
- * The enlargement involves the neck ~~which is~~ along with the clavicle causing the stiffness of neck.
- * It involves the neck causing the tongue enlargement causing breathlessness.
- * There is the inflammation in the soft palate, tonsillar areas.
- * The lesion is erythematous.
- * The ill patients suffer from raise in temperature, increased pulse rate, dehydration and ^{increased} salivation.

* The patient may lead to death due to suffocation.

ETIOLOGY:

* Ludwig's Angina is mainly caused due to the streptococcus, gram negative organisms, staphylococcus, aerobes: E. coli and Pseudomonas, Bacteroides and Peptostreptococcus and Bacteriodes oralis and Bacteriodes melaninogenicus.

* Ludwig's Angina mainly occurs in the mandibular molars.

* They spread ipsilaterally in the sublingual space.

* They spread along the opposite side of the sublingual space and then to the opposite side on the submental space.

* This infection spreads to the submental space and then by causing Ludwig's Angina.

TREATMENT:

* Patient is kept hydrated w/ fluids

* Surgery is done - Tracheotomy in order to avoid suffocation.

14. PINK TOOTH OF MUMMERY:

~~Internal resorption occurs incisors and premolars.~~

DEFINITION:

Internal resorption is the resorption that occurs due to the infiltration of the inflammatory cells in the center of the tooth.

CLINICAL FEATURES:

* Internal resorption occurs mainly in age 30-40.

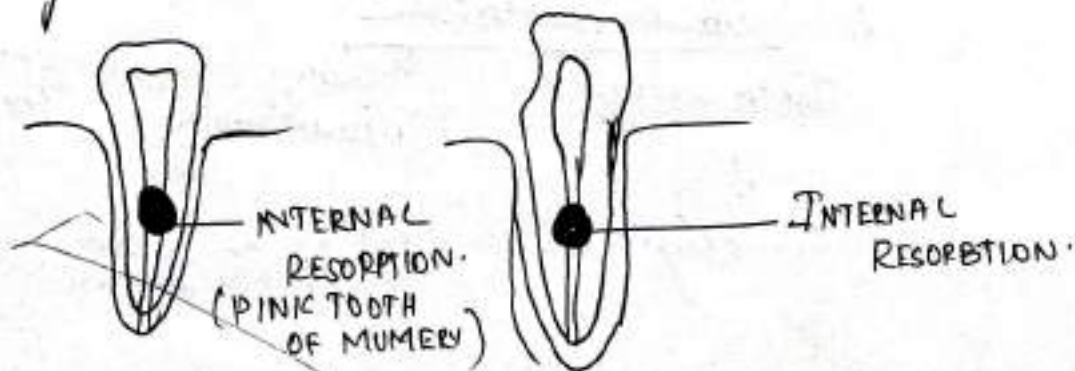
* No age predilection is seen. ~~in the~~

* The center of the tooth becomes resorbed.

* The tooth changes from brown to blue colour.

* The resorption occurs in the apical region.

* The resorbed area contains the blood accumulation and they become more red and is called as the pink tooth of mummery.



RADIOGRAPHIC FEATURES:

- * Resorption in the apical region is seen.
- * Radiolucency is seen which is meant as the resorbed area.

TREATMENT:

- * Pulpotomy is done.
- * The tooth is even restored or replanted.

PROGNOSIS:

Pulp prognosis poor whereas the tooth prognosis is good after the endodontic treatment.

15. DRY SOCKET:

* Dry socket occurs in 2-4 days after the extraction and subsides in 7-10 days.

* Dry socket occurs due to the Fibrinolysin

* Plasmin dependent:

Tooth extraction



Fibrinolysin

Smoking,
Tobacco chewing



Fibrin production
lysed.

Oral
Contraceptives



Fibrinolysin

Paget-Briere



ischemic
lysis of
fibrous.

1. Plasmin dependent:

Plasminogen $\xrightarrow{\text{Enzyme}}$ Plasmin.

Insoluble Fibrinogen $\xrightarrow{\downarrow}$ Soluble Fibrinogen.

2. Plasmin Independent:

- * Dry socket is painful.
- * It is diagnosed by probing, but may cause painful alveolar bone.
- * Dry socket is identified with the bony exposure.
- * The suture should be removed once the pain is ~~sub~~ subsided.
- * The socket gets more infected due to food lodgement with severe pain.
- * The suture is made to avoid the food lodgement.
- * Once the granulation tissue is identified the suture is removed.
- * The socket is covered with warm saline soaked in cotton.

TREATMENT

Warm saline with chlorhexidine mouthwash is suggested. ~~for home~~

16. ROLE OF EXFOLIATIVE CYTOLOGY:

- * Exfoliative cytology is ~~used for the~~ simpler, quick and no blood is involved.
- * It ~~is~~ gives a confirmatory result in false biopsy.
- * It is less expensive.

METHOD:

- * The area where the cells are to be tested is scraped with a icecream stick.
- * The icecream stick is immediately made in to a smear.
- * Then the smear is filled with fixative ~~and~~ and is kept for 3-5 mins.
- * Then the smear is washed and dried to find results.

Cytologic smear is graded under:

Class I (Normal): There are normal cells.

Class II (Atypical): There are normal cells with atypia, Malignant cells are not found. No biopsy is required.

Class III (Intermediate): There are both normal and malignant cells. Biopsy is suggestive in this class.

Class IV (Suggestive): There are malignant cells where Biopsy is mandatory.

Class V: (Positive of cancer). Cells are all malignant and Biopsy is mandatory.

diag?

M.

HYPERCEMENTOSIS :

DEFINITION:

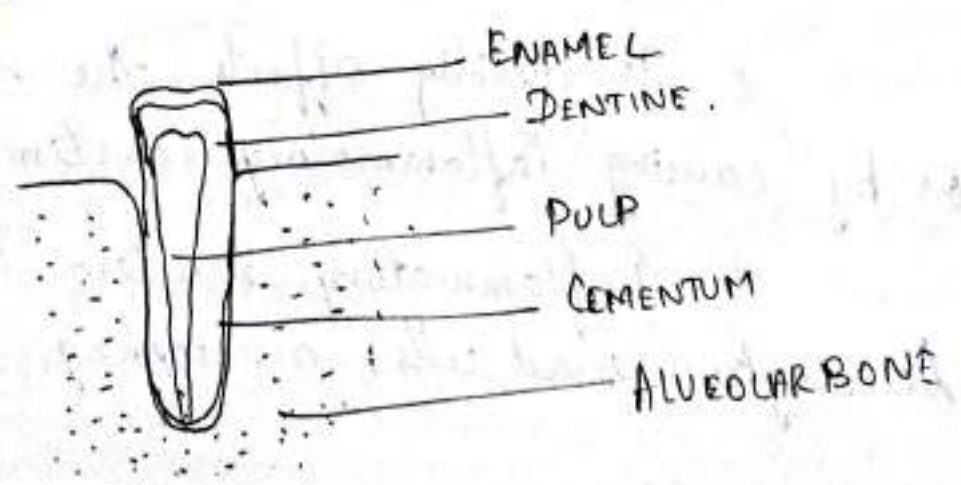
Accumulation of the cementum ~~with~~ is called as the hypercementosis.

CLINICAL FEATURES:

- * Occurs in old age.
- * Occurs in both male and female.
- * Cementum is accumulated ~~to~~ causing irregular bone formation.
- * Tooth formation is irregular.
- * Tooth is ~~found~~ ^{found} slightly above the socket.
- * The tooth is mobile.

RADIOGRAPHIC FEATURES:

- * Radiopacity is seen with cementum deposition.
- * Lamina dura is undifferentiated from the ~~the~~ alveolar bone.



18. VINCENT'S ANGINA:

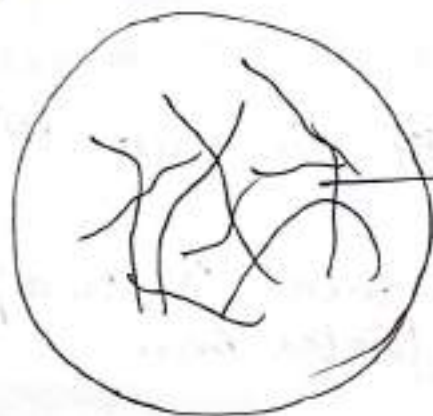
* Necrotizing ulcerative gingivitis is also called as the Vincent's infection.

~~The Gingivitis is~~

* Inflammation of gingiva with ulceration and necrosis of the gingiva is called as the Necrotizing Ulcerative gingivitis (NUG).

* It is also called as trench mouth because it is caused in the soldiers.

* It is mainly caused by the Spirochetes.



SPIROCHETES.

* It directly affects the soft tissue or by causing inflammatory reaction.

* Inflammatory reaction includes Leucocytes, mast cells, macrophages.

CLINICAL FEATURES:

13

- * It mainly occurs in young adults.
- * Male is mostly affected.
- * It is painful, erythematous gingiva.
- * Foul smell, profuse salivation with metallic taste is seen.
- * The gingiva is inflamed, necrotic and is painful.
- * It is associated with periodontitis.

Causing Necrotising Ulcerative Periodontitis.

TREATMENT:

Penicillin V 150 or 200 mg thrice daily for 14 days

19.

OSTEORADIO NECROSIS:

Osteo radio Necrosis is the Necrosis of Bone due to radiation.

ETIOLOGY:

- * Irradiation of the ~~to~~ after surgery. before healing.
- * ~~Broad irradiation due~~
- * Use of prosthetic appliance during radiation.
- * Immuno suppressed patients.
- * Radiation of tooth extraction before healing.

PATHOGENESIS:

Radiation therapy.

↓
Tooth extraction, trauma, radiation

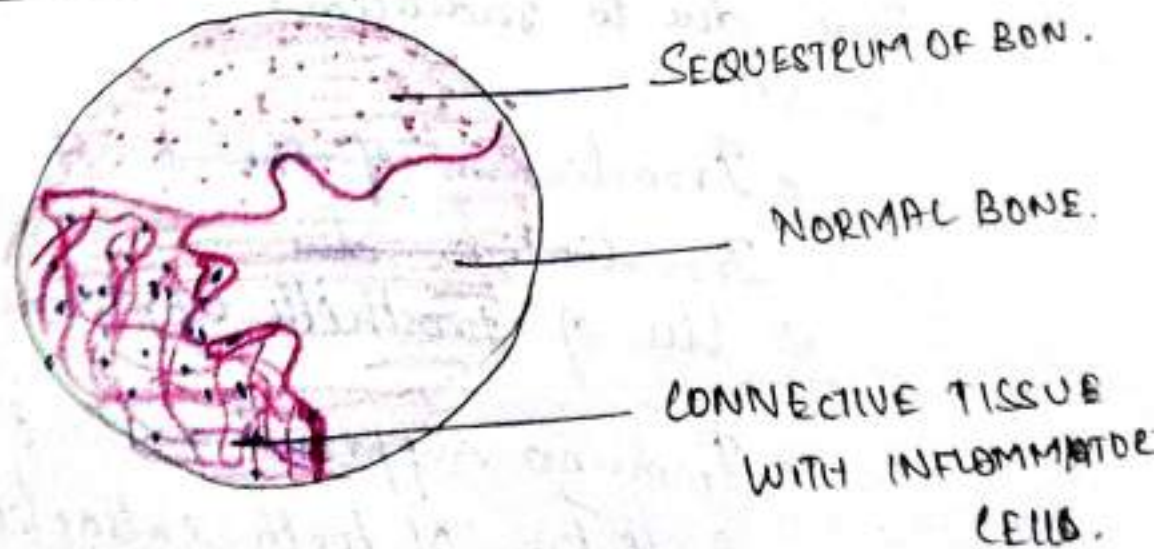
↓
Necrosis of bone.

↓
Sequestrum of bone.

TREATMENT:

Surgical removal of the sequestration of the bone.

HISTOPATHOLOGY:



20. PULP STONES

Pulp stones are classified into 2 forms.

→ Free pulp stones.
→ True pulp stones.

2. False pulp stones.

→ Attached pulp stones.



ATTACHED PULP STONES

FREE PULP STONES

Abnirfy
niclas
Complicatus