



# MAHE INSTITUTE OF DENTAL SCIENCES & HOSPITAL

Affiliated to Pondicherry Central University,

Recognized by Dental Council of India

Chalakkara, P.O. Pallor, Mahe-673 310

U.T. of Puducherry. Ph : 0490 2337765

**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:**

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

## **INDEX SHEET**

<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>PAGE NO</b>
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**CERTIFICATE OF THE HEAD OF THE INSTITUTION**



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**Dr.ANIL MELATH, MDS.,  
PRINCIPAL**

## **TO WHOMSOEVER IT MAY CONCERN**

**This is to certify that our Institution provides opportunities to students for midcourse improvement of performance through specific interventions Opportunities provided to students for midcourse improvement details are given:**

**PRINCIPAL**



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## **RE-TEST AND ANSWER SHEETS**



# MAHE INSTITUTE OF DENTAL SCIENCES & HOSPITAL

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Recognized by Dental Council of India | Affiliated to Pondicherry Central University

A Unit of Mahe Educational & Charitable NRI trust | Chalakkara, Palloz, Mahe- 673310, U.T of Puducherry

Ref. No: MINDS.P.P/100123/01

Date: 10.01.2023

## CIRCULAR

This is to inform that Slow Learners of the III<sup>rd</sup> Internal Examination of IR Batch has to attend Betterment Examination as per the Time Table.

Question Paper to be submitted through Email: [examwing@minds@mahedentalcollege.org](mailto:examwing@minds@mahedentalcollege.org) on or before 14.01.2023.

Date	Day	Final BDS	Third BDS	Second BDS
16.01.2023	Monday	Public Health Dentistry		General pathology
17.01.2023	Tuesday	Periodontics		Microbiology
18.01.2023	Wednesday	Orthodontics		Pharmacology
19.01.2023	Thursday	Oral Medicine and Radiology		Dental Material
20.01.2023	Friday	Oral Surgery	Oral Pathology	
21.01.2023	Saturday	Conservative Dentistry		
24.01.2023	Tuesday		General Medicine	
25.01.2023	Wednesday		General Surgery	

❖ Mark list of the same should be submitted at Exam Wing on or before 30.01.2023

Copy to:  
 Chairman  
 Vice Principal  
 Concerned Dept's  
 MINDS Nest  
 Exam Wing  
 IQAC



Dr. Anil Meluh,  
 Principal  
 Principal  
 Mahe Institute of Dental Sciences & Hospital  
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Ref. No: MINDS.P.O/120123/01

Date: 12.01.2023

## CIRCULAR

BETTERMENT EXAMINATION - IR BATCH - JAN - 2023 INVIGILATION DUTY				
Date	Year	Subject	PG LIBRARY	
			8 to 9.30	9.30 to 11
16.01.2023	Final Year	PHD	Dr. Mridhul	Dr. Moonas Jahan
	Second Year	General Pathology		
17.01.2023	Final Year	Periodontics	Dr. Ashwin A	Dr. Haswini M
	Second Year	Microbiology		
18.01.2023	Second Year	Pharmacology	Dr. Aravind Haridas	Dr. Rugma Kannan
19.01.2023	Final Year	OMR	Dr Lino Paul	Dr. Athul Prakash
	Second Year	Dental Material		
20.01.2023	Final Year	OMFS	Mrs. Sena Valsaraj	Mr. Gireesh K.
	Third Year	Oral Pathology		
21.01.2023	Final Year	Conservative Dentistry	Dr. Megha	Mr. Rahmathulla

Dr. Anil Melath,  
Principal

Principal  
Mahe Institute of Dental Sciences & Hospital  
MAHE

Copy to:

Chairman  
Vice Principal  
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**DEPARTMENT OF PERIODONTICS**  
**MARKLIST OF IMPROVEMENT EXAM - FINAL YEAR IR BATCH 2022-2023**  
**17-1-23**

SLNO	NAME OF STUDENT	MCQ(25)	THEORY(45)	GRAND TOTAL (70)
1.	ANAGHA C P	15	14	29
2.	ASWATHY P R	12	10	22
3.	NIKHITHA	11	16	27
4.	PRISCILLA MERCY B	13	12	25
5.	R RAMANA	15	19	34
6.	SALMAN UL FARZI	15	20	35



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**DEPARTMENT OF PERIODONTICS**

**MARKLIST OF IMPROVEMENT EXAM - FINAL YEAR REGULAR BATCH-**  
**AUGUST 2022**

**02-08-22**

<b>SLNO</b>	<b>NAME OF STUDENT</b>	<b>THEORY(100)</b>
1.	ABHINAV SEKAR C	15
2.	ADITHYA NARAYANAN S	23
3.	BENIL PAULOSE	13
4.	ESHA BARKAVIE	35
5.	JOE JOSE	23
6.	ATHUL V	07
7.	RAMEESA ISMAIL	02



DEPT OF PERIODONTICS  
MINDS, MAHE, FINAL BDS-IR BATCH  
IMPROVEMENT EXAMINATION (January 2023)  
MCQs (1 MARK EACH) - DURATION 30 MINS

15/25

1. Coatings of developmental origin include all, except  
 (a) Reduced enamel epithelium (b) Coronal cementum  
~~(c) Dental cuticle~~ (d) Junctional epithelium X
2. Ramjford teeth includes  
~~(a) 16, 21, 24, 36, 41, 44~~ (b) 16, 36, 46, 26  
 (c) 21, 31, 41, 11 (d) 16, 26, 36, 46, 21, 41 ✓
3. P.gingivalis, B.forsythus, T.denticola, often associated with periodontal disease, are collectively referred to as  
 (a) Red complex ~~(b) Green complex~~  
 (c) Orange complex (d) Yellow complex X
4. Mast cells are important in  
~~(a) Acute inflammation~~ (b) Chronic inflammation  
 (c) Immediate inflammation (d) All of the above ✓
5. The microorganisms that increases significantly during pregnancy is  
 (a) P. Intermedia (c) P. Loeschii  
~~(b) P. Gingivalis~~ (d) A. Israelii X
6. Spontaneous bleeding from gingival occurs in all, except  
 (a). ANUG (b) HIV Periodontitis  
 (c) Leukemia ~~(d) Atrophic gingivitis~~ ✓
7. The preponderant immunoglobulin found in saliva is  
~~(a) IgA~~ (c) IgM  
 (b) IgG (d) IgE ✓
8. Gingival enlargement in pregnancy is called  
~~(a) Angiogramuloma~~ (b) Peripheral giant cell granuloma  
 (c) Central giant cell granuloma (d) Fibroma ✓
9. Pseudo pocket refers to  
 (a) Suprabony pocket (b) Infrabony pocket  
~~(c) Gingival pocket~~ (d) Periodontal pocket ✓
10. Kirkland knife is commonly used for  
 (a) Electrosurgery ~~(b) Gingivectomy~~  
 (c) Osteoplasty (d) Curettage ✓
11. The most effective and stable grasp for all periodontal instruments is  
 (a) Palm and thumb grasp ~~(b) Modified pen grasp~~  
 (c) Standard pen grasp (d) None of the above ✓
12. Brushing technique recommended for areas with progressing gingival recession is  
 (a) Charter's method ~~(c) Bass method~~  
 (b) Modified Stillman method (d) Fones method X

13. Sub-antimicrobial dose of doxycycline is  
 (a) 100 mg      ~~(b) 50 mg~~  
 (c) 20 mg      (d) 10 mg
14. Internal bevel gingivectomy refers to  
~~(a) Undisplaced flap~~      (b) Modified widman flap  
 (c) Apically displaced flap      (d) Envelope flap
15. Reshaping the bone without removing tooth supporting bone is  
~~(a) Osteoplasty~~      (c) Ostectomy  
 (b) Vestibuloplasty      (d) Odontoplasty
16. All are bio.degradable membranes, except for  
 (a) Atrisorb      (c) Poly glactin 910  
 (b) BioGuide      ~~(d) Goretex~~
17. Cul-de-Sac feature is present in which stage of furcation Involvement  
 (a) Grade I      (c) Grade-III  
~~(b) Grade II~~      (d) Grade IV
18. The maintenance phase of periodontal treatment starts immediately after the completion of  
~~(a) Phase 1 therapy~~      (c) Phase 3 therapy  
 (b) Phase 2 therapy      (d) Phase 4 therapy
19. In AIDS, most profoundly affected cells of the immune system are  
 (a) B Lymphocytes      ~~(b) T Lymphocytes~~  
 (c) Monocytes      (d) Macrophages
20. Papillon - Lefevre syndrome is characterized by all, EXCEPT  
 (a) Pre-pubertal periodontitis      (c) Mental deficiency  
 (b) Hyper\_keratotic skin lesions      ~~(d) Calcification of dura~~
21. Radiographic sign of trauma from occlusion includes all, EXCEPT  
 (a) Vertical bone loss      (b) Horizontal bone loss  
~~(c) Root resorption~~      (d) Radiolucense and condensation of alveolar bone
22. The dominant microorganism in root surface caries is  
 (a) Actinomycesviscosus      (b) S. Mutans  
 (c) S. Sanguis      ~~(d) A. Israelii~~
23. Dermatological condition which account for over 95% of desquamative gingivitis is  
 (a) Lichen planus      (c) SLE  
 (b) Erythema multiforme      ~~(d) Pemphigus vulgaris~~
24. Pericoronitis occurs most commonly in  
~~(a) Mandibular third molars~~      (c) Maxillary canine  
 (b) Maxillary third molars      (d) Mandibular canine
25. Linear gingival erythema is most commonly associated with  
 (a) Bismuth intoxication      (b) Stomatitis medicamentosa  
 (c) AIDS      ~~(d) Aplastic Anemia~~
- \*\*\*\*\*

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**CHALAKKARA, MAHE**  
**U. T. OF PUDUCHERRY - PIN 673 333**

**INTERNAL ASSESSMENT BOOK**  
**SUBJECT: Periodontics**

Tick Questions Attempted:

Q<sub>1</sub>     Q<sub>2</sub>     Q<sub>3</sub>     Q<sub>4</sub>     Q<sub>5</sub>     Q<sub>6</sub>     Q<sub>7</sub>     Q<sub>8</sub>

Q<sub>1</sub> 2 10

Q<sub>5</sub> 0 5

99/16

Q<sub>2</sub> 1 10

Q<sub>6</sub> 1 5

810/16

Q<sub>3</sub> 0 5

Q<sub>7</sub> 6 5

Q<sub>4</sub> 1/2 5

Q<sub>8</sub> 0 5

23 45

No. of Additional

TOTAL

Sheets used.

Total in Words

Evaluated by:

*Twenty Three*  
*Dr. Arjun H. M.*

Name of the candidate: Joe Jose

Reg. No: LSD50231



Signature

Date: 2/03/22

  
 Signature of Invigilator

10) TFO (Trauma from occlusion):

The World Health Organisation defined TFO as the pressure exerted on the periodontal ligament of a tooth from the opposing jaws. It can be:

- Acute trauma from occlusion
- Chronic trauma from occlusion

It is also further classified as:

- Primary TFO
- Secondary TFO

The trauma from occlusion occurs mainly due to the pressure exerted on the periodontal ligament.

Clinical findings

swelling of teeth  
abocclusion

in  
setting of teeth etc.

Primary Trauma from occlusion:

causes sudden injury to periodontal ligament because of biting on any sort of

hard objects. E.g. uranium cases.

Chronic trauma from occlusion: It occurs in

- Faulty restoration
- Orthotreatment
- Maloccluded teeth
- High points on restoration.

If left unobserved for longer period may cause force or pressure on adjacent teeth leading to damage of periodontal ligament.

Chronic trauma from occlusion is seen in long standing cases.

Management:

Remove pressure stimuli

Manage high points on restoration.

In some cases patient complains of pain.

Stage

Stage 1: Injury

Stage 2: Repair

Stage 3: Remodelling

### Stage 1: Injury

In this stage abnormal occlusal forces cause injury to the periodontal ligament lining the teeth. Continuous pressure causes tearing lining of periodontal ligament, PDL holds the teeth onto the alveolar bone any damage to PDL results in loosening of teeth from socket.

### Stage 2: Repair

It is impossible to repair same amount of periodontal ligament lost. Only mild amount of PDL is replaced called "buttering of ligament". Horizontal forces can be leading to osteoclast and osteoblastic activity on one and same teeth. So when continuous pressure applied degeneration occurs. Butters region shows unflamed gingival tissue, bleeding on probing etc. so can be easily differentiated.

### Stage 3: Remodelling

It is last and final step in which bone is remodelled back to its initial form.  
Bring back to initial form.

9. Resective ~~assess~~ surgery is the procedure for surgical removal of infected bone. Also referred as amputation/Resective procedure. Surgical removal of bone is called osteotomy.

For proper view of bone;

- 1) Raising the flap or flap surgery is the initial method for observing and bony structures.

For flap raise ment,

- (i) Internal leveling

It is the initial step in which incision is 2mm from marginal gingiva. The flap is raised little bit.

(II) Buccular incision:

In this further apical movement of instrument is done till flap properly raised.

(III) Interdental incision: In this technique incision is made in the interdental papilla and flap is raised.

These are the three horizontal incisions

### Vertical incision

After horizontal incision vertical incision made to reduce pressure on the suture and proper flap displacement.

Methods used:

Modified Widman's technique

undisplace flap

Apically displacement flap.



Osteoplasty is defined as sharing of the uninfected bone.

Once alveolar bone becomes viable through flap displacement amputation / resection of uninfected bone begins.

Step 2: Horizontal and vertical bone incision. Removal of bone is only done with 2mm of normal bone kept intact for regeneration. Regeneration of bone is through osteoblastic activity.

Step 3: Grafting is done in the resected site from bone resected from pelvic or fibular bone.

Step 4: Packing resective site with medication.

Step 5: Suturing of incision and leaving it for healing.

7. Gingival inflammation

\* Chronic

\* Acute

Drug induced gingival overgrowth

\* Phenytoin

\* Calcium channel blockers

\* Anticonvulsants.

Tumour induced gingival overgrowth

\* Benign

\* Malignant.

Enlargement due to systemic diseases:

Leukemia.

Vitamin C deficiency

Puberty

Pregnancy etc.

According to location:

Localised

Generalised

Combined

DICG (Drug induced gingival Overgrowth)  
Mechanism of action



- Grade 0: No gingival enlargement  
Grade 1: Mild gingival enlargement  
Grade 2: Moderate gingival enlargement  
Grade 3: Severe gingival enlargement.

### 1999 classification

- Grade 0: No gingival overgrowth. No radiographic findings.
- Grade 1: Gingival overgrowth present but only slightly. Periodontal pocket about 3mm depth. Mild or no radiographic finding.
- Grade 2: Periodontal pocket depth more than 3mm present. Gingival overgrowth present. Bleeding on probing seen. Radiolucencies seen on radiograph.
- Grade 3: Radiolucencies with severe bone loss as seen. Periodontal pocket depth of 6mm present. Gingival overgrowth covering cervical portion of teeth.
- Grade 4: All features same as Grade 3. More than 6mm pocket and gingival overgrowth cover teeth fully.

2. Functions of periodontal ligaments:

Alveolar  
Nodule

- Its function is holding teeth in position.
- The periodontal ligaments lines the root and holds root to the alveolar processes.
- It acts as a shock absorber by spread equally throughout root surface.
- It holds teeth from dislodgement on tipping forces.



• Cementum and Pdl together forms a stronger network which prevent tooth mobility or dislodgement.

• Damage to Pdl can lead to tooth mobility.

• It has vertical and horizontal lines.

1. Gingiva comprises of 3 parts:

Marginal gingiva

Attached gingiva

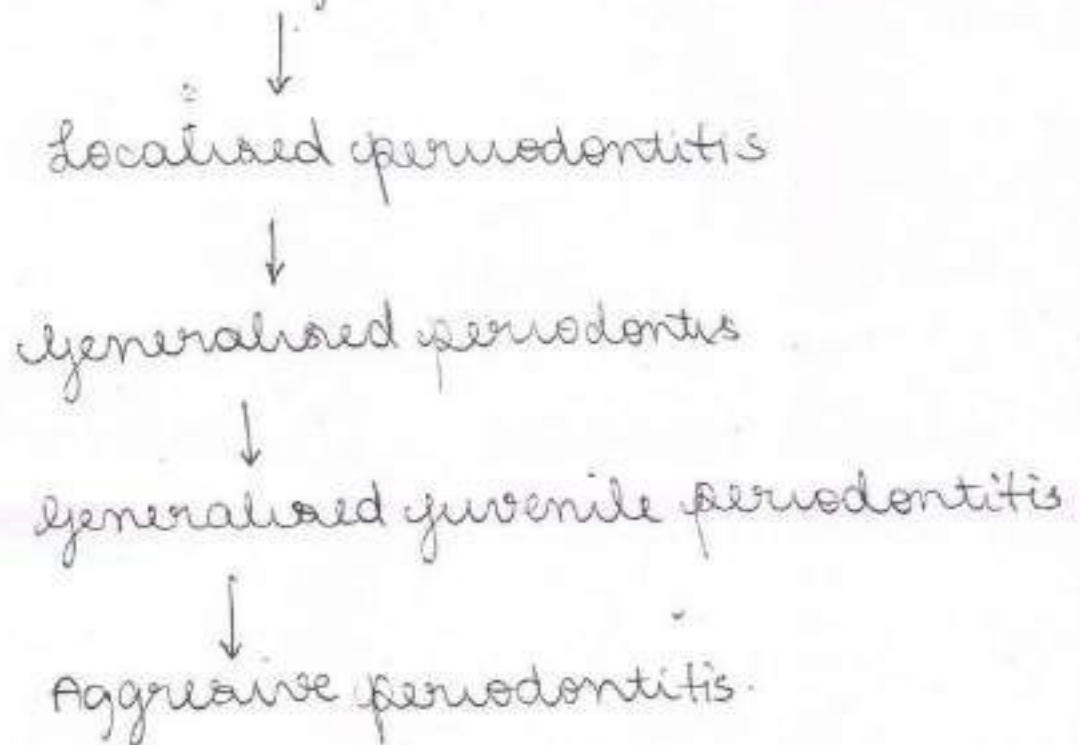
Unattached/free gingiva

Macroscopic finding:

A healthy gingiva consists of a marginal gingiva lining margins of teeth in a collar like fashion. While attached gingiva extends from mucogingival junction upto free gingival margin. Unattached gingiva is the free gingiva.

In case of gingivitis and periodontitis abnormalities in normal structure of gingiva is seen.

Bluish-red colour is seen in case of  
periodontitis. Aggressive periodontitis  
shows convexities in papilla.  
Localised juvenile Periodontitis



Bleeding is also observed.

\* Normal gingiva is pale pink with  
stippling may or may not present,  
Scalloped / Knife-edged / Blunt end

Periodontitis is observed commonly in females compared to males. Seen in individuals above 20 years of age. ? ?



Gingival sulcus is a V-shaped groove at the junction of crown and root. Periodontal pockets are calculated by measuring depth to which probe or WHO probe penetrates. If a depth of more than 3mm penetrates present it is indicative of gingival pocket. Bleeding point is point of concern.



Any apical migration of gingiva leads to lingual recession. Furcation involvement is seen in bifurcated and trifurcated teeth where accumulation of bacteria in furces can lead to bone resorption in that region.

4. Alveolar bone: It is made up of calcium and phosphate. These are the bones covering the root surface and responsible for holding teeth in position in the socket.

5. Needle aspiration

6. Plaque hypofluorosis: It can occur infra-bony/ supra-bony. It is due to presence of gram-positive aerobic bacteria which is later transformed to gram-negative anaerobes. It is the thin biofilm formed on tooth surface.

Treatment: Scaling

Currtage

Usage of Resudine mouthwash

Proper brushing technique

The accumulated plaque cause infection in the gingiva.

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Q<sub>1</sub>  10

Q<sub>2</sub>  10

Q<sub>3</sub>  5

Q<sub>4</sub>  5

Q<sub>5</sub>  5

Q<sub>6</sub>  5

Q<sub>7</sub>  5

Q<sub>8</sub>  5

19 45

No. of Additional  
Sheets used.

17

TOTAL

Total in Words  
Evaluated by:

*Nanditha*  
Dr Nanditha

Name of the candidate: *R. Ramana*

Reg. No: *18DS0249*

Signature *Ramana*

Date: *17/01/23*

*Ramana*  
Signature of Invigilator

## SECTION - A

### ESSAY:

#### 1. Trauma from occlusion:

Definition: TFO is defined as the force exerted from occlusion that exceeds the adaptability of periodontal tissue.

#### Classification:

Based on cause

Primary TFO

Secondary TFO

Primary TFO: The force exerted that cause sudden impact of teeth which leads to occlusal wear of teeth.

Clinical features:

occlusal wear

Healthy  
periodontium  
↑ force

- change in occlusion.

Causes:

- due to biting a heavy object
- Restorative or prosthetic rehabilitation.

Secondary:

Forces from occlusion that exceeds the

limit and causes occlusal faults

Clinical features:

- The tooth goes apically into the alveolar bone.

- occlusal faults
- prosthetic rehabilitation cause trauma
- change in occlusion
- food lodgment in the interdental area.

Causes:

- due to the restoration
- due to prosthetic rehabilitation
- due to biting of heavy object

By Abscess  
inward  
force.

Based on onset:

- \* Acute TFC
- \* Chronic TFC

Acute:

A sudden impact of force exerted from a occlusion, that abrupt damage to the periodontal tissues & teeth.

Clinical features

- occlusal factors
- occlusion change
- bone destruction

Causes:

- Sudden bite of heavy subjects
- occlusal load
- Restorative changes
- Improper prosthetic rehabilitation

Chronic -

The occlusal forces exerted causes a gradual in period of time cause changes in occlusal and changes in periodontal tissues.

gradual change

Clinical features:

- occlusal wear off
- occlusal facet
- occlusal changes



Tooth gets narrowed apically



Bone loss

Clinical features

Cementum:

Cemental tear

Root: Root absorption seen

Other R/F

## Stages of TFC:

- Injury
- Repair and Remodelling
- Adaptability : Adaptation Remodelling

### Injury

Due to the force exerted by foot abduction the surrounding tissue gets damaged.

It causes injury to the bone and causes tissue destruction.

### Repair and Remodelling

After destruction of bone, it is replaced by thinned bony trabeculae.

- That is called bone formation

### Adaptability

Above the bone - layer of tissue formation with high vascularity

Connective tissue formation with high blood supply.



2)

Periodontal pocket:

Definition:

pathological deepening of gingival sulcus is called periodontal pocket. - coronary.

Classification:

Based on activity:

Active pocket

Inactive pocket

Based on tissue formation

- Fibrous pocket

- Edematous pocket

Based on nature:

- pseudo [gingival] pocket

- True [periodontal] pocket

Based on Attachment:

Infrabony / ~~supracrestal~~ subcrestal

Suprabony / supracrestal.

Explain

## Pathogenesis of periodontal pocket:

- Bacterial colonization
- Inflammatory changes
- Neutrophilic infiltrate
- 
- Tissue destruction
- pocket formation

## Bacterial colonization:

In this stage colonization of bacteria occurs in the gingival tissue.

Gram positive bacteria accumulate supragingival calculus.

## Inflammatory changes of tissue

After that it passes into subgingival calculus causes inflammation to tissue.

The collagen gets inflamed.

- Formation of  
Finger like projection in the base of sulcus, attachment  
loss is happened.

### Neutrophil

- Neutrophil in the gingival tissue swamps  
the bacteria.
- phagocytosis occur
- the collagen becomes more inflamed.

### Tissue destruction

- The bundles of collagen gets destroyed by  
these enzyme collagenase, lysosome.
- The tissue gets destroyed.

### pocket formation:

The loss of attachment occurred, the  
sulcus deepened into ~~space~~ lower



Bacterial  
colonization



→ Finger like  
projection

Inflammatory  
drages



→ Neutrophil

Neutrophil



Tissue destruction



Pocket formation.

## Section - B

### 3) plaque hypothesis

- Specific plaque hypothesis
- Non-specific plaque hypothesis
- Ecologic hypothesis
- Keystone plaque hypothesis

#### Specific plaque hypothesis:

- ~~*P. gingivalis*~~ causes plaque formation in the tooth surface.
- Layer of pellicles formation occur and degenerate into plaque.
- Specific ~~organ~~ microorganisms causing plaque formation.

#### Non-specific plaque hypothesis:

*P. gingivalis*, *P. intermedia*, *Actinomyces* all

microorganism involved in this hypothesis.

All microorganism together cause leads the formation of plaque.

Keystone



6)

Mezin's classification:

- used for prognosis and treatment-plan for periodontal disease.

Class

First year

Maintenance

good oral hygiene

Treatment



Recall

Routine

class-A

Excellent oral hygiene with no factor of

- No complicated periodontitis
- No bone loss & no

Reshaping-scaling & root planing

Class B

- 50% percent bone remaining
- No periodontal pocket
- Mild calculus

6-monthly

- good oral hygiene with factor of
- Heavy calculus
  - complicated prosthesis
  - pocket formation (periodontal pocket)
  - loss of 50% of bone remaining

- Scaling & root planing
- maintenance good oral hygiene.

3-4 month

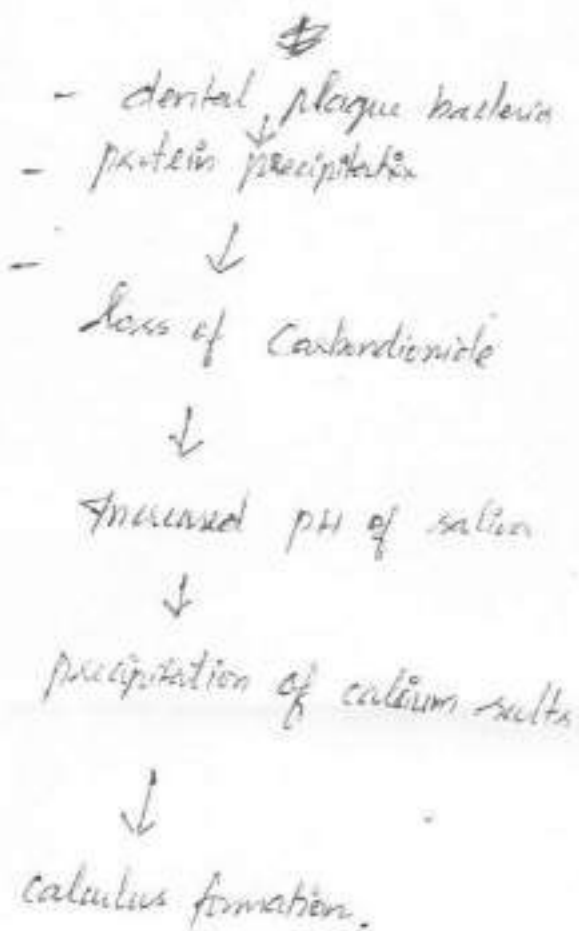
Class C

- poor oral hygiene with factor of
- Heavy calculus
  - complicated prosthesis
  - periodontal pocket
  - loss of more than 50% of bone remaining.

- Scaling & root planing
- Gingivitis with antibiotics

1-2 months

7) Theories of calculus formation:



\* Inhibition theory

\* Transformation theory

\* Bacterial theory

\* Enzymatic theory

Inhibition theory.

In this theory, the bacteria cause plaque formation. The microorganisms inhibit the activity of cells.



causes formation calculus.

### Transformation theory:

plaque  $\rightarrow$  calculus.

In plaque formation,

plaque bacteria cause precipitation,  
precipitation of calcium and form calculus.

### Bacterial theory:

The plaque bacteria

- precipitation of calcium
- increase the pH of saliva
- lead to formation of calculus.

### Enzymatic theory:

Enzymes leads to formation  
of ~~the~~ calculus.

5

## Melcher's concept:

It is about the development of guided tissue regeneration in 1976.

For different classification of cells & formation.

For - epithelial cell

- cell derived from gingival connective tissue

- cell derived from bone

- cell derived from PDL [periodontal ligament].

Explain the concept!

Guided Tissue Regeneration used for.

→ fixation involvement

class I

class II

→ In case of gingival recession.

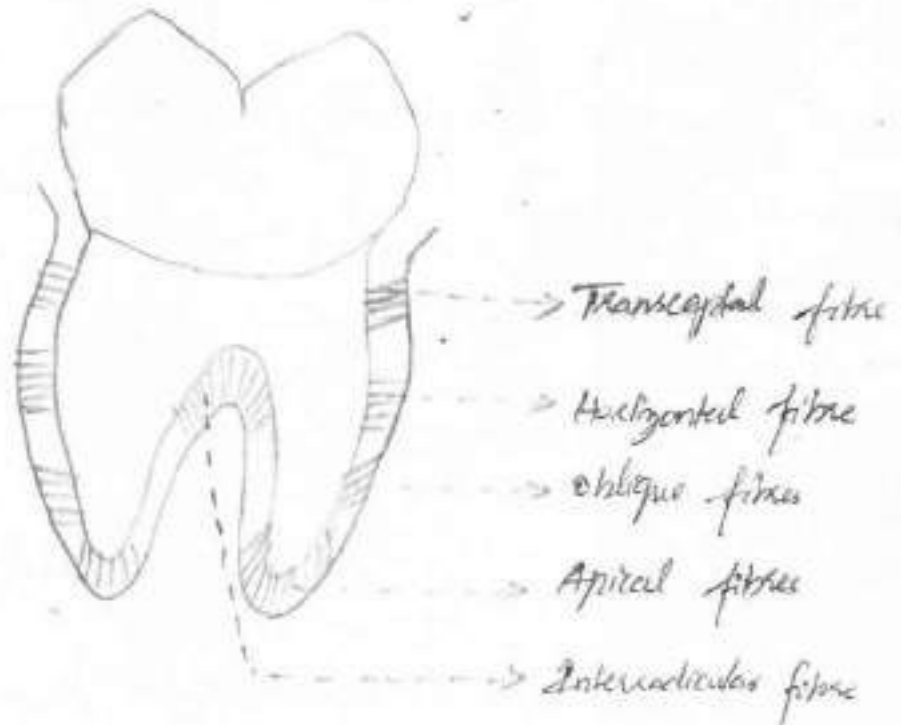
→ 5mm of periodontal pocket.

8

pericoronal fibres:

Accessory fibres:

- Inter-radicular fibres
- Apical fibres
- Horizontal fibres
- oblique fibres
- Transseptal fibres



### Interfacial fibres -

present in the interfacial of multi-rooted teeth.

### Apical fibres:

present in the apical portion of root

### oblique:

present above the apical fibres and obliquely arranged towards apically.

### Horizontal fibres:

- present above the oblique and below the transseptal fibres

~~Here~~

### Transseptal:

- present at CEJ of teeth.
- It provide strength between the teeth.
- interdental strengthen the teeth.