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Fax: 04862 229586

# AL-AZHAR DENTAL COLLEGE

(APPROVED BY DENTAL COUNCIL OF INDIA & AFFILIATED TO KUHS)

RUN BY NOORUL ISLAM TRUST

PERUMPILICHIRA P. O., THODUPUZHA, IDUKKI DIST., KERALA- 685 605

**2.5.4 The Institution provides opportunities to students for midcourse improvement of performance through specific interventions. Opportunities provided to students for midcourse improvement of performance through**



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**2.5.4 The Institution provides opportunities to students for midcourse improvement of performance through specific interventions**

## INDEX SHEET

SL.NO	DESCRIPTION	PAGE
1.	Certificate of the Head of Institution	02 -03
2.	Retest answer sheets	04 -94



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# **AL-AZHAR DENTAL COLLEGE**

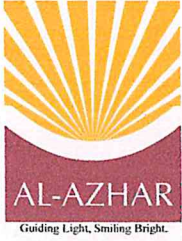
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**CERTIFICATE OF THE HEAD OF THE INSTITUTION**



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**DR. HARVEY THOMAS M.D.S.**

**PRINCIPAL**

## TO WHOMSOEVER IT MAY CONCERN

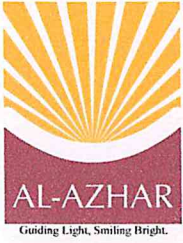
This is to certify that, the Institution provides opportunities to students for midcourse improvement of performance through specific interventions through:

1. Timely administration of CIE
2. On-time assessment and feedback
3. Makeup assignments/tests
4. Remedial teaching/support

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**RETEST ANSWER SHEETS**

# **AL AZHAR DENTAL COLLEGE & HOSPITAL**

**ORAL MEDICINE & RADIOLOGY,**

**RE-TEST SERIES -1**

**2022 -23**

*Draw neat diagrams with pencil wherever required.*

**(Max marks -70)**

## **Main essay (10 marks)**

1. Classify pigmented lesions of the jaw. Write in detail about malignant melanoma. (3+7)
2. Describe the various processing solutions in detail and add a note on the steps of manual processing. (6+4)

## **Short essay (5 marks)**

3. Osteomyelitis.
4. Sjogrens syndrome.
5. Production of X-rays.
6. Composition of X-ray film

## **Short notes (3 marks)**

7. Position distance rule in dental radiography.
8. Toluidine blue staining.
9. Sialolithiasis.
10. Grids.
11. Hyperplastic pulpitis.
12. Bite-wing radiograph.
13. Erythroplakia.
14. Radiation caries.
15. Pseudomembraneous candidiasis.
16. Differentiate between short cone and long cone technique



Mid-course improvement exam

Department - OMR

Student Name- Md. Ajmal Roster

Roll No- 6

Year - IV<sup>th</sup> Part I

QUESTION NO	MARKS	QUESTION NO	MARKS
01	8	09	3
02	7	10	3
03	1	11	3
04	4	12	1
05	4	13	2
06	4	14	1
07	2	15	2
08	3	16	3
Total marks			48/70



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3) Based on Histopathology

Intraepithelial

- Chicken pox
- Herpangina
- Herp
- Hand-foot-mouth disease
- Pemphigous
- Familial mucous membrane pemphigoid
- Epidermolysis bullosa
- Mucous Erythema multiforme

Sub epithelial

- Bullous pemphigoid
- Benign mucous membrane pemphigoid
- Epidermolysis bullosa
- Diffuse Erythema multiforme
- Cicatricial pemphigoid

4) Based on ~~non~~ Infectious & non infectious

Infectious

- HSV
- chicken pox
- ~~non~~ Herpangina
- ~~non~~ Hand-foot-mouth syndrome

Non Infectious

- = Pemphigous
- Bullous pemphigoid
- Cicatricial pemphigoid
- Erythema multiforme
- Epidermolysis bullosa
- Bullous Lichen planus

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↓  
Immune react to keratinocyte  
cause loss of cell-to-cell adhesion

↓  
oral lesion expression on Ds3 &  
skin express on Ds1 as well as Ds3

↓  
Damage to Ds1 result oral lesion at early stage  
← Damage to Ds3 results skin lesion

## Management

① ~~not a case~~

### Clinical features

~~clinical presentation~~

Affect site - Buccal mucosa, Labial mucosa, palate,  
normal mucosa or skin

- Thick walled bulla arising
- can Bulla break rapidly, tendentious to extend rapidly & leaving relatively larger area of denuded skin

- Centrifugal

- Patient complaints of oral soreness & granulation show superficial, ragged, ulceration distributed haphazardly on the ~~oral~~ mucosa

- Nikolsky sign

→ Apply tangential (lateral) pressure by thumb or finger on normal tissue surrounding the lesion which dislodge the upper layer of epidermis over deeper layer

- due to acantholysis



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- ~~Immune suppressive drug~~  
steroid sparing drug

Azathioprine  
cyclosporine  
Dapsone  
~~and~~ Levamisole

- ~~Antibiotics~~

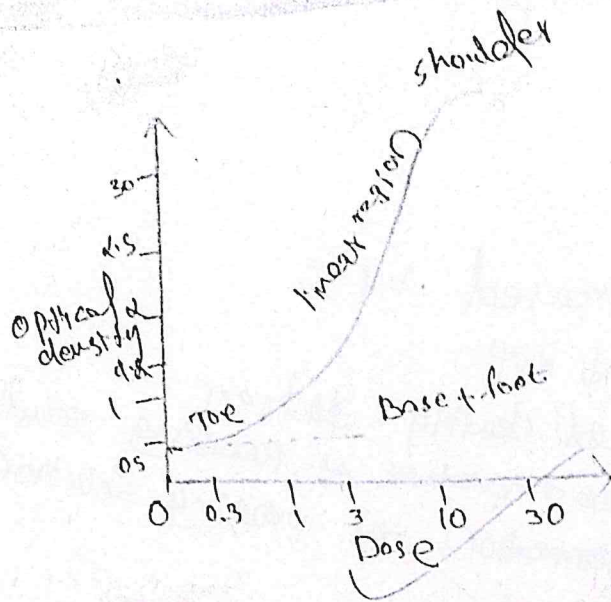
- ~~Lysozyme~~

- ~~Curcumin~~



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Density of film is increased by

- 1) more strike of radiation on film
- $\uparrow$  kVp,  $\uparrow$  mA,  $\uparrow$  exposure time
  - Reduce focal spot-film distance
  - $\downarrow$  subject thickness
  - $\downarrow$  subject density

2) processing factor

- $\uparrow$  Temperature of processing solution
- $\uparrow$  concentration of processing solution

2) Contrast

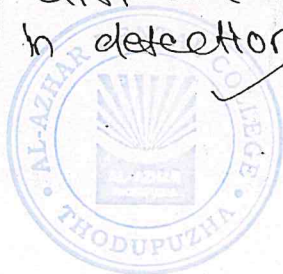
It is the difference in density b/w light & dark area on ~~real film~~ radiograph

1) Low contrast

- density difference b/w adjacent areas are small
- used for study periodontal bone loss

2) High contrast

- Density difference b/w adjacent areas are larger
- used in detection of dental caries



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## 5) Sharpness

It is the ability of radiograph to define 'edge' precisely

Sharpness increased by

- 1) ↓ focal spot size
- 2) ↑ increase focal spot-object distance
- 3) ↓ film-object distance ~~less~~ should be less
- 4) ↓ Apparent patient position

## 6) Angulation

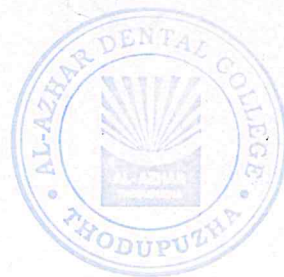
- Point by point delineation of minute structural element of object in the image formed on in dental film

Angulation decreased by  
Decrease focal spot size

## 7) Resolution (Resolution power)

It is ability of radiograph to record separated structure that are close together

Resolution increased by  
Decrease focal spot size



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## VitA / Retinoids

### Topical Vitamin A

- Isotretinoin - 0.5 - 1%
- tretinoin

### Systemic vit A

- Isotretinoin
- Etretinate
- Acidretin

Severe, symptomatic atrophic/ulcerative lesion, unresponsive to topical measures

### a) Stress reduction

Tab Alprazolam - 0.25 mg tid 5 days

### b) Intralesional Injection

- 10-20mg of insoluble triamcinolone acetonide or 4mg of Dexamethasone is diluted with 0.5ml of saline or 2% of lidocaine injected into lesion which subside gradually
- Injection directly into lesion

### c) Antifungals

- clotrimazole - 1%
- ketoconazole - 2%

### d) Immunomodulatory drugs

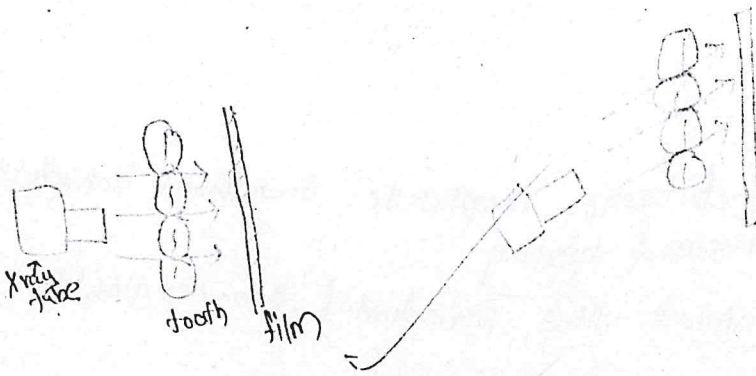
- Tab Levamisole
- Tab Azathioprine
- Topical clotrimazole
- Topical Tacrolimus

### e) Photodynamic therapy



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### 2) Miller's right angle technique

→ we 2 radiograph made separately, film placed at right angled & study together to localize structure

#### Steps

- First radiograph of periapical ~~tooth~~ ~~occlusal~~
- next occlusal radiograph

### 3) Stereoscopy

- used to determine localization of intracanal ectopic & multiple foreign body in denture or thick ~~area~~ region

(H) - Require 2 exposure of film, one for each eye  
 → After processing, film seen under stereoscopy ~~or~~ mirror or prism to localize accommodation & convergence

### 4) Computed Tomograph

- Require software
- used to localization of impacted tooth

### 6) ~~Dental~~ Dental management of diabetes

~~Diabetes~~ potential problems related to dental care  
 main ~~hard~~ hard of dental care is <sup>hypoglycemia</sup> hypoglycemia  
 as dental treatment ~~may~~ may disrupt the pattern of food intake



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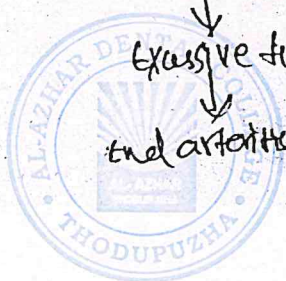
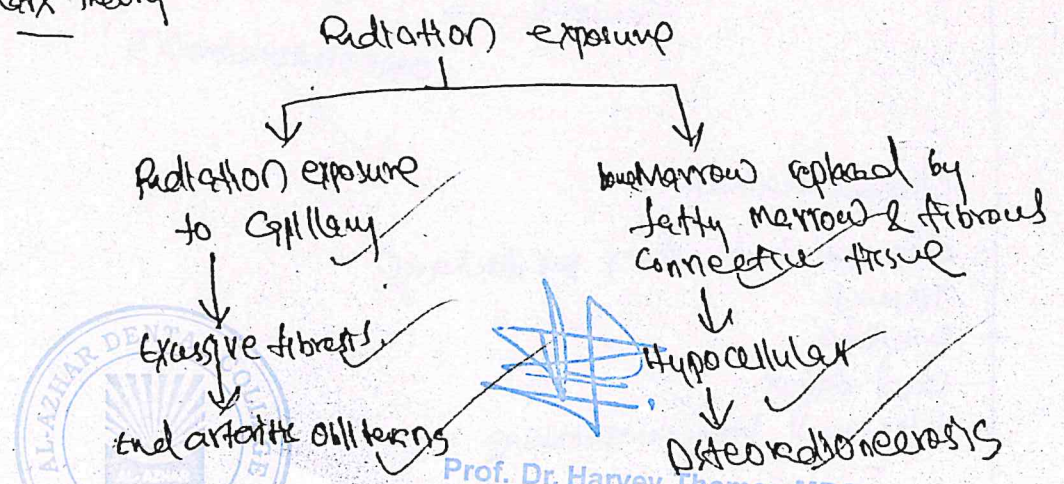
~~Ulcer~~  
 Inflammatory condition characterised by faint red  
 single or multiple ulceration on oral mucosa

Aphthous ulcer	Traumatic ulcer
- Also called forker sore	- Associated with sharp cusp, ill fitting denture, trauma
- Associated with stress, Diabetic & hypertension, genetics,	- Irregular border
- <del>border</del> well defined border	- occur at single
- occur in multiple site	- Not specific shape
- Oval to round shape	- oedematous.
- <del>border</del>	- Buccal mucosal, Lip, tongue
- Buccal mucosa, Lip, Gingiva, floor of mouth, palate	- Heal within 10-14 days
- Erythematous, white	- Not Recurring
- Heal within 10-14 days	
- Recurring every time	

8) osteoradionecrosis  
 Radiation induced ~~bone~~ necrosis of bone

mechanism

1) Marx theory



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- Keratotomy
- Dysphagia

Treatment ~~procedures~~ therapeutic C

Non surgical

- Anesthetic
- Antibiotic C
- Antifungal C
- Antiviral

Local wound care  
electrotherapy  
ozone therapy

surgical

- Resectomy
- Resection
- Reconstruction
- Rehabilitation factor

Preventive measure

- good oral hygiene
- Fluoride treatment - 0.4% stannous fluoride

4) Toluidine blue vital staining

It is a supravital staining  
A acidophilic dye of thiazole group that selectively stain acid component of cell (DNA, RNA)

First rinse with water to remove food debris

1% acetic acid is given for 30 sec to remove ropey salivary

rinse with water

1% Toluidine blue solution is applied for 30 sec, with cotton swab when mucosal lesion seen or  
rinse the mouth No lesion seen





Principle  
 - rule of Cieszyski's / rule of geometry  
 - stated that if triangle are equal; then 2 angles of triangles equal and share common side

Advantages

24/2  
 2/2

	maxilla	mandible
Inclination	+40°	-15°
Curve	+45°	-20°
Prevalence	+30°	-10°
Wobler	+20°	-5°

Advantages

- ✓ simple, & quick procedure
- ✓ comfortable to patient
- ✓ ~~used in orthodontic treatment~~
- ✓ used in endodontic treatment

Disadvantages

- ✓ faulty film
- ✓ periodontal bone level poorly visible
- ✓ crown of tooth are distorted
- ✓ ~~for angulation~~ ~~vertical & horizontal~~ ~~rotation~~ ~~distortion~~ ~~of individual teeth~~

ii) Leukoplakia

It is a potentially malignant disorder. white patch or plaque cannot be characterised clinically or pathologically as any other disease and not associated with any physical or chemical causative agent except the use of tobacco.

etiology

- ✓ Tobacco - main etiological agents
- ✓ Alcohol
- ✓ candidal leukoplakia

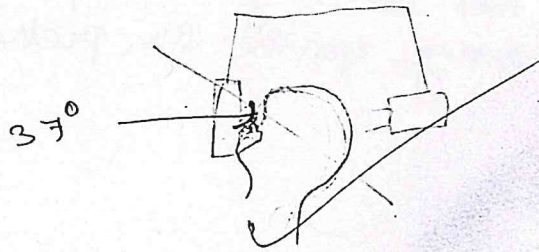


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- Films placed perpendicular to floor
- ~~Mid~~ Mid sagittal plane vertical & perpendicular to film
- Only chin touches the cassette
- Cartho meatal line form an angle of  $37^\circ$  from plane of Cassette
- Directed perpendicular to midline of film
- evaluate ~~the~~ ethmoidal, frontal, Maxillary sinus
- open mouth, water view - sphenoidal sinus seen

kVp - 70  
 MA - 40  
 1.6 - sec

27



14) Radiotherapy

used - used for the cancer treatment

- Radiation therapy - principle - protect the normal cell & kills the cancer & pre cancer cells.

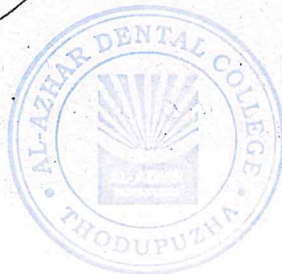
External beam <sup>radio</sup>therapy, brachytherapy

Require ~~room~~ room, specialist,

- easily to capture

- Irradiational therapy,

~~but~~ no high cost



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0  
4



### 13) Exfoliative cytology

- It is investigation method
- used in ~~diagnosis~~ Cancer treatment
- cell is taken from ~~ear~~ and ~~some other~~ ~~micro~~-processing
- It is used in many situation for the identify
- It is a laboratory method
- Require laboratory ~~very~~ sterile condition, proper

### 15) Cervical lymphadenopathy

- lymph node become ~~and~~ enlarged, cause difficulty in swallowing ~~and~~ mastication
- ~~during primary gland radiotherapy~~ Radiation hazard in salivary gland cause enlarged cervical lymph node
- ~~when the lymphadenopathy~~ lymph node surgically ~~is~~ removed



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### Mid-course improvement exam

Department - Oral Pathology  
Student Name - Neetha Sreeee  
Roll No - 70  
Year - First year

QUESTION NO	MARKS	QUESTION NO	MARKS
01	06	09	0
02	06	10	1 1/2
03	04	11	0
04	3 1/2	12	03
05	1 1/2	13	0
06	3 1/2	14	2 1/2
07	1 1/2	15	0
08	03	16	0
Total marks	36/70		



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## Morphogenic stage

nucleolus  
imp. points

- Determination of shape of tooth
- Ameloblast inner enamel epithelium interact with underlying connective tissue.
- Cytoplasmic organelles are not abundant.
- The centrioles, golgi complex are present at apical part of cytoplasm; mitochondria evenly distributed on it.

Through differential growth help to establish dentino-enamel junction, thereby determine shape of tooth.

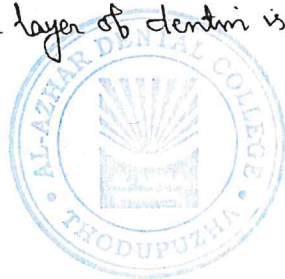
## Organising/differentiating stage

This stage is called as organising stage, because inner enamel epithelium undergoes exert a strong influence of dental papilla cells which are adjacent to them.

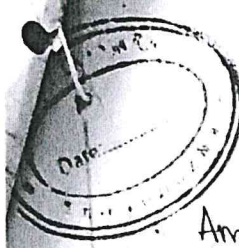
In this stage,

- Ameloblast increase in length.
- As cell elongates, nucleus move to periphery
- Centrioles and golgi bodies move to basal or distal part
- Mitochondria concentrated at proximal end.

Deposition of dentin is an important event in lifecycle of Ameloblast, because it can obtain secondary stage only after layer of dentin is deposited



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### Secretory stage

Ameloblast performs the function of secretion of enamel matrix and partial mineralisation.

This stage is fully differentiated because ~~dent~~ it can attain secretory stage only after layer of dentin deposited.

### Maturation stage

- maturation and mineralisation of enamel.
- Ameloblast enter maturation stage only after desired thickness of enamel matrix is laid down.
- provide inorganic material necessary for maturation
- absorb water & protein to provide space for minerals.

### Protective stage

Ameloblast along with other layers of enamel organ function the role of protection.

• In this stage ~~reduced enamel~~ <sup>columnar ameloblast</sup> ~~epithelium~~ shorten to form cuboidal cell, and collapsed layers to 2-4 stratified squamous layer called reduced enamel epithelium

### Desmolytic stage

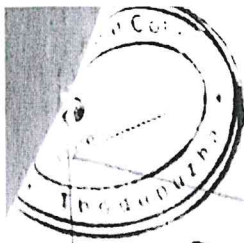
• The Reduced enamel epithelium secretes collagenous enzyme which destroys connective tissue between oral mucosa and erupting teeth.

This facilitates eruption process



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m  
4  
3

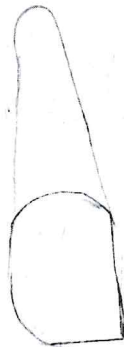
## Measurements:

- Cervicoincisal length of Crown : 10.5
- length of root : 13
- Mesiodistal diameter of Crown : 8.5
- Mesiodistal diameter of Crown at Cervix : 7
- Labiolingual diameter of Crown : 7
- Labiolingual diameter of Crown at Cervix : 6
- Curvature of Cervical line - mesial : 3.5
- Curvature of Cervical line - Distal : 2.5

### Aspects

write in Box /  
as per in  
textbook

### Labial aspect



### Crown

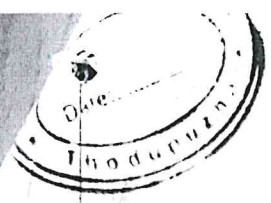
- Rectangular or squarish in shape with slight cervical convergence.
- mesial outline is slight convex.
- Distal outline is more convex.
- Sharp mesioincisal angle and rounded distoincisal angle.
- Cervical outline is semi-circular.

### Root

- Conical in shape, narrow blunted apex.



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Distal aspect



Crown

- Resembles mesial surface.
- Distal contact area smaller in size.
- Mesiodistal dimensions are ~~greater than labiolingual dimensions~~

Root

Conical.

Mesial aspect

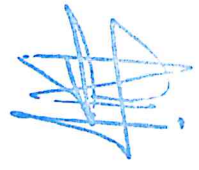


- Convex at incisal gingivally
- Mesiodistal dimensions are ~~greater than labiolingual dimensions~~

Root is not appreciated

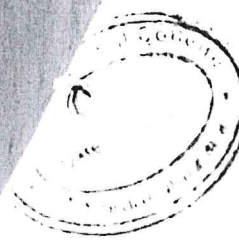
3) Odontogenesis is process of development of Tooth.

Stages involved in Odontogenesis is



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# Root formation

Proliferation of cervical loop



Formation of <sup>HERS</sup> epithelial diaphragm



Formation of epithelial diaphragm



Adontoblast undergoes organising influence on inner mass of ~~dent~~ HERS



Radicular dentin formation



Degeneration of HERS & formation of cell nest of Mallasez



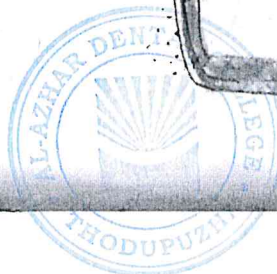
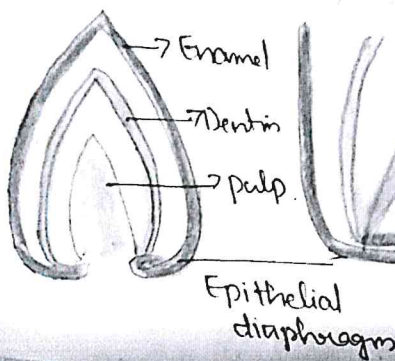
Differentiation of Cementoblast from dental follicle



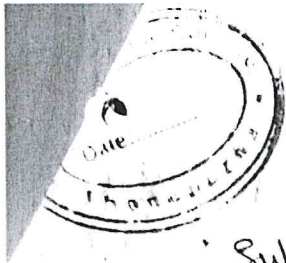
Formation of Cementum



Orientation of periodontal ligament



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Cell free zone (zone of Weil)

- Subodontoblastic layer of approximately 40 microns width.
- More in coronal pulp.
- More ground substance, reticular fibres.
- Plexus of Ruschkow / Subodontoblastic plexus: Myelinated nerve fibres loses their myelin sheath specific for pain

Cell Rich Zone

- present below cell free zone.
- More in coronal pulp.
- 2/3 consists of macrophages, immunocompetent cells, undifferentiated mesenchymal cells, plasma cells, ~~and~~ fibroblast
- Reservoir for replacing destroyed fibroblast.

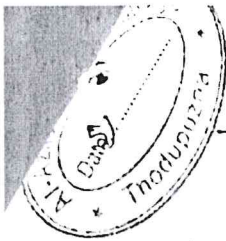
Pulpal tone

- Present in connective tissue between centre of coronal or radicular pulp.
- Cells, fibres, vessels branch towards periphery of pulp.
- Young pulp - more cells
- Old pulp - more fibres.



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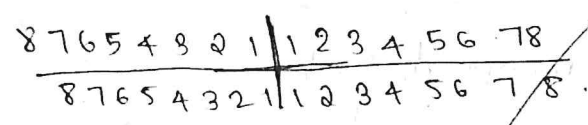
# Tooth Notations

Tooth numbering can be explained by 3 systems.

- i) Zimondy/palmer
- ii) Universal system
- iii) FDI system

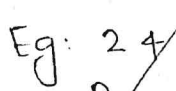
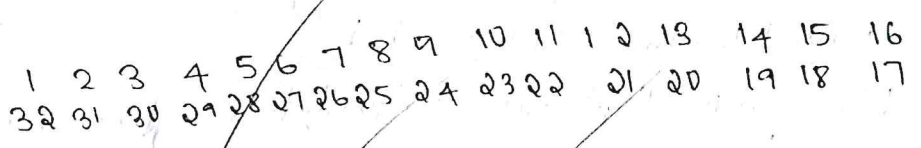
## Zimondy/palmer system

### Permanent tooth



Permanent maxillary left first molar.

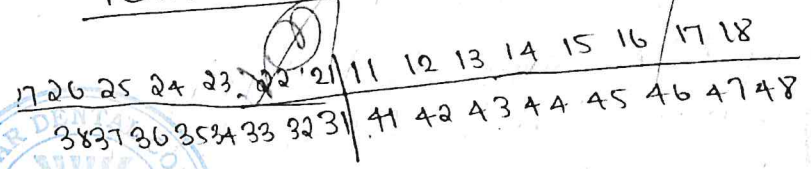
## Universal system



Permanent mandibular left central incisor

## FDI system

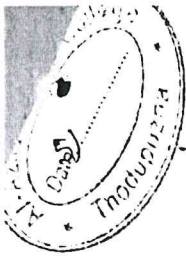
### Permanent tooth



- eg:
- 24 - Permanent maxillary right first molar.
  - 35 - Permanent mandibular right second molar.



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# Tooth Notations

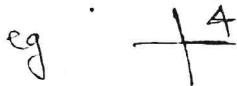
Tooth numbering can be explained by 3 systems

- i) Zimondy/palmer
- ii) Universal system
- iii) FDI system

## Zimondy/palmer system

### Permanent tooth

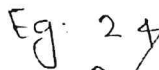
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8



Permanent maxillary left first molar

## Universal system

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17



Permanent mandibular left central incisor

## FDI system

### Permanent tooth

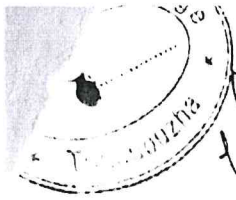
27	26	25	24	23	22	21	11	12	13	14	15	16	17	18	
38	37	36	35	34	33	32	31	41	42	43	44	45	46	47	48

- Eg: 24 - Permanent maxillary right first molar.
- 35 - Permanent mandibular right second molar.



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Connective tissue in the upper facial region, while in lower region they migrate to already existing cells in mesenchyme.

These cells in head and neck differentiate to give cartilage, bone, dermis and various tissues.

Trachea collen syndrome is caused due to the defective migration of neural crest cells.

Defective migration of neural cells also cause defective dentition.

10). Myoepithelial cells are closely related to intercalated or striated ducts.

These cells are stellate-spider like and fusiform in shape.

Their remembrance is similar to basket cradling secreting units, hence called as basket cell.

Helps in tumor suppressing activity.

These cells are similar structure like smooth but derived from epithelium.

b1) Nutritive

Nourishes and maintain vitality of dentin by provides oxygen and nutrients to pulp.

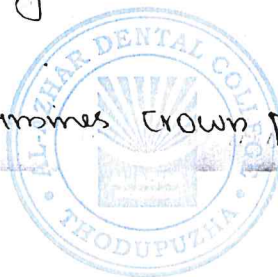
Continuing source of dentinal fluid.

Sensory

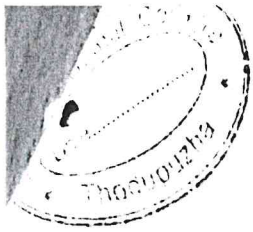
Respond to stimulus such as temperature, pressure, vibration and chemical agents.

Inductive

Dental papilla determines crown pattern and



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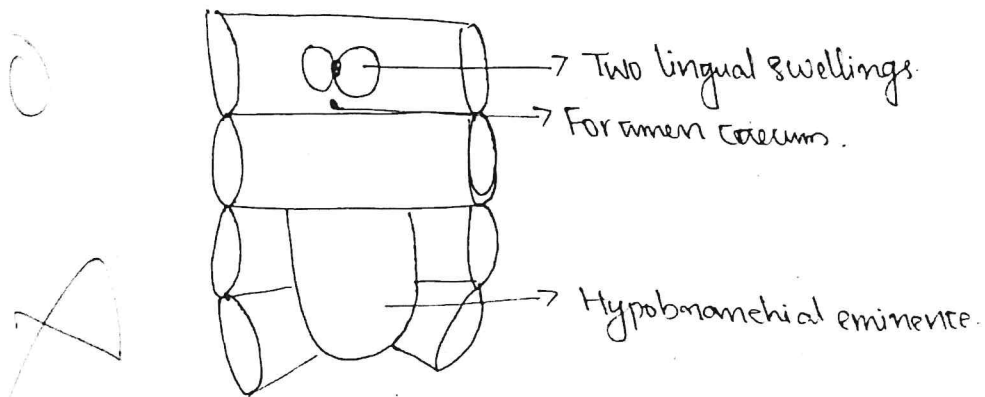
## Steel-shaped cleft

(9)

- Dental lamina
- Inner enamel epithelium
- Outer enamel epithelium
- Dental papilla cells surround inner enamel epithelium.

16) Tongue develops in the 4th month of intrauterine life.

The medial most part of mandibular arch gives rise to lingual swellings.



Nerve supply of the tongue through branchial arches.

13) Fossa - Concavity that present in lingual surface of tooth is called fossa

Eg. incisors.



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Mid-course improvement exam

Department - Department of Conservative Dentistry And Endodontics

Student Name- MAHIMA . N

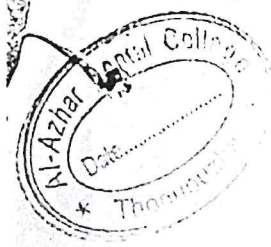
Roll No- 21

Year - Second Year

QUESTION NO	MARKS	QUESTION NO	MARKS
01	9	09	3
02	3 1/2	10	
03	4 1/2	11	
04	3	12	
05	2	13	
06	3	14	
07	1 1/2	15	
08	1	16	
Total marks			



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ii) Maximizing no. of firing cycles

\* Porcelain restorations are built in layers & fired in cycles to produce final restoration which involves chemical reaction

\* Increasing no. of firing cycles causes

a) Increase in coeff. of thermal expansion of veneering ceramics

b) Increase in no. of crystalline leucite

c) On cooling veneering cracks delayed or worse immediate formation of cracks in Porcelain

hence no. of firing cycles must be reduced to increase strength

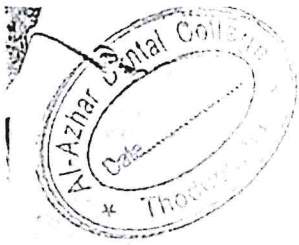
(ii) Thermal tempering

\* For strengthening of glass of automobile windows & windshields etc.

\* The surface of glass is quenched by cooling it when it is still ~~hot~~





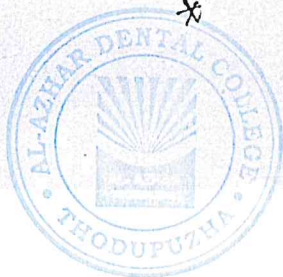


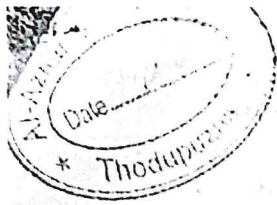
### 1) Ion exchange / chemical lehrhardening

- \* Effective method to increase strength of porcelain
- \* Vitrified glass containing Na<sup>+</sup> placed in bath of molten potassium tetraborate
- \* K<sup>+</sup> in bath replaces Na<sup>+</sup> in surface of glass
- \* K<sup>+</sup> remains in place after cooling
- \* K<sup>+</sup> is 35% larger than Na<sup>+</sup>
- \* The space occupied by Na<sup>+</sup> causes residual

### Compressive stress

- \* This is known as ion exchange mechanism / GC Tuff Coat
- \* It is a potassium rich slurry K<sup>+</sup> can be applied on porcelain surface
- \* It is heated at 471°C in furnace sufficiently Na<sup>+</sup> is replaced by K<sup>+</sup>
- \* Residual compressive stress creates
- \* This strengthening effect is lost when porcelain is ground, wear





## 2) Define Definition

- \* Three dimensional composition of two/more chemically different materials of different interphase between them
- \* Composition has properties superior to individual components

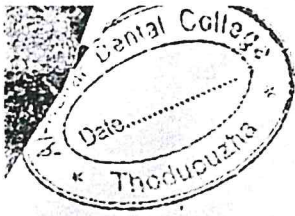
## Properties

### a) Polymerisation shrinkage

- \* Due to the presence of resin matrix, composites undergo shrinkage during polymerisation
- \* This shrinkage causes stress between Composite & tooth structure resulting in marginal gaps & enamel fracture
- \* hybrid composites shrink 0.6 - 1.8%
- \* Microfilled composites shrink 2 - 3%
- \* It can be ~~counted~~ reduced by addition of fillers or by incremental placement.
- \* Placement of composite, where contraction occurs in each increment before next increment is placed







9

### 3) Casting defects

#### → Classification

- \* Metal excess ( nodule, fins )
- \* Metal deficiency ( incomplete casting, porosity )
- \* Distortion of casting
- \* Chemical contamination of casting

#### Casting defect Types

- 1) Casting Size mismatch
- 2) Distortion
- 3) Surface roughness
- 4) Nodules
- 5) Fins
- 6) Porosity
- 7) Incomplete casting
- 8) Contaminated casting



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c) Microporosity :- It is fine irregular void in casting. (5)

Causes :- Rapid solidification due to decrease casting pressure

ii) Based on gas

- a) Punch hole porosity
- b) Gas inclusion porosity
- c) Subsurface porosity

Here in molten metal ~~diffuse~~ gas is diffused. On solidification gas escape causing void.

4/2  
iii) Based on air entrapped in mold  
→ Back pressure porosity :- due to inadequate venting of mold

\* Air is trapped inside mold & difficult to escape.  
\* When molten alloys enters mold, air escapes through porous investment at bottom but if it bulk is more air is difficult in escaping of air.





## 2) Pickling

- \* Surface oxides (eg:- black casting) <sup>is</sup> removed from casting by 50% HCl.
- \* HCl is heated but not boiled with casting in it.
- \* It is not a routine procedure done if indicated.

## 3) Acid etch technique - liquid/gel

- a) 37% phosphoric acid is used because it are preferred
- b) gel etchants are preferred because it conforms to the area of application
- c) Applied by using syringe applicator or brush
- d) Contrasting colour is used
- e) Etching time :- 15 sec (for Enamel & dentin); followed by rinsing thoroughly with H<sub>2</sub>O spray (10-15 sec)

f). When the preparation is on enamel surface is cleaned by clean dry air.

Etched enamel, appears frosty ~~white~~ due to removal of prisms cores & Permeability Porosity.





g) Fe, Copper, Beryllium :- hardeners

h) Manganese, Manganese, Silica :- Oxide scavenger  
Prevent oxidation.

1/1

i) Boron :- Deoxidizer & hardener

j) Carbon :- • Increase, strength, hardness,  
ductility

• Increased amount of copper  
increases ductility of  
alloy.

• Carbon release includes  
which increase strength

4) \* Finishing & Polishing of Composite restoration  
to provide decrease the surface flaws.

~~no~~ no: & size

\* To get a smooth glossy finish  
like surface without removal of  
material

\* It is done using dental  
stone



*[Handwritten signature]*



### Mid-course improvement exam

Department - Oral Pathology

Student Name - Anisha R Nau

Roll No - 07

Year - Third year

QUESTION NO	MARKS	QUESTION NO	MARKS
01	06	09	01
02	07	10	01
03	03	11	1/2
04	03	12	03
05	04	13	-0-
06	03	14	01
07	02	15	1/2
08	01	16	02
Total marks	40/70		



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## Adenomatoid Odontogenic Tumour

- It is an hamartomatous benign tumour.

- Clinical features ::

Age :: 50 - 70 years.

Sex :: Female predilection

Region Site :: <sup>Commonly associated with unerupted conine</sup> Body of mandible, condylar end of maxillary process

Signs and symptoms ::

- Slow growing painless mass
- Cause expansion of ~~be~~ cortical ~~for~~ bony plate
- Have egg shell crackling like sound.
- Pain and pus discharge on secondary infection

- Radiographic features

- Well defined radiolucencies seen

- Variants ::

(i) Intraosseous follicular type ::

Seen enveloping the unerupted conine

(ii) Extracosseous follicular type ::

E<sub>1</sub> ⇒ Without associated to any teeth

E<sub>2</sub> ⇒ Seen in between 2 adjacent roots

E<sub>3</sub> ⇒ Apical portion of root

E<sub>4</sub> ⇒ Middle one third of root





(iii) Enamel and Dentine - Regional Adontoclypsia

(iv) Cementum - Hypocementosis  
Hypercementosis

### Amelogenesis Imperfecta

- It is defined as a disturbance in any stage of enamel formation.

- Type : (i) Hypoplastic :- Defect in matrix deposition

- Pitting ~~at~~ autosomal dominant
- Local autosomal dominant
- Local autosomal recessive
- Smooth autosomal dominant
- X-linked smooth autosomal dominant
- Rough autosomal dominant
- Enamel Agnesis

(ii) Hypocalcified :- Defect in ~~matrix~~ mineralisation.

- Autosomal dominant
- Autosomal recessive

(iii) Hypomaturation :- Defect in maturation

- Pigmented autosomal recessive.
- Smooth autosomal recessive

- Clinical features :-

Generalised and localised pitting type :- Surface have ~~many~~ pitted appearance.



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### 3) Adenoid cystic carcinoma

- It is a ~~benign~~ <sup>malignant</sup> salivary gland tumour

- Clinical feature :-

Age :- 20 - 30 years

Sex :- Female predilection

Site :- Minor salivary glands of palate, Parotid and

Submandibular gland.

Signs & Symptoms :- Pain due to perineural invasion

Nerve palsy

Facial nerve palsy

Slow growing, bony hard swelling

Parosmia and Numbness

Local invasion to surrounding structures

- Radiographic features :-

Well defined unilocular radiolucencies - seen.

- Histopathological features :-

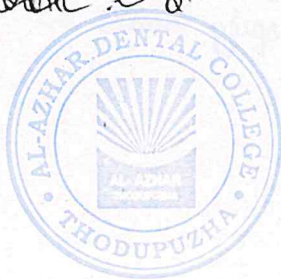
It appears in different patterns

(i) Tubular :- Seen as many ducts present. Giving <sup>vi</sup> a swiss cheese pattern or honey comb pattern.

(ii) Solid :- Composed of compact basoid cells.

(iii) Cribiform pattern :- As many connecting channels.

Treatment :-



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- Patient may experience difficulty in swallowing and halitosis
- Treatment : Scraping of the furring tongue  
Surgical removal of filiform papillae.

## 6) Odontogenic Keratocyst [OKC]

- It is an intraosseous odontogenic cyst
- It is also known as keratocystic odontogenic tumour due to its aggressiveness.
- Clinical features :-
  - Age - ~~20-40~~ Bimodal Age distribution.  
20-40 , 50-70 years
  - Sex - Male Predilection
  - Site - Posterior region of mandible
  - Signs and Symptoms :-
    - Usually asymptomatic
    - Painless, ~~see~~ slow growing mass
    - Cause expansion of cortical plates
    - Pain and pus ~~dis~~ discharge in secondary infection
    - Paraesthesia and mobility of tooth seen.
  - Radiographic features :-
    - Well defined unilocular or multilocular radiolucency with smooth borders are seen.
    - Mobility of tooth present.



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- Hyperchromatic nuclei
- Sub nuclear vacuoles.
- Intracellular spacing
- Sub epithelial hyalinisation.

### 8) Epstein's Pearls :

- It is seen in gingival cysts on newborn.
- It is a nodule like growth seen in the midpalatal raphe

### 9) Codman's Triangle

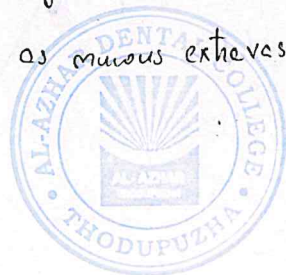
- It is seen in osteosarcoma
- Due to elevation of the periosteum due to tumour, it appears as a triangle named Codman's Triangle

### 10) Rhuston Body :

- It is a structure seen in the epithelium of dentigerous cyst and radicular cyst.
- They are linear or curved 'hairpin' shaped hyalin bodies seen on the basal epithelium of dentigerous and radicular cyst.

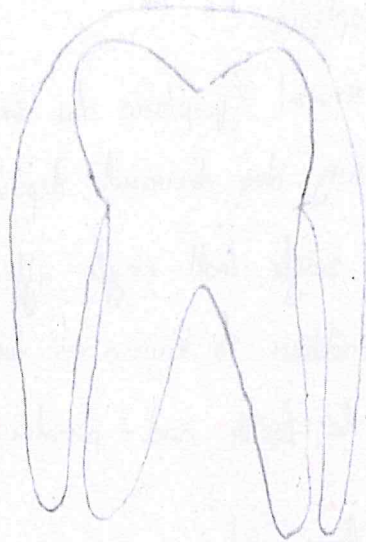
### 11) Mucous Extravasation Phenomenon.

- Due to trauma or any local injury, the ducts of minor salivary gland ruptures and the mucous content is released into the surrounding tissues.
- This is known as mucous extravasation phenomenon.



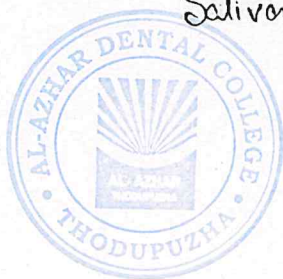


(iii) Circumferential variant : Seam encircling the whole tooth including the roots.



14) Sjogren's Syndrome :-

- It is a syndrome associated consisting of xerostomia, xerophthalmia and blurred vision
- It is most common in males.
- Causes :- Genetic  
Radiation  
Drug induced.
- Clinical features :- Difficulty in swallowing due to dry mouth  
Blurred vision  
Difficulty in speech.
- Treatment :- Artificial tears is administered  
Salivary analogues are given



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### Clinical features:

Age :- Any age group

Sex :- No sex predilection.

Site :- Head and Neck.

### Signs and Symptoms :-

Pain and Swelling

Tenderness on area supplied by that nerve

Tingling sensation

Numbness

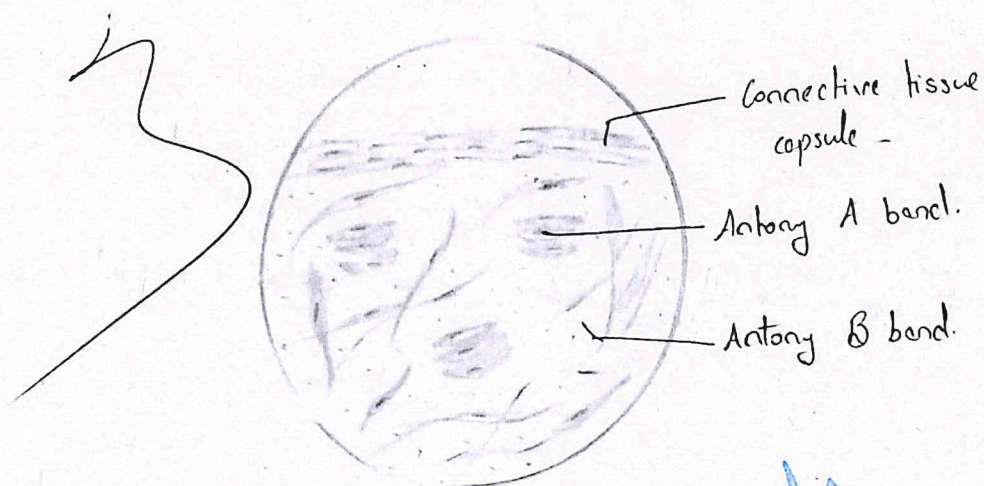
Nerve paralysis.

### Histopathological feature:

- Most importantly appears as 2 ~~forms~~ <sup>well</sup> bands.

(i) Antony A band :- Organised pattern or Schwann cells. (spindle shape)

(ii) Antony B band :- Loosely arranged, not organised in nature



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**FINAL YEAR BDS PART-1- SUPPLEMENTARY**  
**MID COURSE IMPROVEMENT EXAMINATION (23-05-2023)**  
**PERIODONTICS**

Duration- 3 hours

Max marks:100 (prior to 2016)

Max marks: 70 (2016 scheme)

**ESSAY:**

1. Define and classify osseous surgery. Explain in detail with diagrams about various steps in resective osseous surgery. (2+4+8) / (2+3+5)
2. Define host modulation. Enumerate and explain in detail various systemic and local host modulatory agents (2+4+8) / (2+3+5)

**SHORT ESSAY:**

3. Periodontal management of diabetic patients. (8) / (5)
4. Describe in detail the role of antibiotics in periodontal therapy. (8) / (5)
5. Describe the clinical and radiographic features of aggressive periodontitis (5+3) / (3+2)
6. What are the theories of calculus mineralisation (8) / (5)

**SHORT NOTES: (10x4) / (10x3)**

7. Interdental cleaning aids
8. Management of halitosis
9. Tetracyclines
10. Pericoronitis and its management
11. Full mouth disinfection
12. Age changes in periodontium
13. Socransky's criteria for periodontal pathogens
14. Splinting
15. Causes of gingival bleeding and its treatment
16. Alloplastic bone grafts



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**Mid-course improvement exam**

Department - Esthetic denture  
 Student Name- Anagha T.K  
 Roll No- 7  
 Year- 2022

21.5 / 40

QUESTION NO	MARKS	QUESTION NO	MARKS
01	6	09	1.5
02	2.5	10	
03	2.5	11	
04	2.5	12	
05	1.5	13	
06	2	14	
07	1.5	15	
08	1.5	16	
Total marks	21.5 / 40		

- Edgewise angle treatment
- line of occlusal occlusion
- Mandibular first permanent molar is considered to be key of occlusion

Angle described three classes of malocclusion.

Class I

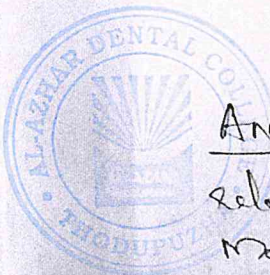
Class II - Div. 1  
 Div. 2

Class III - Class III

Prevalence class III

Subdivision

Skeletal class III



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Angle class I : Characterised by normal inter arch molar relation.  
 Maxillary cusp of mandibular first permanent molar occludes in the buccal groove of mandibular first permanent molar.



# Orthodontics

## ① Qualitative methods

Angli's classification  
Modification of Angli's classification  
Simon's classification  
Bjork's classification  
Bennett's classification  
Skeletal classification  
Atkinson-Pogrel classification  
WHO of PDI classification  
Etologic classification  
Incisor classification

## Quantitative method

Manski and Frankel  
Malocclusion Index  
Handicapping labiolingual deviate  
index  
Occlusal feature index  
malocclusion severity estimate  
Occlusal index by Sumner  
Treatment priority index  
Index of Orthodontic treatment  
need by Shaw.

## Angli's classification of malocclusion

- Edward Angle introduced the concept of key of occlusion and line of occlusal occlusion
- Mandibular first permanent molar is considered to be key of occlusion.

Angle described three classes of malocclusion.

Class I

Class II - Div. 1  
Div. 2

Class III - Class III

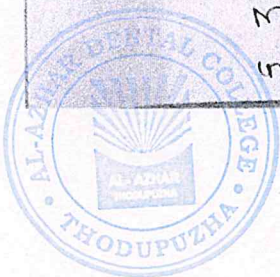
Proximal class III

Subdivision

Skeletal class III

Angli's class I : Characterised by normal inter arch molar relation.

Mesiodistal cusp of mandibular first permanent molar occludes in the buccal groove of maxillary first permanent molar.





Angle's class II: Distobuccal cusp of upper 1<sup>st</sup> permanent  
incisor occludes in the buccal groove of the lower first permanent  
incisor. Angle has sub.

Class III: Class II Div 1:

Characterised by proclined upper incisors  
Increased overjet  
Upper lip usually hypotonic, short and full to  
form lip seal. The lower lip cushions the palatal aspect of  
upper teeth, referred to as lip trap.

Class II Division 2: Lingually inclined upper incisors giving the  
cut a square appearance.  
Laterally tipped upper lateral incisors overlapping the central incisors  
Deep anterior overbite present.

Class II Subdivision  
When a class II molar relation exist on one side and  
a class I relation on other, it is referred to as a class II subdivision

Class III malocclusion: This malocclusion exhibits a class III  
molar relation with the mesiodistal cusp of mandibular first  
permanent molar occluding in the interdental space between  
the mandibular 1<sup>st</sup> and 2<sup>nd</sup> molar

→ Merits

Not so practical and easy to comprehend.  
Not popular  
Easy to communicate  
Widely used for teaching purpose.

→ Demerits

Considered malocclusion only in anteroposterior plane. He didn't  
consider malocclusion in the transverse and vertical plane.

Angle considered the first permanent molar as fixed points in the  
skull.





current

The classification <sup>not to</sup> be applied if the first permanent molar are ~~erupted~~

- Classification cannot be applied to the deciduous dentition
- Do not highlight the etiology of malocclusion
- Individual tooth malocclusions have not been considered.

## ② Theories of tooth movement

### \* Pressure tension theory by Schwarz

Whenever a tooth is subjected to an orthodontic force, it results in areas of pressure and tension

The area of periodontium ~~opposite~~ the direction of tooth movement is under pressure while the area of periodontium ~~opposite~~ the tooth movement is under tension.

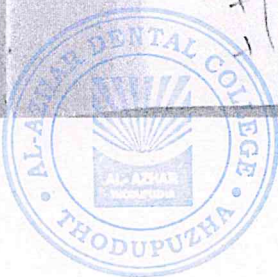
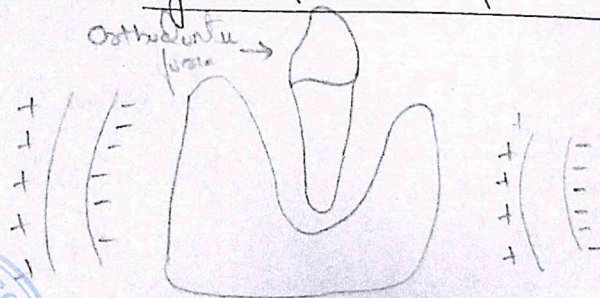
According to him, the areas of pressure show bone resorption while areas of tension show bone deposition

### Fluid dynamic theory.

Tooth movement occurs as a result of alterations in fluid dynamics in the periodontal ligament

Because of PDL create a unique hydrodynamic condition resembling a hydraulic mechanism and a shock absorber when a force of greater magnitude and duration is applied but during orthodontic tooth movement, the interstitial fluid of periodontal space get squeezed out and moves towards the cervical margins and results in decreased tooth movement.

### Bone bonding and pericellular theories of tooth movement





On application of a force on a tooth, the adjacent alveolar bone bends. Areas of concavity in bone are associated with negative charges and evoke bone deposition. Areas of convexity are associated with positive charges and evoke bone resorption.

### ③ Method of gaining space

Proximal stripping

Expansion

Extraction

Dentalization

Upgrading of molars

Reduction of posterior teeth

Reduction of anterior

Star Stenoduction (Proximal stripping)

proximal surface of the teeth are sliced in order to reduce the mandibular width of teeth

Diagnostic aids : Orbis perimeter analyzer  
Baldoni Analyzer  
Intra-oral periapical radiographs

Amount of proximal stripping :

0.4 mm stenoduction per each surface of posterior teeth  
0.25 mm for anterior teeth

Sequence of clinical steps

Comprehensive planning

Access to interproximal area

Interproximal enamel removal

Fluoride and polishing of enamel surface.

Topical fluoride application



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## #1 Theories of Retention

- Theorem 1: Teeth that have been moved tend to return to their original position
- Theorem 2: Elimination of cause of malocclusion will prevent relapse
- Theorem 3: Malocclusion should be corrected as a safety factor.
- Theorem 4: Proper occlusion is a potent factor in holding teeth in their corrected position.
- Theorem 5: Bone and adjacent tissues must be allowed time to resorption around newly position teeth
- Theorem 6: If the lower incisors are placed upright over lower bone they are more likely to remain in good alignment
- Theorem 7: Corrections carried out by during periods of growth are likely to relapse
- Theorem 8: Further the teeth have been moved, lesser the ~~rate~~ relapse
- Theorem 9: Arch form, particularly in the mandibles arch, cannot be permanently altered by appliance therapy

## ⑤ Adams' - Proffit classification

Step 1: Alignment

Or classified as ideal / crowded / spaced

Step 2: Profile - convex / concave / straight

Step 3: Type -

Step 4: Class - class I / class II / class III

Step 5: Bite depth - malocclusion in vertical planes





6

## DRME v/s SME

<u>Feature</u>	<u>Slow expansion</u>	<u>Rapid expansion</u>
Type of expansion	Mostly dental	skeletal
Rate	slow	Rapid
Type of force exertion	Physiologic	
Force used	mild force	Greater force
Frequency	less	more
Duration	long	short
Age	Any age	Before malocclusion induce class

## 8 Open bite

malocclusion that ~~is~~ ~~one~~ in the vertical plane characterized by lack of vertical overlap btw maxillary and mandibular dentition

One in anterior & posterior region

Anterior open bite: Increased lower anterior facial height  
Crouching  
long & narrow face  
Narrow maxilla

Treatment: Removal of cause  
or dysfunctional appliance  
Orthodontic therapy.



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rotation

## moment to force ratio

Relationship b/w applied force system and the type of tooth movement  
M/F ratio determines the centre of rotation thereby type of tooth movement

Distance b/w centre of resistance and the line of excitation increase, M/F ratio also increase

M/F ratio determines the control stud and orthodontic appliances used here in both active and restive denture

## ⑦ Hyalinization

- Form of tissue degeneration characterised by formation of clear eosinophilic homogeneous substance
- Hyalinization of PDL denotes a compressed & locally degenerated PDL.

Changes observed:

Gradual shrinkage of PDL fibres  
Cellular structures become indistinct  
Compressed collagen fibres



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### Mid-course improvement exam

Department - Esthetic dentistry

Student Name- Anagha T.K

Roll No- 7

Year- 2022

21.5 / 40

QUESTION NO	MARKS	QUESTION NO	MARKS
01	6	09	1.5
02	2.5	10	
03	2.5	11	
04	2.5	12	
05	1.5	13	
06	2	14	
07	1.5	15	
08	1.5	16	
Total marks		21.5 / 40	

- ~~Edgewise single bracket~~ line of occlusal occlusion
- ~~mandibular first permanent molar~~ is considered to be key of occlusion.

Angle described three classes of malocclusion.

Class I

Class II - Div 1  
Div 2

Class III - Class III

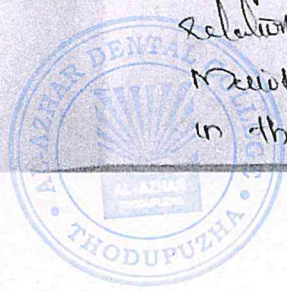
Protrusive class III

Subsidiary

Steeple class III

Angle class I: Characterized by normal inter arch molar relation.

Mesiofacial cusp of mandibular first permanent molar occludes in the buccal groove of maxillary first permanent molar.



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Angle's class II: Distobuccal cusp of upper 1<sup>st</sup> permanent <sup>is</sup> <sup>in</sup> c  
malocclusion in the buccal groove of the lower first permanent  
tooth. Angle has sub.

Class II Div 1:

Characterised by proclined upper incisors  
Increased overjet  
Upper lip usually hypotonic, short and flat to  
form lip seal. The lower lip cushions the palatal aspect of  
upper teeth, referred to as lip trap.

Class II Division 2: Lingually inclined upper incisors giving the  
cut a gnomon appearance  
laterally tipped upper lateral incisors overlapping the central incisors  
Deep anterior overbite present.

Class II Subdivision

where a class II malocclusion exist on one side and  
a class I relation on other, it is referred to as class II subdivision

Class III malocclusion: This malocclusion exhibits a class III  
malocclusion with the mesiobuccal cusp of mandibular first  
permanent molar occluding in the interdental space between  
the mandibular 1<sup>st</sup> and 2<sup>nd</sup> molar

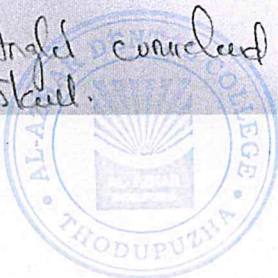
→ Merits

not so practical and easy to comprehend.  
not popular  
Easy to communicate  
Widely used for teaching purpose.

→ Demerits

Considered malocclusion only in anteroposterior plane. He didn't  
consider malocclusion in the transverse and vertical plane.

Angle considered the first permanent molar as fixed points in the  
skull.





On application of a force on a tooth, the adjacent alveolar bone bends. Areas of concavity in bone are associated with negative charges and evoke bone deposition. Areas of convexity are associated with positive charges and evoke bone resorption.

### ③ Methods of gaining space

Proximal stripping

Expansion

Extrusion

Distalization

Uprighting of molars

Rectification of posterior teeth

Proclination of anteriors

Star Stenodiversion (Proximal stripping)

proximal surfaces of the teeth are sliced in order to reduce the mesiodistal width of teeth

Diagnostic aids : Arch perimeter analysis  
Ballbow Analysis  
Intra oral periapical radiographs

Amount of proximal stripping :

0.4 mm stenodiversion per each surface of posterior teeth  
0.25 mm for anterior teeth

Sequence of clinical steps

Comprehensive planning

Axis to interproximal space

Interproximal enamel removal

Finishing and polishing of enamel surface

Topical fluoride application





6

DRG vs SRE

<u>Feature</u>	<u>Slow expansion</u>	<u>Rapid expansion</u>
Type of expansion	mostly dental	skeletal
Rate	slow	Rapid
Type of force exertion	Physiologic	
Force used	mild force	Greater force
Frequency	low	more
Duration	long	short
Age	Any age	Before malocclusion induce closure

8 Open bite

malocclusion that ~~is~~ one in the vertical plane characterized by lack of vertical overlap btw maxillary and mandibular dentition

One in anterior & posterior region

Anterior open bite: Transverse lower anterior final height crowding  
long & narrow face  
Narrow maxilla.

Treatment: Removal of cause  
or dysfunctional appliance  
Orthodontic therapy.



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Mid-course improvement exam

Department - OMR

Student Name- Md. Ajmel Roster.

Roll No- 6.

Year - IV<sup>th</sup> Part I.

QUESTION NO	MARKS	QUESTION NO	MARKS
01	8	09	3
02	7	10	3
03	1	11	3
04	4	12	1
05	4	13	1/2
06	4	14	1
07	2	15	1/2
08	3	16	3
Total marks		48/70.	



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3) Based on Histopathology

~~Intra epithelial~~

- Chicken pox

- Herpesing

- Her

- Hand foot mouth disease

- Pemphigous

- Familial mucous membrane pemphigoid

- Epidermolysis bullosa

- mucous Erythema multiforme

~~Sub~~ Sub epithelial

- Bullous pemphigoid

- Benign mucous membrane pemphigoid

- Epidermolysis bullosa

- Diffuse Erythema multiforme

- cicatricial pemphigoid

4) Based on ~~non~~ infectious or non infectious

Infectious

- HSV

- chicken pox

- ~~non~~ Herpesing

- ~~non~~ Hand foot mouth syndrome

• •

b) Non Infectious

= Pemphigous

- Bullous pemphigoid

- cicatricial pemphigoid

- Erythema multiforme

- Epidermolysis bullosa

- Bullous Lichen planus



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↓  
Immune react to keratinocyte  
Cause loss of cell-to-cell adhesion

↓  
oral lesion expression on D53 &  
skin express on D51 as well as D53

↓  
Damage to D51 result oral lesion at early stage  
& Damage to D53 results skin lesion

## Management

① ~~not a case~~

### Clinical Features

~~clinical presentation~~

Affect site - Buccal mucosa, Labial mucosa, palate,  
normal mucosa or skin

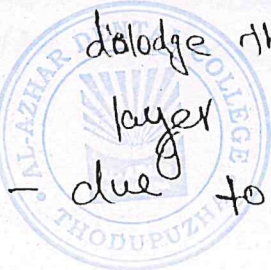
- Thick walled bulla arising  
- can Bulla break rapidly, continuous to extend repeatedly  
& leaving relatively larger area of denuded skin

- Centrifugal

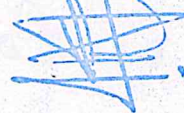
- Patient complaints of oral soreness & Granulation  
show superficial, ragged, ulceration distributed  
haphazardly on the ~~normal~~ mucosa

- Nikolsky ~~sign~~ sign

→ Apply tangential (lateral) pressure by thumb or finger  
on normal tissue surrounding the lesion which  
dislodge the upper layer of epidermis over deeper



layer  
due to acantholysis.





## 2) Ideal Radiograph

- Desired density & overall blackness on which show part completely without distortion with maximum details & has right amount of contrast to make detail ~~more~~ fully apparent

### Factors

#### 1) Density

- It is the overall degree of darkness on exposed radiographic film

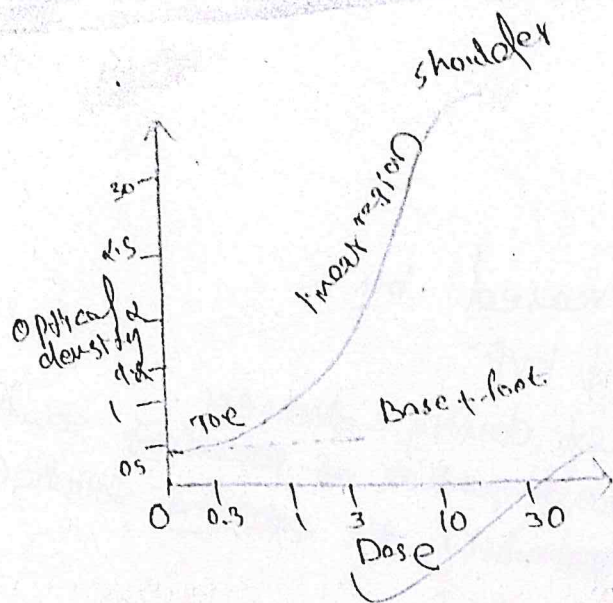
- optical ~~ratio~~ density is measured by

$$\text{optical density} = \log_{10} \frac{\text{Intensity of incident light}}{\text{Intensity of light transmitted}}$$

- density also measure by opacity of film
- density is measured by see the xray film on xray view box & compare the intensity of light transmitted from xray film & intensity of light of xray view box

- optical density of ideal film is 0.3-0.6
- unexposed film, when processed also seen some darker region called gross fog
- optical density of gross fog is 0.2-0.3
- ~~curve~~ curved plot - It is a graph that plot relationship b/w optical density & radiation dose





Density of film is increased by

- 1) more strike of radiation on film
- $\uparrow$  kVp,  $\uparrow$  mA,  $\uparrow$  Exposure time
  - Reduce focal spot - film distance
  - $\downarrow$  subject thickness
  - $\downarrow$  subject density

d) processing factor

- $\uparrow$  Temperature of processing solution
- $\uparrow$  concentration of processing solution

2) Contrast

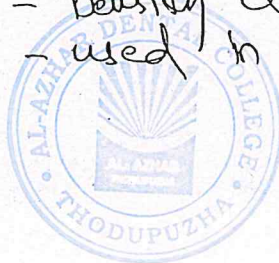
It is the difference in density b/w light & dark area on ~~real film~~ radiograph

1) Low contrast

- density difference b/w adjacent areas are small
- used for study periodontal bone loss

2) High contrast

- density difference b/w adjacent areas are larger
- used in detection of dental caries





## 1) Sharpness

It is the ability of radiograph to define 'edge' precisely

Sharpness Increased by

- 1) ↓ focal spot size
- 2) Increase focal spot-object distance
- 3) ↓ film-object distance ~~was~~ should be less
- 4) ↓ Apparent patient position

## 6) Angulation

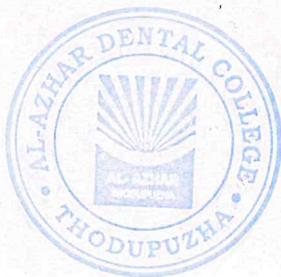
- Point by point delineation of minute structural element of object in the image formed on dental film

Angulation decreased by  
Decrease focal spot size

## 7) Resolution (Resolution power)

It is ability of radiograph to record separated structure that are close together

Resolution Increased by  
Decrease focal spot size



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## vit A / Retinoids

### Topical vitamin A

- Isotretinoin - 0.5 - 1%
- tretinoin

### Systemic vit A

- Isotretinoin
- Etretinate
- Acidretin

Severe, symptomatic atrophic/ulcerative lesion, unresponsive to topical measures

#### a) stress reduction

Tab Alprazolam - 0.25 mg tid 5 days.

#### b) Intralesional Injection

- 10-20mg of insoluble triamcinolone acetonide or 4mg of Dexamethasone is diluted with 0.5ml of saline or 2% of lidocaine injected into lesion which subside gradually
- Injection directly into lesion

#### c) Antifungals

- clotrimazole - 1%
- ketoconazole - 2%

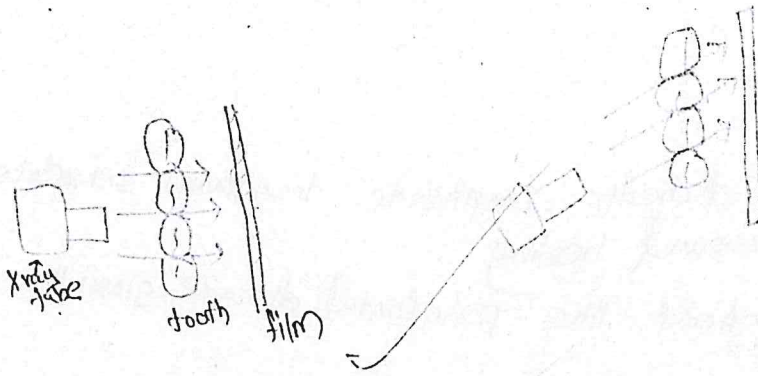
#### d) Immunomodulatory drugs

- Tab Levamisole
- Tab Azathioprine
- Topical clotrimazole
- Topical Tacrolimus.

e) photodynamic therapy.







## 2) millers right angle technique

→ we 2 radiograph made separately. film placed at right angled & study together to localize structure

### Steps

- First radiograph of perpendicular ~~tooth~~ ~~occlusal~~
- next occlusal radiograph

## 3) Stereoscopy

- used to determine localization of intracanal calcification & Multiple foreign body in dentures or thickness region

Require 2 exposure of film, one for each eye  
 After processing, film seen under stereoscopy ~~or~~ mirror or prism to localize accommodation & convergence

## 4) Computed Tomograph

- Require software
- used to localization of impacted tooth

## 6) ~~Oral~~ Dental management of diabetes

~~Oral~~ potential problems related to dental care  
 main ~~part~~ hard of dental care is hypoglycemia  
 as dental treatment ~~may~~ may disrupt the pattern of food intake





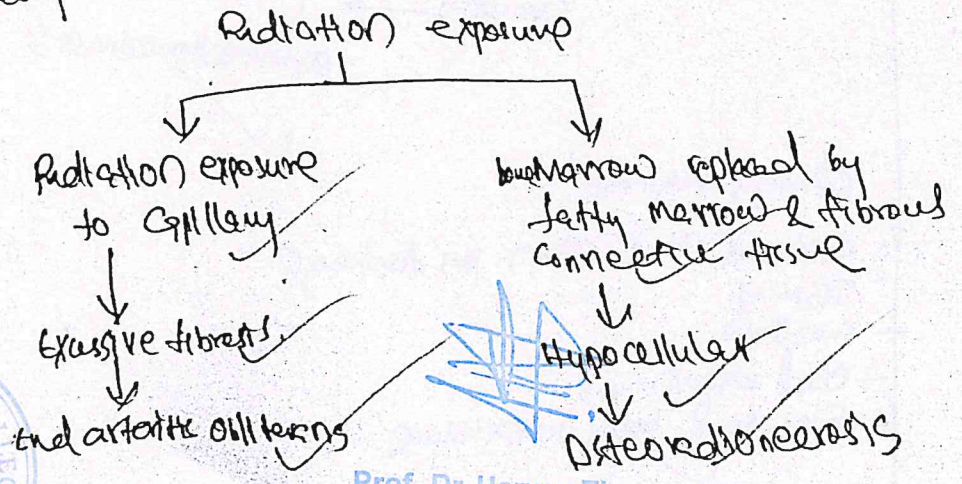
~~Other~~  
 Inflammatory condition characterised by painless  
 single or multiple ulceration on oral mucosa

Aphthous ulcer	Traumatic ulcer
- Also called canker sore	- Associated with sharp cusp, ill fitting denture, trauma
- Associated with stress, Diabetic & hypertension, Genetics,	- Irregular border
- <del>Recurrent</del> well defined border	- Occur at single site
- Occur in multiple site	- Not specific shape
- Oval to round shape	- oedematous.
- <del>Recurrent</del>	- Buccal mucosal, Lip, tongue
- Buccal mucosa, Lip, Gingiva, floor of <sup>mouth</sup> <del>mouth</del> , Palate	- Heal within 10-14 days
- Erythematous, white	- Not Recurring
- Heal within 10-14 days	
- Recurring every time	

8) osteoradionecrosis  
 Radiation induced ~~bone~~ necrosis of bone

mechanism

1) Marx theory



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- Keratotomy
- Dysphagia

Treatment ~~presenting~~ therapeutic

Non surgical

- Analgic
- Antibiotic
- Antifungal
- Antiviral

Local wound care  
electrotherapy  
ozone therapy

surgical

- Resectomy
- Resection
- Reconstruction
- Rehabilitation

preventive measure

- good oral hygiene
- fluoride treatment - 0.4% stannous fluoride

9) Toluidine blue vital staining

It is a supravital staining  
A acidophilic dye of thiopyridone group that selectively stain acid  
component of cell (DNA, RNA)

first rinse with water to  
remove food debris

↓  
1% acetic acid is given for 30 sec to  
remove ropey salivary

↓  
rinse with water

↓  
1% Toluidine blue solution is applied  
for 30 sec, with cotton swab  
when mucosal lesion seen or  
rinse the mouth. No lesion seen





Principle

- rule of Cieszyski's / rule of isometry
- states that if 2 angles of triangle are equal; then 2 sides of triangle are equal and share common side

Advantages

24/2  
3

	maxilla	mandible
Inclination	+40°	-15°
Curve	+45°	-20°
mesial	+30°	-10°
bulge	+20°	-5°

Advantages

- ✓ simple, & quick procedure
- ✓ comfortable to patient
- ✓ ~~used in orthodontic treatment~~
- ✓ used in endodontic treatment

Disadvantages

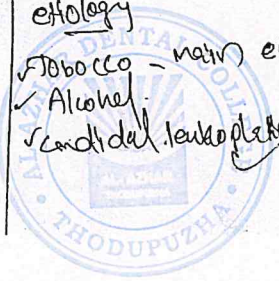
- ✓ faulty film
- ✓ periodontal bone level poorly visible
- ✓ crown of tooth are distorted
- ✓ ~~for angulation~~ ~~exposed~~ ~~exposed~~ ~~vertical & horizontal~~ ~~angulation~~ a different for individual teeth & ~~exp~~

ii) Leukoplakia

It is a potentially malignant disorder. white patch or plaque cannot be characterised clinically or pathologically as any other disease and not associated with any physical or chemical causative agent except the use of tobacco.

etiology

- ✓ Tobacco - main etiological agent
- ✓ Alcohol
- ✓ candidal leukoplakia



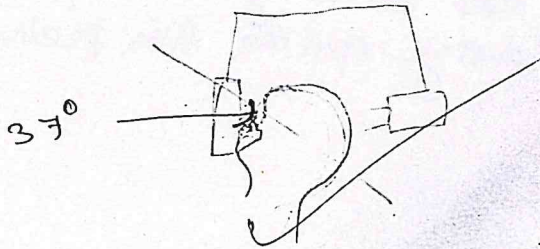
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- Films placed perpendicular to flood
- ~~Mid~~ Mid sagittal plane vertical & perpendicular to film
- Only chin touches the cassette
- Centromental line form an angle of  $37^\circ$  from plane of Cassette
- Directed perpendicular to midline of film
- evaluate ~~for~~ ethmoidal, frontal, Maxillary sinus
- open mouth water view - sphenoidal sinus seen

kVp - 70  
 MA - 40  
 1.6 - sec

2.11



14) Radiotherapy

used - used for the cancer treatment

- Radiation therapy - principle - protect the normal cell & kills the cancer & pre cancer cells.

- External beam <sup>radio</sup>therapy, brachytherapy

- Require ~~more~~ room, specialist

- easily to capture

- Irradiational therapy

- ~~But~~ no high cost



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### 13) Exfoliative cytology

- It is investigation method
- used in ~~diagnosis~~ cancer treatment
- cell is taken from ~~skin~~ and ~~can~~ ~~under~~ ~~micro~~ processing
- ~~as~~ It is used in many situation for the identifi
- Acetone ~~is~~
- It is a laboratory method
- Require laboratory ~~is~~ sterile condition, proper

### 15) cervical lymphadenopathy

- lymph node become ~~and~~ ~~enlarged~~, cause difficulty in swallowing, ~~and~~ ~~mastication~~

~~diagnosis~~ ~~primary~~ ~~gland~~ ~~retro~~ ~~therapy~~  
radiation hazard in salivary gland cause enlarged cervical lymph node

- ~~is~~ ~~often~~ ~~the~~ ~~lymphadenopathy~~
- lymph node surgically ~~is~~ removed



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Mid-course improvement exam

Department - Department of Conservative Dentistry & Endodontics.

Student Name- Megha. D. Kumar.

Roll No- 18

Year- Final Year Part II.

QUESTION NO	MARKS	QUESTION NO	MARKS
01	6	09	2
02	8	10	2 1/2
03	4	11	2
04	4	12	
05	2	13	2
06	2 1/2	14	2 1/2
07	2	15	2
08	2 1/2	16	
Total marks			



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### (iii) Arrested Test cavity

- A cavity is prepared on the tooth with high speed round bur. (2)
- Tooth is not anesthetized & the patient is asked to report the sensation.
- If the pt. reports pain, the drilling is stopped & the tooth is restored with restorative material.
- If no pain occurs, then ~~then~~ cavity is prepared till the pulp chamber & later endodontic treatment is done.

### (iv) Anesthesia testing

- It is used when the pt. cannot differentiate whether the pain is in mandibular or maxillary teeth.
- The posterior most tooth of the suspected quadrant is anesthetized via intraligamentary injection until the pain stops.
- If the pain doesn't stop, then the tooth mesial to the 1st one is anesthetized.
- The procedure is repeated in the mandibular quadrant if the pain does not resolve.

### (v) Bite test

- Chief complaint of the pt. is pain during mastication.
- Employed to differentiate b/w the fractured or cracked tooth.
- If the pulpal necrosis reaches the periapical area or in a cracked tooth, there is presence of pain on mastication.
- Pt. is asked to bite on a hard object like orangewood stick, toothpick, cotton swab b/w the suspected & contralateral tooth.
- Tooth slough is a commercially available instrument with a concave surface on the upper part to engage the cusp of the tooth to be tested.
- Pain on biting → apical periodontitis
- Pain on releasing of biting force → fractured tooth

### Recent advances in pulp vascularity tests

Some of the recent advances are:-







(c) According to the number of surfaces involved (5)

- Simple caries :- involves only 1 surface
- Compound caries :- involves 2 surfaces
- Complex caries :- involves more than 2 surfaces.

(d) According to age

- Nursing bottle caries
- Adolescent caries
- Senile caries

(e) According to whether it is new or recurrent lesion

- Primary caries :- 1<sup>st</sup> attack of caries on the tooth
- Secondary caries

(f) According to treatment & its location on the tooth

or Black classification

- Class I :- pit & fissure caries on occlusal surfaces of molars & premolars
  - occlusal 2/3<sup>rd</sup> of buccal & lingual surface of the molars
  - lingual surfaces of the incisors
- Class II :- involving the proximal surfaces
- Class III :- proximal area of incisors without involving the incisal ~~edge~~ true angle
- Class IV :- proximal surfaces of incisors involving the true angle
- Class V :- on the gingival 1/3<sup>rd</sup> of facial & lingual surfaces of all teeth
- Class VI :- on the ~~occlusal~~ cusp tips of posteriors & incisal edges of the incisors



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(e) Tooth separation

- Teeth is separated by interproximal wedges.
- Once the teeth is separated below the contact point, visual examination & tactile examination is done to detect any proximal caries.

(f) Interproximal tapes or floss

- When a piece of floss is passed below the contact area, fraying of the floss indicates the presence of proximal caries.

(g) Fiber optic ~~trans~~transillumination

II) Recent methods

(a) Xeroradiography

- It uses aluminium plates with ~~is~~ coated Selenium particles.
- When radiation is exposed, it results in selective discharge of the selenium particles & formation of latent image, which is then processed.

(b) Digital radiography

- ~~Makes use of 2 methods~~
- Uses a CCD containing a small video recorder & a sensor.
- The ~~the~~ radiograph taken through conventional technique is recorded & digitalized & stored in the computer.

(c) Computer aided ~~radiography~~ digital radiography

(d) Subtraction radiography

It selectively reduces the ~~images~~ images of no diagnostic value & enhances the areas of diagnostic value.

(e) Caries detecting dyes

- 1% Iodine stain in propylene glycol
- Differentiates ~~irreversible~~ infected & affected dentin.

(f) Digital - Fiber optic transillumination







- After periodontal therapy
- Periodontal lesion
- After scaling
- Gingival recession

## Management

(A) Methods to occlude the dentinal tubules

(a) Forming a smear layer using an orange wood stick  
- leads to partial obstruction  
- temporary relief

(b) Chemicals that occlude the dentinal tubules

- Calcium hydroxide paste
- Calcium phosphate paste (used as GC Tooth loose)
- Silver nitrate solution
- Strontium chloride solution
- Fluoride application
- Ginty varnishes
- Dentin bonding agents
- Fluoride iontophoresis

(c) Restoration done in case of ~~any~~ considerable dentin loss

- Glass Ionomer Cement
- Calcium Hydroxide
- Composite

(d) Lasers

- Nd:YAG
- Er:YAG
- He-Ne lasers
- CO<sub>2</sub> lasers

(B) Desensitising pastes to block the sensory nerves of the pulp  
Calcium nitrate desensitising pastes







Advantages

- Removes biofilm
- Removes organic portion of the denture leads to easy penetration of NaOCl
- Antibimicrobial, bleaching action.
- Dissolves the pulpal tissues & necrotic tissues.
- Economical
- Easy to use.

Disadvantages

- Bleaching of the clothes if spillage occurs.
- Corrosion of the instruments.
- Bad colour & taste.
- Vapours are irritant to the eyes.
- Causes gingival & periapical inflammation if extended beyond the periapical area.

(b) H<sub>2</sub>O<sub>2</sub>

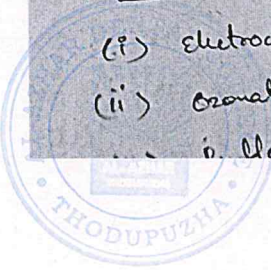
- 3% solution.
- Immediately dissociates into H<sub>2</sub>O & [O] when it comes in contact with tissue enzymes (catalase, peroxidase)
- Its effervescent action leads to mechanical dislodgement of the debris by floating them to the surface.

(c) Chlorhexidine

- Most potent biguanides.
- 2% solution at pH of 5 or 7.
- Possess substantivity.
- Possess antimicrobial property → cell lysis & leakage of cellular content
- low concentration → Bacteriostatic
- High concentration → Bactericidal → ~~cell~~ coagulation & puspiration of bacterial cell body.

Recent advances

- (i) Electrochemically activated solution.
- (ii) Ozonated water irrigation.
- (iii) 17% EDTA, 5% NaOCl, Hypaque





- length of It should be 16 mm from the blade
- Tip handle :- It has 12° to 15° taper angle with a constant increase of taper by 0.02%.
- Tapering :- It should have a uniform degree of taper from tip to the handle, throughout the blade.
- colour coding :- All such instruments should be appropriately colour coded for easy identification.

Goals of isolation

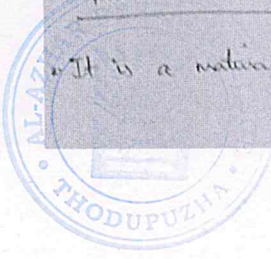
- Proper isolation :- Isolation from saliva, blood, debris, sprays of handpiece to provide optimum visualization access.
- Function Retraction :- Proper retraction of the gingival, tongue tips & cheek from the area of operation & surrounding.
- Protection :- prevents the aspiration of small endodontic instruments & prevents trauma to the soft tissues.
- Good operating efficiency :- After proper isolation, it improves the quality of dental treatment & hence increases the productivity.

Methods for moisture control

- Cotton wool roll & cellulose wafers
- Saliva ejector
- High vacuum evacuation
- Suction
- Throat shield
- Other adjunct methods
- Rubber dam

Rubber dam

It is a material which is used for isolation of one or more teeth.



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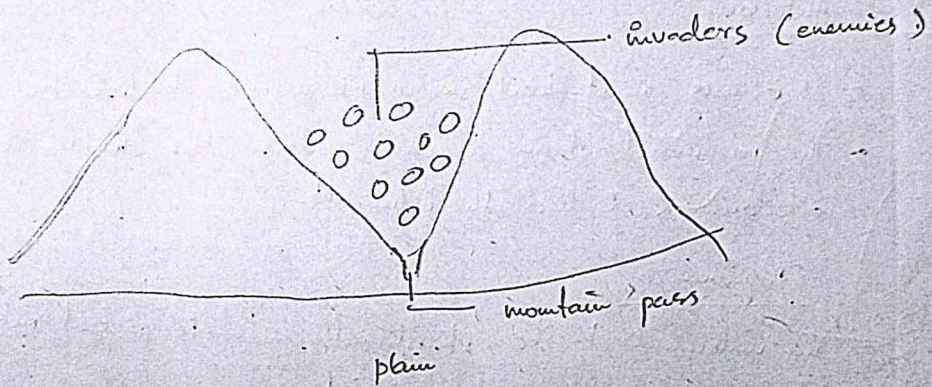


Ans-7 Kearfald mountain pass concept

- Kearfald based on the fish concept formulated this concept.

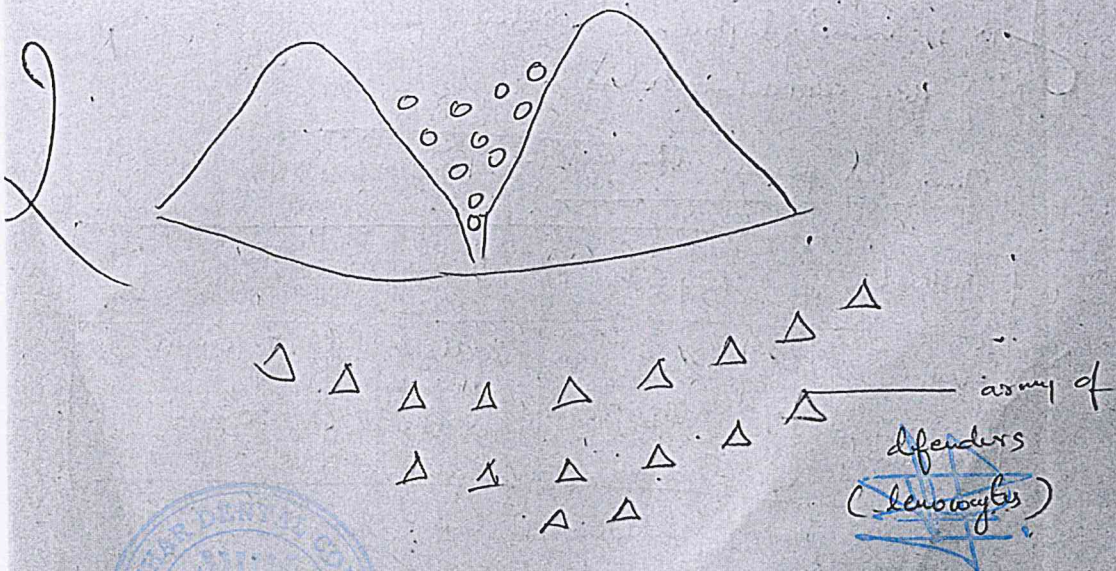
Stage 1.

- The ~~micro~~ invaders in the form of microorganisms are ~~present~~ present ~~in the~~ behind the inaccessible high mountains (root apex) & start to invade the plain (periapical area) through the narrow mountain pass (apical foramen)



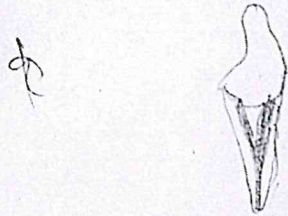
Stage 2

- Against this enemies (microorganisms), an army of defenders are recruited in the plain (white blood cells)
- This gives to the presence of WBCs in an event of acute inflammation of periapical tissues.

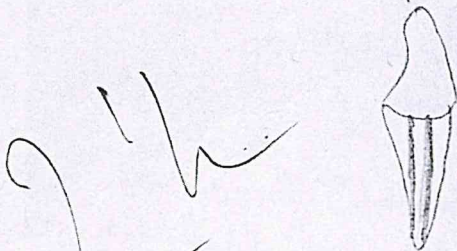




21 2 pulp chamber which unites short of apex and exits as single canal



Type 3 :- 2 separate root canals originate from the pulp chamber till the apex to exit as 2 sep. foramen.



Type 4 :- A single root canal originates from the pulp chamber and joins to exit as a single apical foramen.



#### Ques-11 Calcium hydroxide in endodontics

- It is used as an intracanal medicament.
- In some situations, tooth to be endodontically treated presents with exudation of blood or exudates, which makes the obturation difficult.
- Exudates stop in the next appointment, but it reappears in the next appointment.
- So, the seeping canals are dried with an absorbent paper points & filled with  $\text{Ca}(\text{OH})_2$  which makes the tooth ready for obturation.
- $\text{Ca}(\text{OH})_2$  increases the periapical pH which was low in case of inflammation & reduces the bacterial load.





(b) Biochemical characteristics of tooth (20)

- Areas of developmental defects (hypomineralization & hypoplasia)
- Deficiency of vit A, D, calcium etc. increases risk for caries
- Newly erupted tooth has high caries risk due to increased amount of phosphates.

(ii) Dental plaque

- Carogenic plaque contains large amounts of *S. mutans* & lactobacilli
- Due to low pH of the plaque, acid production takes place by fermentation of the carbohydrates (sucrose)
- This leads to demineralization of the tooth str.

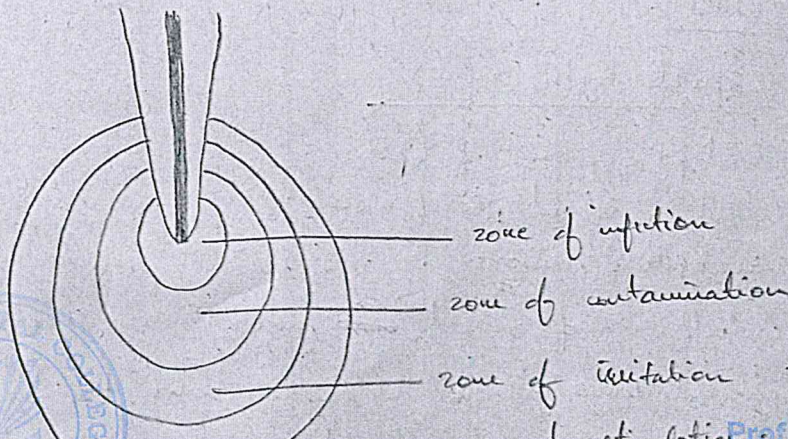
(iii) Diet

- Modern diet are rich in refined carbohydrates & less in protein & phytoles → (↑) risk of caries
- Frequent snacking & intake of sugary foods increases caries susceptibility.

(iv) Time

long period of contact of the undisturbed stagnated carogenic plaque on the susceptible tooth surface increases the risk of development of caries.

Ans-14 Fish zones





Mid-course improvement exam

Department - Periodontics

Student Name - Jisha Thobias

Roll No - 05

Year - Final Year Part 1

QUESTION NO	MARKS	QUESTION NO	MARKS
01	6	09	2
02	9	10	2.5
03	4	11	0.5
04	3	12	1.5
05	3	13	0
06	0	14	0
07	1.5	15	3
08	3	16	1
Total marks	40		

- Done with rotary instruments.
- It is a continuous of interproximal bone.

2. Radicular Blending

- process of reshaping of bone.
- Gradualisation of bone over the entire root surface.

3. Flattening of interproximal bone

- Only a small portion of bone is removed.
- for better flap coverage.

Indications:- Interproximal defect  
Hemiseptal defects

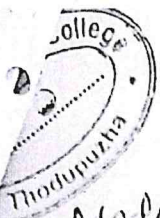


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## Modulation of MMPs

- MMP 8 and MMP 9 are the common MMPs.
- MMPs are of Endogenous and Exogenous type.

### CMT

+ Chemically modified tetracycline.

- It is obtained by 10 analogues of tetracycline.
- All CMTs except CMT5 are anti-collagenase.
- CMT has no antimicrobial property.
- Used to inhibit bone resorption.

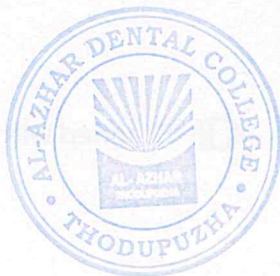
### SDD

- Subantimicrobial dose of Doxycycline.
- It is developed to overcome the long term use of tetracycline.
- SDD is the only FDA approved systemically ~~HMT~~ provided HMT.

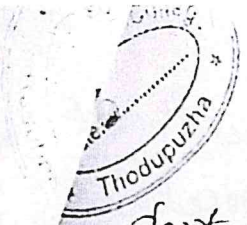
→ Rationale: - Doxycycline exhibits host modulation by inhibiting MMPs by

- Stimulating osteoblastic activity
- By inhibiting cytokines
- By promoting new bone formation (By Osteoprotegerin)

→ Dose: 20 mg peristal twice daily for 3 months or upto 9 months.







Short Essay

3. periodontal management of diabetic patients

→ Diabetic patients are more prone for periodontitis than non diabetic.

→ Kochfield findings include

- Polypoid gingival proliferations
- Sessile pedunculated polyps
- Mobility (loosened teeth)
- periodontitis
- Abscess

4. Glycated haemoglobin assay should be performed. ~~HBA1C and ABA~~

4-6 : Normal

7-8 : Good diabetic control

7-8 : Moderate diabetic control

>8.1 : Need to improve diabetic control.

→ patients with good diabetic control can undergo periodontal procedures.

→ Diabetic patient should be given short appointments.

→ patient should ask to take medication prior to appointment

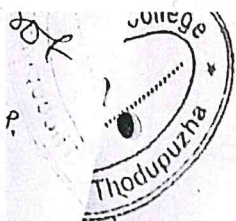
→ patient should be advised to have their med.



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## 5) Aggressive periodontitis.

Clinical features include:

→ pain is the main symptom.

→ patient may complain of loose teeth.

→ patient may experience pain while chewing.

→ Gingival bleeding and enlargement will be present.

Radiographic findings

→ Bone loss

→ PDL widening

→ Lamina dura may be discontinuous.

→ Mobility of teeth

## 6) Short notes.

### 7. Interdental cleaning aids

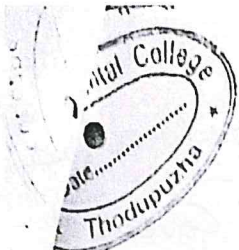
1. If interdental papilla extends into embrasure area then dental floss is used for cleaning.

2. If interdental papilla covers the embrasure space then wooden sticks, floss is used.

3. Ultrasonic brushes are used in the absence of interdental papilla.







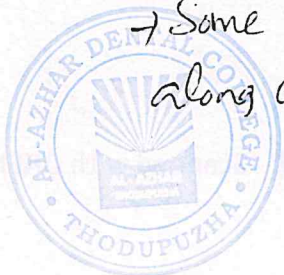
## 9. Tetracyclines

- Most common antibiotic used in dentistry.
- Local drug :- Acticlate
- SDD :- Developed as an alternative to overcome the side effects of long term use of tetracycline.
- Chemically modified tetracyclines are used for inhibition of NIMPs.
- Helps in inhibition of bone resorption.

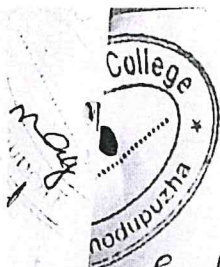
## 10. Pericoronitis

It is a condition in which the flap (operculum) covers the cusps of either partially erupted third molars & most commonly mandibular & third molars.

- patient may experience pain due to the inflammation of operculum.
- food lodgment or foreign body trapped may cause inflammation of operculum.
- often pseudopocket may be formed no association with periodontitis.
- Some patient may complain of halitosis along with periodontitis.







### Treatment

Bleeding can be arrested by :- (Intraoperatively)

pressure pack

Cold Compress.

Gelatin sponge

Use of Chlorhexidine mouth rinses.

### 12) Age Changes in periodontium

→ As the age progresses, there will be weakening of periodontal support.

→ Alveolar bone loss will occur

→ As a result mobility of tooth occur

→ Resorption of bone

→ Recession will occur

→ As a result of bone loss, furcation and pocket formation will be seen.

→ Laminar bone will be discontinuous.

→ PDL widening can occur



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## Mid-course improvement exam

Department - Periodontics

Student Name - Riya Elkhose

Roll No - 8

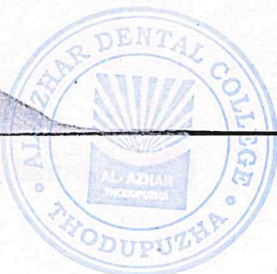
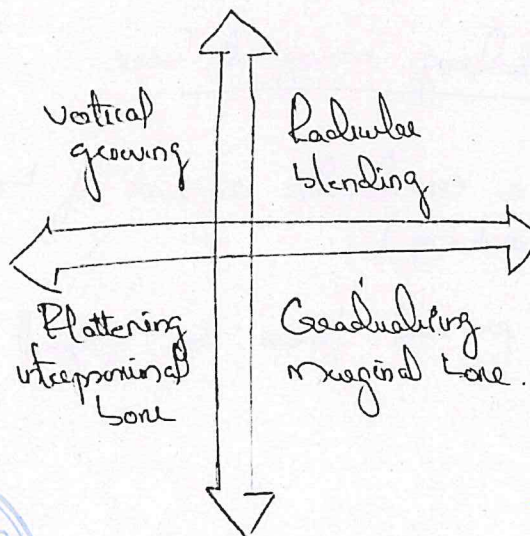
Year - Final year part one

QUESTION NO	MARKS	QUESTION NO	MARKS
01	2.5	09	0.5
02	5	10	2
03	1.5	11	0.5
04	0	12	0
05	4	13	0
06	0	14	3
07	1	15	0.5
08	3	16	1
Total marks			21

### → Resective osseous surgery

The surgical technique by which, the removal of defective bone can modify or manage the osseous defects are called resective osseous surgery.

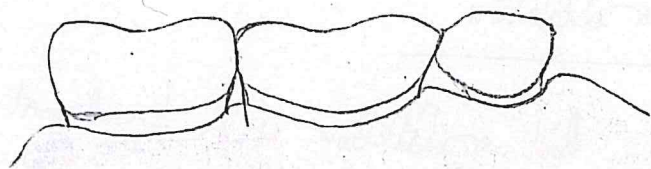
Steps:



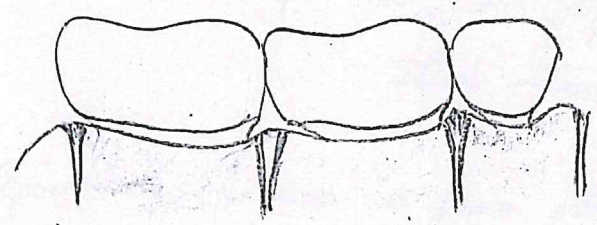


Handwritten text: "surgery" and "Thodupuzha" with a logo.

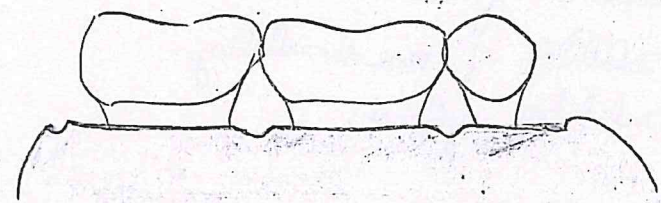
2



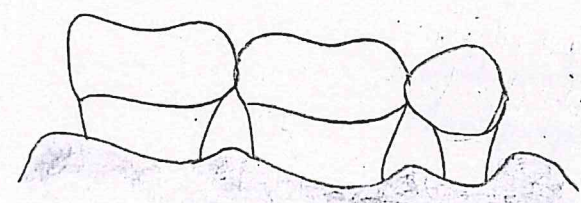
Recession / defect



Vertical growing



Radicular Resorption and flattening of interproximal bone



Gradual resorption marginal bone

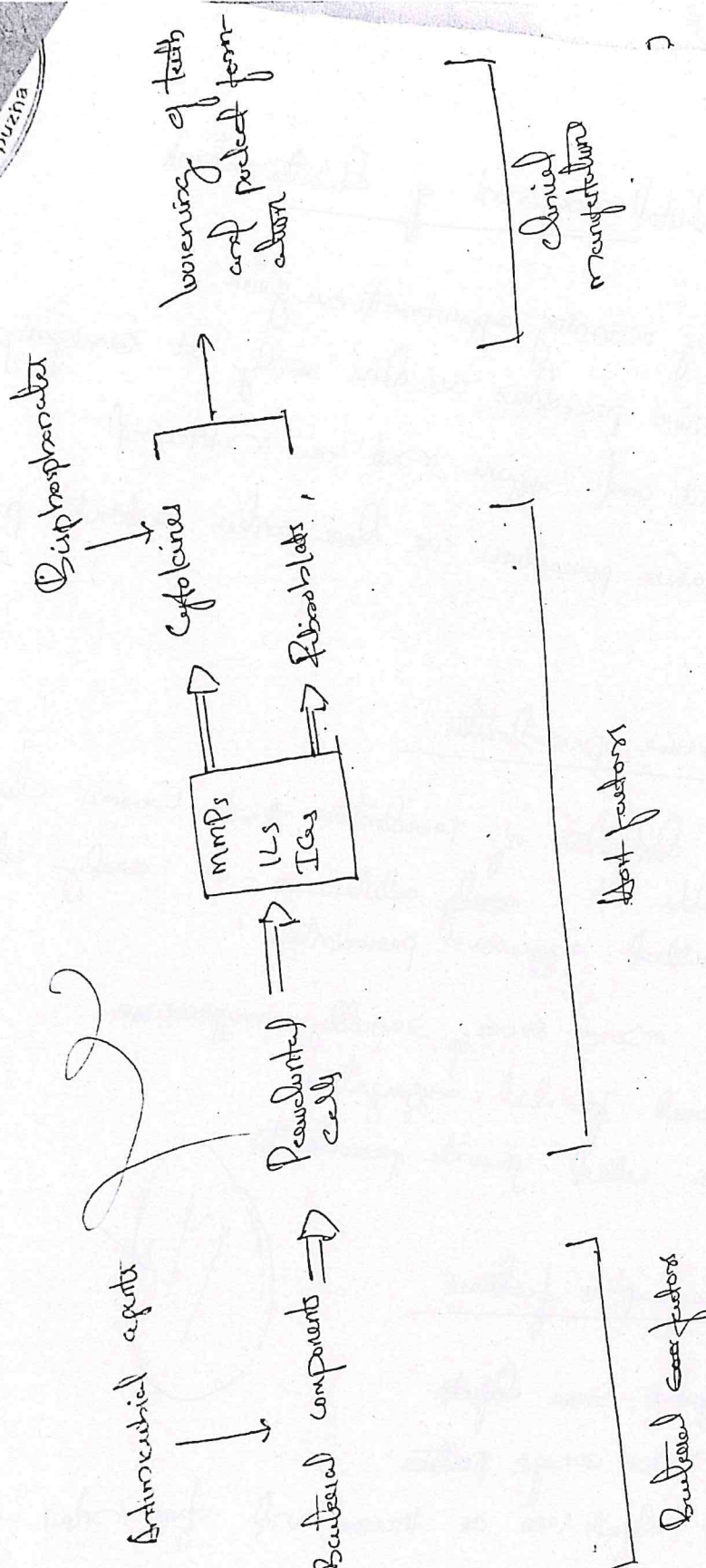


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*[Handwritten signature]*



- Rapid bone loss around affected teeth

→ Clinical features

- Mostly seen in adolescent age
- ~~Some~~ Female predilection
- Periapical exopagation seen.
- Maxillary incisors and first molars are mostly affected than other permanent teeth.
- Inflammation around the affected tooth is absent.
- Mobility of teeth is evident.
- Post labial and distal migration of incisors seen.
- Changes of midline spacing b/w incisors
- Deep pockets around affected teeth
- Pulpation involvement of particular teeth



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- Pseudo halitosis is in the same way, patient feels having halitosis even after the removal of etiology.

- For both halitophobia and pseudo halitosis, counselling is given.

\* For genuine halitosis

In systemic cause, first treat the underlying cause

\* For local halitosis

Oral prophylaxis

Chlorhexidine mouth washes

Oral hygiene instructions given

To mask the halitosis, chewing gum given.

2 Diet counselling is given to avoid foods that ~~cause~~ cause halitosis, like garlic.

Treat the underlying cause like deep caries.

Neutralising agents that neutralise sulphide compounds.



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14

## Splinting

→ Splint are appliances that are used to stabilize or maintain the tooth or its partner with the support of adjacent tooth.

→ Splints : types

• According to material used.

- Acrylic
- Metallic
- Braided.

• According to pos. location :

- Used in anterior teeth
- Used in posterior teeth

• According to location in tooth :

- Intra coronal
- Extra coronal

• According to time of use

- Temporary
- Provisional
- Permanent

→ Indications

Grade II mobility  
Extraction of malaligned tooth.

→ Contraindication

Poor oral hygiene

Tooth with poor prognosis.

Inadequate support from adjacent teeth.

