



2.5.4 RETEST ANSWER SHEETS

MID COURSE IMPROVEMENT EXAM

BDS FIRST YEAR

DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

Time: 3hrs

Nov 2023

Max marks :70

Answer all questions

Draw diagrams wherever necessary

Essay (2x10=20)

1. Describe the life cycle of Ameloblast. Describe briefly about amelogenesis.
2. Describe in detail the morphology of Permanent Maxillary First molar. Add a note on its chronology.

Short Essay(4x5=20)

3. Difference between deciduous and permanent teeth.
4. Non - keratinocytes
5. Deglutition
6. Types of dentin

Short notes(3X10=30)

7. Define: Mamelon, Ridge, Point angle
8. Zones of pulp
9. Functions of maxillary sinus
10. Histology of mucous acinus
11. Interglobular dentin
12. Compensatory curves
13. Development of tongue
14. Lines of salter
15. Masseter- Origin, insertion, nerve supply and functions
16. Ligament traction theory



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Mid-course improvement exam

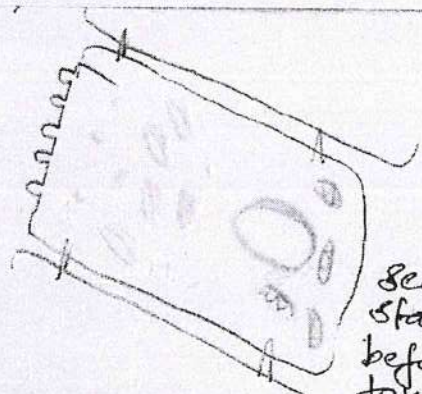
Department - Oral Pathology
 Student Name- Nayana Baby
 Roll No- 38
 Year - First year (2022)

QUESTION NO	MARKS	QUESTION NO	MARKS
01	9	09	1
02	9	10	1/2
03	4	11	1/2
04	4	12	-
05	12	13	2
06	4	14	-
07	12	15	2
08	2	16	2
Total marks	47		

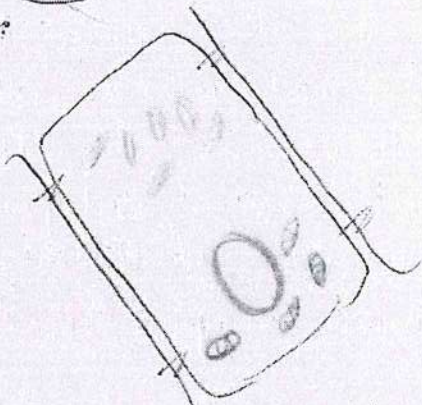
47/70

dentin

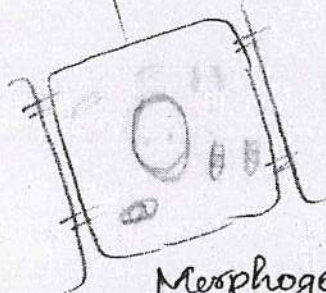
developing pulp



secretory stage before toner's process



organising stage



Morphogenetic stage

LIFE CYCLE OF AMELOBLAST



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Mid-course improvement exam

Department - Oral Pathology

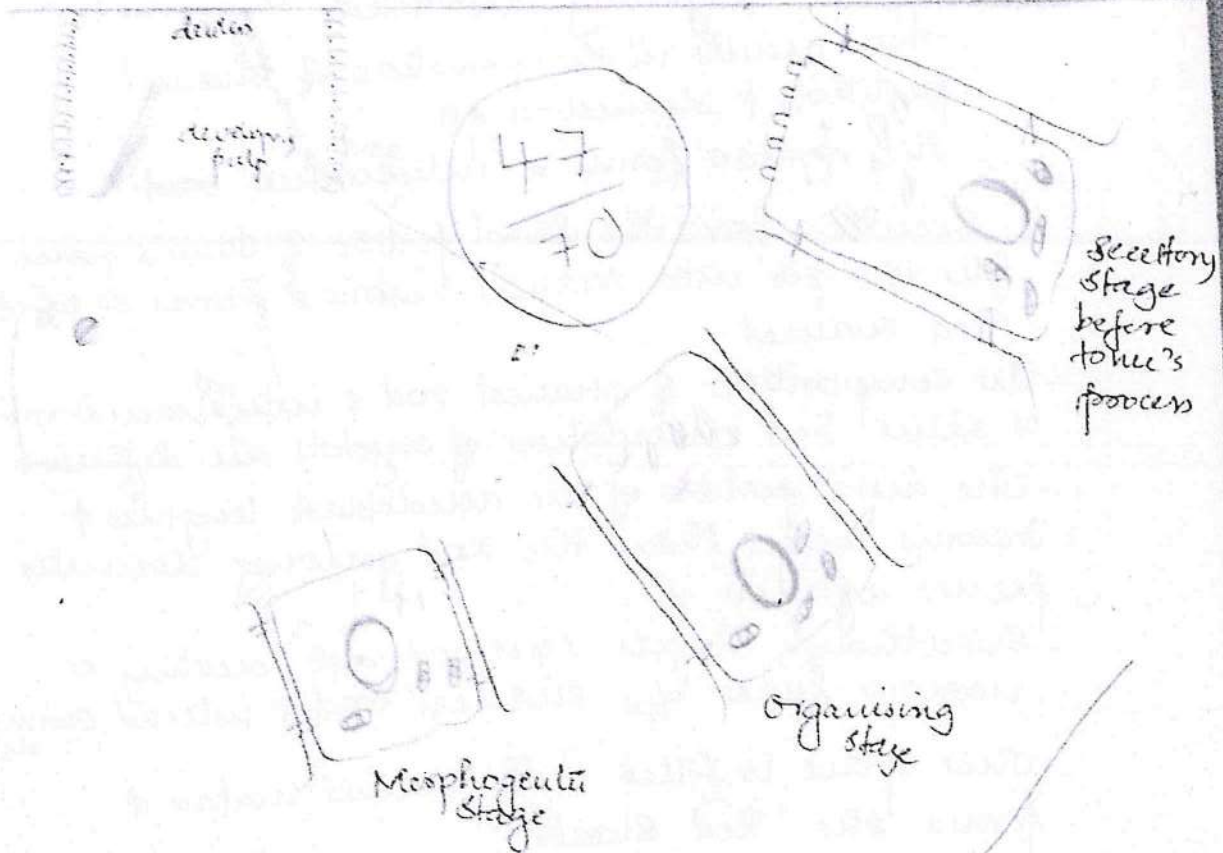
Student Name - Nayan Babu

Roll No - 33

Year - First year

QUESTION NO	MARKS	QUESTION NO	MARKS
01		09	
02		10	
03		11	
04		12	
05		13	
06		14	
07		15	
08		16	
Total marks			

70



LIFE CYCLE OF AMELOBLAST



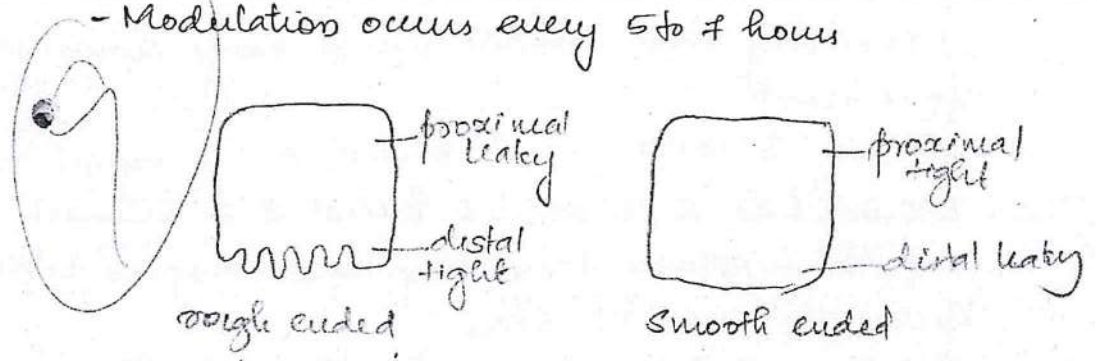
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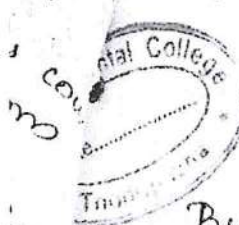
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Maturative Stage

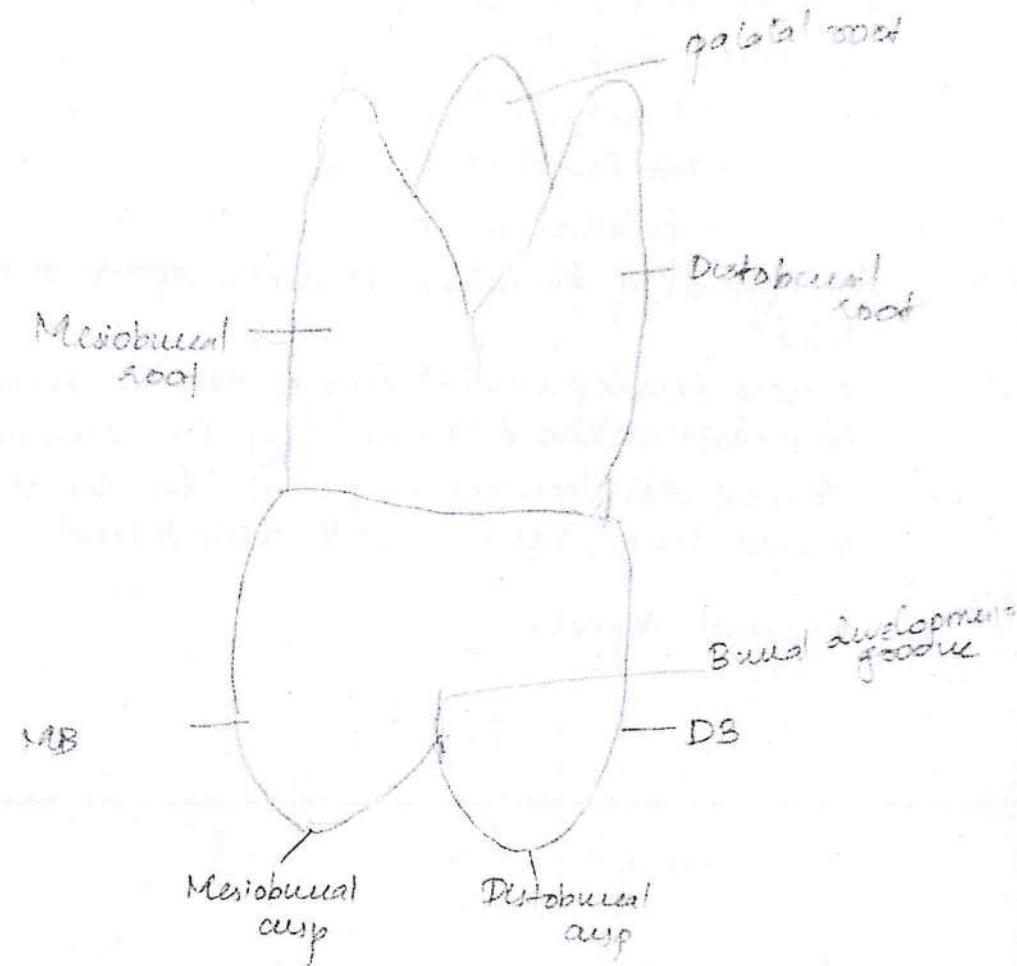
- The changes occurring in ameloblast in a secretory stage & prior to the onset of maturative stage is called Transitional phase
- During this phase the ameloblast reduce in height, organelle content is decreased & maturation stops
- Ameloblast undergo programmed cell death (apoptosis)
- 25% dies in the transitional phase & rest 25% dies as maturation proceeds.
- Before the tooth erupts into the oral cavity the enamel has to harden to ~~compr~~ have the composition of 96% inorganic & 4% organic
- It occurs due to the growth of crystal & removal of ~~the~~ matrix proteins & enamel fluid.
- The ameloblast undergo removal of water & fluid alternative cyclically to form rough & smooth border at apical cytoplasm
- It is called modulation
- Modulation occurs every 5 to 7 hours



- Ruffled ended promote the passage of calcium into the ameloblast
- It also secrete bicarbonate ion which keep to maintain mineralized front alkaline
- The enzyme ~~secrete~~ proteinase degrade the collagen fibers & degrade the proteins into small polypeptides.
- These polypeptides are recovered in the leaky distal portion of smooth ended ameloblast.
- Thus the mineral content of enamel is increased



Buccal Aspect:-

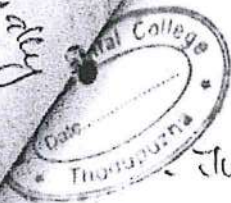


- Crown is roughly trapezoidal
- Two cusps can be seen
 - Mesio buccal
 - Disto buccal
- Mesio buccal is broader than the disto buccal
- The slopes of the mesio buccal meets at an angle of obtuse angle
- The slopes of the disto buccal meets at the right angles, hence it is long & sharper
- The cervical line is convex towards the root.



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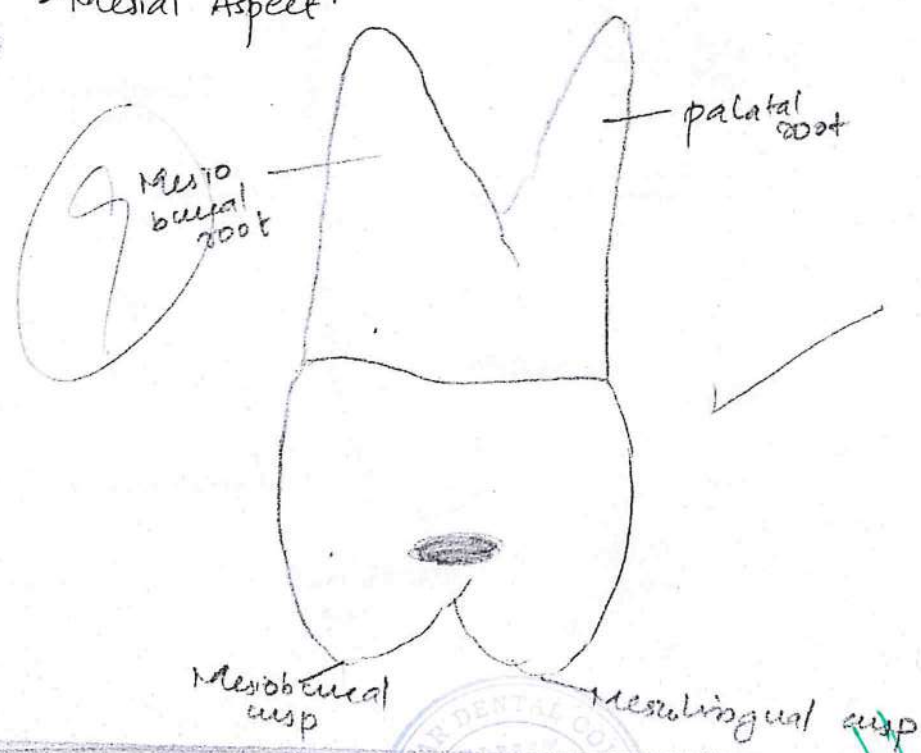
Tuesday



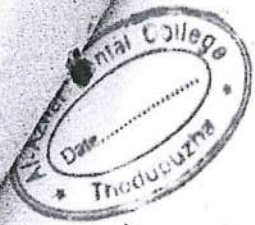
Two cusps can be seen

Mesiolingual
Distolingual

- Mesiolingual is the largest & longest cusp of the tooth.
- All the three roots can be seen from this aspect.
- ~~The mesial contact point is at the middle of the middle third~~
- ~~Distal contact point is at the ce~~
- The crest of the curvature of mesial outline is at the middle of the middle third
- The crest of the curvature of distal outline is at the cervical third.
- The cervical line is irregular with concavity towards the root.
- A deep lingual developmental groove that separating the mesiolingual & distolingual cusp.
- Mesial Aspect.



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Due to the tendency of the crown to converge distally in the buccal direction, more of the tooth side can be seen

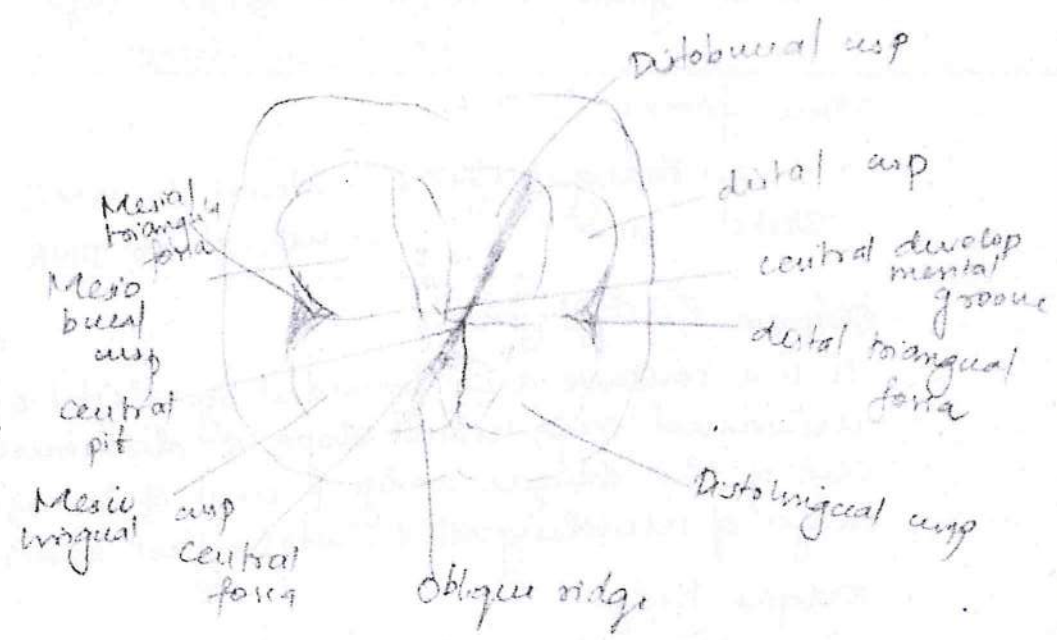
- Similar to the mesial aspect

- Cusp seen is,

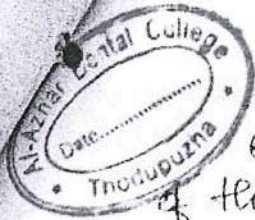
Mesio Distobuccal
Distolingual

- Roots seen are palatal root & distobuccal root

Occlusal Aspect:-



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Grooves:-

Central pit is approx. at the central portion of the occlusal surface

Central developmental groove runs from the central pit at the centre of the occlusal surface

Buccal developmental groove runs from central pit in a buccal direction & ends up at MMR.

Transverse ridge of Oblique ridge

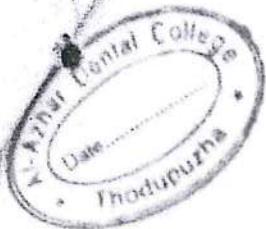
- Radiates from the central pit of central fossa and ends up in the distal fossa.




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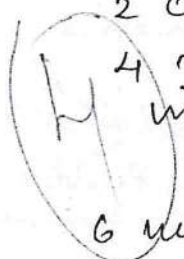
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Mamelons	Absent	Present in newly erupted incisors
	Molars	
Cervical table	Narrow	Broader
Cups	Shallow	well developed
	Root	
Roots	More delicate long & narrower	Rounder broader
Root trunk	Smaller	Large
Root insertion	flaw more centrally 	flaw more apically 
Root flaring	Marked flaw is present for the developing permanent premolars 	Marked flaw is absent
Resorption	Undergo physiological resorption i.e., shedding 	No physiological resorption
	Pulp	
Pulp chamber	Larger 	Smaller
Pulp horn	Over placed higher	flaw comparatively lower



3.	Deciduous teeth	Permanent teeth
	Morphological Differences	
Size	Smaller	Larger dimensions
Crown shape	Mesiodistal width is more than the length of crown	The length of the crown is more
Colour	Bluish white	Yellowish white
Interdental spacing	more	less
Contact area	less smaller	Relatively larger
No. of teeth	20 teeth	32 teeth
Teeth present	2 central incisors 2 lateral " 2 canine 4 molars in each arch	2 central incisors 2 lateral " 2 canine 4 premolars 6 molars in each arch
Duration of dentition	6 months to 6 years	12 years & beyond
Eruption sequence	ABDCE	Maxillary 61245378 Mandible 61234578
Cervical	more prominent	less cervical



Apical foramen

Apical foramen is wide

Small & narrow apical foramen



Histological Differences

1. Enamel

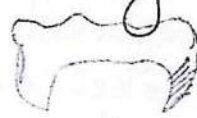
Less thickness
More uniform

More thickness
of enamel

2. Direction of enamel rods

Enamel rods at the cervical region stops occlusally

Enamel rods at the cervical fluid stops cervically



3. Dentin thickness

Less

More

4. Dentinal tubules

Less ~~and~~ regular

More regular

5. Interglobular dentin

Absent

present

6. Cementum thickness

Less thickness of cellular cementum

More thickness of cellular cementum

7. Neonatal line

Present in all teeth both in dentin & enamel

Present on first molar since remineralization begins at birth.



Langerhans cell

These are other type of clear cell present on the upper surface of oral epithelium

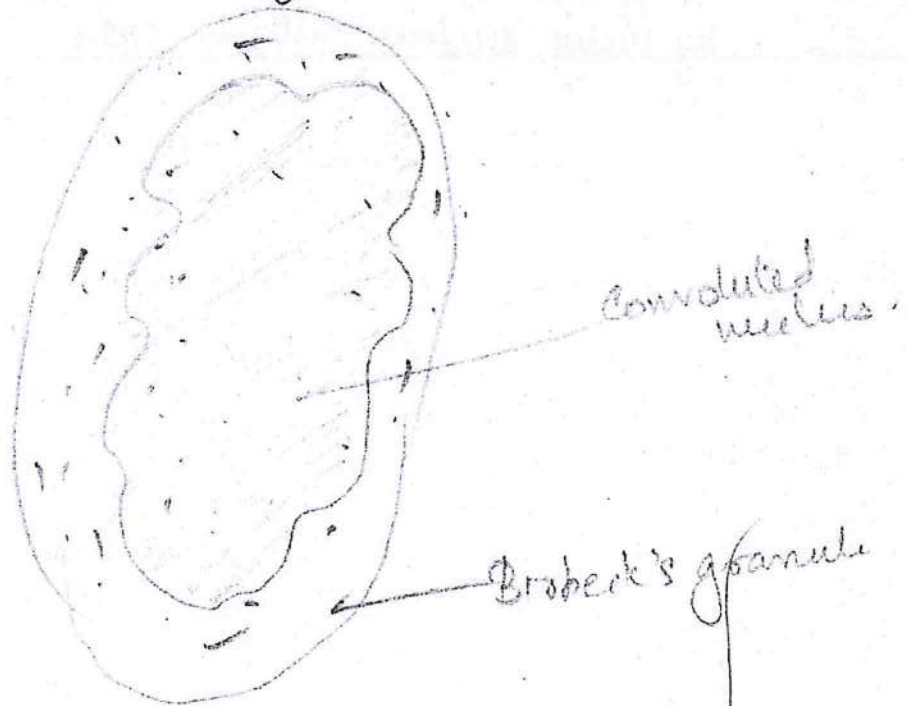
Hence called as high level clear cell
They are hemopoetic in origin

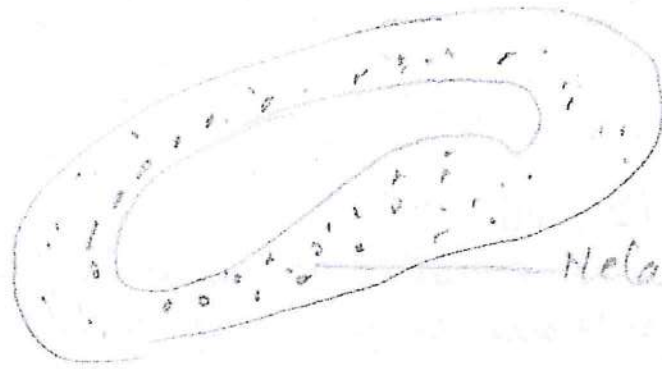
These cells involve in immune response

They contain a convoluted nucleus & eosinophilic granules called as Birbeck's granule

During any antigenic challenge, these cells pick up the antigen and present to T-lymphocyte
Hence called antigen presenting cells.

They can be identified in immunohistochemistry by using surface antigens CD1a.

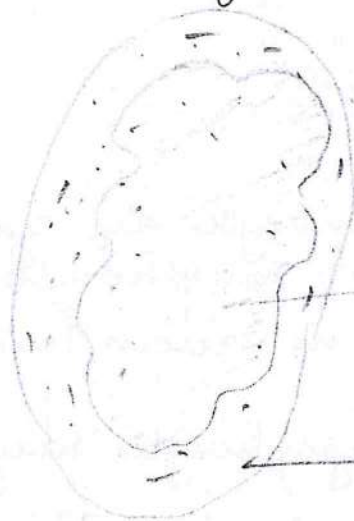




Melanin pigment

Langerhans cell

- These are other type of clear cell present on the upper surface of oral epithelium
- Hence called as high level clear cell
- They are hemopoetic in origin
- These cells involve in immune response
- They contain a convoluted nucleus & contain rod like granules called as birbeck's granules
- During any antigenic challenge, these cells pick up the antigen and present to T-lymphocytes. Hence called antigen presenting cells.
- They can be identified in immunohistochemistry by using surface antigen CD1a.



Convoluted nucleus

Birbeck's granule



5. Deglutition

- It is the process of transfer of food from mouth to esophagus
- It is a voluntary process
- It involves tongue, soft palate, pharynx, esophagus & 22 muscle group
- It has 3 phases -

preparatory phase

1. Oral phase (0.5 sec)
2. Pharyngeal phase (0.1 sec)
3. Esophageal phase (3 sec for liquids
9 sec for solids)

Oral phase

- It is voluntary process
- The anterior part of the tongue raised & pressed against the hard palate by the intrinsic muscles of the tongue (superior longitudinal & transverse)
- The bolus move anterior to posterior
- The hyoid bone is raised upwards & forward by suprahyoid muscles
- Soft palate is closed down at the back of the tongue
- The posterior part of the tongue raised upward & backward by styloglossus & palatoglossus.
- Thus the bolus move through the oropharyngeal isthmus to oropharynx.



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Esophageal phase.

- Rapid movement of bolus into the stomach
- It is done by peristalsis

A wave like muscular contraction produced by a series of local reflexes in response to distension of wall by bolus is called peristalsis

Two types of peristaltic movement

Primary peristalsis -

- It is a continuation of peristaltic wave
- begins in pharynx & spread to esophagus.
- takes only 4-10 sec

Secondary peristalsis

- Occurs only if the primary wave fails to push down the food
- produced by the distension of esophagus.

- Circular smooth muscle contract before & relax above the bolus
- longitudinal contraction of smooth muscles also help in transport of food into stomach
- Rate of 2-4 mm/sec



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Primary Dentin

It is the first formed dentin before or till the root completion

It is of mantle dentin & circumferential dentin

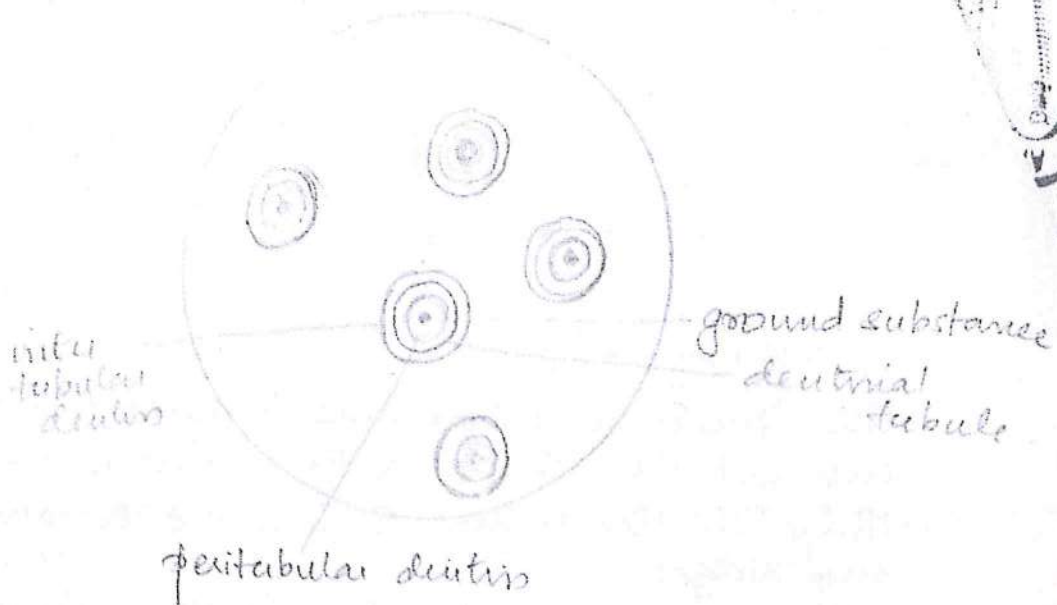
Mantle dentin

- It is the primary dentin that formed at the periphery or outersurface of both enamel & cementum
- They are 4% less mineralized than the other dentin
- They are thickness of 20-30 microns
- These are placed perpendicular to the DEJ & DCJ
- consist of collagen fibres and organic matrix is less compact to other dentin

Circumferential dentin

- Remaining part of the dentin from the rest of the pulp of dentin
- They are 4% more mineralized than the mantle dentin
- The dentinal tubules are arranged parallel to the dentinoenamel junction & dentino cemental junction
- They are more harder than mantle dentin
- They produce of thickness about 20-500 nm.
- Organic matrix is made up of odontoblast. Secondary dentin
- The dentin deposition which is slower in rate but continue until the tooth is present.
- The ~~so~~ dentin formed after the root completion is called as secondary dentin
- It is slower in rate.

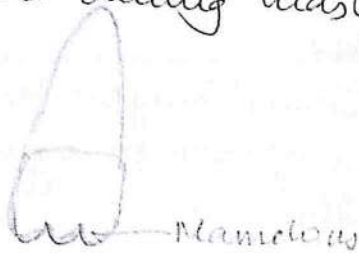




7 Mamelon

They are the three rounded protuberances present on the newly erupted incisors
Absent in deciduous teeth

They become disappears because of the tearing force during mastication



Ridge

Are the linear elevations present on the surface of the tooth

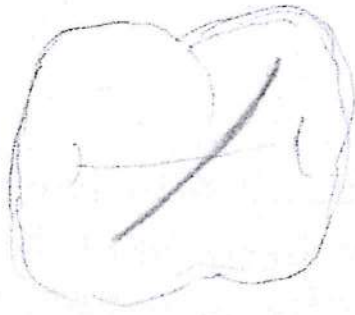
They are named according to their location

Marginal ridge

They are rounded elevation present on the mesial & distal slopes of occlusal surface of posterior & mesial & distal slopes of incisal surface of canines & incisors lingually



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Point Angle
Is the junction of three line angles or three surfaces
It is named according to their orientation

8. Zones of pulp

Histologically 4 distinct zones of pulp can be seen

Odontoblastic zone

Cell free zone

Cell rich zone

Pulp core / pulp proper

Odontoblastic zone

- found at the periphery of pulp
- consist of cell bodies of odontoblast which lies in a continuous row
- Nerve enters the zone, and terminate at odontoblast
- Odontoblasts & subodontoblasts nerve fibers together — peripheral sensory complex envelop completely the central pulp core.

Cell free zone

- layer of subodontoblast of approx. 40 microns width
- More in coronal pulp
- More ground substance — reticular fibers



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Q9. Maxillary sinus

It is a pseudo air filled space present in body of maxilla and communicate with the environment by ~~the~~ middle nasal meatus of nasal vestibule.

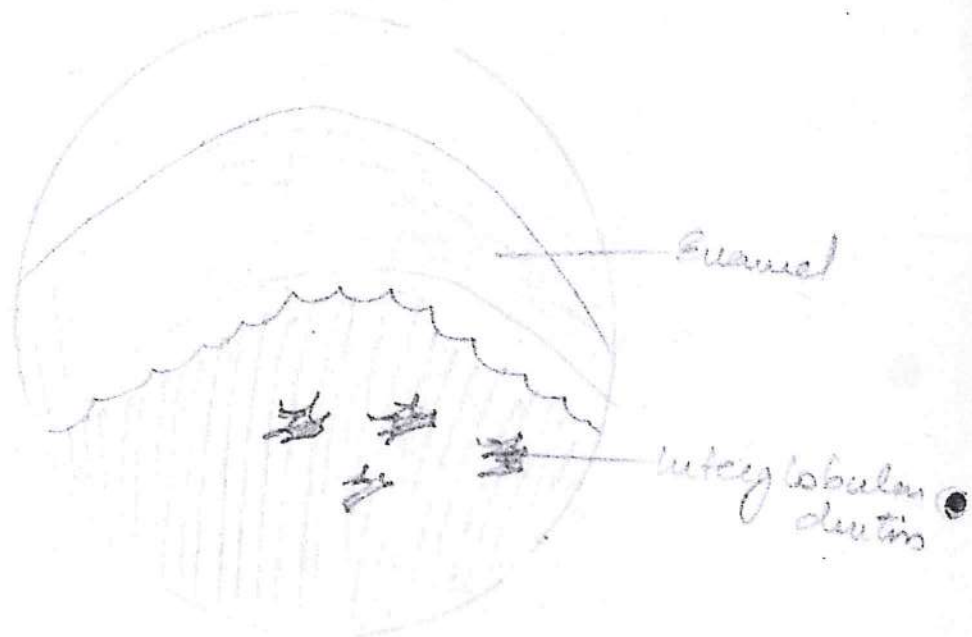
Functions of Maxillary sinus

- They act both functions i, olfactory and respiratory function
- It humidifies and warms the inhaled air
- It act as a protection for the internal organs especially for brain
- They lighten the weight of skull
- Helps in the resonance of voice.



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11. Interglobular dentin



- They are hypercalcified structures present in the circum-pulpal dentin
- They are star-shaped crystals form as a defect in the mineralization of the dentin not in the defect in matrix deposition.



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Anterior $2/3^{\text{rd}}$ part derived from first pharyngeal arch

posterior $1/3^{\text{rd}}$ derived from 3rd arch & posterior most part derived from 2th arch

- Nerve supply of tongue

Anterior $2/3^{\text{rd}}$ - lingual nerve - general ^{sensal}
chorda tympani - special ^{sensal}

post: $1/3^{\text{rd}}$ - hypoglossal N. - Both general ^{sensal}

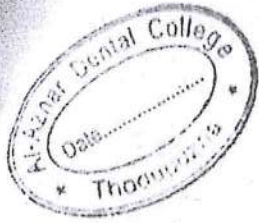
posterior most part - internal laryngeal branch of vagus

R.H. 20.11.2020



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15. Masseter

- Quadrilateral in shape
- covers the lateral surface of ramus of mandible.
- It has 3 layers

Superficial layer -

Origin - from the ant $\frac{2}{3}$ rd of the zygomatic arch & adjoining zygomatic process of maxilla.

Insertion - to the lower border of lateral surface of ramus of mandible.

Middle layer

Origin - from the post. $\frac{1}{3}$ rd of the zygomatic arch

Insertion - to the center of ramus of mandible

Deep layer

Origin - from the deepest part of zygomatic arch

Insertion - to the remaining part of ramus of mandible

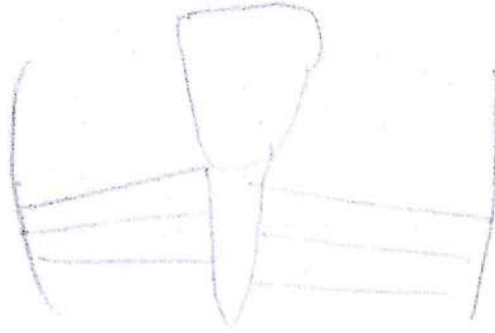
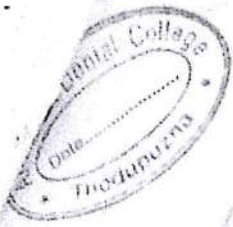
Nerve supply

- Masseteric nerve of anterior division of mandibular nerve

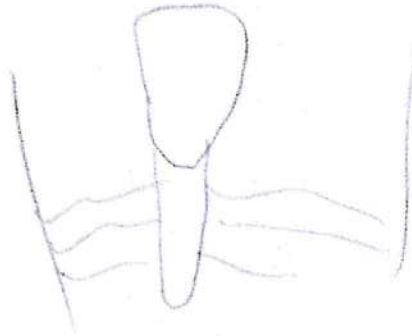
Function

- Elevates the mandible
- Closure of the mouth
- Little protrusion of mandible





Before eruption



After eruption



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FINAL YEAR BDS
MID COURSE ASSESSMENT EXAMINATION
PERIODONTICS

Duration- 3 hours

Max marks: 75 (2016 scheme)

ESSAY:

1. **Define Dental Plaque. Describe in detail about mechanism of plaque formation and enumerate different plaque hypothesis.**
(2+4+4)
2. **Define Periodontal Flap. Classify Periodontal Flaps. Describe in detail about Modified Widman flap.**
(2+3+5)


SHORT ESSAY:

3. **Define GTR. Add a note on bone grafts.**
(2+3)
4. **Classify Cementum and a note on difference between Primary and Secondary Cementum.**
(2+3)
5. **Describe the clinical and radiographic features of Aggressive Periodontitis**
(3+2)
6. **Define Halitosis. Classify and Management of Halitosis.**
(1+1+3)

SHORT NOTES: (10x3)

7. **Supportive Periodontal Therapy**
8. **Food Impaction**
9. **Theories of Calculus formation**
10. **Classify Mechanical Plaque Control Agents**
11. **Define mobility and enumerate causes of mobility.**
12. **Junctional Epithelium**
13. **Periodontal Dressing**
14. **Gingival Curettage**
15. **Diabetes mellitus and Periodontitis**
16. **Principle fibers of Periodontal ligament**




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Mid-course improvement exam

Department - Periodontics

Student Name - Gopals Vaidhara

Roll No - 11

Year - 23-24

QUESTION NO	MARKS	QUESTION NO	MARKS
01	4	09	1.5
02	4	10	2
03	3.5	11	1
04	2	12	
05	3.5	13	1.5
06	4	14	
07	1	15	3
08	3	16	3
Total marks	40		

1) ~~to attach~~ to process tissue formation

b) Colonization of the plaque biofilm.

c) Co-adhesion / Coaggregation

d) Pellicle formation:

The bacteria do not adhere directly onto the surface of tooth or enamel. There is a layer of salivary pellicle between on the tooth surface which has receptor for adherence of the bacteria.

The pellicle is allowed to settle on surface on one side and bacteria on the other side. Bacteria which remains even after brushing are the primary colonizers of the plaque biofilm.

The initial colonization is by the primary colonizers of the mouth. Secondary colonizers includes copolymerizing porphyrins gingivitis.



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→ Generalized hyperostosis
A minimum of 3 teeth other than 1st
incisor and 1st premolar - molars
affected follows specific pattern
does not show a specific pattern

→ Radiographic features of hyperostosis
• Some bone destruction - not correlating with
amount of horizontal bone defect seen
Angular and/or horizontal bone defect seen
Angular bone defects - characteristic feature

• Arc-shaped bone defects - characteristic
Angular bone loss
PDL space widening - inflammation - leading
to tooth mobility - discontinuity - not intact.
Dense lamina dura - discontinuity - not intact.

⑥ Halitosis:
Oral malodour (known as halitosis - Foul
smell of oral flora or
Other names: Oral fetor
Oral Peter

→ Classification of Halitosis:
1) True halitosis
2) Pseudo halitosis
3) Halitophobia

True halitosis: it is due to lack of oral hygiene
sulfur compounds released from the bacteria
on the tongue surface causes halitosis



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a) Parodontulitis: may be due to a large cavity lesion, food accumulation in a periodontal pocket, due to extra-oral causes like etc. ENT infection (pharyngitis, tonsillitis)

Causes of Infection:

① Intra-oral causes:

- Lack of oral hygiene
- large open cavity
- of periodontal pocket
- favors food accumulation
- leads to putrefaction
- Xerostomia
- periodontal infection

② Extra-oral causes:

- ENT infection (pharyngitis)
- GIT problem
- Kala-azar (Leishmania tropica)
- Virus (Syphilis)
- Hemorrhoid causes

→ Management of Infection:

a) Scaling and root planing

b) Oral hygiene measures

→ Mechanical plaque control

→ Chemical plaque control

→ Mechanical plaque control

→ Chemical plaque control

- 700 H brush and toothpaste
- 30% toothpaste acid (H₂O₂)
- Gingival stimulation
- Tongue scraping
- Mouthwashes
- Chlorhexidine mostly used

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Altogether investigations should be done of 0.2% Altolivulose should be done daily 60 seconds after a brush and food should be consumed only after 30 minutes after brushing. Has bactericidal & anticaries effect. Treatment of the underlying cause.

3) Food impaction:

Efficient wedging of food into the interproximal space is known as food impaction.

Two types of food impaction - 2 types:

a) Vertical food impaction:

- occurs due to the occlusal forces of teeth mostly in areas of open contact, plunges creeps, improper contacts, irregularities with the occluding margins, etc.

b) Horizontal (Lateral) food impaction:

- occurs due to the pressure from lips, cheek and tongue mostly in areas of enlarged gingival embrasures either due to tissue destruction or spread migration of gingivoidly pockets.

→ Causes of food impaction (classified):

- Law I: Anatomy related factors (plunges, cups, occlusal wear, etc)
- Law II: Open contact between adjacent teeth
- Law III: Expansion of tooth

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Class IV: Congenital morphogenic abnormalities.
 Class V: Gingivitis-related causes (peri-implantitis).

→ Treatment:

Treated food impaction in managed by the

brush of the underlying causes:

1) Restore proper anatomy of the
 Crestal occlusal irregularities and underlying
 subtraction margin.

2) Open contacts - treated by subtraction or addition
 treatment like

3) Congenital morphogenic abnormalities like
 supernumerary teeth, macrodontia, rotation,
 lateral can be corrected by extraction, rotation
 etc.

15) Classification of mechanical plaque control agents:

They are:

a) Top HR brush and distal floss
 → go between teeth
 → go between teeth for HR brush

b) Go between teeth
 → floss
 → wooden sticks

c) Arch for gingival stimulation
 → water irrigation device
 → stimulation using fingers.

d) Tongue scraper.



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(11)

Mobility:

Movement of tooth around the normal axis of tooth is known as tooth mobility. It can be measured with the help of a mesiodistal and facial lingual direction. It can be measured with the help of the handle of force on one side of tooth or using a finger on the other side and handle held between this and tried to displace and visible displacement - can be seen.

Causes of tooth mobility:

- a) Degeneration of periodontal ligament fibres.
- b) Alveolar bone loss / absorption.
- c) Osseous defect.
- d) Trauma from occlusion.
- e) Periodontitis.

(17)

Gingival surgery:

It is the surgical removal of granulation tissue and excision from the gingiva. It is done as an adjunct to orthodontic treatment. It is done as an adjunct to orthodontic treatment.



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in the same
 mode of the periodontal bacteria
 remain the same but the bacteria
 and products for
 specific and change in mostly due to wear with
 occlusal or bone defects.

It is followed by gingivopathy - redness
 of the gingiva and oedema of gingiva.
 The gingiva is red and swollen. The
 normal gingival contour of gingiva.

Done at the end of the Standard Grassy
 cassette or 18 standard
 cassette.

(15)

Diabetes mellitus and periodontitis:
 Diabetes - and increase in the blood glucose
 level.

When there is increase in blood glucose
 level it leads to the following process:
 Alteration of bacterial pathogen of oral cavity

- a) Impaired neutrophil function
- b) Advanced glycation end products (AGE's)
- c) Alteration of periodontal pathogen:

Alteration of blood glucose level will lead
 to the alteration of the microflora of
 the oral cavity. Bacteria in more.
 Black colored species are - porphyromonas
 Normal pathogens are - peptostreptococcus
 gingivitis spirochetes. The inflammatory
 response will increase the inflammatory
 response by the release of MMPs, etc leading
 to the periodontitis.

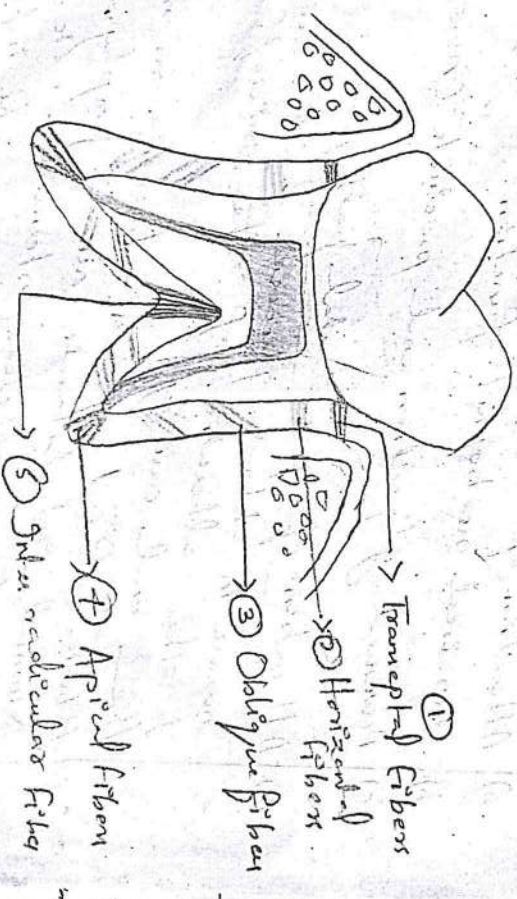


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b) Impaired neutrophil Chemotaxis, phagocytosis, Neutrophil adhesion, impaired response of the host in altered response of the host in advanced glycation end products (AGEs).

c) Advanced glycation end products in affected. Normal collagen cross-links with AGEs and becomes insoluble - therefore it is not repaired and replaced at a normal rate. The collagen remains for a long time in the tissues and is easily susceptible to breakdown or degradation when infection occurs.

16 Principle fibers of PDL



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a) Transverse fibers:

Position: extend from

Function: it prevents the HR movement of the previous position after orthodontic

• considered as Henry a gingival fiber since it has no osseous attachments.

b) Horizontal fibers:

• Position: extend from coronation of tooth to the alveolar bone.

• Function: prevent luxation and lateral movement of tooth.

c) Oblique fibers:

• most numerous for group of fibers

• position: extend obliquely in a coronal direction from the coronation to the alveolar bone.

• function: connect alveolar wall with alveolar bone. Force directed along vertical axis of tooth.

d) Apical fibers:

• position: extend from the root apex to the alveolar bone.

• function: prevent tipping.

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parvella in periodontal tissue
 go, the later stages, gram negative
 predominata.
 The primary colonizers provide attachment
 for other bacteria.

3) Coagglutination:
 Adhesin between different species of bacteria
 is known as coagglutination.
 The primary colonizers act as receptor sites
 for attachment of other bacteria.

2) Plaque Hypothesis:
 The primary colonizers act as receptor sites
 for attachment of other bacteria.
 The plaque then get mineralized and form
 a resilient greyish-white structure on the
 tooth surface.

1) Specific plaque hypothesis:
 Non specific plaque hypothesis.

3) Imbalance hypothesis

2) Parodontal Flap:
 A parodontal flap is a part of gingiva
 which is raised in order to perform various
 parodontal surgical procedures.

1) Classification of parodontal flaps:
 According to bone exposure required:

- 1) Full thickness flap
- 2) Partial thickness flap



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a) Full thickness flap:

The entire gingival epithelium and connective tissue along with the papillae the underlying removed in order to minimize the underlying bone.

b) Partial thickness flap (split-thickness flap).
Gingival epithelium along with a part of the connective tissue is raised and a part of the connective tissue papillae remain on the tooth surface.

According to position of flap after surgery:

a) Non-displaced flap.

b) Displaced flap

a) Undisplaced flap:
The flap is placed back into its original position and sutured into

its original position after surgery.
The flap is positioned and sutured into its original position.

b) Displaced flap:

This type of flap is displaced either apically, laterally or coronally from its original position.

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③ Management of interdental papilla:

- a) Conventional flap.
- b) Papilla preservation flap.

→ Modified Widman Flap:

most commonly used flap technique.

Procedure:

Step 1: Intraoral buccal incision is made using BP scalpel blades (#11 and #15). It follows the gingival margin contour.

Step 2: Circumferential incision.

Step 3: Intraoral incision.

Step 5:

Procedure:

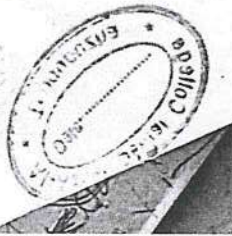
Local general anesthesia given. Local buccal incision is made using #11 and intraoral buccal incision is made using #15 BP surgical blade as all parts of the mouth and no. 12 ~~is~~ used in the posterior area. It is the first incision done.

It is a horizontal incision and is placed 1-2mm distance from the margin and aim at the alveolar bone level. It follows the gingival margin contour.

It follows the gingival margin contour and it also follows

② Circumferential incision in

the anterior contour of gingiva. It also follows the gingival elevation in



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3

GTR

GTR is a regenerative process which promotes regeneration of periodontal fibres after the successful periodontal therapy.

GTR is basically a membrane or barrier placed between the gingival epithelium and the root surface in order to prevent adhesion of gingival epithelium to the root surface. However, it would lead to proliferation of the gingival epithelial cells on the root surface in long junctional epithelium.



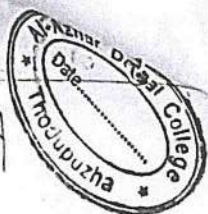
GTR also helps in maintaining space for stabilizing the clot formed and favours the periodontal ligament cells to come in contact with the root surface leading to the proliferation of cells of cementum, alveolar bone and periodontal ligament in order to restore the structural and functional integrity of the tooth.

2 types based on Melcher's concept - cells in the regeneration of tissue which comes in based on the type of tissue which comes in based on the tooth after surgery:

- Gingival epithelial cells → long junctional contact with the tooth
- Alveolar bone → resorption/ankylosis
- Periodontal ligament → regeneration of cementum, alveolar bone and PDL.



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There are different types of membranes based on the biodegradation.

Non-resorbable
- polymers of polyglycolide

- Resorbable
- Rubber dams
- e-PETE

→ Bone grafts: Bone graft we used as an adjacent to GTR in order to promote better healing of the site.

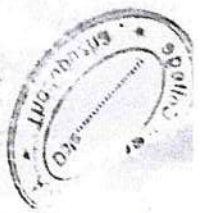
→ Types of grafts: Autografts - same species different individual.

- a) Autografts - same individual
- b) Allo grafts - same species different individual
- c) Xenografts - grafts between different species of host and

Other types: Bioactive glass
Enamel matrix protein
Titanium coated



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④ Classify Cementum:

Schroeder's Classification:

- a) Extrinsic fibres cementum.
- b) Intrinsic fibres cementum.

→ Based on the cellular content:

- a) Cellular cementum.
- b) Acellular cementum.

→ Based on time of deposition:

- a) Primary cementum.
- b) Secondary cementum.

→ Based on the position of cementum:

- a) Radicular cementum.
- b) Coronal cementum.

<u>Primary Cementum</u>	<u>Secondary cementum</u>
First formed cementum is known as primary cementum.	Cementum deposited is the later stage is known as secondary cementum.



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MID COURSE IMPROVEMENT EXAM 2023-2024

BDS THIRD YEAR

DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

Nov 2023

Time: 3hrs

Max marks: 100

Answer all questions

Draw diagrams wherever necessary

Essay (2x10=20)

1. Classify Salivary gland tumours and describe in detail about adenoid cystic carcinoma
2. Discuss in detail clinical features, radiographic features, histopathology and treatment of fibrous dysplasia

Short Essay(4x5=20)

3. Dentigerous cyst
4. Staging of oral squamous cell carcinoma
5. Oral manifestations of HIV
6. Myofascial pain dysfunction syndrome

Short notes (3X10= 30)

7. Supernumerary teeth
8. Cleidocranial dysplasia
9. Keratoacanthoma
10. Lip prints
11. Histopathology of dentinal caries
12. Histopathology of basal cell carcinoma
13. Ludwig's angina
14. Rugae pattern in forensic odontology
15. Trigeminal neuralgia
16. Papillon-lefevre syndrome




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Mid-course improvement exam

Department - Oral Pathology

Student Name - Aikhila Tom

Roll No - 2

Year - Third year (2020 batch)

QUESTION NO	MARKS	QUESTION NO	MARKS
01	2	09	1/2
02	2	10	1
03	3	11	2
04	4	12	1
05	3	13	2
06	1	14	2
07	2	15	2
08	2	16	2
Total marks	46/70		

tumour
 primary epithelial tumour
 46/70

Benign tumour - pleomorphic Adenoma
 Warthin's tumour
 Squamous Cell Carcinoma
 Thyroid Inverted ductal Carcinoma
 Intraductal Carcinoma
 ductal Carcinoma

Malignant tumour - Basaloid carcinoma
 myoepithelioma
 Basal Cell Carcinoma
 Squamous Cell Carcinoma

8



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- Schwannoma
- Lymphoma

Malignant

- Fibrosarcoma
- Malignant fibrosarcoma
- Rhabdomyosarcoma

H^o lymphomas

- Non-Hodgkin's lymphoma
- Hodgkin's lymphoma

Melanoma

- Renal Cell Carcinoma
- Thyroid tumour

Adenoid Cystic Carcinoma

Adenoid Cystic Carcinoma is a slow growing tumour, with aggressive neoplastic tumour having a high rate of recurrence.

Clinical features

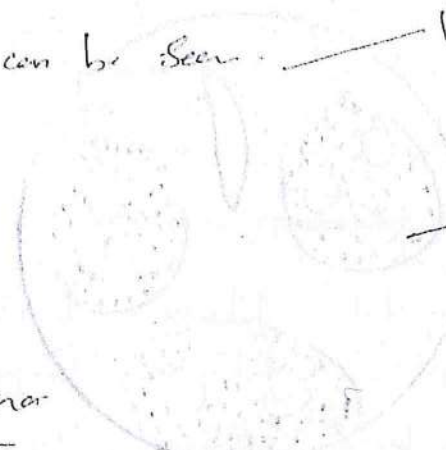
- Age - 50-60 yrs
- Sex - Female predilection



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Solid

- Cellular pleomorphism
- Mitotic Activity can be seen
-



Wedges of connective tissue stroma

Pseudo cells form swiss cheese / honey comb apper.

② Fibrous dysplasia

- Fibrous dysplasia is benign, non-capsulated lesion affected mainly on Maxilla.
- The normal bone get transformed into fibrous connective tissue with metastatic cells.

③ Pathogenesis

Mutation of GNAS gene

↓
Stimulates of G-protein of proliferation.

↓
Increased production of cyclic AMP.

↓
Hyperplastic production of affected cells.



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→ structural integrity decrease.

→ Shepherd Crook Syndrome.

- the curvature of femur get increased
- proximal shaft also get increased

→ Two types.

- Jaffe's type
- Albright Syndrome.

→ the pain on the affected limbs

→ High bearing limbs get of wear ball appearance

Craniofacial

→ 10-15% - monostotic

50% - polyostotic

→ location - sphenoid bone, ethmoid bone, frontal bone, temporal bone, jaw

→ visual disturbance occur, because it affected on orbital & preorbital bone

→ hearing, loss of hearing occur because it affected on temporal & parietal bone.



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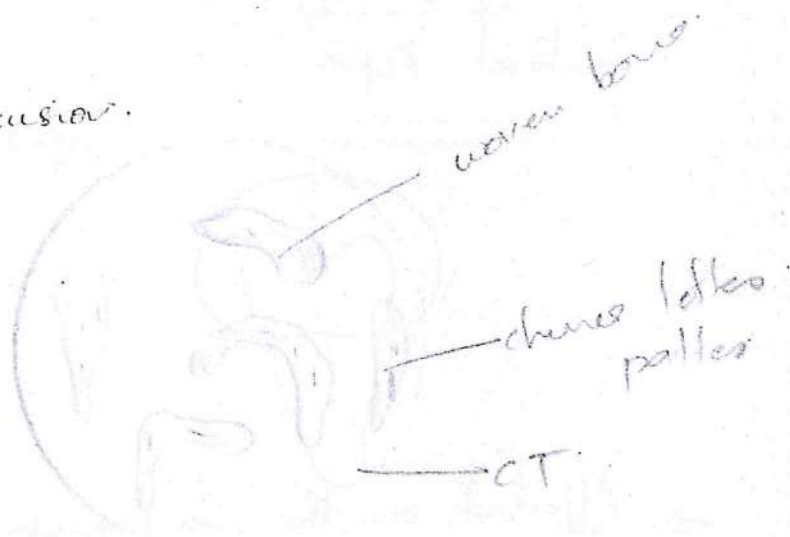
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AnyScanner

* Increased no. of Collagen.
*

Treatment
Surgical excision.

Do



③ Dentigerous Cyst

* Dentigerous cyst is seen b/w the reduced enamel epithelium of ~~enamel~~ ~~of~~ ~~the~~ enamel organ. Fluid is filled in b/w these regions.

Clinical feature

- B/w 2nd and 3rd decade
- Female predilection
- Teeth erupting get dislocated
- Seen in impacted or unerupted tooth
- Affected mainly on maxillary canines & mandibular 3rd molars



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SCAN AnyScanner

Coccyferential



Affected whole tooth

Histopathology

- Affected 2-4 cells of layers of flat non keratinising cells present
- inflammatory cells are present in connective tissue capsule
- No rete ridges are present
- Rete ridges may present on the secondary infection
- Inflammation of an dentigerous cyst
- Strands of stratified epithelium present in the connective tissue capsule
- epithelial - connective tissue interface is flat
- Rostker bodies are present in lining epithelium
- lining epithelium consist of
 - mucous secreting cell
 - Sebaceous cell
 - Respiratory cell

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④ Staging of Oral squamous cell carcinoma

T_x - no assess
T₀ - no evidence of tumour formation

(T - tumour)

- T_{is} - Tumour in situ
- T₁ - tumour size is less than 2cm.
- T₂ - tumour size b/w 2-4cm.
- T₃ - greater than 4cm.
- T₄ - greater than 4cm including
Antrum, pterygoid muscles.

N → no. of lymph nodes.

N_x - no assess.

N₀ - no evidence of positive sign.

N₁ - Single clinically positive
homolateral less than 3cm
in diameter

N₂ - Single clinically positive homolateral
3-6cm in diameter. → N_{2a}.

Multiple clinically positive homolateral
more than 6cm in diameter - N_{2b}



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develop from splitting of primary bud

→ Mesodens & Increased no of teeth mainly
→ seen in as Maxillary and mandibular
with molar, Maxillary lateral incisors,

Maxillary

Mesodens → Extra lateral incisors present

Para molar → Extra molar present on lingual/buccal
side of tooth

Disto molar → extra tooth present on the
distal side of ~~tooth~~ molar

Classification

→ Conical - eg: Mesodens

→ ~~Teabular~~ Teabular → Extra cusp or tubercle seen on lingual
Aspect of central incisor

→ Supplemental → lateral incisor

→ Odontome - odontogenic tumour.

⇒ Supernumerary teeth are mainly seen as
permanant tooth.



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AnyScanner

8) clivoid - Coomel dysplasia

- Abnormalities on the clavicle, skull etc.
- partial / Absence of clavicle.

Clinical features

- ~~clav~~ Absence of clavicle may lead to abnormal movement of shoulders;
- clavicle cleft palate occur
- low / beak / High arched palate.
- Tooth eruption is disrupted
- Root length is short,
- Retention of primary teeth.
- Fontanelles are not closed - 2 1/2 ✓
- Sutures are open
- Sagittal suture are flat
- Brachycephalic skull.
- paranasal sinus absent
-



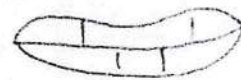
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- the examination of lipprints is referred to as cheiloscopy
- they are natural evidences like finger prints in a crime scene

classification of pattern of grooves

Type 1 - clear cut vertical grooves that run across the entire lip



Type 2 - Similar to type 1, do not cover the entire lip

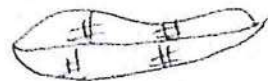
Type 2 - Branched grooves



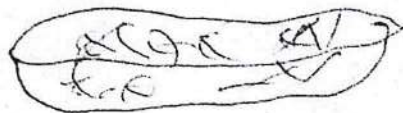
Type 3 - Intersected



Type 4 - Reticular



Type 5 - Cannot be determined



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(B) Ludwig's Angina

- Severe form of cellulitis
 - Arises from submandibular area and extends into submental & sublingual space.
 - elevation of tongue.
 - Swelling in the floor of mouth.
 - Difficulty in breathing & deglutition.
- Treatment : Antibiotics
Tracheostomy.

(C) Oral Manifestation of HIV

(i) Most Associated with HIV.

Kaposi's Sarcoma.

Non-Hodgkin's Lymphoma.

Oral Candidiasis.

Having leukoplakia.

Necrotizing ulcerative gingivitis.

Necrotizing ulcerative periodontitis.



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(18) Trigeminal Neuralgia:

Pain occur in the trigeminal nerve.

2 types

— Ichopathetic

— Sympathetic

Ichopathetic

The ~~pain~~ on the the blood vessels get congested the trigeminal nerve. The myelin sheath get laced. The hyper polarisation of nerve impulse occur leading to severe pain on the face

→ pain mainly occur & occurs on Vermilion border of lip, cheek, around eye, ear, jaw, chin, base of nose, forehead, tip of nose & teeth.

Sympathetic

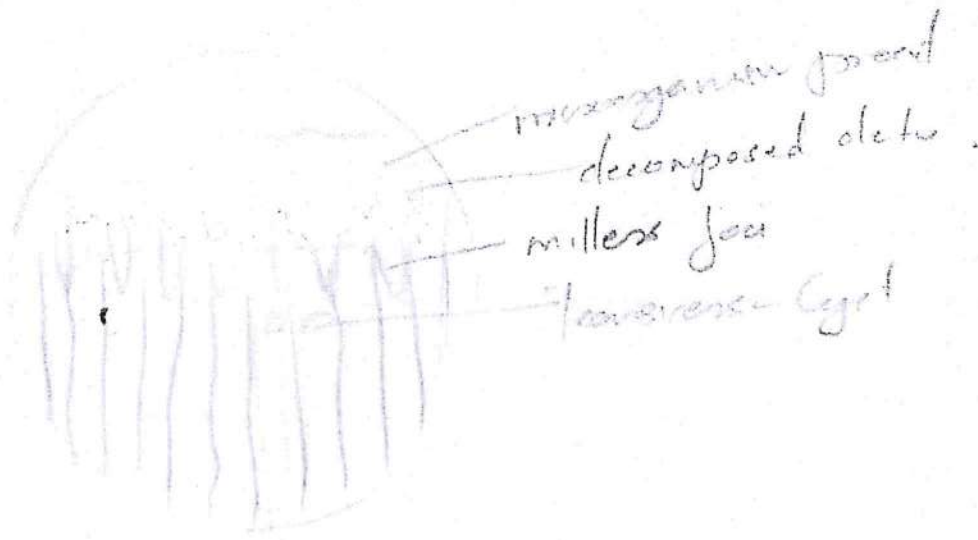
→ Multiple myeloma.

→ Migraine.

→ Abnormalities in skull.

→ It is the most severe pain on human body.





14) Rugosopy.
classfr.

- primary rugae > 5m
- 2° rugae 3-5m
- Fragmentary rugae < 3m
- Curved
- Wavy
- Straight
- Circular
- Asymmetric & irregular ridge.
- pattern made by ridge on anterior palatal mucosa on either side of midpalatal suture - Rugoscopy.



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AL AZHAR DENTAL COLLEGE & HOSPITAL
ORAL MEDICINE & RADIOLOGY,
(MIDCOURSE IMPROVEMENT EXAM)
FINAL YEAR PART- I SUPPLEMENTARY BATCH
APRIL 2023

Draw neat diagrams with pencil wherever required.

(Max marks -70)

Main essay (10 marks)

1. Classify Vesiculobullous lesion. Write in detail about the aetiopathogenesis, clinical features and management of Pemphigus Vulgaris (2+3+2+3)
2. Define Ideal Radiograph. Write in detail about the various factors essential for obtaining an ideal radiograph (2+8)

Short essay (5 marks)

3. Faulty radiographs.
4. Management of Oral Lichen Planus.
5. Object localization technique.
6. Dental Management of patients with Diabetes Mellitus.

Short notes (3 marks)

7. Differentiate between Aphthous Ulcer and Traumatic Ulcer.
8. Osteoradionecrosis.
9. Toluidine Blue vital staining.
10. Bisecting angle technique.
11. Leukoplakia.
12. Radiolucent anatomical landmarks of mandible.
13. Exfoliative Cytology.
14. Radiotherapy.
15. Cervical lymphadenopathy.
16. Waters View



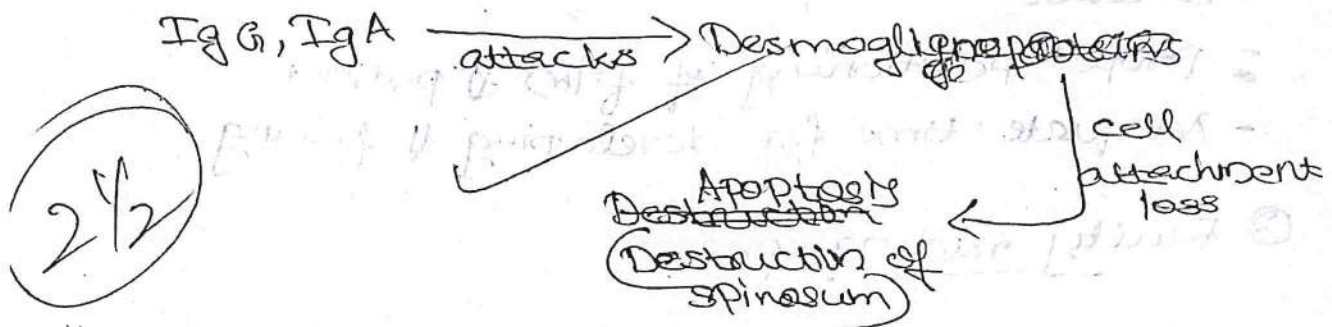
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Mid-course improvement exam

Department - OMR 11/12/23
 Student Name - SREERATHESUM S. J.
 Roll No -
 Year - 2023-24

QUESTION NO	MARKS	QUESTION NO	MARKS
01	2 1/2	09	1 1/2
02	3 1/2	10	2
03	0	11	3
04	3 1/2	12	1/2
05	0	13	1/2
06	1	14	0
07	2	15	1 1/2
08	1 1/2	16	1 1/2
Total marks	25 1/2		

⇒ Pathogenesis



⇒ CF:

- Age: Middle Aged
- Sex: No sex predilection.
- Burning sensation
- Secondary infections - fever, nausea, anorexia
- Nikolski sign - positive
- Site: Buccal mucosa, lateral border of tongue.

⇒ Management

- Depuded area ~~be~~ rinsed with 0.5% silver nitrate solution

- Prednisolone

② Ideal radiograph

- Radiograph with adequate density and contrast. - ideal radiograph

⇒ Factors

- Density

- Contrast

- Proper positioning of film & patient

- Adequate time for developing & fixing

③ Faulty radiographs

* Elongation

- It could ^{be} due to decrease in horizontal angulation

- Rectification: Correction of horizontal angulation.

* Foreshortening

- It could be due to increase in horizontal

Rectification : Correction of horizontal angulation -
Cone cut

- Due to improper positioning of film, position indicating device.
- Rectification : proper placement of film & position indicating device.

Type back appearance

- Placing the lead ~~side~~^{side} of the film towards position indicating device -
- Herring bone pattern
- Rectification : placing the lead ^{side of the film} towards the tooth.

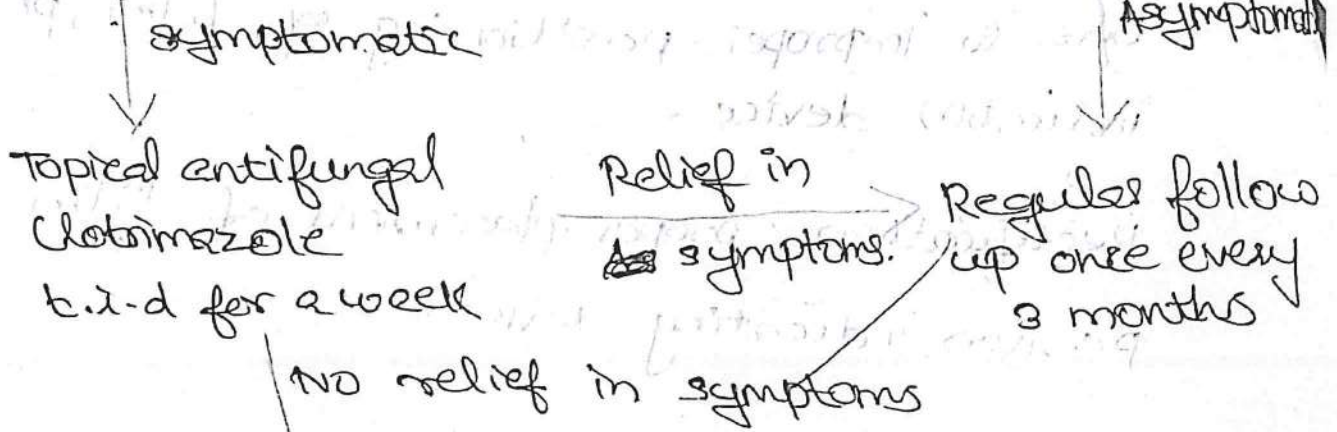
Cervical burn out

- X-ray beam is not passing in between the teeth.
- Rectification : proper positioning of film, correct angulation

Foggy appearance

- Inadequate developing
- Rectification : Adequate ~~time~~ ^{time} in developing

Lichen planus



Needs cases

topical steroids

- Triamcinolone acetonide 0.1%
t.i.d for 2 month
Symptoms improved.

Fluocinolone acetonide 0.025%
t.i.d for a month

No relief in symptoms

- systemic steroids

Prednisolone 10mg t.i.d

No relief in symptoms.

- Combination (topical + systemic)

- Triamcinolone acetonide +

Refractory cases

Intralesional steroid
Triamcinolone 0.5ml

Immunomodulation

Immunosuppression

Azathioprine 1g/kg

Need for drugs like tacrolimus

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⑥ Diabetes Mellitus

- Physician's consent is required
- Glucose level should be in control
- Early morning appointments
- Drugs affecting diabetic control should be avoided.
- LA can be administered

⑦ Root canal treatment & minor surgical procedures can be carried out by administering LA.

⑧ Aphthous ulcer

- Occurs due to stress, vitamin deficiency
- Covered by ~~yellowish~~ ^{greyish white} pseudomembrane
- Surrounded by erythematous halo
- Heals within 2 weeks.

⑨ Traumatic ulcer

- Occurs due to trauma from denture, sharp tooth
- Covered by greyish white pseudomembrane
- Heals when the ~~etio~~ etiology is removed



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⑧ Osteoradionecrosis

- Necrosis of the bone that occurs due to exposure of radiation.
- usually seen in patients undergoing radiotherapy

14/2 Patient ~~undergoing~~ ^{under} radiotherapy should not undergo extraction for a year.

→ Clinical Features

- Pain
- necrosis of alveolar bone

⑨ Toluidine blue vital staining

- Investigation technique using toluidine blue stain

- toluidine blue is applied on the mucosa

14/2 Dysplastic cells take up the stain

used for the investigation of cancer to find out the section of mucosa for biopsy

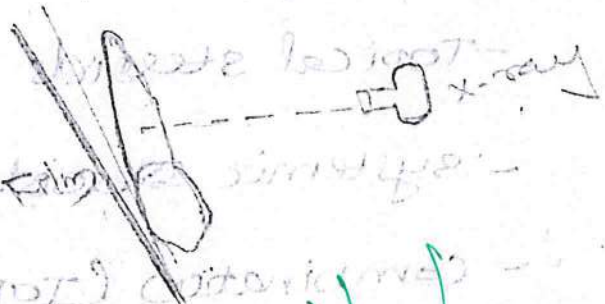
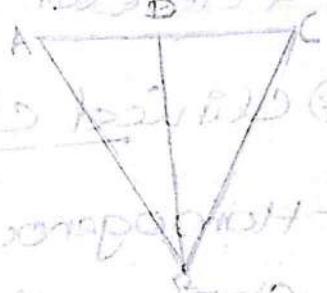


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10) Bisecting angle technique

- Also known as short cone technique
- Based on the principle: rule of isometry
- It states that two triangles are equal when they have equal angles and share a common side
- AB is the line formed by the film
- BC is the line formed by the tooth
- BD is the line formed by the line intersecting film & tooth
- AC is the line by the X-ray beam
- Film is placed near to the tooth



11) Leukoplakia

- whitish patch / plaque that cannot be characterised clinically / pathologically as



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- Age - Middle Aged
- Sex - Male predilection
- Site - buccal mucosa, floor of the mouth
- Early (thin leukoplakia) appears as white lesion which gradually blends with the surroundings.
- As the lesion progresses it appears as thick & elevated lesion.

⇒ Clinical classification

- Homogenous - predominantly white lesion & small fissures may be seen. Usually asymptomatic.
- Non-homogenous - predominantly white/red and white lesion, cracks may be seen (cracked mud appearance). Localised pain is the most common complaint.

⇒ Management

- Topical steroids - Triamcinolone acetonide
- Systemic steroids - Prednisolone
- Combination (Topical + systemic) Triamcinolone acetonide + prednisolone

② Radiolucent anatomical landmarks of mandible

- Residual alveolar ridge
- Inferior alveolar canal



Cervical Lymphadenopathy

Inflammation of cervical lymph nodes.

~~Bacterial~~ It could be due to:

①

- Bacterial Infections
- Viral Infections (Mumps)
- Hodgkin's lymphoma, non-Hodgkin's lymphoma

- Tenderness and pain
- Enlarged lymph nodes
- ~~Palpable & may be cases~~

② Exfoliative cytology

- study of cells
- ~~exfoliated cells are used for study~~

④
1/2

~~cells are collected in a special container and preserved in fixative.~~

- Malignant cells can be ruled out

⑧ waaters view

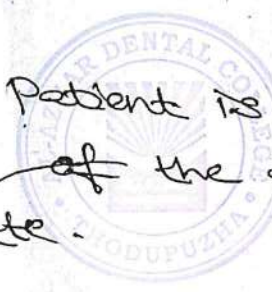
* Film placement

- Film is placed vertically, perpendicular to floor

①

* patient positioning

- Head and neck of the patient is tipped backwards and top of the skull touches the film cassette.



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⇒ Centre of projection

X-ray beam is passed through tip of the nose

⇒ Image field

anterior part of maxilla, canine to canine,
Floor of the nasal fossa.

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2023 - 2024

2016 Scheme

QP Code: 417002

Reg. No.....

Final Year BDS (Part II) Degree Regular/Supplementary Examinations July 2023

Pediatric and Preventive Dentistry

Time: 3 hrs.

Max. marks: 70

- Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space
- Answer all parts of a single question together • Leave sufficient space between answers
- Draw Diagrams wherever necessary

Essays:

(2x10=20)

1. Discuss about early childhood caries and its complication and management. (6+4)
2. Classify and give indications for stainless steel crowns. Describe the clinical steps involved in preparation and cementation of stainless steel crown on a primary molar tooth. (3+7)

Short notes:

(4x5=20)

3. Moyers mixed dentition analysis.
4. Behaviour shaping.
5. Nalgonda Technique.
6. Inferior alveolar nerve block in children.

Brief notes:

(10x3=30)

7. Teething.
8. Pediatric treatment triangle.
9. Natal and neonatal teeth.
10. Etiology of midline diastema.
11. Frankel's Behavior rating scale.
12. Fear.
13. Uses of calcium hydroxide in paediatric dentistry.
14. Window of Infectivity.
15. Tongue Tie.
16. Catalan's appliance.



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MID COURSE IMPROVEMENT EXAM

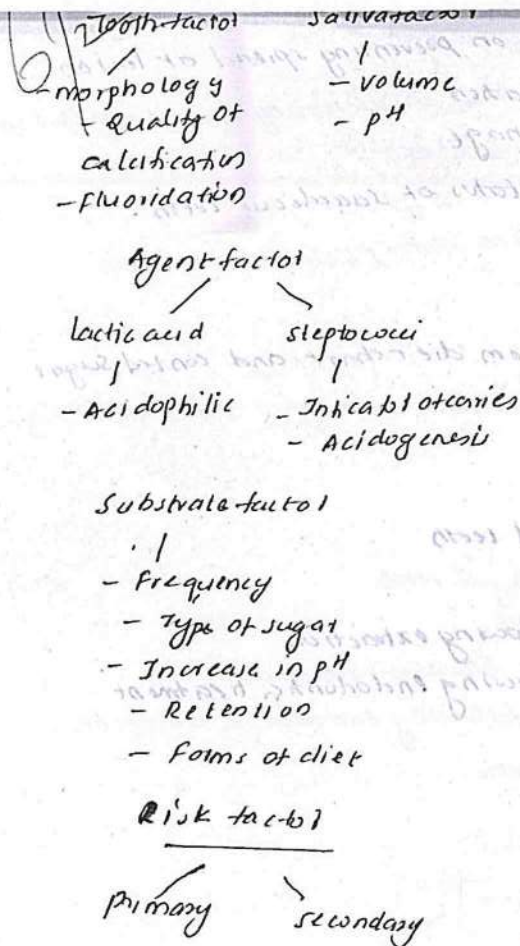
DEPARTMENT: Sandeep A (Pediatric & Preventive Dentistry)


STUDENT NAME:

ROLL NO:

YEAR: Final Year Part II

QUESTION NO	MARKS	QUESTION NO	MARKS
1	6 1/2	9	2 1/2
2	7	10	1
3	2 1/2	11	2
4	3 1/2	12	2
5	2 1/2	13	1 1/2
6	3 1/2	14	1
7	1 1/2	15	1/2
8	2	16	1 1/2
TOTAL MARKS	41/70		




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stainless steel crown. Describe the clinical steps involved in preparation and cementation of stainless steel crown on primary molar tooth.

It can be defined as prefabricated crown forms that are adapted to individual teeth and cemented with biocompatible luting agent.

Indication

- Excessive caries
- Rampant caries
- Recurrent caries
- After pulp therapy
- Intermediate restoration

Clinical steps

I. Evaluation of preoperative occlusion.

Evaluate the occlusion by visual examination and transfer this relation on to the bite wax by asking patient to bite on it.

II. crown selection

Adequate mesiodistal diameter, light resistance to seating & proper occlusal height

III. occlusal reduction

- Peen shape
- Cusp con bur
- Reduce the occlusion by about 1-1.5 mm along lingual structure

IV. Proximal reduction

- proximal reduction is done with help of tapering fissure and needle bur with the main objective of breaking contact.
- Excessive taper may reduce retention, which a shoulder or ledge may to see difficulty in seating crown

V. Finishing of both reduction

- Reduce and round off all line angle and change curve of the preparation with help of finishing bur.



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↓
Compare the space available and space required in all four quadrants to determine arch length discrepancy.

Behaviour shaping

It is a procedure which slowly develops behaviour by reinforcing a recurrence approaches of desired behaviour until the ~~best~~ desired behaviour comes into being.

a) Desensitization

It means to take away one ~~step~~

It is a technique that paces on anxiety-evolving stimulus with a response inhibiting ~~to patient~~

b) Modeling

- It is also known as learning by observation

- Modeling is based on psychological principle that much of learning of behaviour acquisition occur through observation of suitable model performing a specific behaviour

3 | Types of modeling
| - a) Audiovisual
| b) Live.

c) Contingency management

- Presentation of positive reinforcers or withdrawal of negative reinforcers is termed as contingency management.

Includes

- positive reinforcement
- Negative reinforcement
- Punishment
- Omission

d) Tell show do

Tell - verbal explanation of procedure in phase appropriate to developmental level of child.

Show - Demonstration of visual, auditory, tactile, olfactory aspect of procedure in carefully defined non-threatening setting.



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Inferior alveolar nerve block in children

Nerves anesthetized

- Inferior alveolar nerve
- Mental nerve
- Incisive nerve

Areas anesthetized

- Mandibular teeth to midline
- Body of mandible
- Inferior portion of ramus
- Anterior 2/3rd of tongue
- Floor of mouth
- Lingual soft tissues and periosteum.

Indications

- Analgesia for operative dentistry in all mandibular teeth.
- Surgical procedures on mandibular teeth and supporting structures anterior to first molar when supplemented by lingual nerve anesthesia.
- When supplemented by long buccal and lingual nerve - surgical procedures on mandibular teeth posterior to second bicuspid.
- Diagnostic and therapeutic purpose.

Landmarks:

- Lingual, mandibular sulcus, anterior border of ramus, distal border of ramus, coronoid notch, external oblique ridge, internal oblique ridge, mucobuccal fold, and pterygomandibular ligament.



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Teething

It is the physiologic process of eruption of primary teeth through the gums.

clinical features:

- Also known as ~~odon~~

Systemic

- General irritability and crying

- fever (101° F)

- Diarrhoea, running nose

- prolonged fever

- Rash over the body

- Loss of appetite.

Local

Increased drooling

Decreased sleeping due to given discomfort

Symptoms

Local

• eruption hematoma

• Impaction

• Transposition

• Ankylosis

Systemic

• Fever

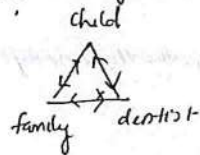
• Diarrhoea

• Convulsion

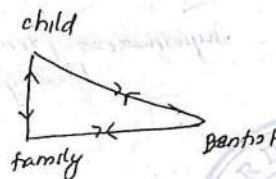
• Vomiting.

B. Paedodontic triangle

A. Isoseles triangle -



Right angled triangle - neglect / permissive parent



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History.

- Grinding of sharp edge
- Excess mobility - Extraction

Etiology of midline diastema

Normal developing dentition

- a) Physiologic median diastema / early duckling stage
- b) ethnic and familial

Tooth material deficiency

- a) Microdontia
- b) Macrodontia
- c) Missing lateral
- d) peg lateral
- e) extracted teeth.

Habits.

- Thumb sucking
- Tongue thrusting

Artificial causes

- Rapid maxillary expansion

II. Frankel's behaviour rating scale.

Rating	Attitude	Definition
1.	Definitively negative	Refusal of treatment Crying loudly, fearful of any other evidence of extreme negativeness
2.	negative	Reluctant to accept treatment 'uncooperative', some evidence of negative attitude.
3.	positive	acceptance of treatment, willing to comply reserved but follow this dentist direction.
4.	Definitively positive	Good rapport with the dentist, interested in the dental procedure laughing and enjoying the situation



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use of calcium hydroxide in paediatric Dentistry.

- As a cavity liner
- Intracanal medicament

- Endodontic sealers

- pulp capping agent

- In apexogenesis

- in pulpomy

- used in seeping canals.

14. window of infectivity.

- used to describe the time period when children are at greater risk for acquiring mutan Streptococci

- S. mutans colonisation occurs between 19-31 months of age known primary window of infectivity.

6-12 years - 2nd window of infectivity due to eruption of permanent molars.

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Sandeep A
16/20

PEDIATRIC AND PREVENTIVE DENTISTRY

MCQs MAXIMUM MARKS 20

1. Which of the following is the MOST convenient method for examining an 18-month-old child?
 - a. The child sitting in the dental chair and a parent at the chairside
 - b. A parent sitting in the dental chair and the child sitting on the parent's lap facing forward
 - c. the dentist and parent in a knee-to-knee position with the child's head in the dentist's lap
 - d. The dentist and parent in a knee-to-knee position with the child's head in the parent's lap.

2. Leeway space of Nance:
 - a. 1.8mm in the maxillary arch and 3.4mm in the mandibular arch
 - b. 3.4mm in the maxillary arch and 1.8mm in the mandibular arch
 - c. 0.9mm in the maxillary arch and 1.7mm in the mandibular arch
 - d. 3mm in the maxillary arch and 4mm in the mandibular arch

3. At which stage of Nolla, the tooth starts its eruptive movements:
 - a. Stage 2
 - b. Stage 4
 - c. Stage 6
 - d. Stage 8

4. The groove present in the gum pads between the canine and first molars which predicts the inter-arch relation are called as:
 - a. Gingival groove
 - b. Lateral sulcus
 - c. Dental groove
 - d. Transverse groove

5. Turners tooth is seen in:
 - a. Enamel hypoplasia due to hypocalcemia
 - b. Enamel hypoplasia due to congenital syphilis
 - c. Enamel hypoplasia due to birth injuries
 - d. Enamel injuries due to local infection or trauma

6. All the following structures helps in the formation of tongue except:
 - a. lingual swelling
 - b. Meckel's cartilage
 - c. Tuberculum Impar
 - d. Hypobranchial eminence

7. The film size used for bitewing radiography in children:



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- a. 0 and 1
- b. 1 and 2
- c. 0 and 2
- d. 2 and 3

8. What is the bedrock strategy on which all of pediatric dental behaviour management rests?

- a. Positive reinforcement
- b. Tell-show-do (TSD)
- c. Distraction
- d. Nonverbal communication

9. Which of the following is the characteristic behaviour of children who have been physically abused?

- a. Timid/ shy
- b. Stoic
- c. Whining type
- d. Hysterical

10. The acids that initially decalcify the enamel have a pH of:

- a. 1.2-2.3
- b. 4.8-5.2
- c. 5.2-5.5
- d. 5.6-6.5

11. The choking off mechanism takes place after the topical application of:

- a. Sodium fluoride
- b. Stannous fluoride
- c. APF
- d. Sodium mono fluorophosphate

12. The terminal planes take into consideration:

- a. Distal surface of maxillary and mandibular second deciduous molars
- b. Mesial surface maxillary and mandibular second deciduous molars
- c. Distal surface of maxillary and mandibular first deciduous molars
- d. Mesio Buccal cusp of first permanent molar

13. Hollow tube effect is associated with:

- a. Ferric sulphate
- b. Metapex
- c. ZOE
- d. Endoflas

14. A four-year-old child reported to dental clinic with discolored upper right central incisor.

According to Ellis and Davey it is:

- a. Class I



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- b. Class IV
- c. Class V
- d. Class IX

15. The presence of thick labial frenum in the dental arch could result in all except:

- a. Midline diastema
- b. Notching in the interdental alveolar bone
- c. Anterior deep bite
- d. Gingival recession

16. The maximum recommended dose of 2% lidocaine without vasoconstrictor for children:

- a. 7mg/kg
- b. 6.2mg/kg
- c. 4.4mg/kg
- d. 3.4mg/kg

17. Secondary alveolar bone grafting is done when the root of the canine is:

- a. Less than 1/4th formed
- b. 1/4th to 1/2 formed
- c. 1/2 to 3/4th formed
- d. Root formation completed

18. A rhabdomyoma is a tumor originating from:

- a. Smooth muscle
- b. Striated muscle
- c. Nervous tissue
- d. Blood vessels

19. Which of the following is needle less anesthesia?

- a. EDA
- b. WAND
- c. Jet injection
- d. Peri Press

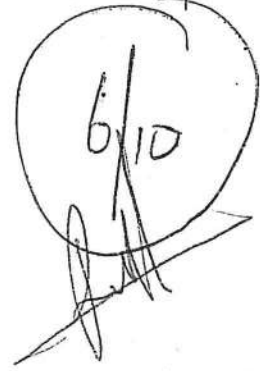
20. Blanch test is useful in the diagnosis of:

- a. Tongue thrusting habit
- b. Thumb sucking habit
- c. Bruxism
- d. Abnormal frenal attachment



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Sandeep A



DEPARTMENT OF PEDIATRIC AND PREVENTIVE DENTISTRY

MCQ'S (Max Marks 10)

1. Development of mandible is associated with

- a. Moss's cartilage
- b. Meckel's cartilage
- c. Medullary cartilage
- d. Cartilage of the body of the mandible

2. Development of mandible takes place by

- a. Intramembranous ossification
- b. Endochondral ossification
- c. Both endochondral and intramembranous ossification
- d. Displacement only

3. The "V" principle of growth is best illustrated by the

- a. Nasal septum
- b. Mandibular ramus
- c. Mandibular symphysis
- d. Spheno-occipital syndrome

4. When a patient is exposed step by step in a hierarchy from the least to the most stressful procedures repeatedly until there is no evidence of stress, the procedure is known as

- a. Modelling
- b. Restraining
- c. Desensitization
- d. Reinforcement

5. Preventive desensitization means

- a. Behaviour shaping
- b. Tell, show, do procedures
- c. Graded introduction of child to dentistry
- d. All of the above



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6. Id, ego and superego are part of

- a. Freud's psychoanalytical theory
- b. Erikson's model of personality development
- c. Piaget's theory
- d. Skinner's theory

7. Negative reinforcement is

- a. Presenting unpleasant stimulus
- b. Removing unpleasant stimulus
- c. Presenting pleasant stimulus
- d. Removing pleasant stimulus

8. Pedodontic treatment triangle was given by

- a. G.Z. Wright
- b. Henry Kempe
- c. Evangeline Jordan
- d. Addleston

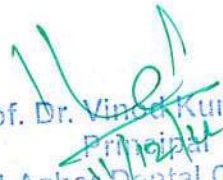
9. Which of the following is true regarding general anaesthesia

- a. Pharmacologically induced state
- b. State of unconsciousness
- c. Partial or complete loss of reflexes
- d. All of the above

10. Nitrous oxide-oxygen anaesthesia can cause

- a. Hypoxic hypoxia
- b. Diffuse hypoxia
- c. Nitrous hypoxia
- d. Hypoxia with cyanosis




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AL AZHAR DENTAL COLLEGE, THODUPUZHA
DEPARTMENT OF ORTHODONTICS
MID- COURSE IMPROVEMENT EXAMINATION
FINAL BDS Part 1

ESSAYS (20X2=40)

1. Define growth. Explain in detail about factors affecting growth and concepts of growth.
2. Write in detail about fixed orthodontic appliance.

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Mid-course improvement exam

Department- *Ortho*

Student Name- *Sandeep A*

Roll No-

24/40

Year- *2023*

Question No	Marks	Question No	Marks
01	12	09	
02	12	10	
03		11	
04		12	
05		13	
06		14	
07		15	
08		16	
Total Marks			



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Orthodontics

09

① Growth

'Growth is defined as the self multiplication of living substance' J.S. Huxley.

'Increase in size, change in proportions and progressive complexity' Krogman.

'It is an increase in size' Lodd.

'Entire series of sequential anatomic and physiological changes taking place from the beginning of prenatal life to senescence' Leidlich.

'Change in morphological parameters which is irreversible' Lois.

→ Factors affecting physical growth

① Hereditarily

Genes to be a considerable ^{or} genetic influence. Genes play a major role in growth of a person.

② Nutrition

Nutrition may affect size of parts, body proportions, quality and texture of tissues and onset of growth events. Effects of malnutrition are reversible to a certain extent. If adverse effects are

③ Stress not too severe growth process

accelerates then proper nutrition is provided, it is called catch up growth.

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③ Illness The usual run childhood illnesses including ~~Paratyphoid~~ cannot be shown to have much effect on physical growth.

④ Race

Although the differences in growth among different races can be attributed to other nutritional and environmental factors, there seem to be some evidence that race does play a role in growth.

⑤ Socio-economic factors

Children brought up in affluent and favourable socio-economic conditions show earlier onset of growth events.

⑥ Family size and birth order

Studies show that first born babies tend to weigh less at birth and have smaller stature but higher IQ. The smaller the family, better the nutrition and other favourable conditions.

⑦ Genular trends

Changes in size and maturation in a large population can be shown to occur with time.

⑧ Climate and seasonal effects

Seasonal variations shown to affect adipose tissue content and the weight of newborns.

⑨ Psychological disturbances

Children experiencing stressful conditions display an inhibition of growth hormone secretion.

⑩ Exercise

Exercise plays an important role in growth and development of motor skills and the muscular mass.



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11/12

Concepts of growth

- (1) Concept of normality
- (2) Rhythms of growth
- (3) growth spurts
- (4) Differential growth

+ Growth Spurts

Growth spurts is not uniform. There seems to be a period when sudden acceleration of growth occurs. This sudden increase in growth is termed as growth spurt.

Physiological alterations in hormone secretion causes accelerated growth. The timing of growth spurts differs in girls and boys. The following are the timing of growth spurts.

- (a) Just before birth
- (b) One year after birth
- (c) Mixed dentition growth spurt

- Boys - 8-11 yrs

- Girls - 7-9 yrs

- (d) Pre-pubertal growth spurt

- Boys - 14-16 yrs

- Girls - 11-13 yrs

- Differential growth

The human body does not grow at the same rate throughout life. Diff organs grow at diff rates.

Two concepts of differential growth are: -

- (1) Scanlon's growth curve
- (2) Cephalocaudal gradient of growth



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② Fixed Appliances

Appliances that are fixed or fitted on to the teeth by the operator and cannot be removed by the patient at will are called fixed appliances.

⇒ Tooth movements possible using fixed appliances:-

- ① Tipping
- ② Bodily movement
- ③ Protrusion
- ④ Up-righting
- ⑤ Rotation
- ⑥ Retraction & extrusion

⇒ Methods of fixing attachments into the tooth:-

- ① Banding - The method of fixing attachments
- ② B directly onto the teeth.

② Banding: whenever the attachments are fixed to bands from which are cemented around the tooth the technique is referred to as banding.

⇒ Components of fixed appliances

Active components

- (i) Arch wire
- (ii) Springs
- (iii) Elastics
- (iv) Separators

Passive components

- (i) Bands
- (ii) Brackets
- (iii) Buccal tube
- (iv) Lingual attachment
- (v) ~~Small~~ Lock pins
- (vi) Ligation wires

Passive Components

Bands -

Passive component - various sizes are available.

Made of soft stainless steel.

Attachments like molar bands and brackets are soldered or welded over these bands and cemented in position.

Preformed bands are popular.



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Bracket

They act as anchors to transmit forces from a active component to teeth

They can be classified based on technique as:-

- (a) Edgewise type of brackets
- (b) Ribbon arch type
- (c) Lip edged type

⇒ Buccal Tubes

Fixed on anterior teeth and premolars.

The attachment that are generally used on molars is buccal tube → molar tube.

They are weldable. Can be round or rectangular in cross section

⇒ Lingual attachments

Brackets of buccal tubes are attached to the labial and buccal aspect of the teeth. The attachment on the lingual aspect are necessary.

Various attachments available can be fixed on lingual aspects are called as lingual attachment
eg: lingual buttons

⇒ Ligature wires

The process of securing arch wire to the bracket is called ligating wire / ligation. Ligature wires are available in long lengths or are preformed into small ligatures.

⇒ Lock Pins

Small pins that are used to secure arch wire to the brackets with vertical slots.

eg: 30jj-lyth



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Arch wires

One of the active component bring about various tooth movements
classification

- Based on material used:
- 1) Gold & gold alloys
 - 2) Stainless steel
 - 3) Ni-Ti alloy
 - 4) β -titanium
 - 5) Cobalt-chrome Ni alloy
 - 6) Optiflex
- 2) Based on cross section
- 1) Round
 - 2) Square
 - 3) Rectangular
 - 4) Multistranded

⇒ Springs

Then also bring about various tooth movements
Following springs are used in orthodontics:-

- (i) uprighting springs
- (ii) lipping springs
- (iii) Open coil springs
- (iv) closed coil springs

⇒ Separators

Patients with tight interdental contact results in
difficult banding.
Separators are used to break the contact.

Various types:-

- 1) Bran wire separator
- 2) Ring separator
- 3) Dumbbell separator
- 4) Kesting's spring separator

⇒ Elastics & Elastomers

Resemble rubber bands. They are used in closure of
Space, correct open bite, R_x



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