KMCT
DENTAL COLLEGE

# TO WHOM SO EVER IT MAY CONCERN

This is to certify that the information in the attached document is verified by me and is true to the best of my knowledge.

K.M.C.T. DENTAL COLLEGE
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Pin - 673 602
Mukkam, Calicut
Kerala, India
CALICUT

PRINCIPAL

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INNOVATION AND ENTREPRENEURSHIP DEVELOPMENT CENTRE
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# DETAILS OF SPECIAL PROGRAMMES FOR SLOW PERFORMERS AND ADVANCED LEARNERS



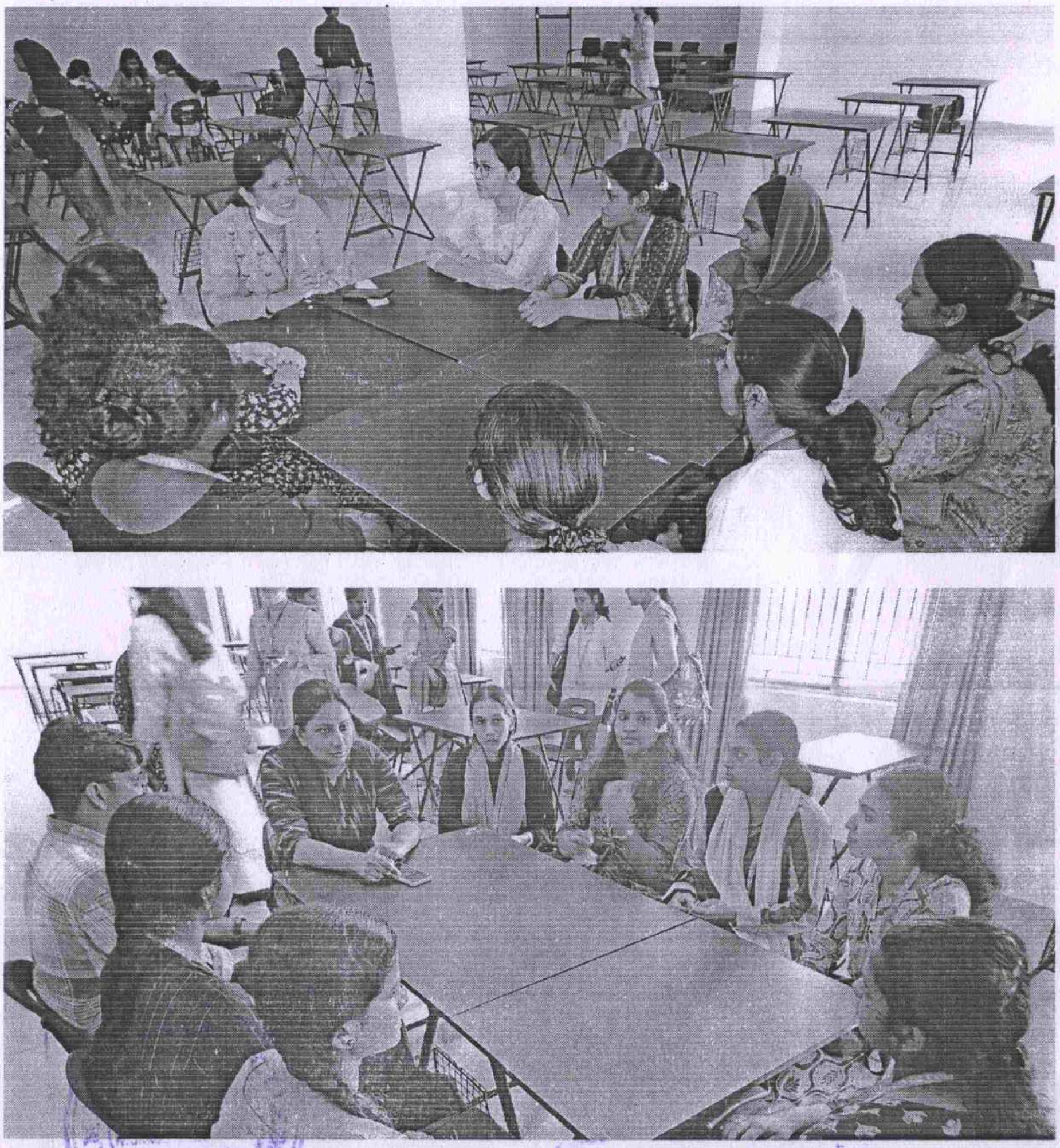
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# DEPARTMENT OF PEDIATRIC AND PREVENTIVE DENTISTRY

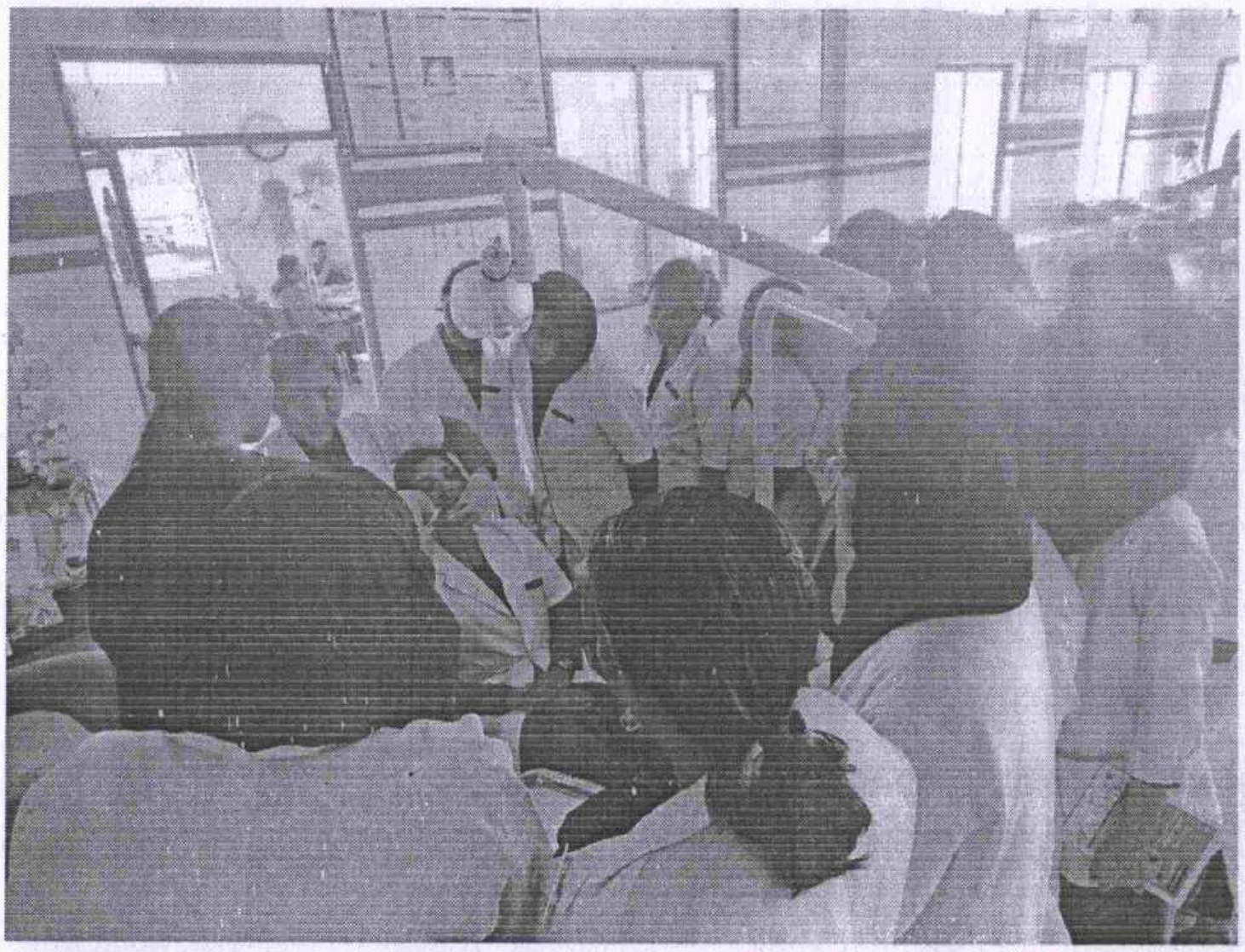
## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

**Continuous Monitoring and Individual Attention by Mentors**: Each student receives personalized attention from assigned mentors who regularly monitor their academic progress, identify areas of improvement, and provide guidance and motivation.



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**Special Classes with Subject Experts**: Slow performers attend additional classes conducted by subject experts. These sessions focus on clarifying concepts, addressing doubts, and providing extra guidance on challenging topics.



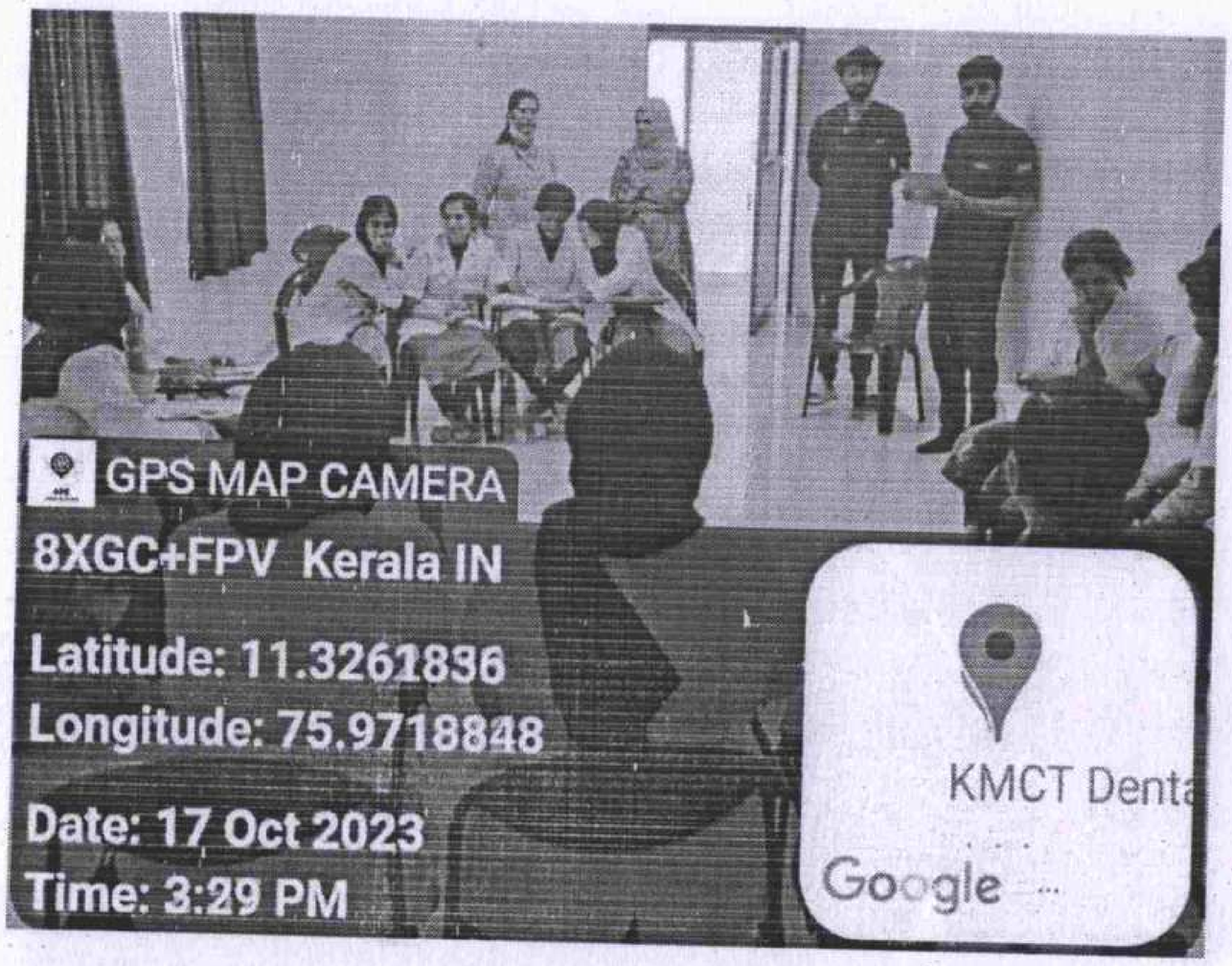


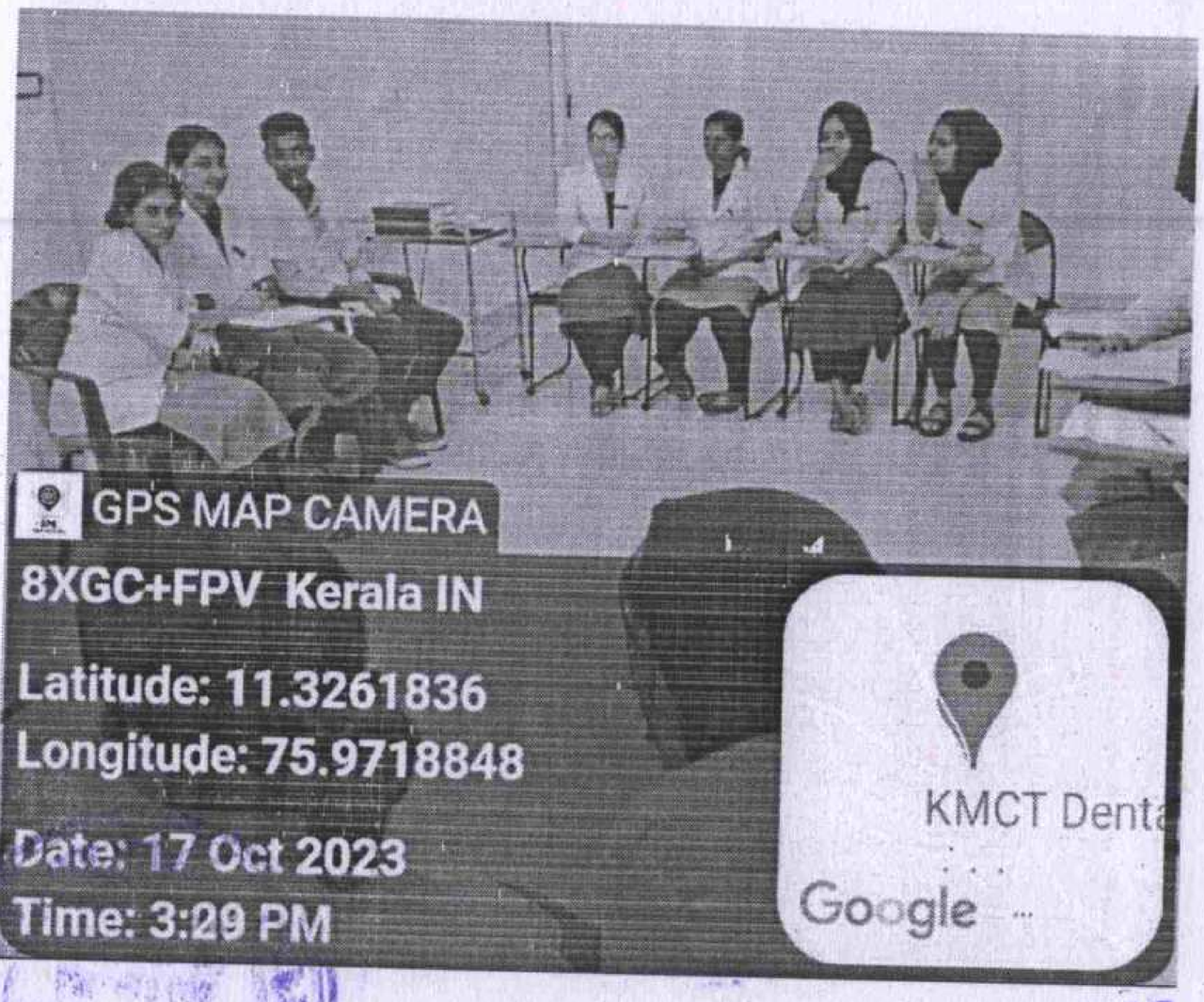
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**Encouragement of Collaborative Study with Advanced Learners**: Collaborative study groups are formed, pairing slow performers with high-achieving peers. This fosters a supportive learning environment where advanced learners mentor and assist their peers in understanding complex subjects.




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**Counseling for Students and Parents with Psychologists**: Professional counselors conduct regular sessions for both students and parents to address academic concerns, study-related stress, and provide guidance on effective study techniques, enhancing mental well-being. This is done under Happiness Department



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Small yellowish purulent discharge
Erythematous margins
drooling of saliva
inability to close
some operative during procedure.

Self limiting.

Management:

Bedrest
Fluid intake
good oral hygiene
Mouth wash.
Gentle debridement
Analgesics
topical Anesthetics

Rubber dam
Isolation of leakage

Advantages:
Dry clean field.
Dam with stable
Moisture control.
Aseptic Environment
Prevent tissue damage.
Prevent aspiration of small instruments.
Minimization of mouth breathing

Disadvantages:
Poorly retentive clamps.
Latex allergy

Contraindications:
allergy to latex.
respiratory problem.

Topical anesthetic
gel
Lubricant, Dental floss, tin foil

Procedure
L.A
↓
Selection of clamp
↓
Marking tooth via template
↓
punching holes
↓
Secure floss on clamp by wrapping around bow
↓
Place clamp through dam.
↓
Place on the teeth with fingers.

Pt rinse mouth
↓
Apply floss and shuttle the dam

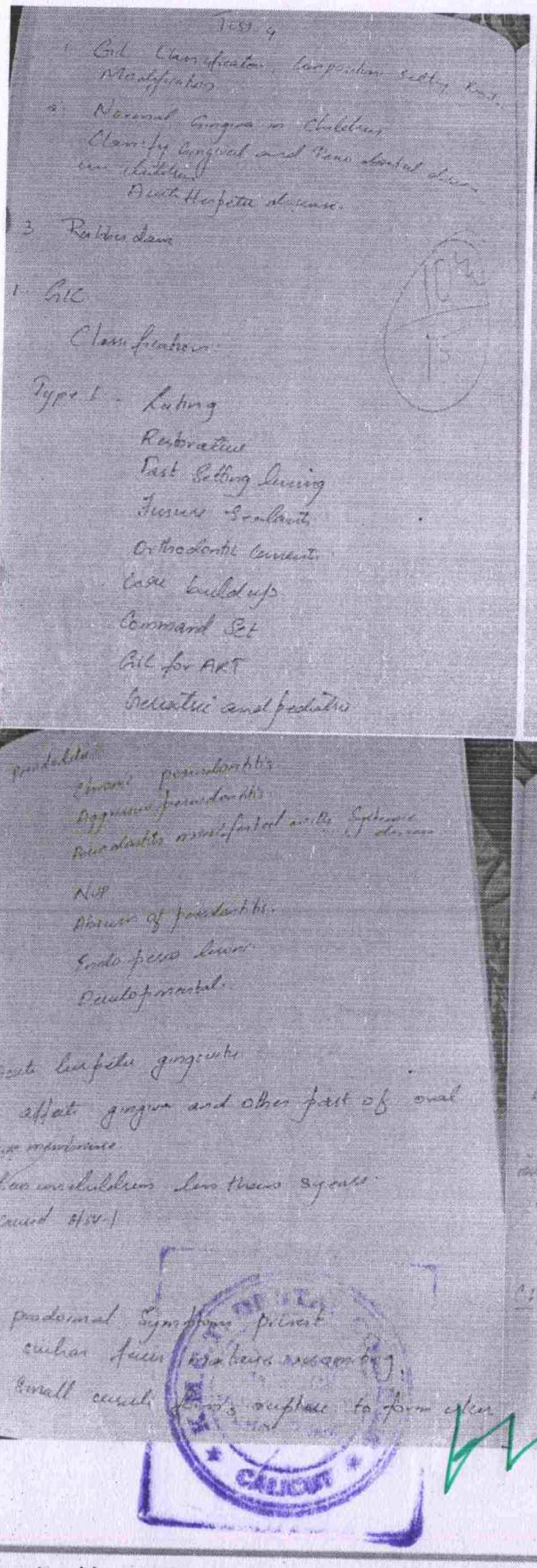
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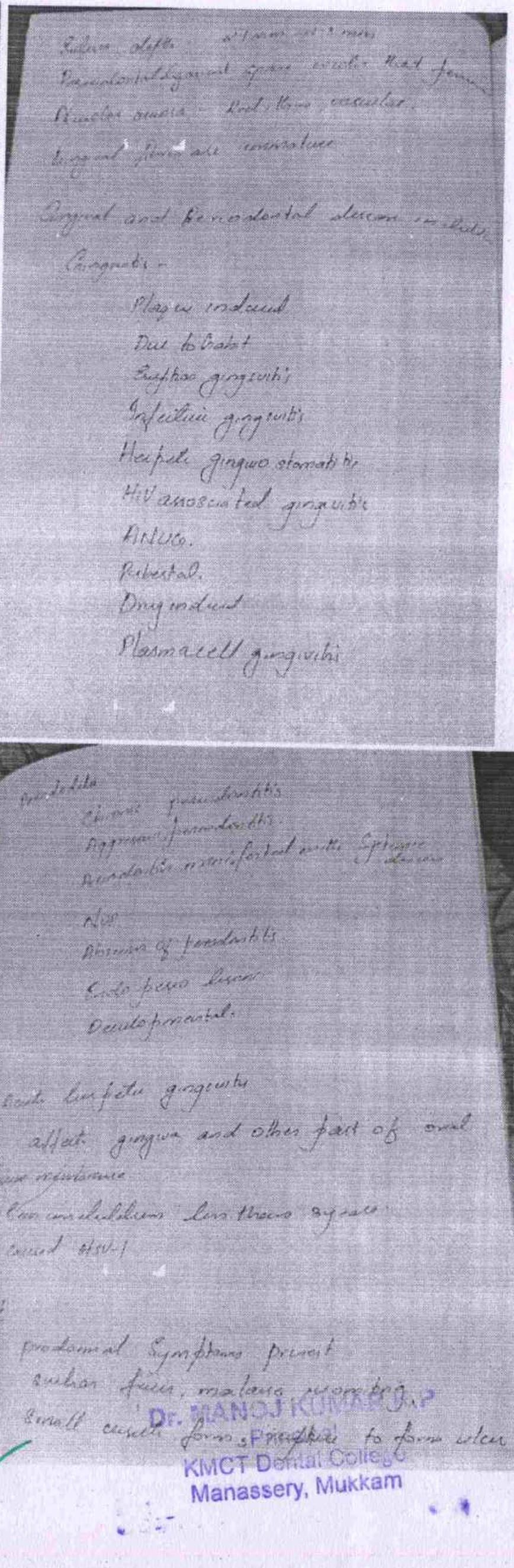


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KUHS QAS
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**Periodical Assessments with Class Tests and Evaluation:** Regular class tests and assessments are conducted to track progress, identify weak areas, and provide timely feedback. This helps students understand their strengths and weaknesses.





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Rubber dam
Isolation technique

Advantage

Dry clean field.
Area well visibility
Moisture control
Aseptic environment
Prevent tissue damage.
Prevent aspiration of small instruments.
Minimization of mouth breathing

Disadvantages

Poorly retentive clamps.
Latex allergy

Contraindication:

allergy to latex.
respiratory problem.

Type
Lubricant
Dental floss
Template

Position

L-A
↓
Selection of clamp
↓
Marking tooth via template
↓
punching holes
↓
Secure floss on clamp by wrapping around bow
↓
Place clamp through dam.
↓
Apply on the teeth with retainer.
↓
Adapt and secure clamp
↓
Apply floss and check tightness.

Recommendations

Latex free sheets

| | |
|---|---|
| Thin | - 0.15 mm |
| Medium | - 0.2 mm |
| Heavy | - 0.25 mm |
| Extra heavy | - 0.3 mm |
| Special heavy | - 0.35 mm |

Available in different colours

Clamps

4 prongs and wings.
Available in various sizes

Retaining forceps:

for placement and removal of clamp

Rubber dam punch

to make holes

Frame:

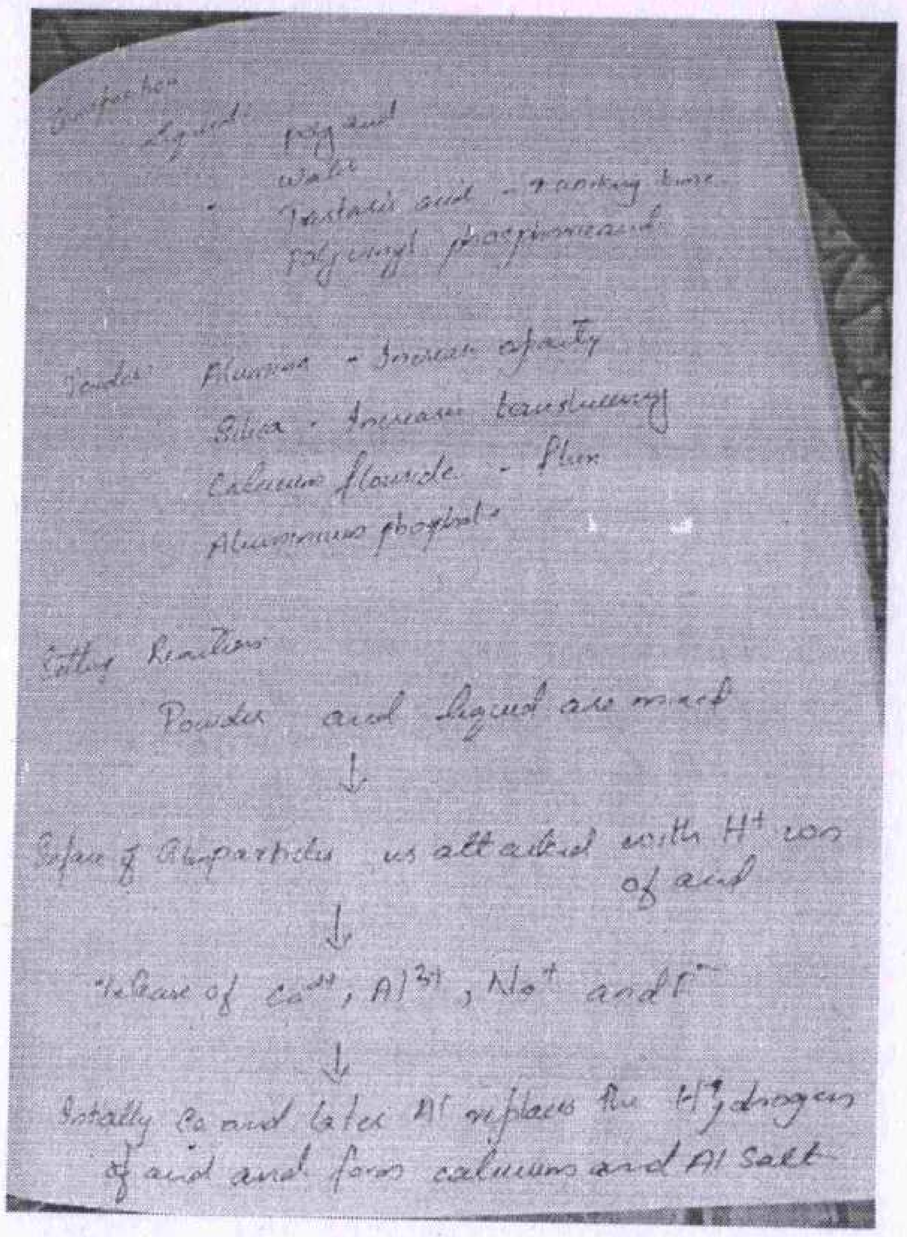
maintain tension

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**Rapid Revision and Revision Tests Before University Examinations**: Special revision sessions are organized before exams to quickly recap the syllabus, focusing on key topics Revision tests simulate exam conditions, aiding students in practicing time management.

ANANTHAPADMANABHAN R.S.
Part II BDS.
KMCT
Roll no: 53

MODEL INTERNAL EXAM
RETEST
PRODONTICS

38/70

ESSAYS

(1) • BEHAVIOURAL SHAPING - Definition

Behavioral shaping is defined as a process slowly develops a behaviour by reinforcing successive approximation of the desired behaviour, until the desired behaviour is expressed

• - Non-Pharmacological behaviour management

(a) psychological management

- pre appointment behaviour modification
- Communication
- Use of second language
- Tell show do

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① Ananthapadmanabhan R S
Part II BDS
KMCT
Roll no: 54

Model Internal Examination

Pedodontics

20/100

ESSAYS.

② Stainless Steel Crowns

- Stainless steel crowns are the most cast metal restorations which are primarily used for capping the crowns of large carious lesion affected tooth.
- These metallic restorations favours adequate compressive strength and wear strength against heavier masticatory forces.
- These metallic restorations are favoured most, since they are more resistant to tarnish and corrosion and highly durable restorations.

Indications.

- It indicated in large carious lesions.



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**Encouraging Reading Books with Simple Language**: To improve comprehension and understanding, students are encouraged to read supplementary materials or simplified textbooks that explain complex topics in simpler language.

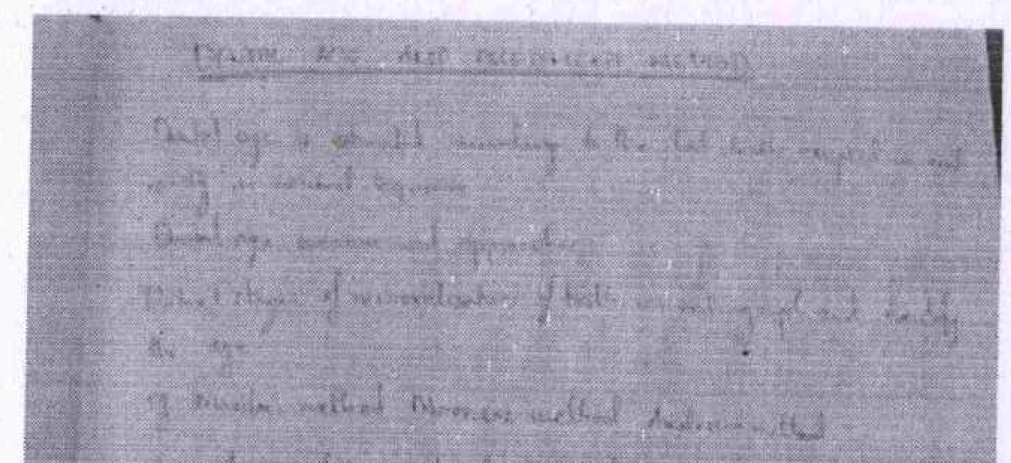


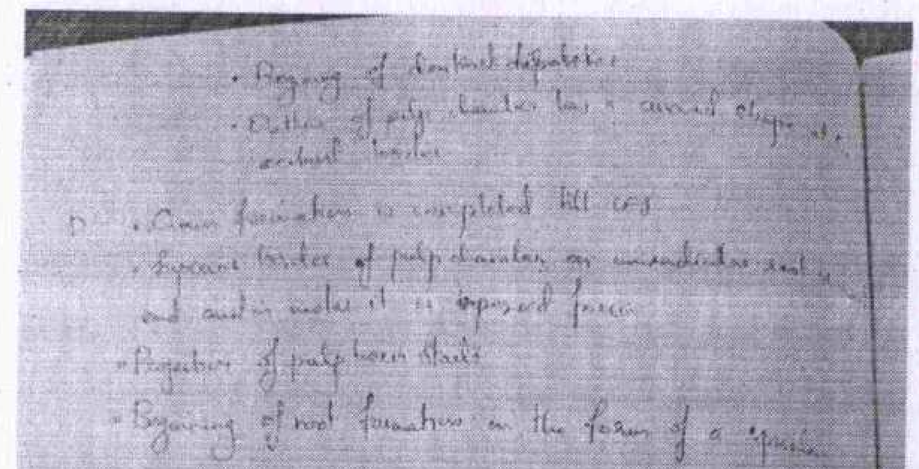
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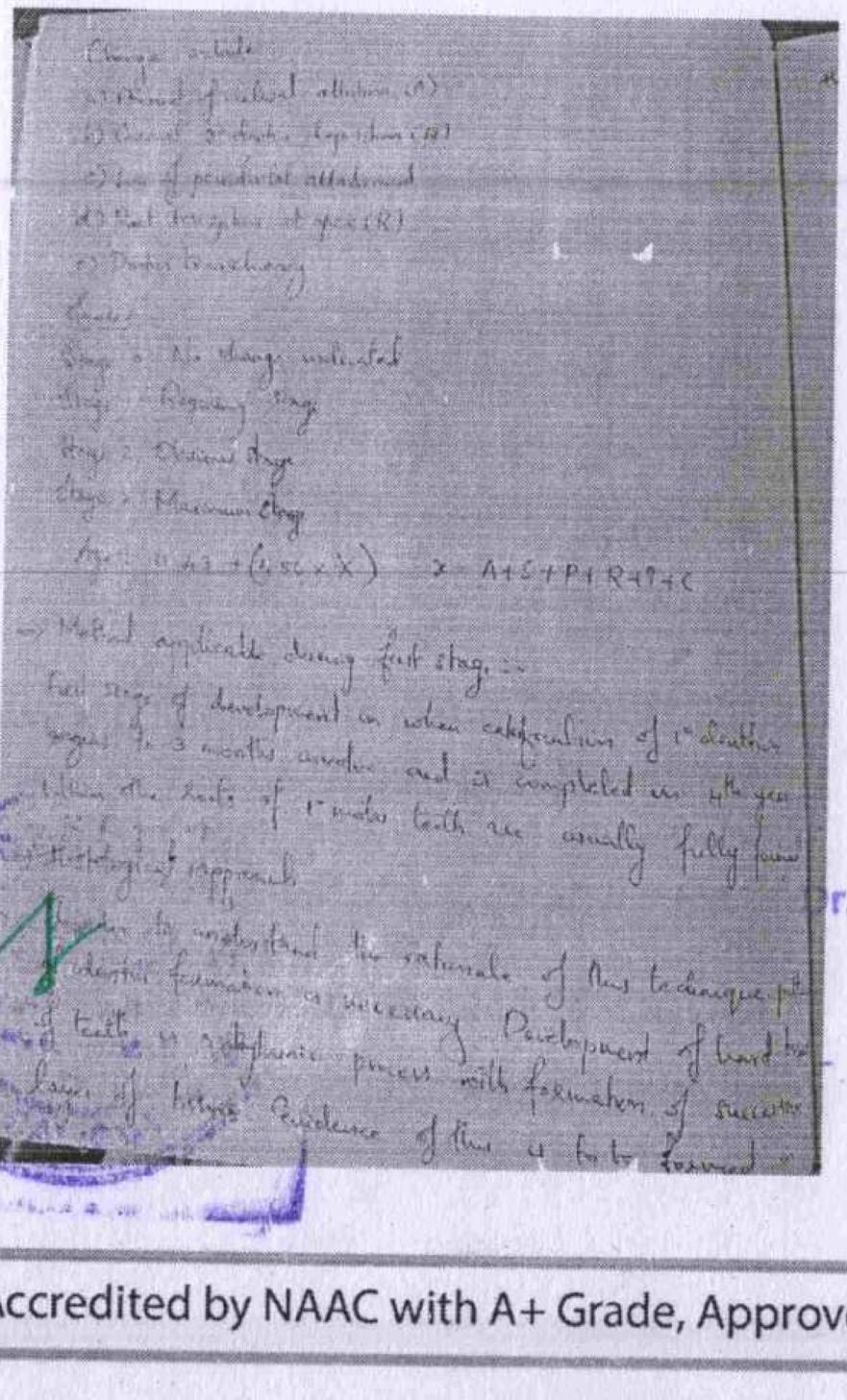


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**Provision of Special Notes**: Specialized study materials, including simplified notes and summaries, are provided to slow performers, aiding in better understanding and retention of crucial concepts.







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Stage 3 Initial calcification
Stage 3 One third of crown completed
Stage 4 2/3rd of crown completed
Stage 5 Crown almost completed
Stage 6 Crown completed
Stage 7 1/3rd of root completed
Stage 8 2/3rd of root completed
Stage 9 Root almost completed
Stage 10 Apical end of root completed

Demirjian Method

Demirjian and Goldstein introduced a new method for assessment of development of dental age.

| Stage | Description |
|---|---|
| 0 | No sign of calcification |
| A | Beginning of calcification seen at superior most part of crypt |
| B | Fusion of calcification points in the apical area to form occlusal surface |
| C | Enamel formation is complete with convergence towards cervical region |

Middle Stages
Elastic developing teeth reverting to its integrity state.
It has 10 stages

Stage 10
Stage 9
Stage 8
Stage 7
Stage 6
Stage 5
Stage 4
Stage 3
Stage 2
Stage 1
Stage 0

Stage 0 Absence of crypt
Stage 1 Presence of crypt

| | Molar | Premolar | Canine | Incisor |
|---|---|---|---|---|
| Stage 0 | | | | |
| Stage A | | | | |
| Stage B | | | | |
| Stage C | | | | |
| Stage D | | | | |
| Stage E | | | | |
| Stage F | | | | |
| Stage G | | | | |
| Stage H | | | | |

Counterfeit method

He introduced a multifactorial histological approach to determination of the age and advanced stage of pulp. Many others have suggested the dentin formation temporary in root formation from apex appears to be directly related to the chronological age affected by environmental factor. This method based on morphological to histological changes of teeth.

the incremental lines that can be observed microscopically in the cementum and dentin. In primary teeth other hand incremental formation is not completed postnatally, the incremental lines can be seen

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TOPICAL FLUORIDES

These are directly applied to the erupted teeth and effect enzymes on the limited removal of enamel organic

Indications

Caries active children

- In children shortly after period of tooth eruption
- In pts with reduced salivary flow due to medications
- In pts with fixed / removable appliances
- After placement / replacement of restoration / cementation of crown
- In pts taking steroids

Disabled / differently abled children

Topical fluorides can be divided into

Professionally applied fluoride

- Sodium NaF
- Stannous fluoride
- Acidulated phosphate fluoride
- Amine fluoride
- Fluoride varnish
- Fluoride gel

Self applied fluoride

- Tooth brushing dentifrices
- Tooth brushing solution
- Tooth brushing prophylaxis
- Mouth rinse

Sodium Fluoride

Knutson & Feldman (1943) recommended a technique for application of 2% NaF at weekly interval in years at 3, 7, 11, 13 yrs

NaF has reached pH 9200 ppm of F

Method of application Knutson technique

Method of action

2g of NaF powder in 1L of distilled water in a plastic bottle

It is essential to store fluoride in plastic bottle because it stored in glass container the fluoridated ions react with silica of glass forming $SiF_6$ then reducing the availability of free active fluoride for anticaries action.

Mechanism of action

When NaF is applied topically, it reacts with hydroxyapatite crystals to form $CaF_2$ which is dominant product of the reaction (Cloking off effect)

This ions because once thick layer of $CaF_2$ get formed at interface with the further diffusion of fluoride from the topical fluoride gets to react with hydroxyapatite

$CaF_2$ react with hydroxyapatite to form fluoridated hydroxyapatite which increase the amount of enamel fluoride

Making the tooth structure stable

Less susceptible to dissolution by acids

$$Ca(PO_4)_6(OH)_2 + 2OF^- \longrightarrow 3CaF_2 + 6PO_4 + 2OH$$

$$CaF_2 + 3(Ca_3(PO_4)_3OH) \longrightarrow 2Ca_5(PO_4)_3F + Ca(OH)_2$$

Method of application

Cleaning and polishing of teeth

↓

Quadrants isolated with cotton rolls and teeth dried

↓

NaF is then applied with cotton applicator on one quadrant

↓

Permitted to dry for 4 minutes

↓

Procedure is repeated for remaining quadrants

↓

Pt is instructed to avoid eating, drinking, rinsing for 30 min to prolong the availability of free fluoride with tooth surface

↓

2nd, 3rd and 4th applications are given at weekly intervals at ages 3, 7, 11, 13 yrs

Advantages

Chemically stable

Acceptable taste

Non irritable to gingival tissues

Doesn't discolour the teeth

Disadvantages

Continuous application for 4 minutes

It has to mixed with water in a short time

Following a diet

Stannous fluoride

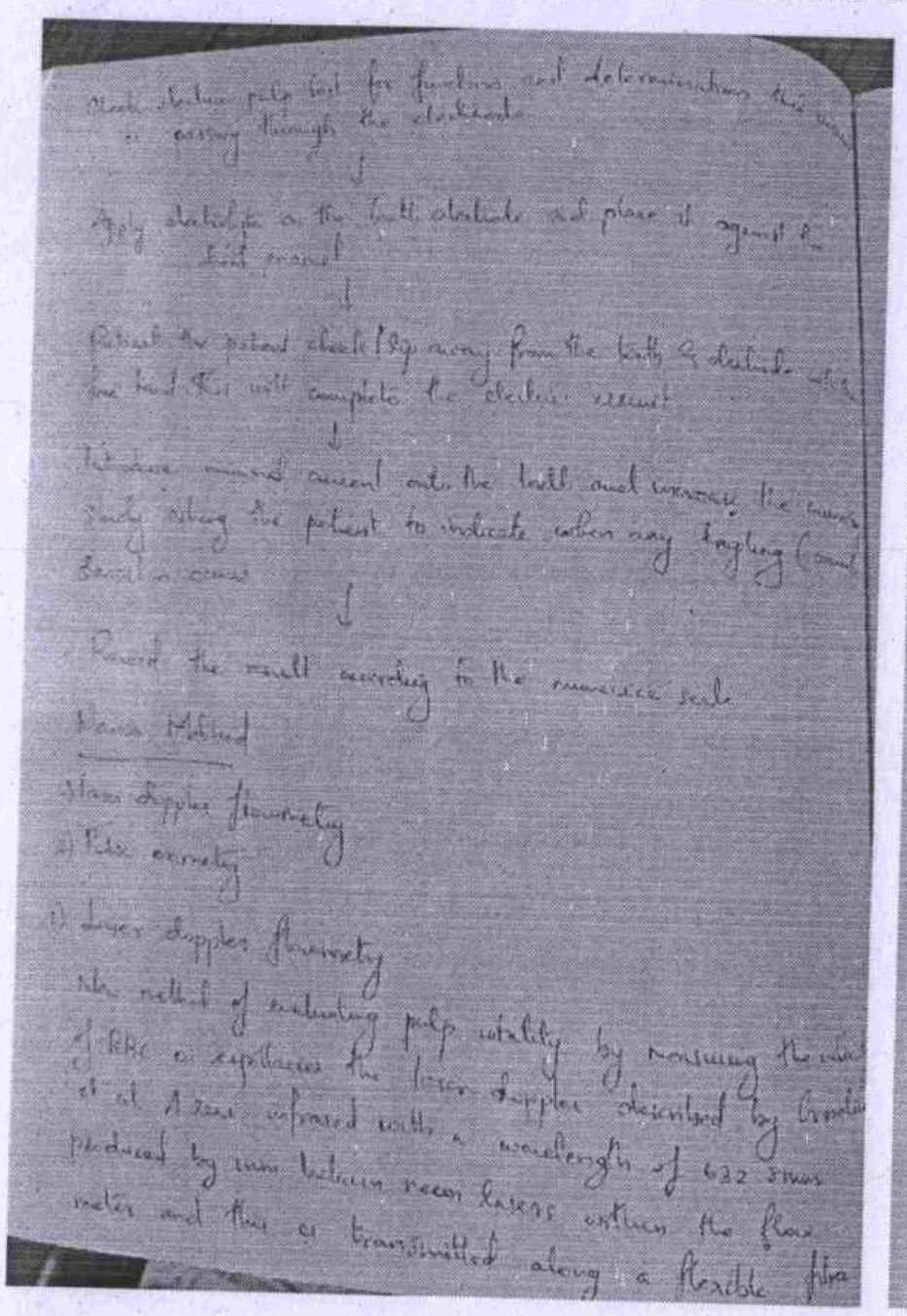
$SnF_2$ was found to be twice times more effective than NaF

Dickens and Muller in 1957 tried single annual application of 8% $SnF_2$ and reported 92% caries reduction

Method of preparation

$SnF_2$ solution has to be freshly prepared before use Number 0 gelatin capsules are primarily filled with dry powder

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Next electric pulp test for function and determination the
... passing through the electrode

↓

Apply electrolyte on the tooth electrode and place it against the
tooth enamel

↓

Retract the patient cheek / lip away from the tooth & electrode after
the test that will complete the electrical circuit

↓

Advance enamel onto the tooth and increase the current
Verbally asking the patient to indicate when any tingling / pain
sensation occurs

↓

Record the result according to the numerical scale

Pulse Oximetry

Laser Doppler flowmetry

a) Pulse oximetry

b) Laser Doppler flowmetry

The method of evaluating pulp vitality by measuring the velocity
of RBC's employs the laser Doppler described by Groden
et al. A laser infrared with a wavelength of 632 nm is
produced by semiconductor ~~laser~~ lasers emitting the light
which is transmitted along a flexible fibre

optical conductor or probe. A carefully designed small standard
probe tip is used. Part of the light beam hits the pulp tissue
and the bone light beam hits the pulp tissue the standard probe as
probe tip is used to record the Doppler shift of the blood cells
from the background ~~tissue~~ tissue as the ideal probe for the probe tip as
at their centre. A balance ~~the~~ is maintained between scattering
tissue and blood volume.

Pulse oximetry

This is O₂ saturation monitor device usually used as medical device
for recording blood O₂ saturation level during the administration
of anesthesia. It consists of a light emitting diode one to
transmit red light and other to transmit infrared light and a
photo detector on the opposite side of vascular bed
Oxygenated Hb and deoxygenated Hb absorb different amount
of red light.

The relationship b/w the pulsatile change in the absorption
of infrared light is analysed by the pulse oximeter to determine
the saturation of arterial blood

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**Customized Learning Plans**: Tailored learning plans are designed to cater to specific learning styles, pace, and requirements, ensuring a more personalized learning experience.

## DEPARTMENT OF PEDIATRIC AND PREVENTIVE DENTISTRY

| LESSON PLAN | |
|---|---|
| LESSON TITLE | UNDERSTANDING SPACE MAINTAINERS |
| TEACHER | DR.ANJU.R.V |
| BATCH | FOURTH YEAR PART 2 |
| DATE | 11/8/2023 AND 18/8/2023 |

**Duration: 2 hours**

**Objectives:**

By the end of this lesson, students will be able to:

- Define space maintainers and explain their importance.
- Identify different types of space maintainers.
- Understand the indications and contraindications for space maintainer placement.
- Demonstrate the proper procedure for fabrication and placing a space maintainer.

**Materials:**

- Presentation slides or whiteboard and markers
- Models of teeth and jaws
- Space maintainer models or examples
- Clinical instruments (mirror, probe, tweezers) and various pliers and spot welders and soldering unit
- Sterile gloves and masks (for hands-on practice)

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**Lesson Plan:**

**Introduction (10 minutes):**

Begin with a brief discussion of the importance of primary teeth in the dental arch.

Explain how premature loss of primary teeth can lead to malocclusion and the need f space maintainers.

**Types of Space Maintainers (15 minutes):**

Present different types of space maintainers, including removable and fixed applianc

Discuss the advantages and disadvantages of each type.

Use models or visual aids to illustrate the devices.

**Indications and Contraindications (10 minutes):**

Explain the situations where space maintainers are indicated, such as early primary t loss.

Discuss contraindications, such as certain oral health conditions.

Emphasize the importance of a thorough patient assessment.

**Procedure for Fabrication and Placing Space Maintainers (50 minutes):**

Provide a step-by-step guide on how to place a fixed space maintainer.

Use models or visual aids to demonstrate each step.

Highlight infection control and sterilization procedures.

Discuss any potential complications and how to address them.

**Case Studies and Discussion (15 minutes):**

Present case studies of patients who would benefit from space maintainers.

Engage students in a discussion about treatment planning and decision-making.

Encourage critical thinking and problem-solving.

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**Q&A and Review (10 minutes):**

Open the floor for questions and clarifications.

Review key concepts, including indications, contraindications, and placement procedures.

**Conclusion (5 minutes):**

Summarize the importance of space maintainers in preventing malocclusion.

Encourage students to continue practicing and learning about pediatric dentistry.

**Assessment:**

**Assessment can be done through a short quiz, a test paper of space maintainer placement, or a group presentation on a relevant case study.**

**Homework/Assignment:**

**Assign students to research a recent case study involving space maintainers for the next class.**

**REFLECTIONS**: FEEDBACK FROM STUDENTS AT THE END OF THE SECTION.

This lesson plan should equip dental students with the knowledge and practical skills needed to understand and place space maintainers effectively.

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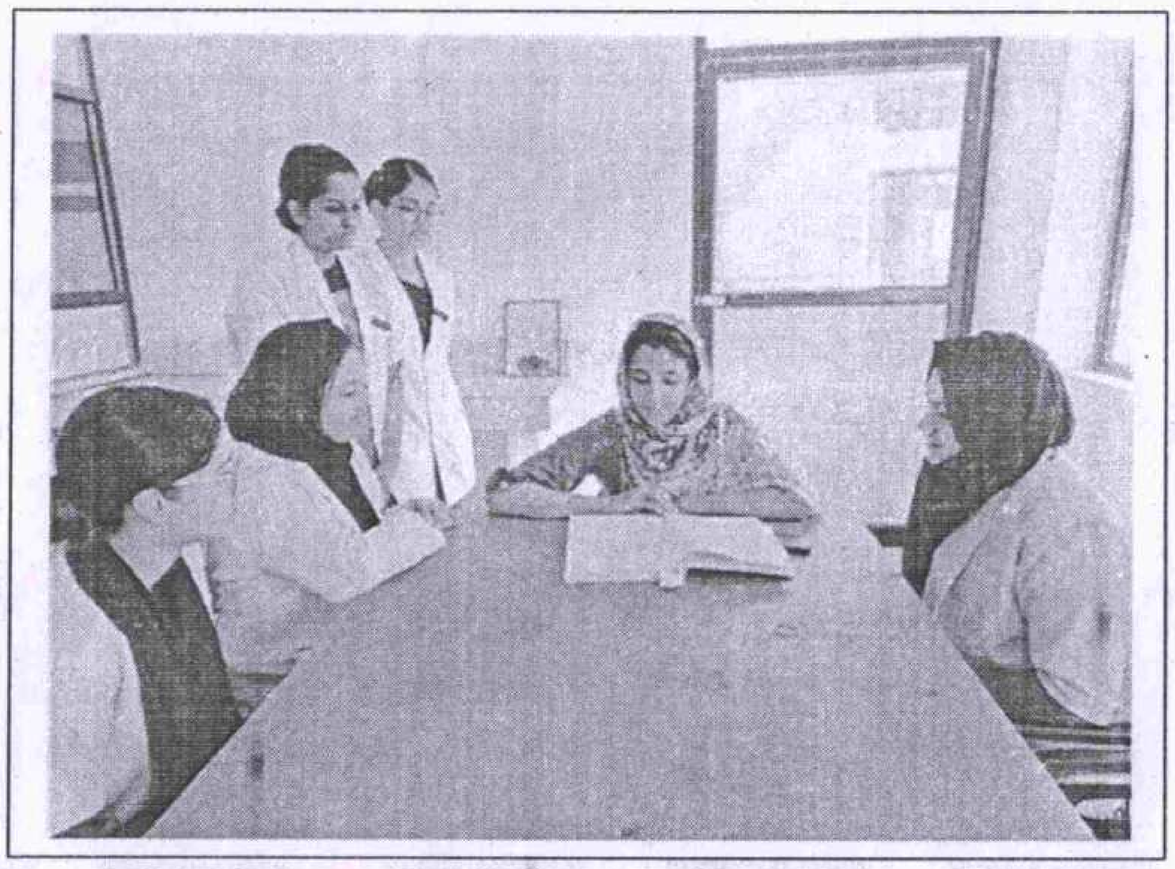
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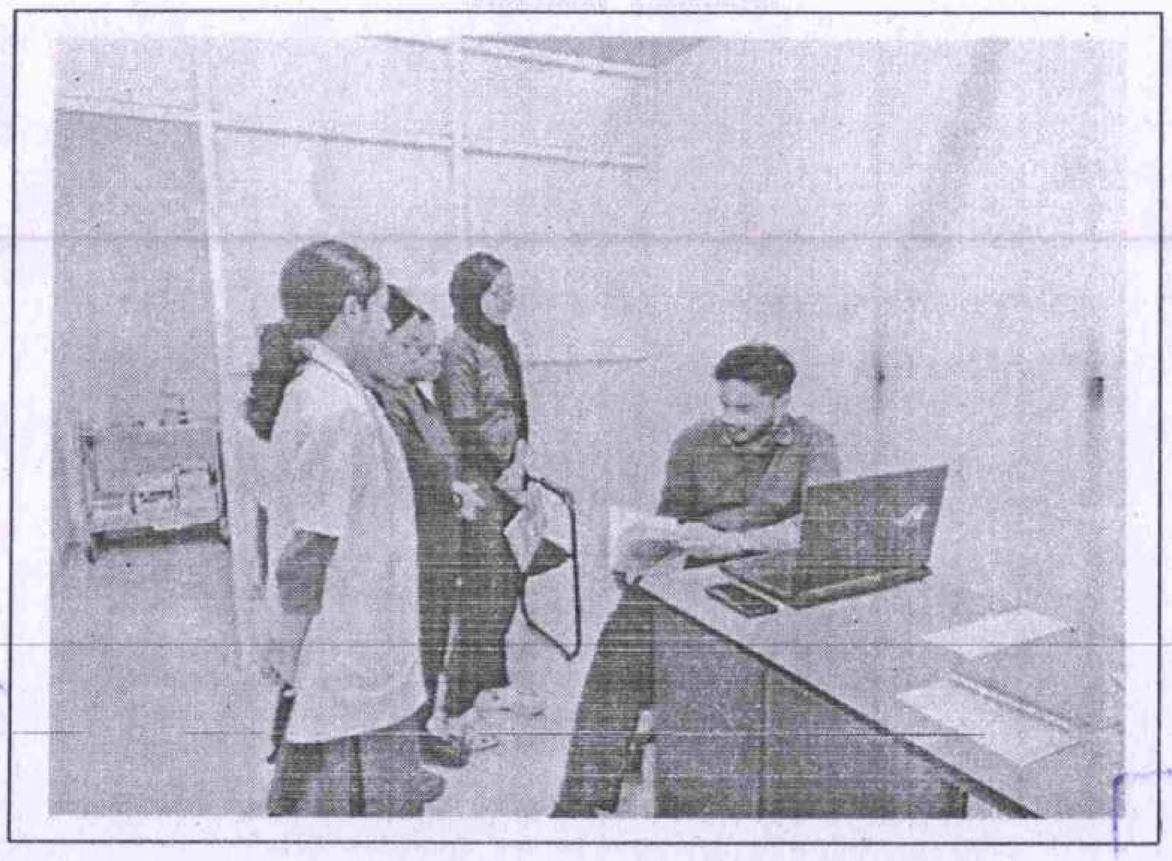
# DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

### Continuous Monitoring and Individual Attention by Mentors:

This approach ensures that students receive the personalized guidance they need to overcome academic challenges,improve their performance, and achieve their full potential.





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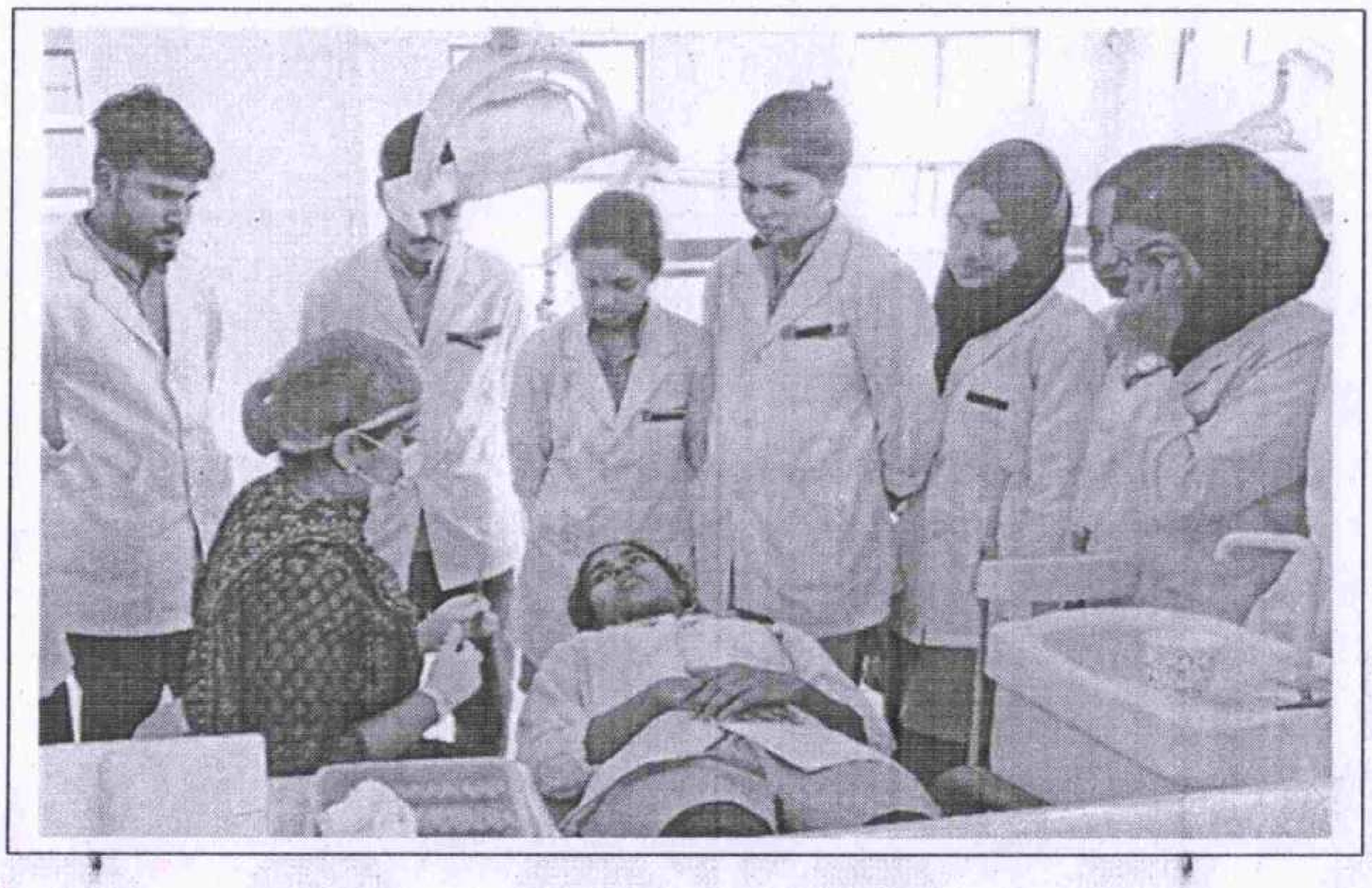
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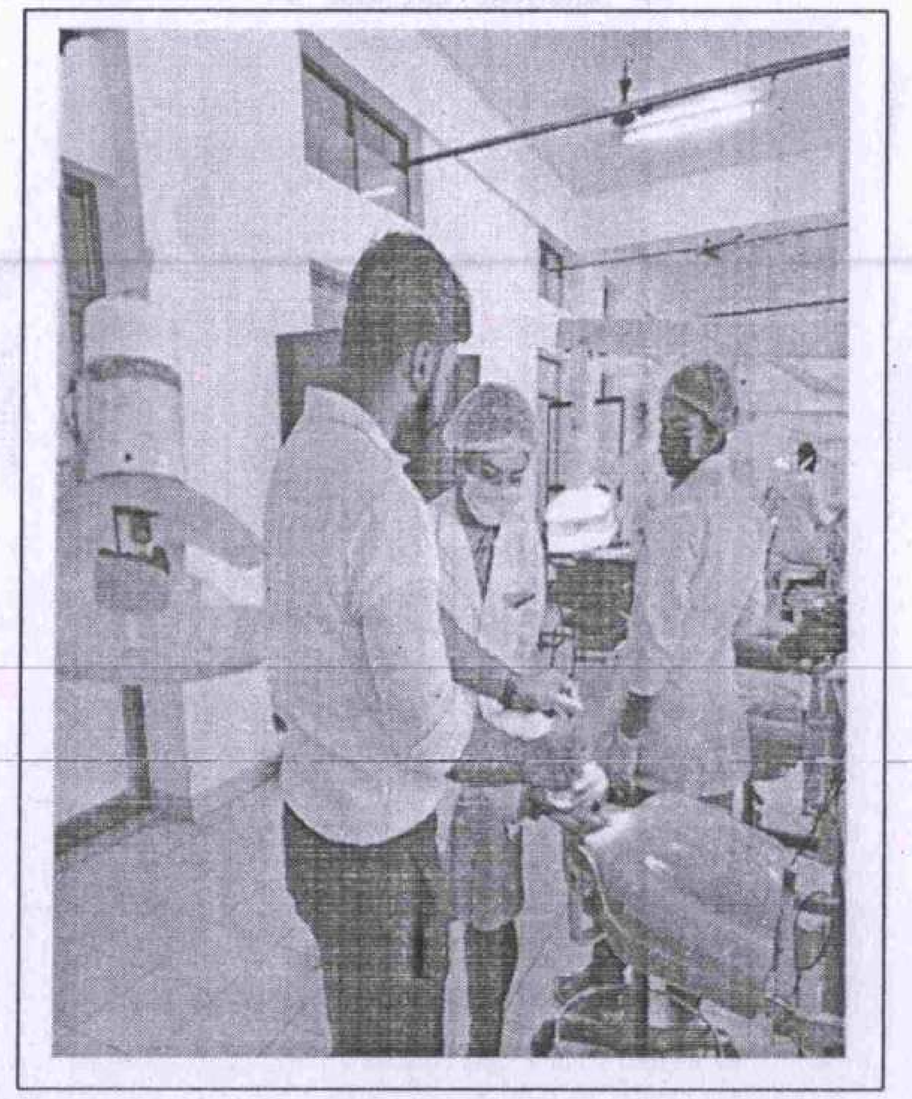
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**Special Classes with Subject Experts:**

Slow performers attend additional classes conducted by subject experts. These classes focus on offering in depth, expert -level guidance to students, particularly slow learners or those struggling to grasp key concepts in certain subjects.





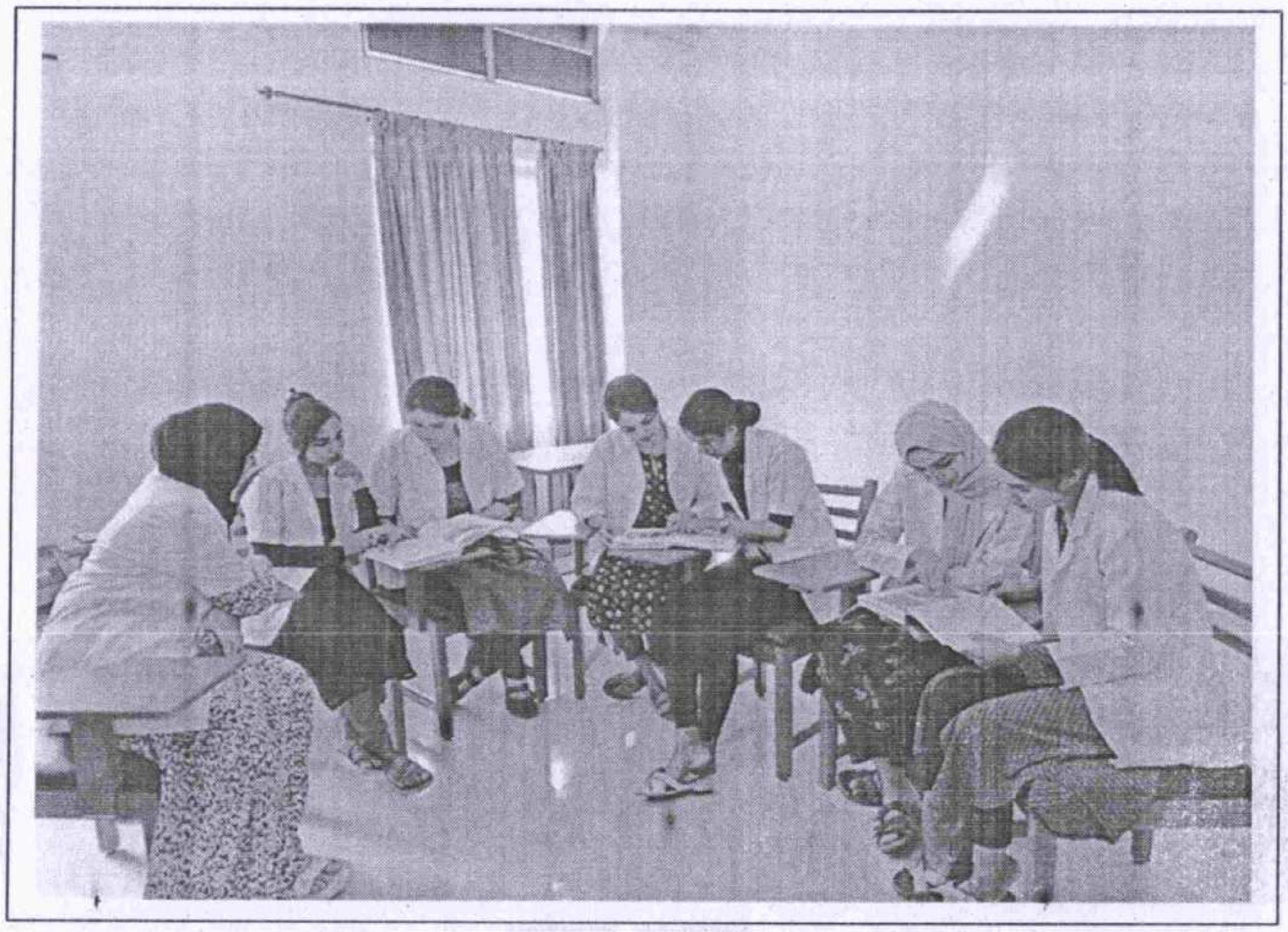
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**Encouragement of Collaborative Study with Advanced Learners:**

Collaborative study between slow learners and advanced learners can be an effective strategy to foster academic growth ,build confidence, and promote peer learning.



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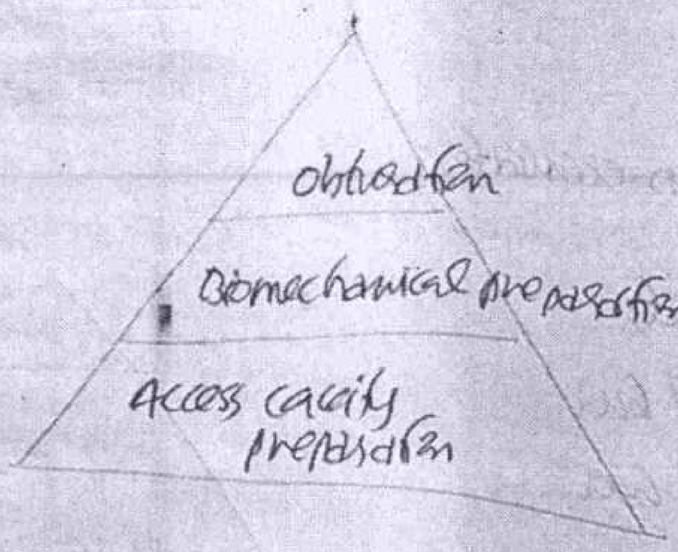
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Part I regular

26/30 MODEL EXAM

1. Content
- Definition of access cavity
- principles
- cavity preparation for upper central incisors.

Definition:

Access cavity preparation is defined as endodontic coronal preparation that ~~creates~~ enhances unobstructed access to canal orifice, straight access to the apical foramen & complete control over instruments & performs obturation techniques.




→ A periapical radiography must be taken before Access cavity preparation & know about
- Morphology
- Anatomy of root structure
- Number of canals

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CONSERVATIVE & ENDODONTICS

SHIBINI-P
Roll no: 42
Reg no: 1900 20913

22/5/24 wednesday

MODEL EXAM REG RETEST

38

3. Hypersensitivity

definition:

Hypersensitivity is defined as a sharp, short acting pain in the exposed dentin which response to stimuli like tempechive, evaporative, tactile, cold & which cannot be ascribed as any other pathology or defect.

Etiology

exposure
↓
Reaches the dentinal tubules

loss of cementum
↓
Attrition
Abrasion
Erosion
Abfraction

gingival recession & loss of exposed cementum
↓
Root exposure
periodontal disease
faulty toothbrushing
tooth trauma
Anatomy of CEJ

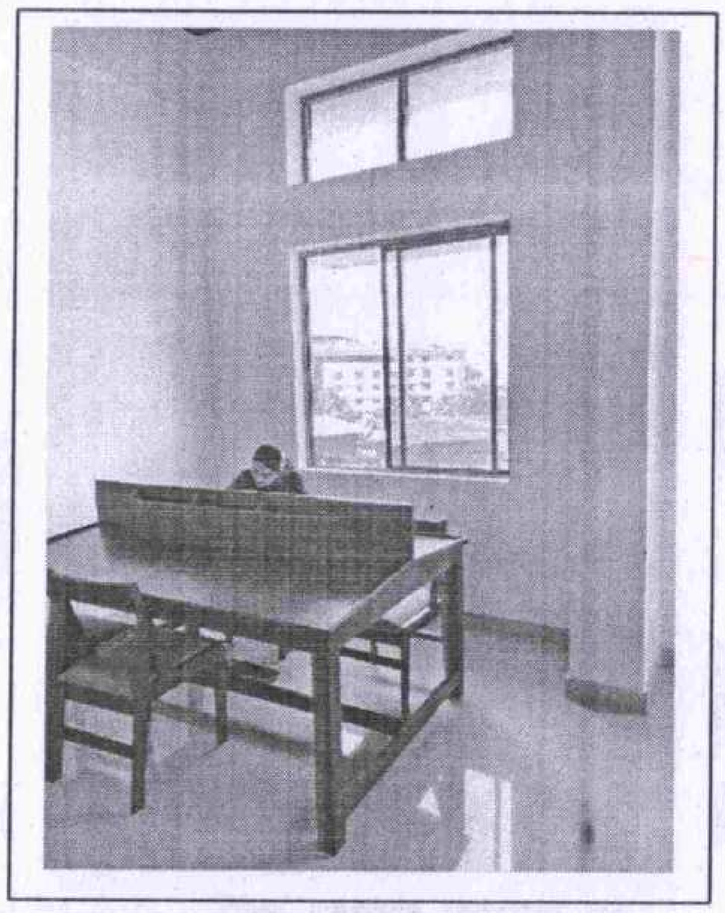
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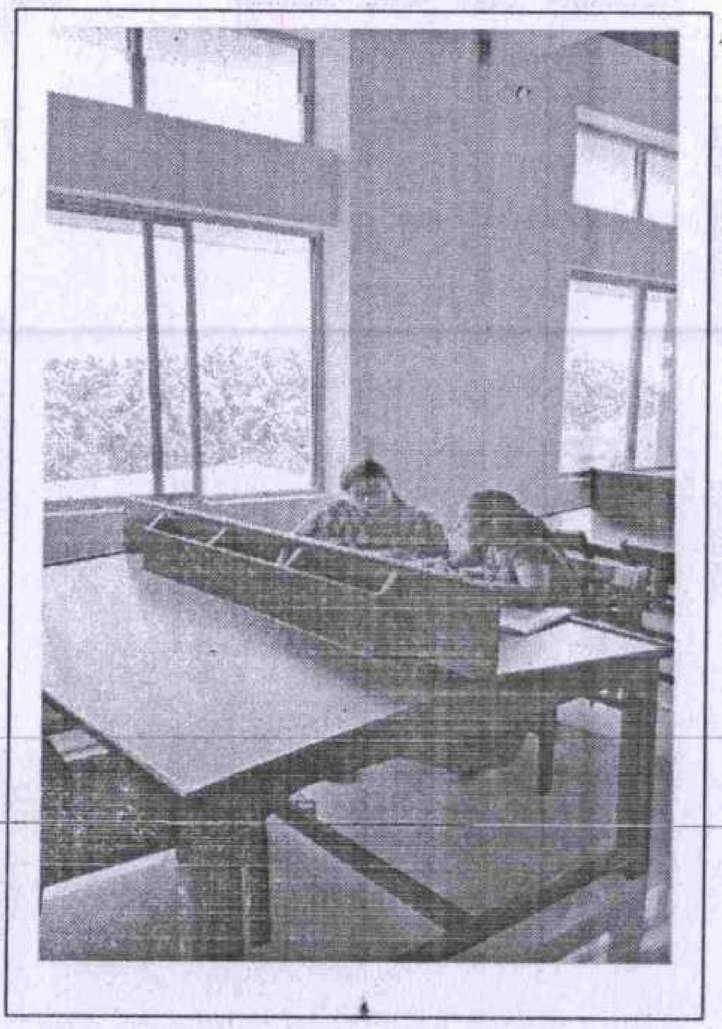
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**Encouraging Reading Books with Simple Language:**

To improve comprehension and understanding, students are encouraged to read supplementary materials or simplified textbooks that explain complex topics in simpler language.





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## Periodical Assessments with Class Tests and Evaluation:

Regular class tests and assessments are conducted to track their progress over time. This method helps teachers gauge student understanding, identify areas that need improvement , and provide timely feedback.

Nadha Nadheer K
Roll no 29.

1) Storage Media.

2) Managment of Root fractures (5)

3) classify tsamathi injuries. Explaining Mdnagment, healing pattern eg prognais. (10). Avulsion

Answer.

1) Storage Media

When tooth is Completely out of the socket is knowonas Avulsion

also known as dis articulation.

Storage Medium are two types.

1) Natural

2) Synthetic

Natural : Water, Eggwhite, green tea abstract, Saliva, Coconut water, Honey milk, milk.

Synthetic : Viaspan, HBSS, probiotic, Contact lense solution, ORS.

Milk: water: Its not commonly used, its least used, Bcs the hypotonicity leads to cell lysis.

Eggwhite : Storage time : 8hrs

It contains, Minerals, Vitamins, proalbumin.

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Granulomatous storage time : 24hrs.
: It have bactericidal, Antioxidant -
Saliva : Avulsed tooth stored in saliva, Bucalmucosa
upto 2hrs.
incompatible but inadequate : Osmolality, pH, Presence
of bacteria -
Coconut water : Ite commonly used, early available
Electrolyte Composition is similar to intracellular fluids
Storage time upto 8hrs -

HBSS :- Storage time upto 72hrs -
Contents : Nacl, kcl, cacl2, Nat sodium bicarbonate,
Sodiumphosphate ; mgeb,

Viaspan : pH : 7.4
Storge : 24hrs.

Probable :

⟹ 2) Managment of Root fracture -
Apical third
Middle - third
Cor Cervical third -

Apical third :-
: Coronal portion should be stabilized aurally, Splinting 2-3 weeks.
: if Apical third is vital prognosis is good, Coronal third also vital
no additional Tt needed.

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- pulp is the Coronal portion is horizontal
one third apical third.

mid-Root fracture

RCT for tooth Coronal & apical part
Apexification procedure is done

Cervical Root fracture

- fracture level is near to alveolar crest. root extrusion
is indicated coronal segment is removed & apical segment is
is extruded by orthodontic and allow restoration
missing Coronal portion

3) classification

Ellis classification

Class I: crown fracture involving enamel
" 2: crown fracture not involving pulp.
" 3: crown fracture involving pulp.
" 4: fractured tooth is non vital with/without
root fracture
" 5: Avulsion complete removal of the tooth from the socket
" 6: fracture of root with/without fracture of crown
" 7:
" 8: fracture of crown en masse
" 9: fracture of deciduous tooth

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Management of Avulsion of tooth
& the Complete removal of the tooth out of the socket =

management of Avulsion

If ~~Extracted~~ tooth is reimplanted before leaving dental clinic or its <1/6 mint out of socket..

Closed apex

Hold the tooth by crown
↓
clean the mouth with Saline & oral
↓
Reimplant → gentle pressure applied with fingers and Bite with gauze → Splint for 7-10 days
↓
antibiotics (Tetracycline)
↓
$Ca(OH)_2$ medicaments for 1 months.
↓
remove splint
↓
follow up.

open apex

clean the Root surface with Saline.
↓
Root surface covered by mino cycline hydrochloride before reimplantation
↓
Reimplant → pressure → Bite with gauze → Splint →
Radiograph, 1, 3, 6, 12 months
↓
follow up.

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## Healing pattern

# Healing with calcified tissue in which fractured fragments are in close contact
# Healing with interpronnial CT in which radiographically fragments appears separated by radiolucent line
# Healing with interproximal bone and CT. Here fracture fragments are seen separated by distinct bony borders with out healing
# Interpronnial inflammatory tissue occuring after fracture line.

## Prognosis

tooth survival : 21-89%.
full healing - 9-50%.
pulp healing - 4-27%.

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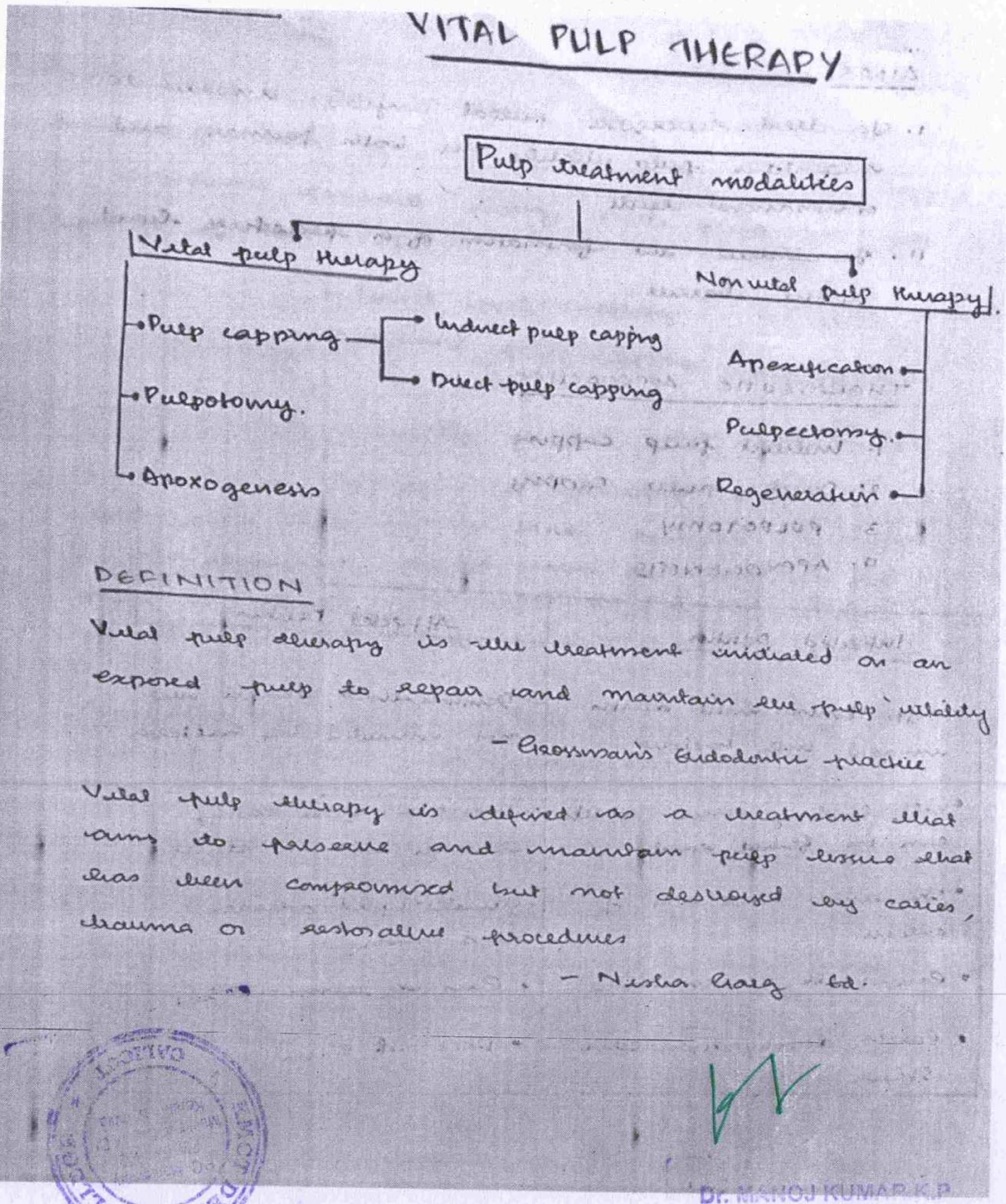
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## Provision of Special Notes:

Specialized study materials, including simplified notes and summaries, are provided to slow performers, aiding in clarifying difficult concepts, personalized learning and focus on key areas.




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AIMS:

1. To treat reversible pulpal injuries inorder to maintain pulp vitality for both primary and permanent teeth.
2. To induce the formation of a protective hard tissue barrier.

THERAPEUTIC APPROACHES

1. Indirect pulp capping
2. Direct pulp capping.
3. PULPOTOMY
4. APEXOGENESIS

| Infected Dentin | Affected Dentin |
|---|---|
| • Soft, demineralised dentin invaded with bacteria | • Demineralised dentin but not invaded by bacteria |
| • Soft leathery tissue which can be flaked easily | • Does not flake easily although soft in nature |
| • Irreversible denaturation of collagen | • Uninterrupted collagen cross linking |
| • Cannot be remineralised | • Can be remineralised |
| • Caries detecting dyes can stain | • Does not stain |

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## PULP CAPPING.

Pulp capping is the procedure used in dental restorations to prevent pulp from degeneration after having exposed or accidental exposure during tooth preparation. It can be of two types

- Direct pulp capping
- Indirect pulp capping.

### 1) INDIRECT PULP CAPPING.

Indirect pulp capping is a procedure performed in a tooth with deep carious lesion adjacent to the pulp. In this procedure, caries near the pulp is left in place to avoid pulp exposure and is covered under a biocompatible material.

According to Cohen, indirect pulp therapy avoids pulp exposure in teeth with deep carious lesion in which there is no evidence of pulp degeneration of therapied dose

### Rationale

- Decalcification of the dentin precedes bacterial invasion within the dentin
- Removal of outer carious dentin removes majority of bacteria reducing further decalcification of deeper dentin
- Sealing the lesion to allow the pulp to generate reparative dentin.

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## Objective

- Arrest carious process.
- Promote dentinal sclerosis
- Stimulate formation of reactionary dentin.
- Remineralisation of carious dentin while preserving pulp vitality.

## Indications

- Deep carious lesion near the pulp tissue but not involving it
- No history of spontaneous toothache or history of mild discomfort from chemical and thermal stimuli
- No tenderness to percussion.

## Contraindications

- Presence of pulp exposure.
- Radiographic evidence of pulp pathology.
- History of spontaneous toothache
- Tooth sensitive to percussion
- Mobility present.
- Root resorption or radicular disease is present radiographically.

## Clinical technique

In 1938, Bodecker introduced the stepwise excavation technique for the treatment of teeth with deep caries for preservation of pulp vitality while exposure of pulp is probable.

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## Two appointment technique

### First sitting

- Anesthetize the tooth and apply rubber dam to isolate it
- Remove soft, necrotic and infected caries either with spoon excavator or round bur using a slow speed handpiece. Use bur no and extend it to sound tooth structure to avoid exposure.
- Place calcium hydroxide paste on the exposed dentin
- Cover calcium hydroxide with durable - restorative.
- Evaluate the tooth after 6-8 weeks.

### Second visit (6-8 weeks later)

- If a tooth has been asymptomatic, the surrounding soft tissues are free from swelling and the temporary filling is intact, the second step can be performed
- Obtain bitewing radiograph to assess the presence of reparative dentin
- Give local anesthesia and apply rubber dam.
- Take care while removing restorative and calcium hydroxide dressing.
- Remove the remaining affected carious dentin which appears hydrated and flaky. The area around the pulpal exposure should be left and should not be disturbed.
- Gently clean and dry the cavity.
- Cover the entire floor with a hard setting calcium hydroxide dressing.
- Place reinforced ZnO Eugenol or GIC over $Ca(OH)_2$ or glass ionomer with composite / Amalgam over it

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One appointment technique.

- Anesthetize the tooth & apply rubber dam to isolate it
- Remove soft, necrotic & infected caries either with spoon excavator or large round bur using a slow speed hand piece. Remove all soft moist and leathery dentin
- Leave a thin layer of dentin and some amount of caries to avoid exposure.
- Place calcium hydroxide paste on the exposed dentin
- Cover the calcium hydroxide with durable intermediate restoration. Ensure proper seal of the restoration.

The removal of bacteria and microleakage together with an effective seal of restoration provides the suitable environment for pulp to recover its lasting dentin secondary dentin.

It is difficult to tell which treatment approach is better because no high quality randomized clinical trials are available. We need to ensure the carious dentin to remove dehydrated dentin and new reparative changes has been questioned. The second group subjects the pulp to potential risk of exposure during re-excavation.

Factors affecting prognosis of indirect pulp capping

- If RDT is approximately 0.5 - 2mm, prognosis is better
- Choice of indirect pulp capping agent: Though many new materials have been introduced, $Ca(OH)_2$ has been used successfully due to its high pH. It is hard

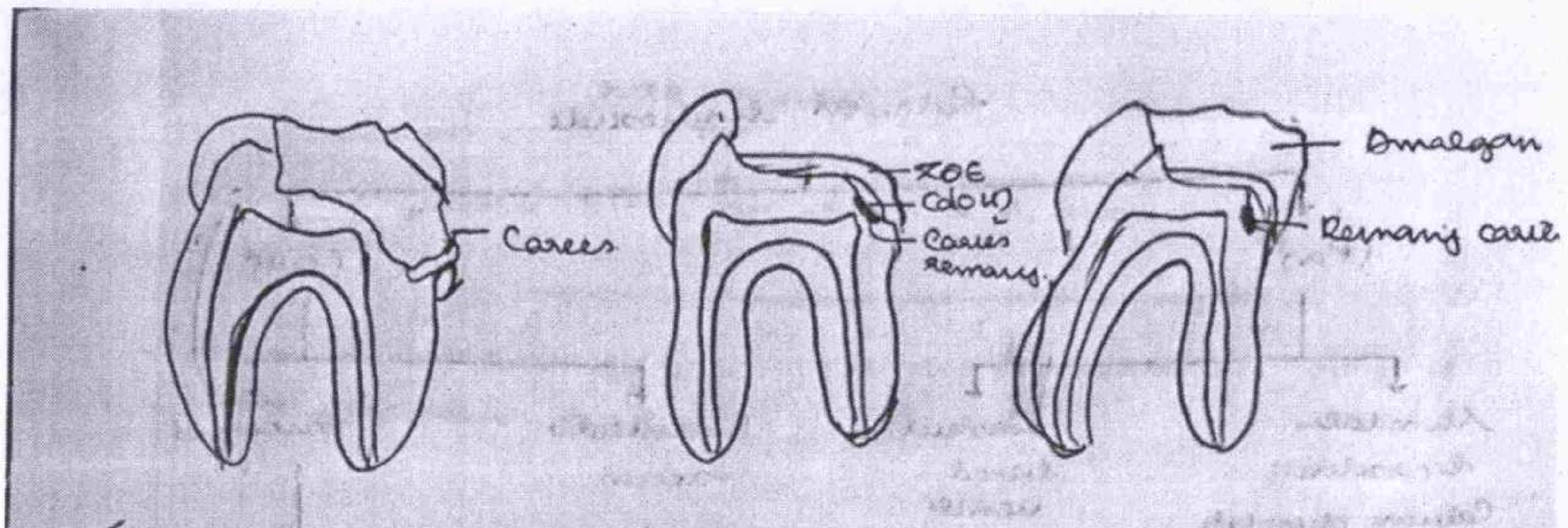
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Schematic representation of indirect pulp capping.

A) Indirect pulp capping is done in cases when caries lesion is quite close to pulp.

B) Placement of $Ca(OH)_2$ in thin layer and decay after caries excavation

C) Permanent restoration of tooth.

## Ideal requirements of a pulp capping agent

Cohen & Combe gave the following requirements of an ideal pulp capping agent:

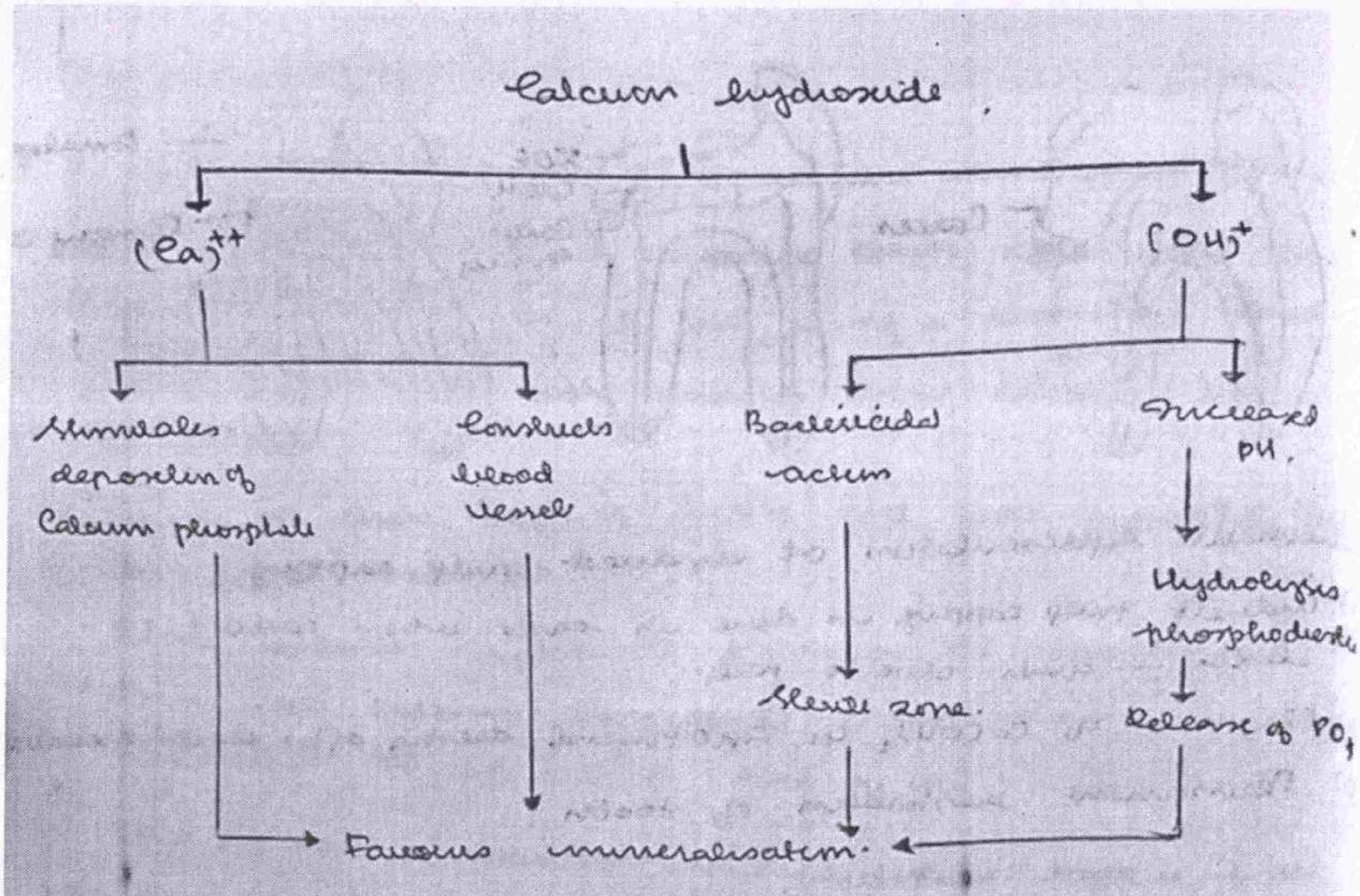
- Should maintain pulp vitality
- Should be bactericidal / bacteriostatic in nature
- Should be able to provide bacterial seal.
- Should stimulate reparative dentin formation.
- Should be radiopaque in nature.
- Should be able to resist the forces under restoration.

## Materials used for pulp capping

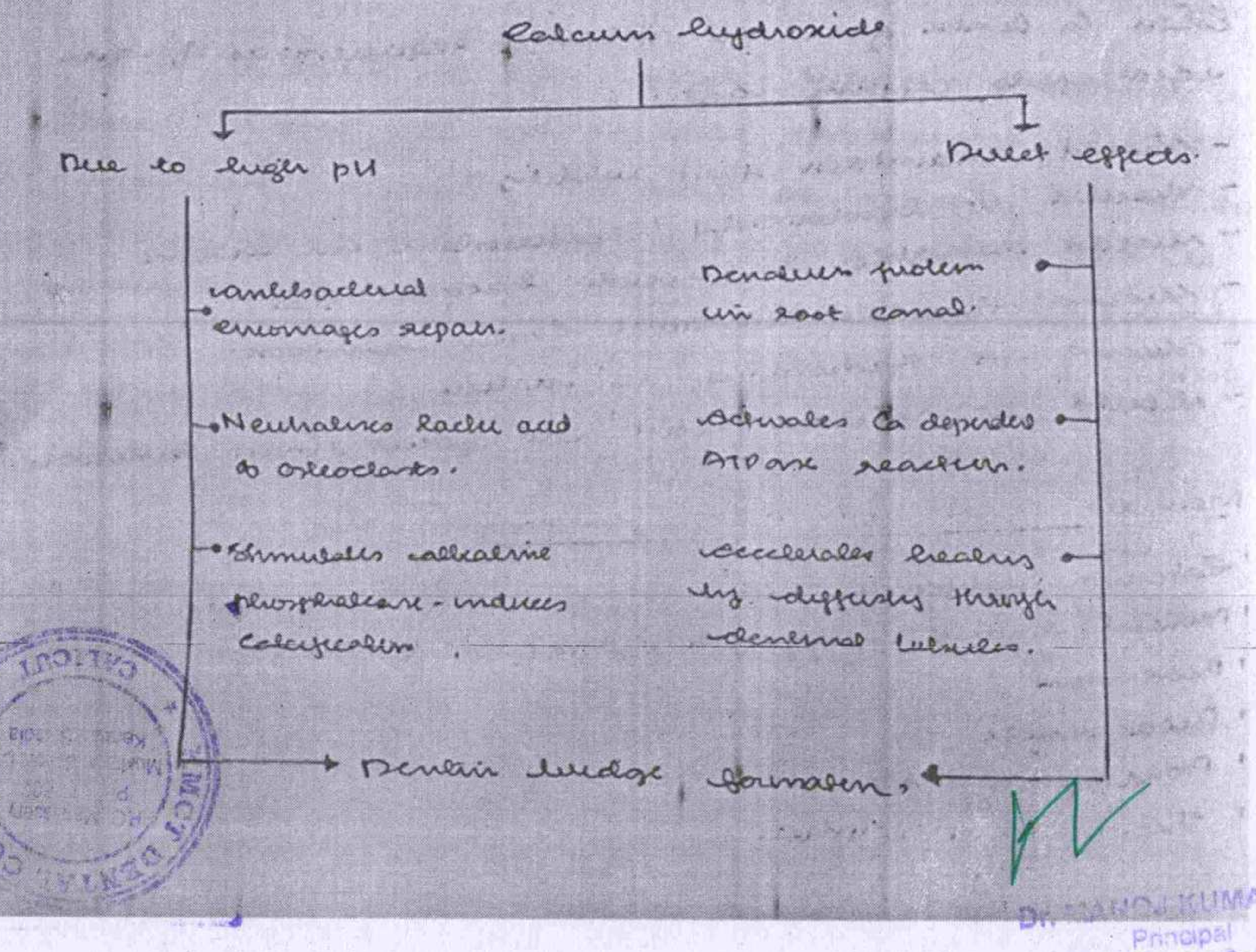
- Calcium hydroxide
- Mineral trioxide aggregate (MTA)
- Biodentine
- Bioaggregate
- Bonding agents
- Theracem preventive

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Mechanism of action of hard tissue formation




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MTA Powder.

↓

Hydration (in the presence of water / blood)

↓

Forms gel solidifies to a hard crystalline structure

Increase in pH to 12.5

## 2 DIRECT PULP CAPPING

Direct pulp capping involves the placement of biocompatible material over the site of pulp exposure to maintain vitality and promote healing.

When a small mechanical exposure of pulp occurs during cavity preparation or following a trauma, an appropriate protective care should be placed in contact with the exposed pulp tissue to maintain the vitality of the remaining pulp tissue.

### Rationale

To encourage young and healthy pulp to undergo a dentin bridge and form a wall over the exposure site.

### Objective

The objective of DPC is to seal the pulp against bacterial leakage, protect the pulp from thermal stimulus, encourage the pulp to wall off the exposure site by initially a dentin bridge and maintain the vitality of the underlying pulp.

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## Indications

- Small pinpoint (<1 mm) mechanical exposure of pulp surrounded by sound dentin during tooth preparation
- Traumatic injury (<24 h) with pinpoint exposure.
- No or minimal bleeding at the exposure site.

## Contraindications

- Carious or wide pulp exposure.
- Spontaneous and nocturnal toothache.
- Uncontrolled bleeding at the exposure site.
- Radiographic evidence of pulp pathologies
- Excessive tooth mobility.
- Purulent or serous exudates from exposure site.

## Clinical procedure

Administer local anesthesia or isolate the tooth with rubber dam.

↓

Clean and dry the exposure site

↓

Control the hemorrhage with 3-5.2% sodium hypochlorite applied for 2-10 min.

↓

Apply calcium hydroxide over the exposed area

↓

Give interim restoration such ZnO eugenol for 6-8 week

↓

After evaluation, replace the interim restoration with permanent restoration

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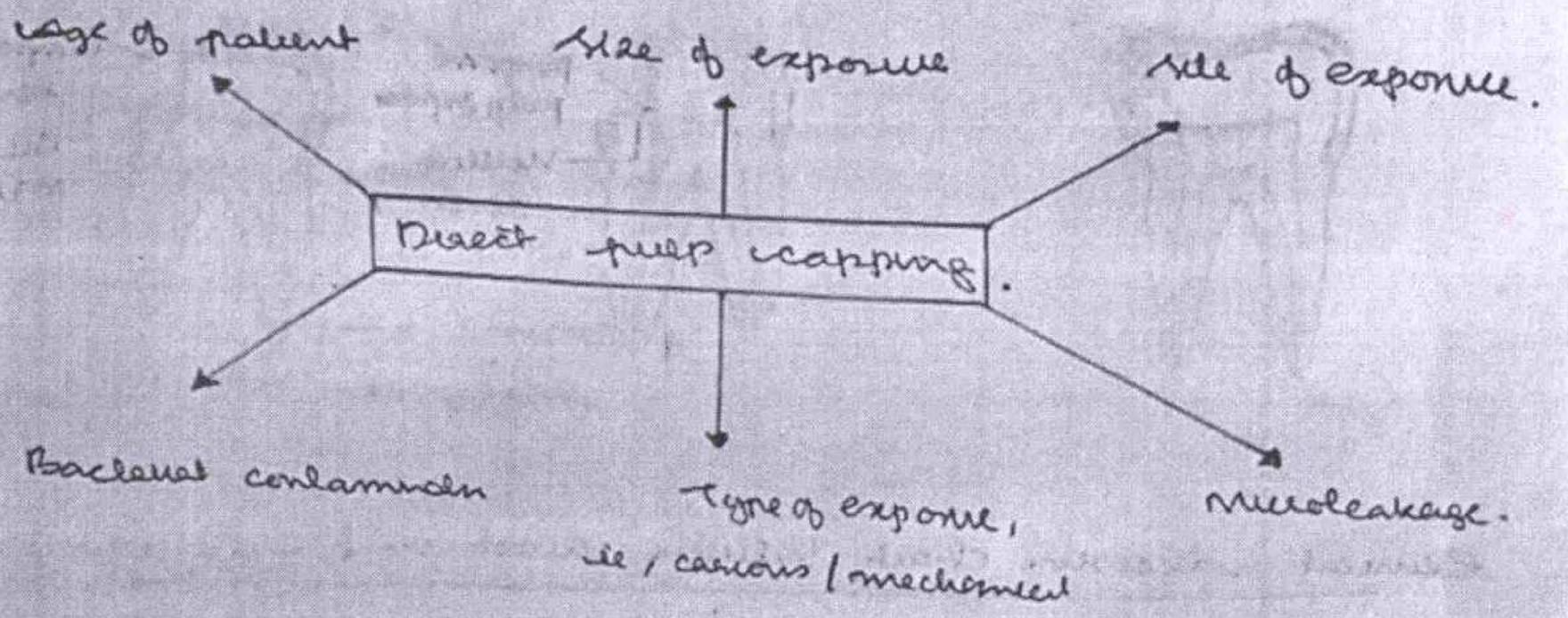
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## Factors affecting success of pulp capping




## Why DPC is not recommended in primary teeth

1. Localization of infection & inflammation in primary teeth is poorer than in permanent teeth

   — Mc Donald (1956)

2. Effects of dental caries are seen very rapidly in primary teeth than the permanent teeth

   — Rayner & Soneham (1979)

3. Due to presence of thin enamel & dentinal layers, primary pulp gets rapidly affected by caries. Once the pulp gets exposed by caries, prognosis for DPC is poor

   — Kennedy & Kopel (1985)

4. Undifferentiated mesenchymal cells may differentiate into osteoclasts in response to pulp capping material resulting in internal resorption

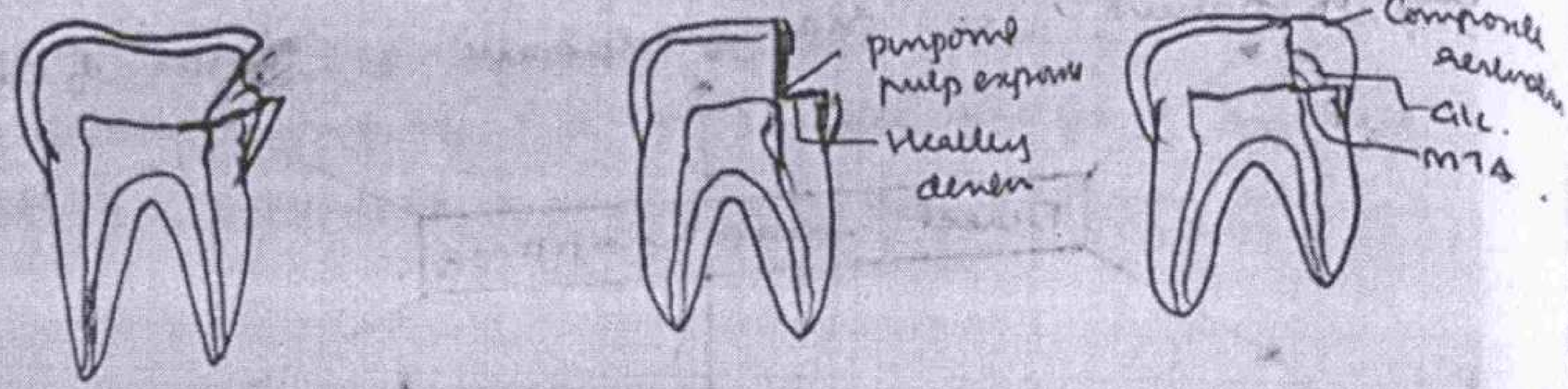
   — Kennedy (1985)

5. Primary teeth show incidences of increased resorption because of already existing root resorption process

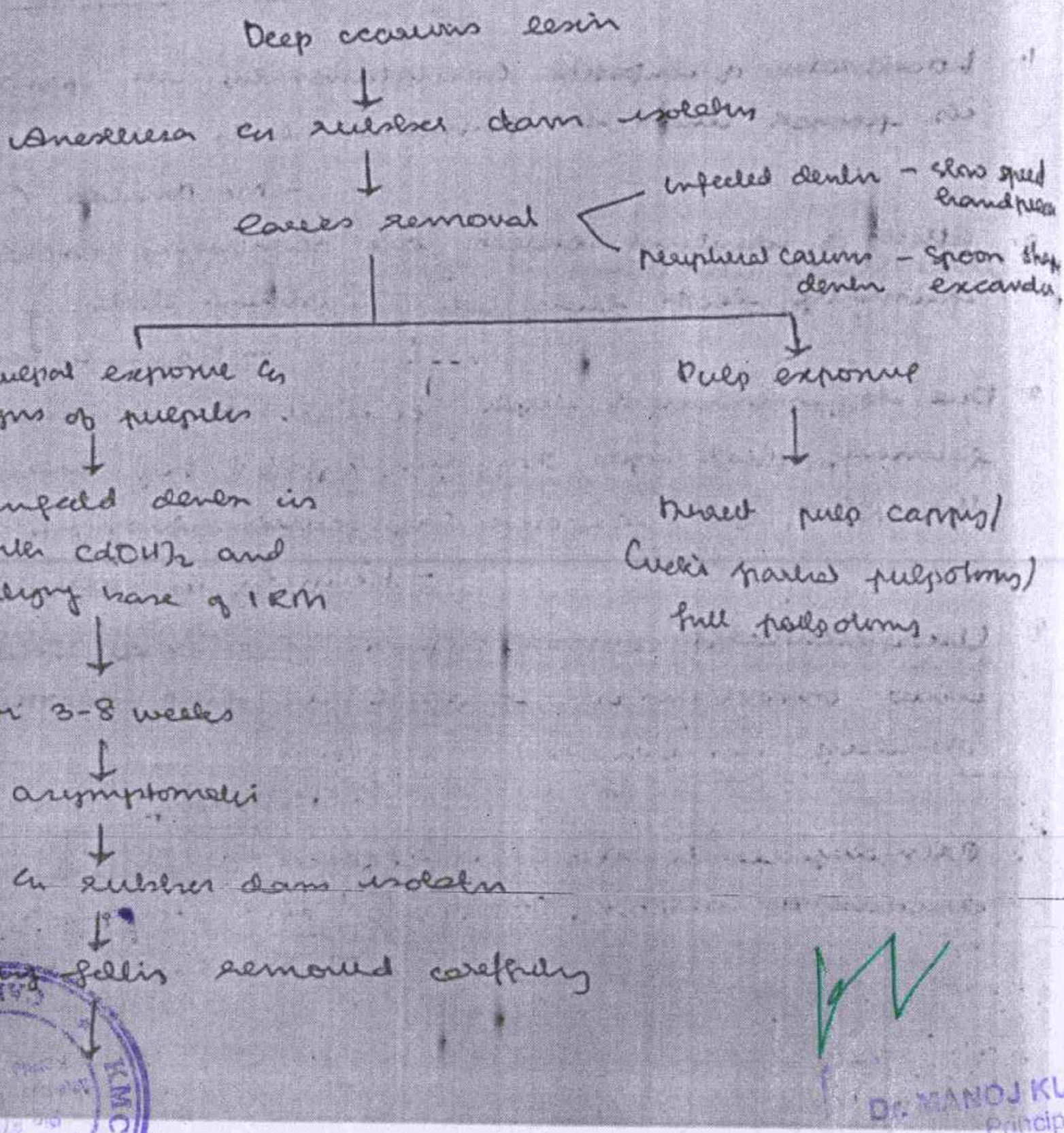
   — Stanley (1980)

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Schematic representation of direct pulp capping




Clinical decision chart between direct and indirect pulp capping




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↓

Carefully further excavation and clinically confirm the changes in colour & hardness to been done

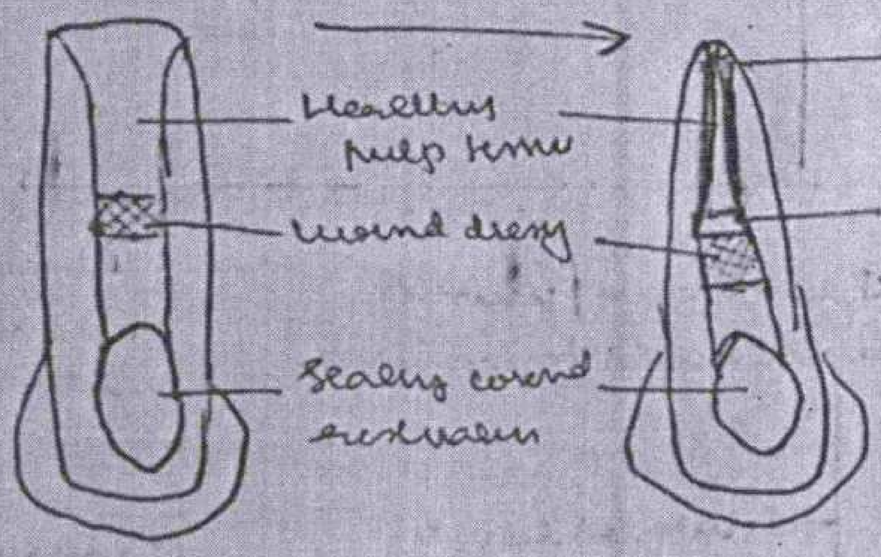
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Hard set $Ca(OH)_2$ is placed followed by an emgic base and a bonded composite restoration / amalgam.

(3) APEXOGENESIS

Apexogenesis is defined as the treatment of vital pulp by capping or pulpotomy to permit continued growth of root and closure of root apex.

Schematic representation of apexogenesis




Young permanent tooth with immature root and open apex.

Shows root formation of reparative dentin and thickening of root canal wall after apexogenesis procedure.

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## (4) PULPOTOMY

It refers to complete removal of the coronal portion of the dental pulp followed by placement of a suitable medicament that will promote healing & preserve. Vitality of the remaining radicular pulp

- Finn (1995)

### Classification of pulpotomy

- According to the level of pulp tissue removed.
  - Partial / Cvek pulpotomy
  - Complete / Cervical pulpotomy.
- According to treatment objectives
  - Devitalization pulpotomy / mummification
    - Formocresol
    - Electrosurgical
  - Preservation / minimal devitalization / nonmedicated
    - Glutaraldehyde
    - Ferric sulphate
    - MTA
    - Laser pulpotomy
  - Regenerative / inductive / reparative
    - Calcium hydroxide
    - Bone morphogenic protein
    - Collagen
- According to number of visits
  - Single visit pulpotomy
  - Multiple visit pulpotomy

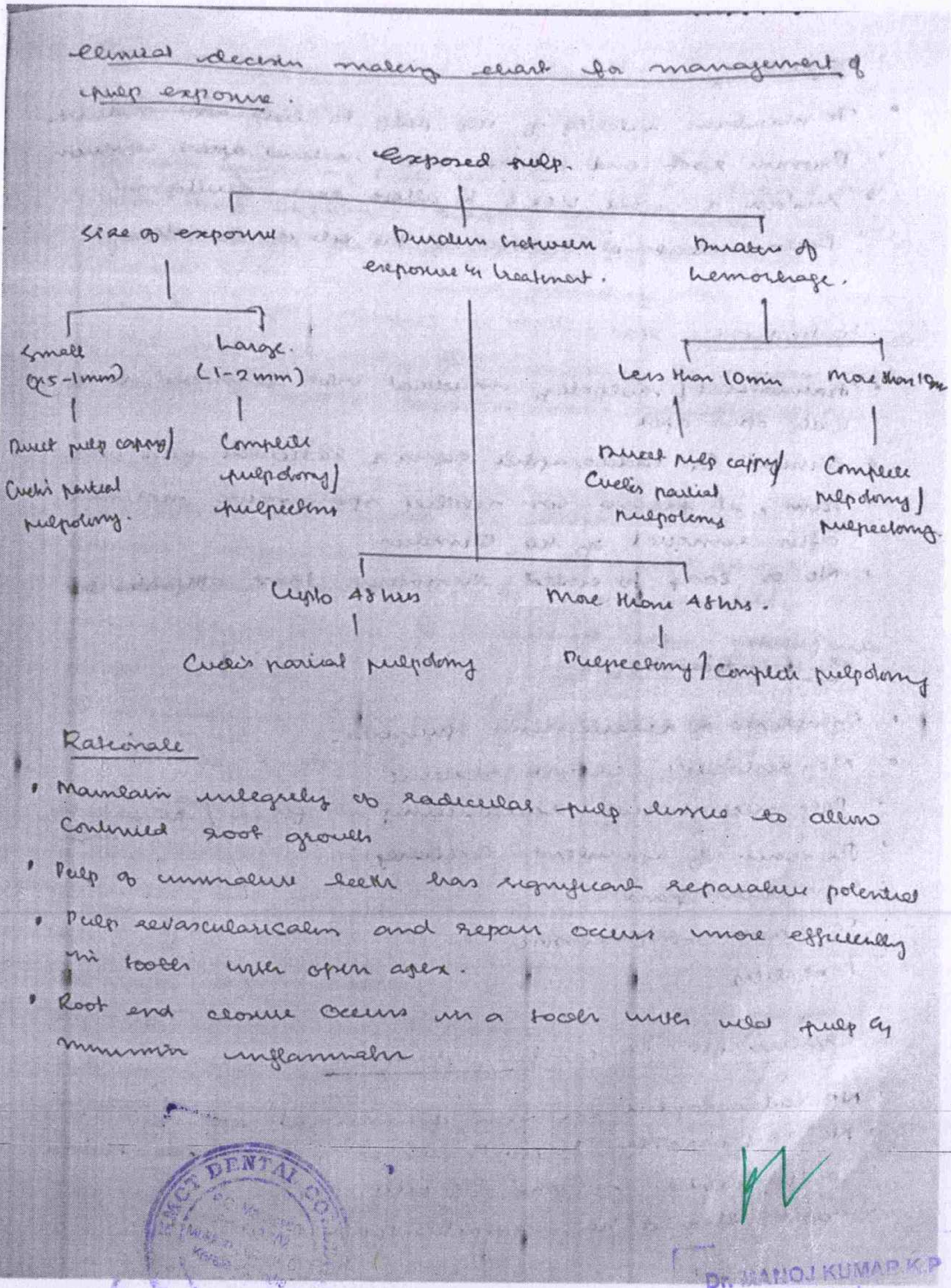
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Clinical decision making chart for management of pulp exposure.




Rationale

- Maintain integrity of radicular pulp tissue to allow continued root growth
- Pulp of immature teeth has significant reparative potential
- Pulp revascularization and repair occurs more efficiently in teeth with open apex.
- Root end closure occurs in a tooth with vital pulp of minimum inflammation

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i) Cvek pulpotomy / partial pulpotomy / $Ca(OH)_2$ pulpotomy / Young hermann partial pulpotomy.

It was given by Cvek in 1993. Cvek showed that, with pulp exposures resulting from traumatic injuries, pulpal changes are characterised by a proliferative response with inflammation extending only a few mms into the pulp whereas in teeth with carious exposures do the pulp, it may be necessary to remove pulpal tissue to a greater depth to reach noninflamed tissue

Procedure

- anesthetize and isolate the tooth
- Remove carious lesion with a slow speed round bur
- Remove the coronal pulp to control hemorrhage use sodium hypochlorite in moistened cotton pellet with slight pressure
- Place calcium hydroxide or MTA over the amputation site
- If Calcium hydroxide is placed, recall the patient, check dentin bridge formation, and place permanent restoration

ii) Classical / Complete pulpotomy

In young permanent teeth, cervical pulpotomy is performed to allow root maturation. The procedure is performed in teeth in which it is assumed that healthy pulp tissue with a potential to produce a dentin bridge and complete root formation of the root, still remains in the canal. The technique is same as that of partial pulpotomy except that it is up to root orifice

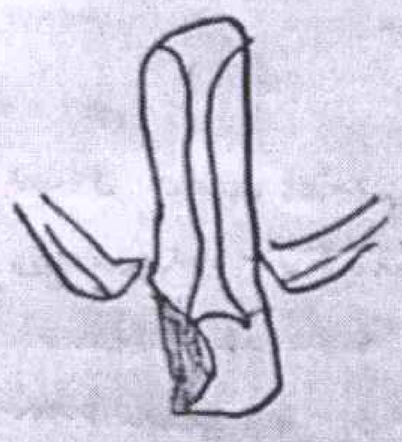
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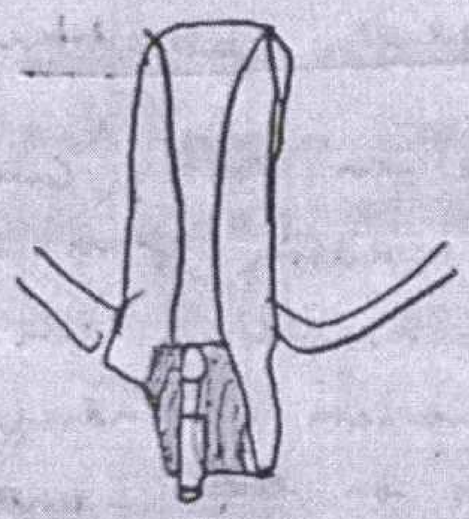
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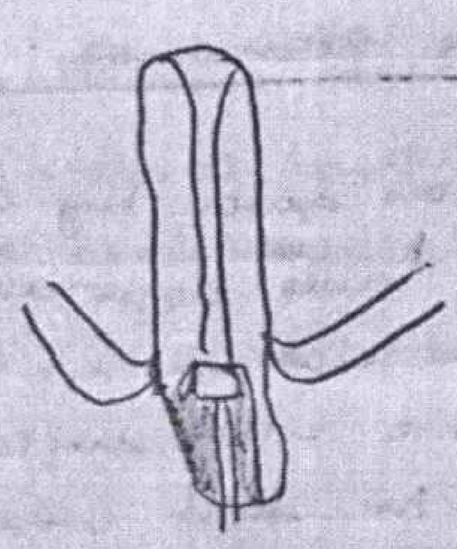
## PARTIAL PULPOTOMY.



A. partial pulpotomy is indicated in patients with incomplete root formation

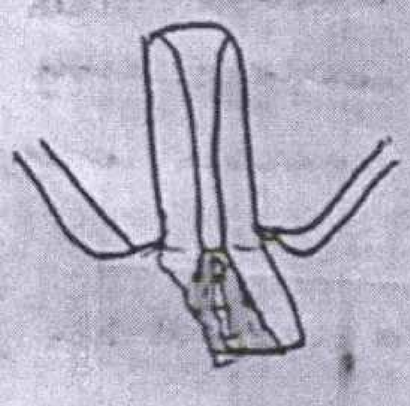


B) preparation of cavity 1-2mm deep into pulp.

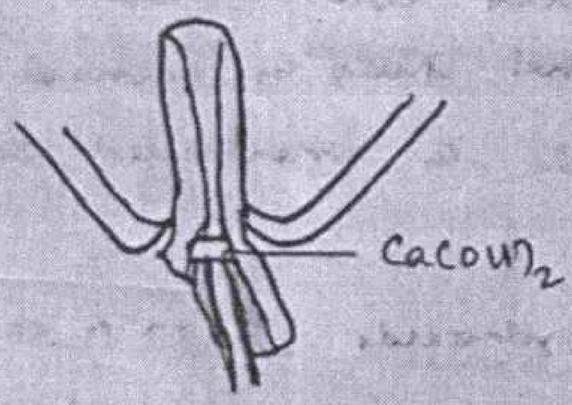


C) placement of $Ca(OH)_2$ over pulp

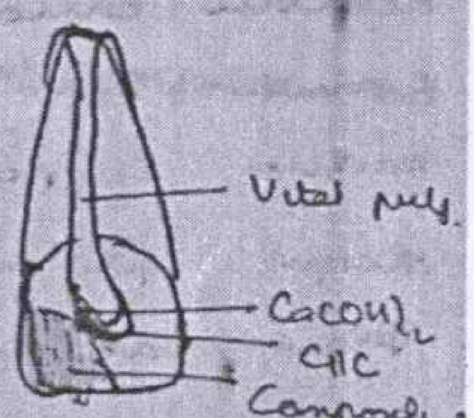
## COMPLETE PULPOTOMY.



A) Removal of coronal pulp up to the canal & root orifices

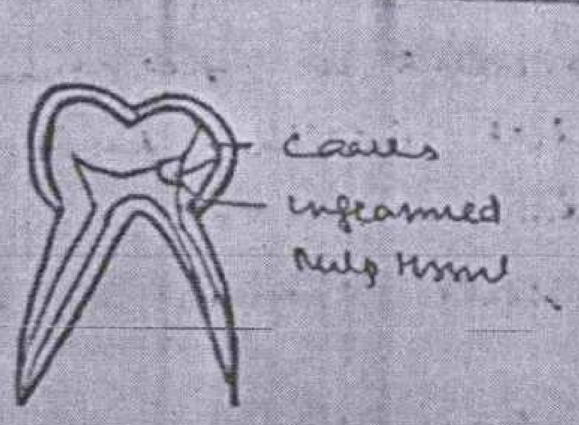



B) placement of $Ca(OH)_2$ over exposed pulp.




C) Tooth restored with final restoration

## FORMOCRESOL PULPOTOMY.

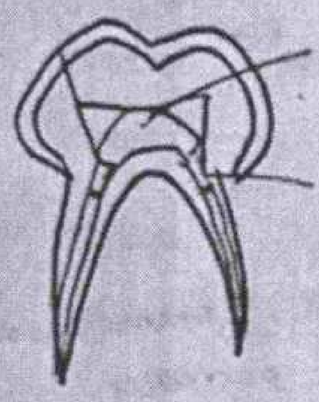


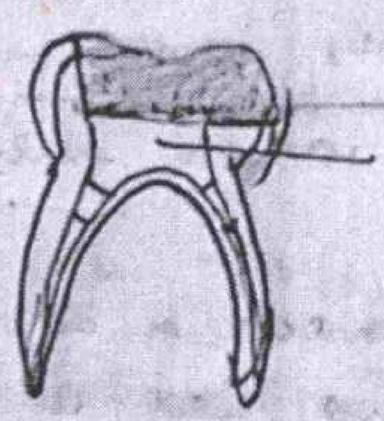

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## FORMOCRESOL PULPOTOMY

It was introduced in 1904 by Buckley. He found that equal parts of formalin and cresol would react chemically with the products of pulp inflammation to form a non-irritant compound of a harmless nature. Sweet popularized this technique in 1930. It is preferred in primary teeth due to high (98%) clinical and radiographic success rate.

Buckley's formocresol consists of

- Formaldehyde 19%
- Cresol 35%
- Glycerin 15%
- Water 31%

## Technique / Clinical procedure:

Give local anesthesia and apply rubber dam under the cotton

↓

Remove unsupported dentin before entering pulp chamber

↓

Remove the coronal pulp to the canal orifices with the sterile round bur or sharp excavator.

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Professor
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Apply gentle pressure with cotton pellets to
assess pulpal hemorrhage.

↓

Moisten a cotton pellet with Formocresol
and keep it on sterile gauze to remove
excess of the formocresol

↓

After the bleeding has been controlled, place
formocresol cotton pellet in contact with
pulp for 5 minutes.

↓

Place IRM based paste and then final restoration

↓

Place stainless steel crown

Two visit pulpotomy.

It is used in cases of profuse and difficult to
control bleeding. In this, paraformaldehyde paste
is used which consist of

- Paraformaldehyde. — 1g.
- Lignocaine — 0.06g.
- Camphor — 10g
- Propylene glycol. — 0.5 ml
- Carbowax — 1.3g.

Technique.

The procedure is same as for one visit formocresol
pulpotomy till hemorrhage control except for the
following changes:

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Apply gentle pressure with cotton pellets to arrest pulpal hemorrhage.

↓

Moisten a cotton pellet with Buckley's formocresol and wash it on sterile gauze to remove excess of the formocresol

↓

After the bleeding has been controlled, place formocresol cotton pellet in contact with pulp for 5 minutes.

↓

Place two Ledermix paste and then final restoration

↓

Place stainless steel crown

Two visit pulpotomy.

It is used in cases of profuse and difficult to control bleeding. In this, paraformaldehyde paste is used which consist of

- Paraformaldehyde — 1g.
- Lignocaine — 0.06g.
- Camphor — 10g
- Propylene glycol — 0.3 ml
- Carbowax — 1.3g.

Technique.

The procedure is same as for one visit formocresol pulpotomy till hemorrhage control except for the following changes:

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Reference:

→ Grossmans Endodontics Practice - Gopikrishna
(14th Edition)

→ Nisha Garg - Textbook of Endodontics

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## DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

| LESSON PLAN | |
|---|---|
| LESSON TITLE | ACCESS CAVITY PREPARATION |
| TEACHER | DR CHANDINI RAVEENDRAN |
| BATCH | FINAL YEAR PART 2 |
| DATE | 03/01/2024 |

**Duration-1 hour**

**Objectives:**

- Understand the importance of access cavity preparation in restorative dentistry
- Learn the steps involved in accessing a cavity
- Practice accessing a cavity on a model or simulated tooth

**Materials:**

- Dental handpieces (high-speed and low-speed)
- Burs (round, fissure, and pear-shaped)
- Dental mirror and explorer
- Model or simulated tooth with a cavity

**Lesson Plan:**

**I. Introduction (5 minutes)**

- Review the importance of access cavity preparation in restorative dentistry
- Discuss the objectives of the lesson

**II. Step-by-Step Access Cavity Preparation (20 minutes)**

**1. Overview of the cavity (5 minutes)**

- Show the location and extent of the cavity
- Discuss the need for access

**2. Removing enamel and dentin (10 minutes)**

- Demonstrate how to use a high-speed handpiece and appropriate burs to remove enamel and dentin
- Emphasize the importance of proper bur control and safety

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**3. Gaining access to the pulp chamber (5 minutes)**

- Show how to use a low-speed handpiece and a round bur to access the pulp chamber

**4. Exploring the cavity (5 minutes)**

- Demonstrate how to use a dental mirror and explorer to visualize and explore the cavity

**III. Practice Accessing a Cavity (30 minutes)**

- Have students practice accessing a cavity on a model or simulated tooth

- Circulate and provide guidance and feedback

**IV. Conclusion (5 minutes)**

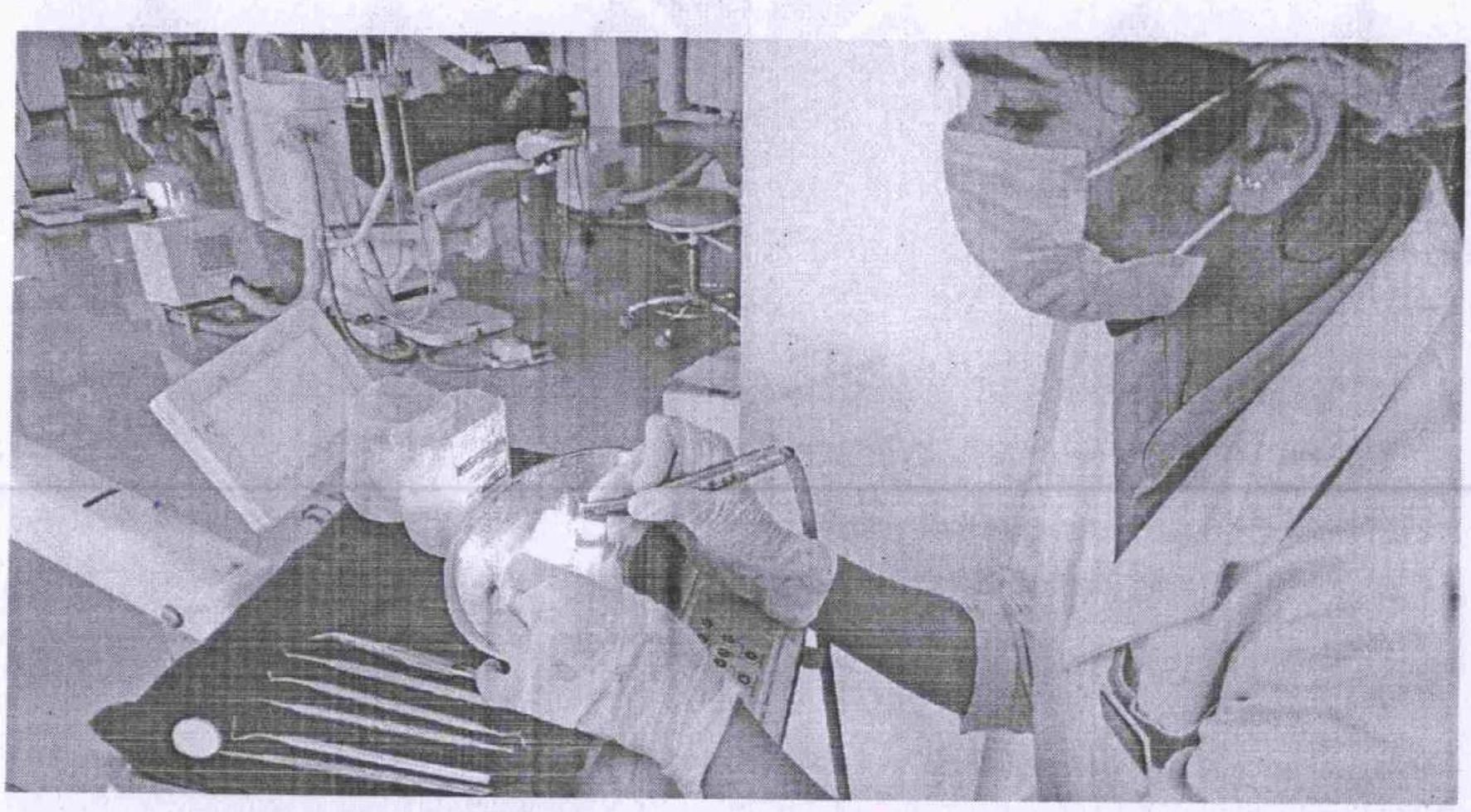
- Review the key steps in accessing a cavity

- Emphasize the importance of proper access cavity preparation in restorative dentistry

**Assessment:**

- Observe students during the practice exercise and provide feedback

- Have students demonstrate their understanding of access cavity preparation through a written quiz or class discussion.



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## REPORT ON TEST AND RETEST CONDUCTED FOR THE SLOW PERFORMERS

The Test and Retest Program was developed to support students who may require additional academic assistance, often categorized as "slow performers." The goal of this program is to assess the effectiveness of the intervention strategies implemented to support these students, track their progress, and analyze any significant changes in their academic performance.

### Objectives of the Test and Retest Program

1. Assess performance Consistency
2. Track Progress and Improvement
3. Identify Effective Interventions
4. Provide Tailored Support

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Mohammed Anas.u
Roll no: 29
IVth year

Conservative dentistry and Endodontics

22
/40

1 Access Cavity

Access cavity is defined as the preparation on the occlusal or lingual surface to obtain a straight line access to the canal for obturation

principles to be followed during access cavity preparation

1) Outline form
2) Convenience form
3) Deroofing
4) Irrigation
5) obturation

access cavity preparation for upper central incisor

⇒ Depth of the ~~root~~ canal and pulpstone is assed by placing bur and hand file ~~during~~ through radiograph
Cavity preparation is done ~~on~~ ~~occlusal~~ or lingual surface.
at the Cingulum.

Gingival margin can retract and incisal margin can abrade which can alter the Correct position

Cingulum is always almost in the Crrct position for the Cavity preparation

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Mohammed Anas U
Roll no: 27
Part-2 regular

Conservative and Endodontics.

2 Contents

- Goals of Isolation
- Methods used for moisture Control
- Rubberdam

-35-
10

## Goals of Isolation

⇒ better access to the operating field
⇒ Better visibility to the area of operation
⇒ prevent Contamination of the operating area
⇒ Moisture Control
⇒ To maintain the field dry
⇒ prevent Saliva Contamination
⇒ Better focus to the Area of operation.
⇒ for detraction of the adjacent structures
⇒ prevent injuries to adjacent structure
⇒ prevent Contamination of the restoration materials.

## Methods used for moisture Control

### Mechanical

⇒ cotton rolls
⇒ Rubber dam
⇒ High volume Suction tubes
⇒ low volume Suction tubes

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MUSFIRA.H.K
ROLLNO.-30

Conservative & endodontics.

1) # ACCESS CAVITY

25/70

Definition Contents

1) Definition
2) Principles
3) Access cavity preparation for upper central incisor.

1) Definition

Access cavity is defined as the coronal endodontic preparation which enables the accessto the unobstructed access to the canal orifices, access straight line, access to the apical foramen, control over the instrumentation, space for the accomodation of the filling material.

2) Principles

a) outline form.

b) convinience form.

c) Removal of the caries tooth, discoloured tooth, calcified, pulp.

d) Toilet for the access cavity.

a) outline form.

→ It is the coronal external extension of the internal structure of the cavity. which makes

→ creates an outline form for the access cavity in the coronal portion of the tooth.

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MUSFIRA.H.K
Roll no.-28

Conservative and Endodontics

3) Short Essay

Hypersensitivity.

-34½/70

Contents

Content - Definition.
- Etiology.
- Management.
- Theories

Definition:- Dentin hypersensitivity is defined as sharp pain arising from exposed dentinal tubules in response to stimuli typically thermal, evaporative or osmotic which cannot be explained as any other form of dental disease or defect.

It is not related to the any pathological or physical pathology like pulpal or periapical pathology.

Etiology
- Wasting diseases - E
- Gingival recession - E
- Deep dental caries
- Non-caries like, attrition, abrasion, erosion.
- Root fracture.
- Periodontal surgery.
- Errors while pulp during Endodontic surgery.
- Periodontal pocket.
- Wearing of the tooth.
- Defective cavity preparation.
- Exposure of the dentinal tubule by calcium hydroxide.
- Contamination of dentinal tubule by the saliva
- Abrasion.

2

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SREELAKSHMI. P.S
Part 1 Regular.
Roll No: 48

19/10/23

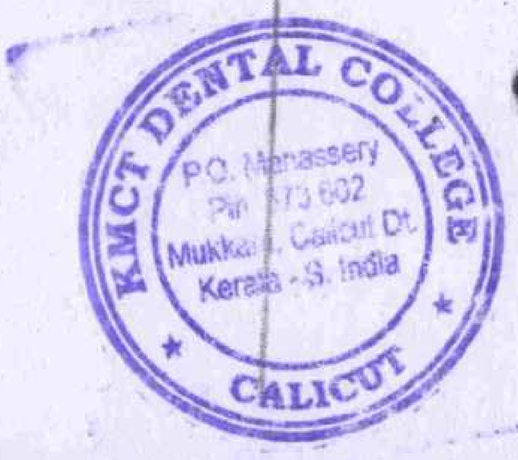
'Conservative Dentistry & Endodontics'

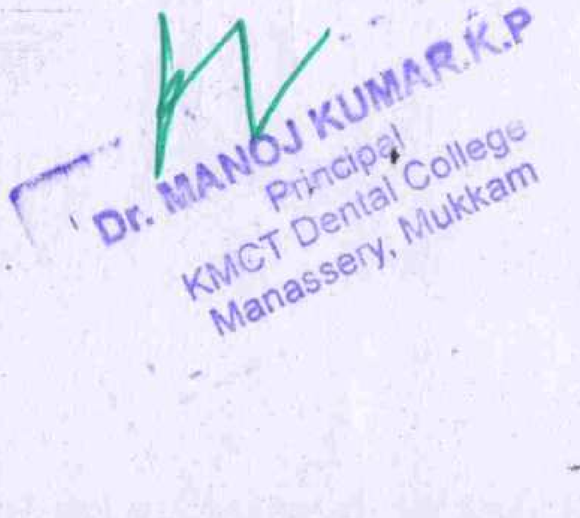
1. Access Cavity is defined as an Endodontic preparation where the unobstructed canal Orifices, a straight line access to the apical foramen, Complete control of instrumentation and accomodates obturation of Techniques.

22/10

Principles

- Outline form
- Convience form
- Removal of infected dentin
- Toilet of Cavity






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22/5/24

SREELAKSHMI. P.S
Final year Part II
Roll. No : 46

CONS & ENDO

CONTENTS

1. Introduction
- classification of root canal irrigants
- Role of irrigant
- Chlorhexidine
- Conclusions.

35/70

## Introduction

Irrigation is done to clean the root canal. debridement is the main aim

Irrigant is the only way to clean the areas & walls that is untouched by instruments such as files, anastomosis etc.

## Ideal property of an irrigant.

- It should be Bactericidal
- It should be non irritant
- dissolve the Necrotic pulp
- dissolve the Grafts
- It should be easily available
- affordable.
- Stable

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Conservative & endodontic
First internal

Hiba Rahman
Roll no: 20
Part 1

1) Access cavity

Definition

Access cavity is the coronal preparation of teeth to obtain control over instrumentation, straight access to root canal, ~~for~~ applicable for obturation technique

objective of access cavity preparation is to

access cavity preparation for upper central incisor

- Cavity is prepared through the occlusal or incisal aspect
- the small round bur is used to preparation
- once the enamel is penetrated, the bur is placed 45° to the long axis and penetrated until a drop in is obtained and it is, to the pulp chamber.
- after that occlusal surface is removed in a direction from inward to outward.
- using a ~~*~~ x. cradle the lingual shoulder is removed
- lingual ~~shoulder~~ shoulder is the prominence of dentin formed after removal of occlusal wall.
- all other projection or calcification - Pulpstone are removed and there will be a straight access to the apical.

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Conservative and endodontics

Hiba Rahiman K.P
Final part II
Roll no: 19

31 1½ pl.
70

3) Hypersensitivity

Hypersensitivity is defined as sharp, short pain caused due to exposure of dentin when affected by a stimuli such as thermal, chemical, osmotic or cold, which cannot be ascribed to any other pathology

32/70

etiology

- primary cause of dentin hypersensitivity is due to exposure of dentinal tubules
  - mat Commonly caused by periodontal lesions
  - due to caries
- gingival recession.
  - due to gingival recession, the dentin get exposed in the cervical or root areas, and when stimuli occurs it stimulates the nerves in the dentinal tubules which causes pain and sensitivity
- may be also due to plaque accumulation, ~~tooth~~ exposure to acids, tooth brushing techniques
- abrasion, abfraction, dental caries. it can also lead to dentin hypersensitivity

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# DEPARTMENT OF PERIODONTOLOGY

## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS



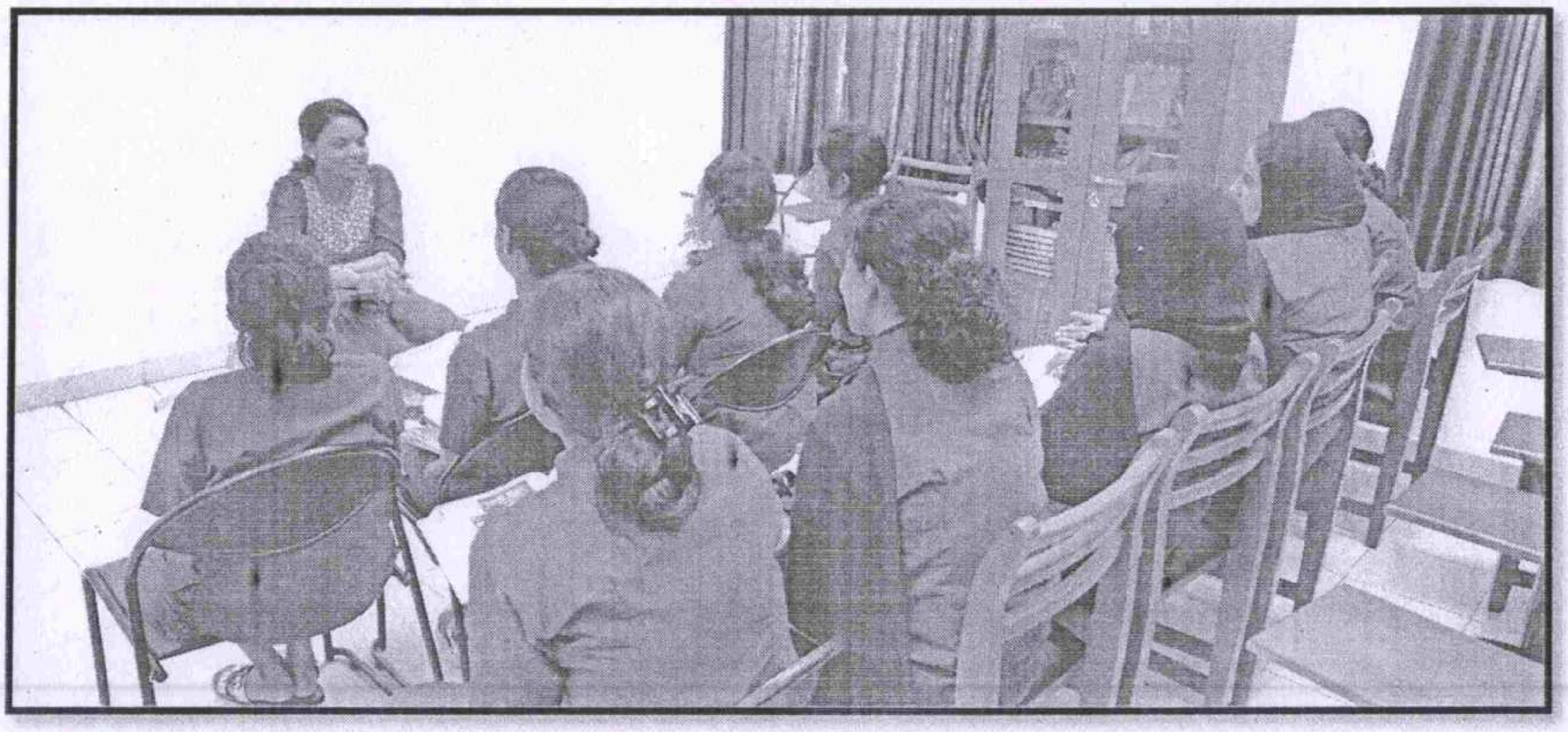
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**Continuous Monitoring and Individual Attention by Mentors:**

- Each student receives personalized attention from assigned mentors who regularly monitor their academic progress, identify areas of improvement, and provide guidance and motivation.



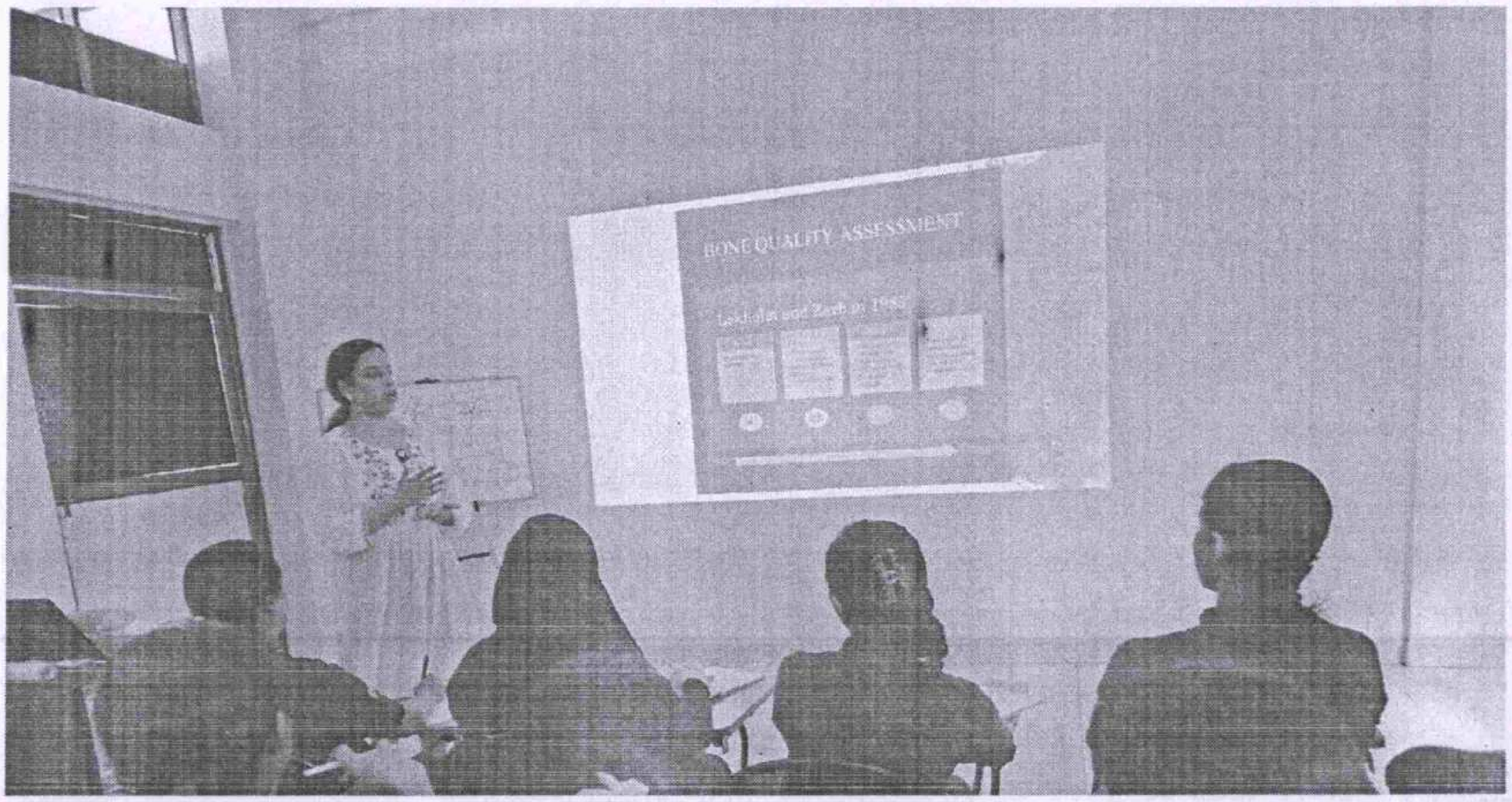


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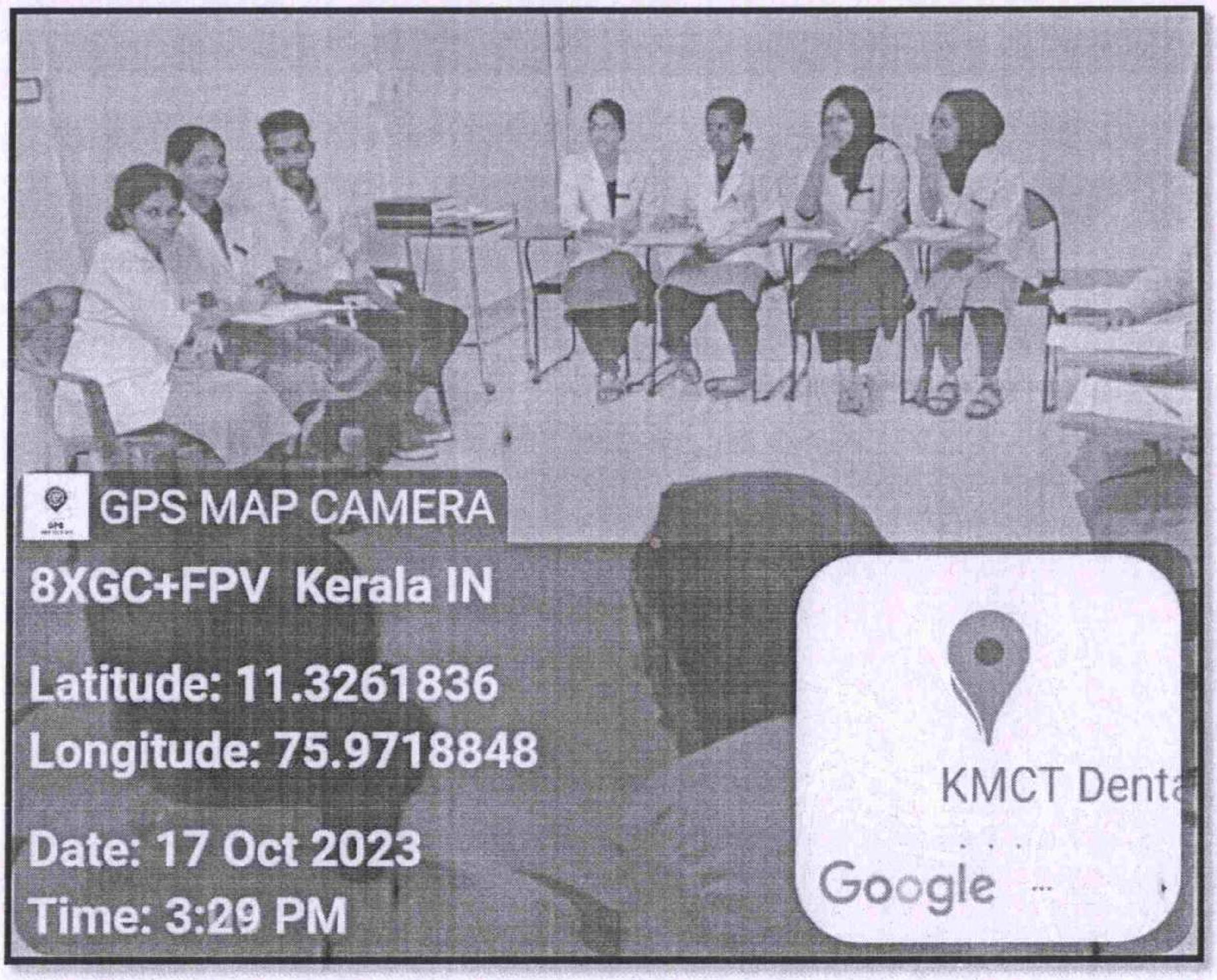
**Special Classes with Subject Experts**:

- Additional classes are conducted by the subject experts for slow learners which prioritize concept clearance by attention and weightage given to doubts raised by the students on certain topics. These sessions provide handling of challenging topics as well.






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## Counseling for Students and Parents with Psychologists:

- We have been instrumental in conducting regular therapy sessions for both students and parents to help them overcome their concerns academically by alleviating study related stress and thereby enhancing their mental well-being in a tangible way.



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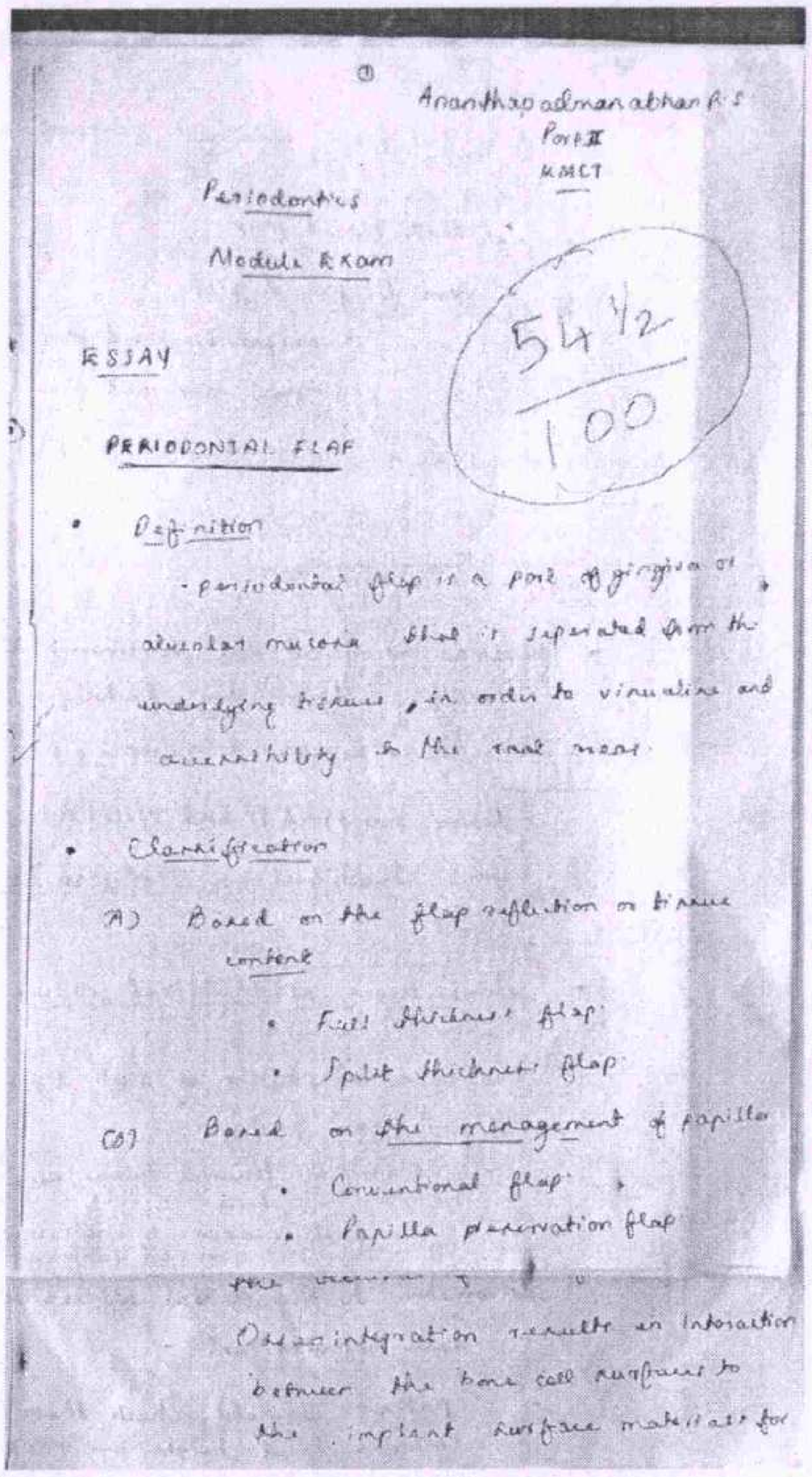
## Periodical Assessments with Class Tests and Evaluation:

- Structured class tests and assessments are conducted to track progress, point out weak areas, and provide timely feedback. Enabling students to appraise their foibles and diligence.



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① Ananthapadmanabhan A.S
Part II
KMCT

Periodontics

Module Exam

54 1/2
100

ESSAY

PERIODONTAL FLAP

- Definition

- periodontal flap is a part of gingiva or alveolar mucosa that is separated from the underlying tissues, in order to visualize and accessibility to the root more.

- Classification

A) Based on the flap reflection or tissue content

- Full thickness flap
- Split thickness flap

(B) Based on the management of papilla

- Conventional flap
- Papilla preservation flap

the manner ...

Osseointegration results in interaction between the bone cell surface to the implant surface materials for

- **Rapid Revision and Revision Tests Before University Examinations:**

Special revision sessions are organized before exams to quickly recap the syllabus, focusing on key topics Revision tests simulate exam conditions, aiding students in practicing time management.

**TOPICS FOR REVISION TESTS**



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## Encouragement of Collaborative Study with Advanced Learners:

- Cluster study groups are formed by procuring the help from brisk learners. We make sure we create an acceptable learning abode, where the brisk learners aid in the guidance of their contemporaries in comprehending the difficult topics



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| Sl. No: | TOPIC |
|---|---|
| 1 | Gingiva |
| 2 | Cementum |
| 3 | Alveolar bone |
| 4 | PDL |
| 5 | Microbiology of plaque |
| 6 | Calculus |
| 7 | Host microbial interaction |
| 8 | Host modulation |
| 9 | Perio medicine &influence of systemic diseases on the periodontium |
| 10 | Defense mechanism of gingiva |
| 11 | Desquamative gingivitis |
| 12 | Periodontal pocket |
| 13 | TFO & Occlusal evaluation and therapy |
| 14 | Chronic periodontitis |
| 15 | Ag periodontitis & treatment of aggressive and atypical forms of periodontitis |



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# KMCT DENTAL COLLEGE

MANASSERY, KOZHIKODE

Part I .....Year BDS.....Internal Examinations

| Date: 27/11/23 | Roll No: 07 |
|---|---|
| Name of Student: | Abya MM |
| Subject of examination: | Periodontics |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | Total Marks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 4½ | 4½ | 4½ | 5 | 2 | 3 | 2½ | 2½ | NA | 2½ | 1 | 0 | 3 | 2½ | 1 | 34.5 |

| Signature of Invigilation Faculty | Signature of Valuation/In charge Faculty |
|---|---|
| | |

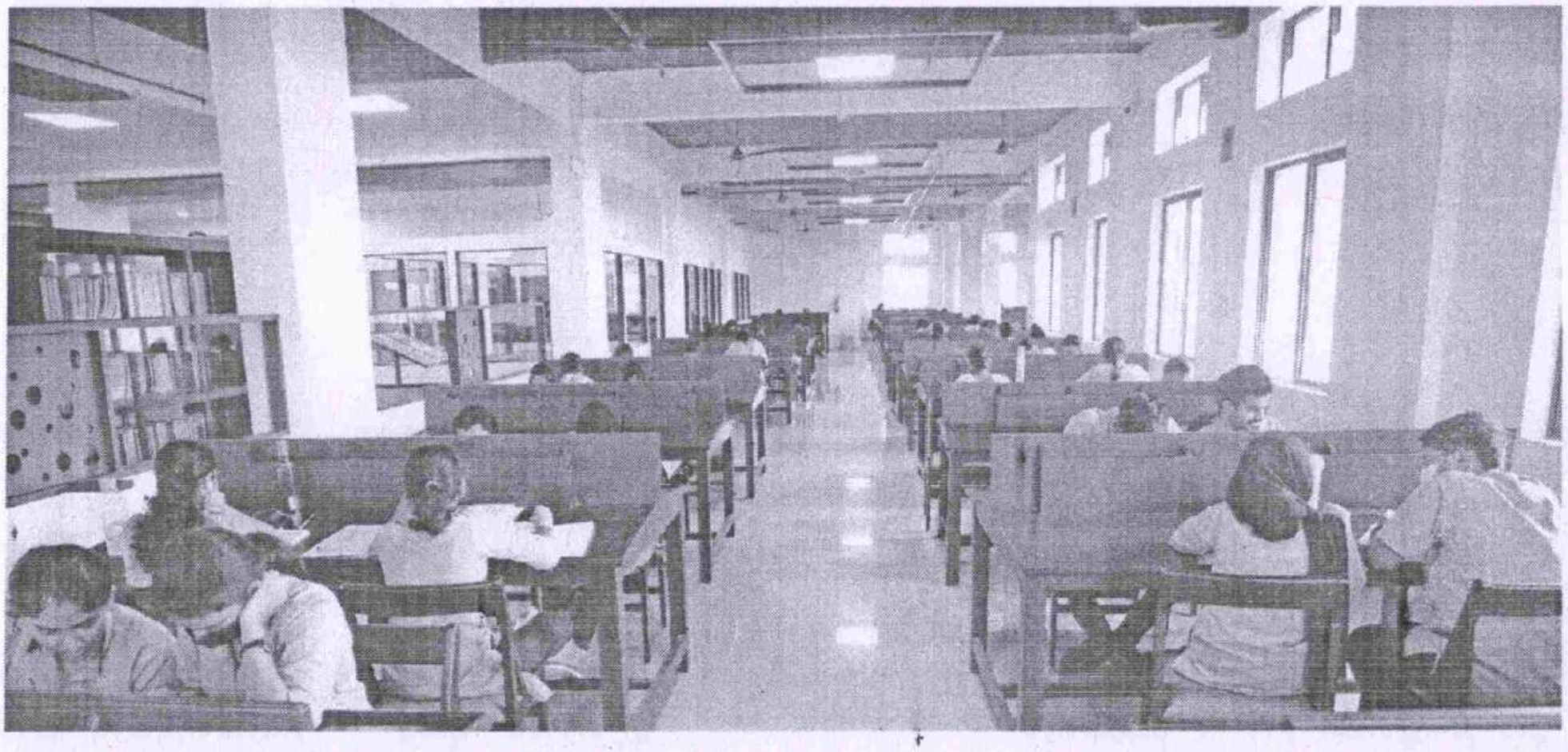


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**Encouraging Reading Books with Simple Language**:

- Improving the perception and knowledge about complex topics is carried out by encouraging students to read auxiliary textbooks which is easier for their discernment.

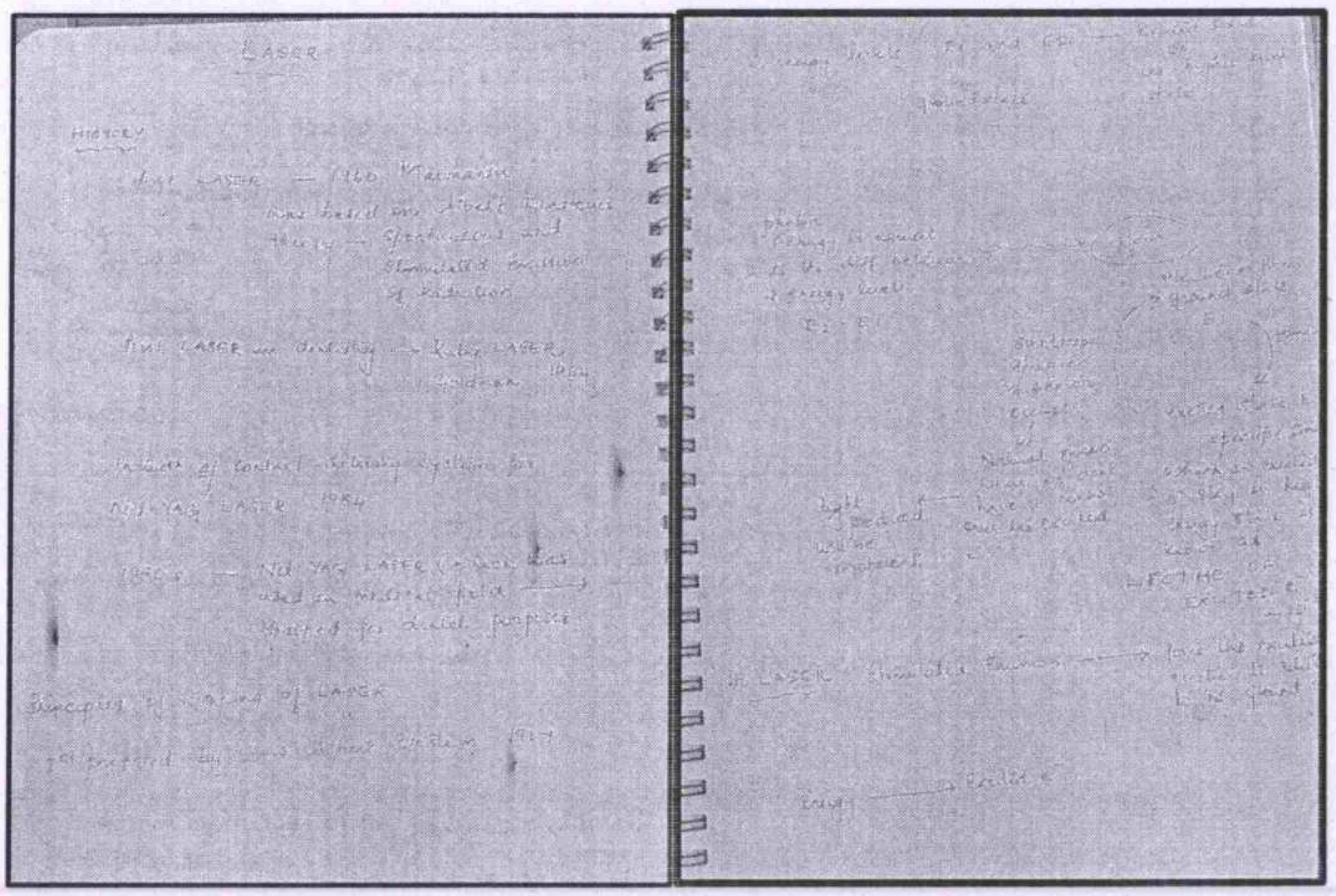




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**Provision of Special Notes**:

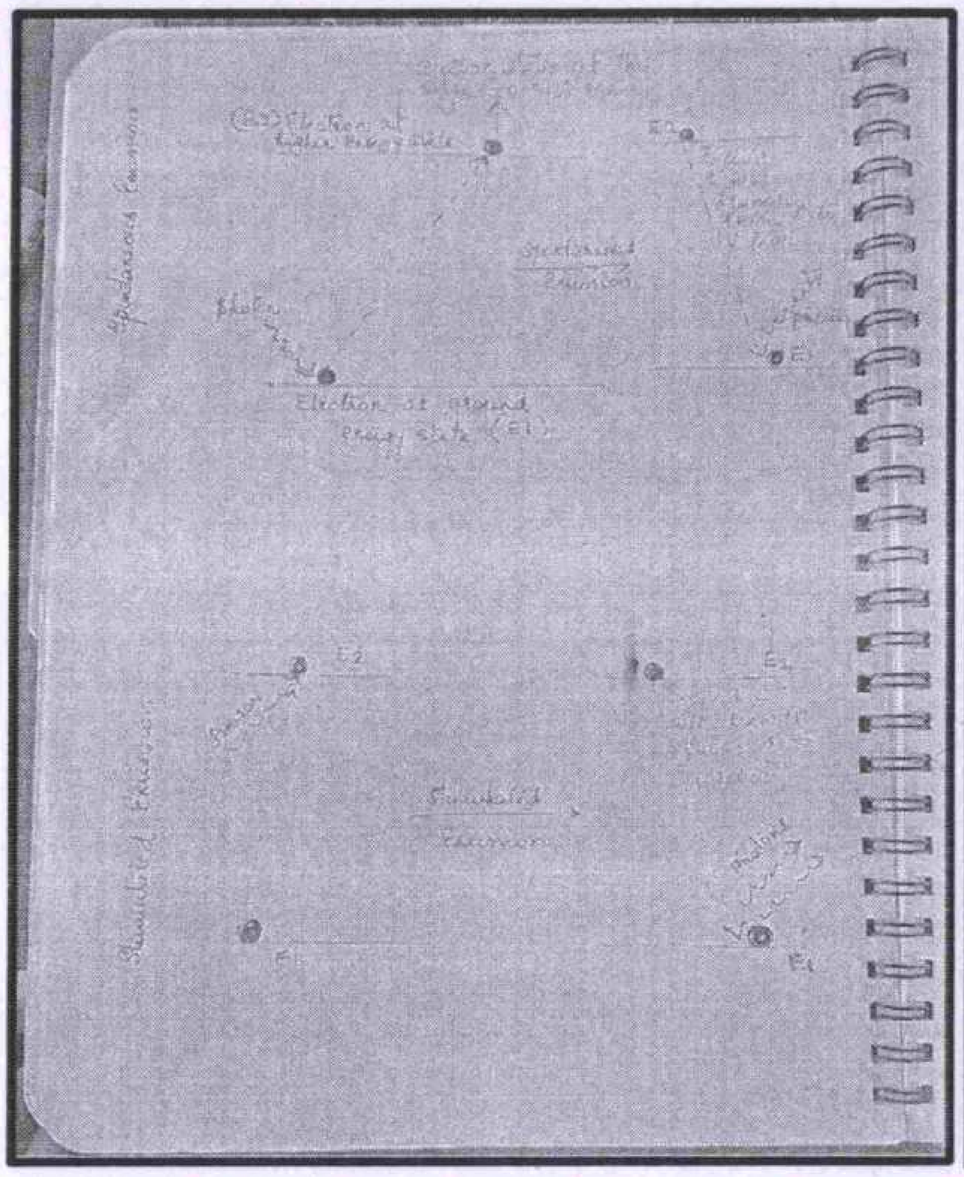
- Proficient study materials, with simplified notes and summaries, are provided to slow performers helping them in skilled learning and mastering how to reciprocate the same in exams.

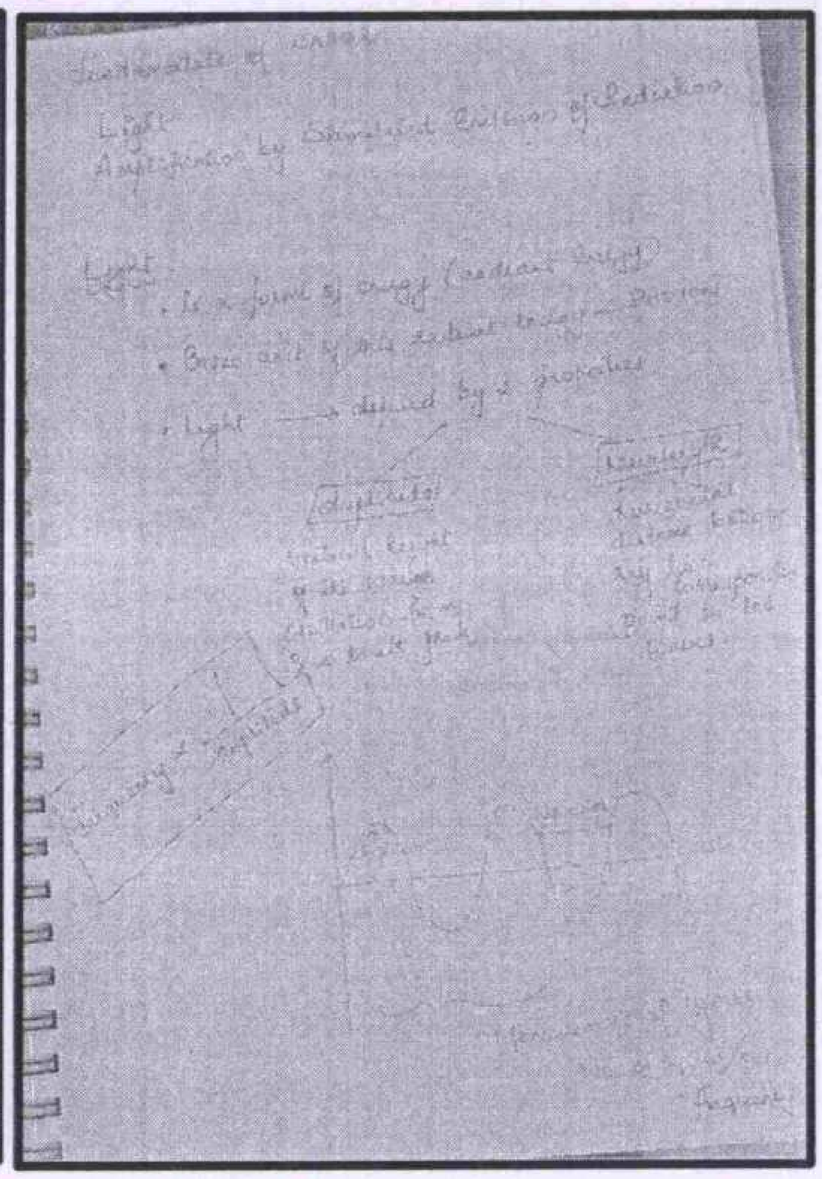


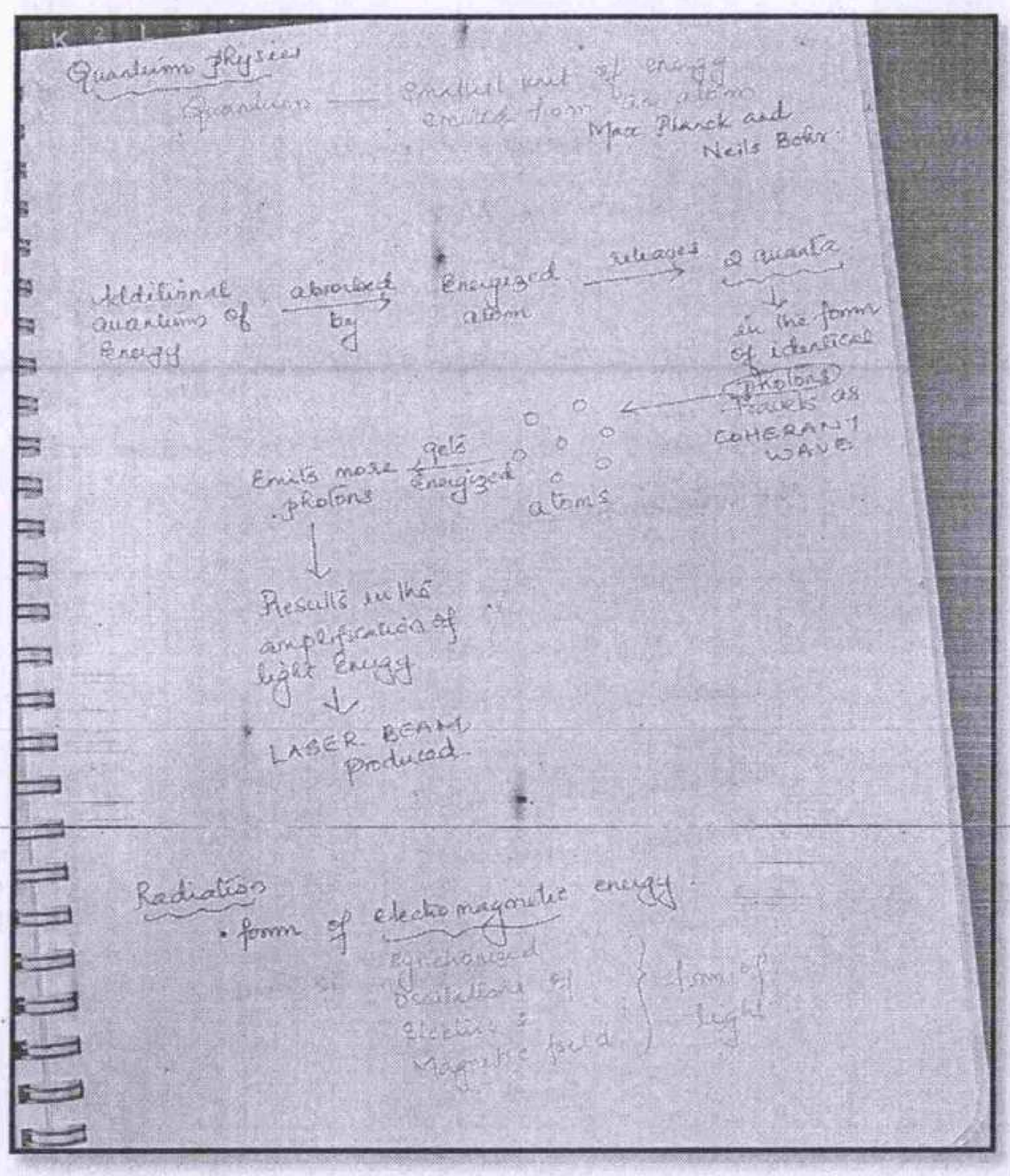



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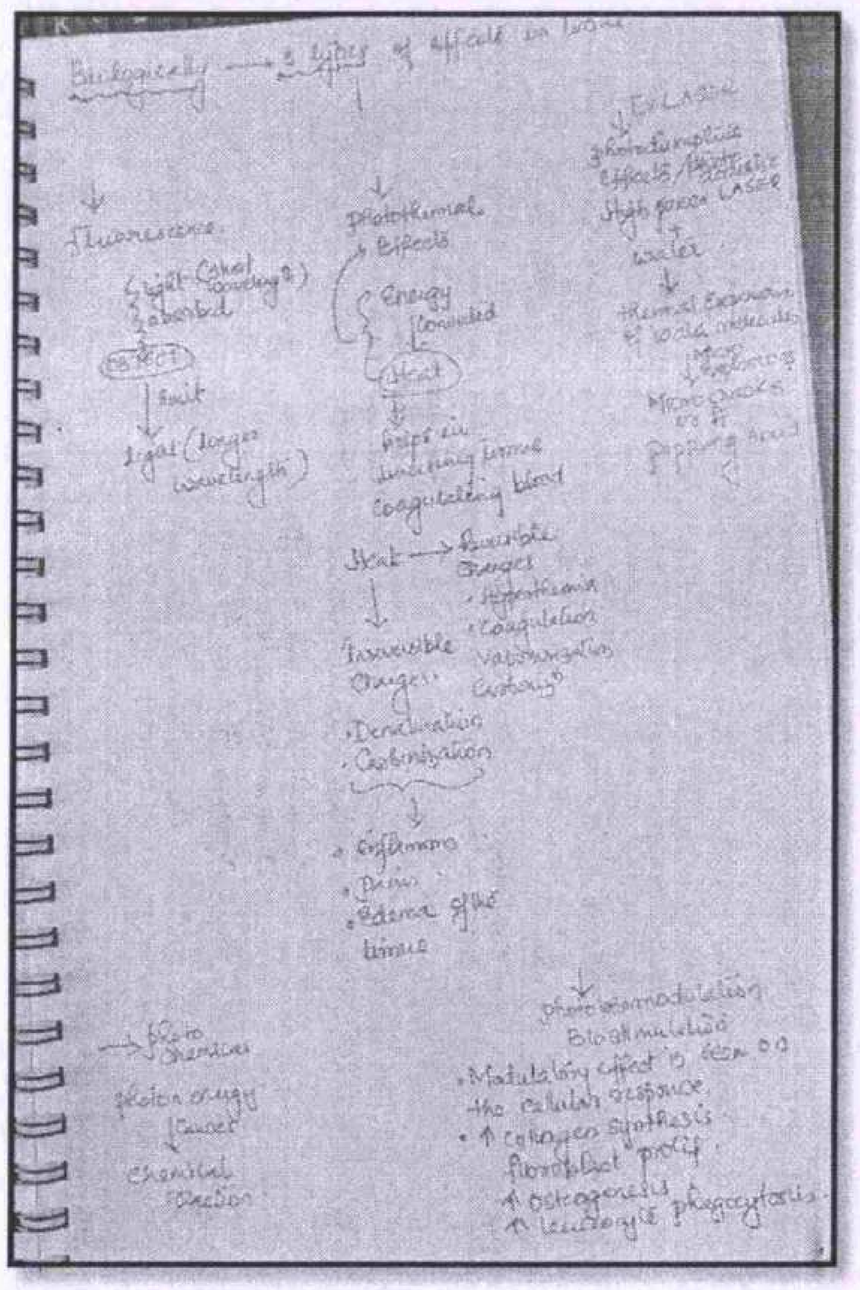


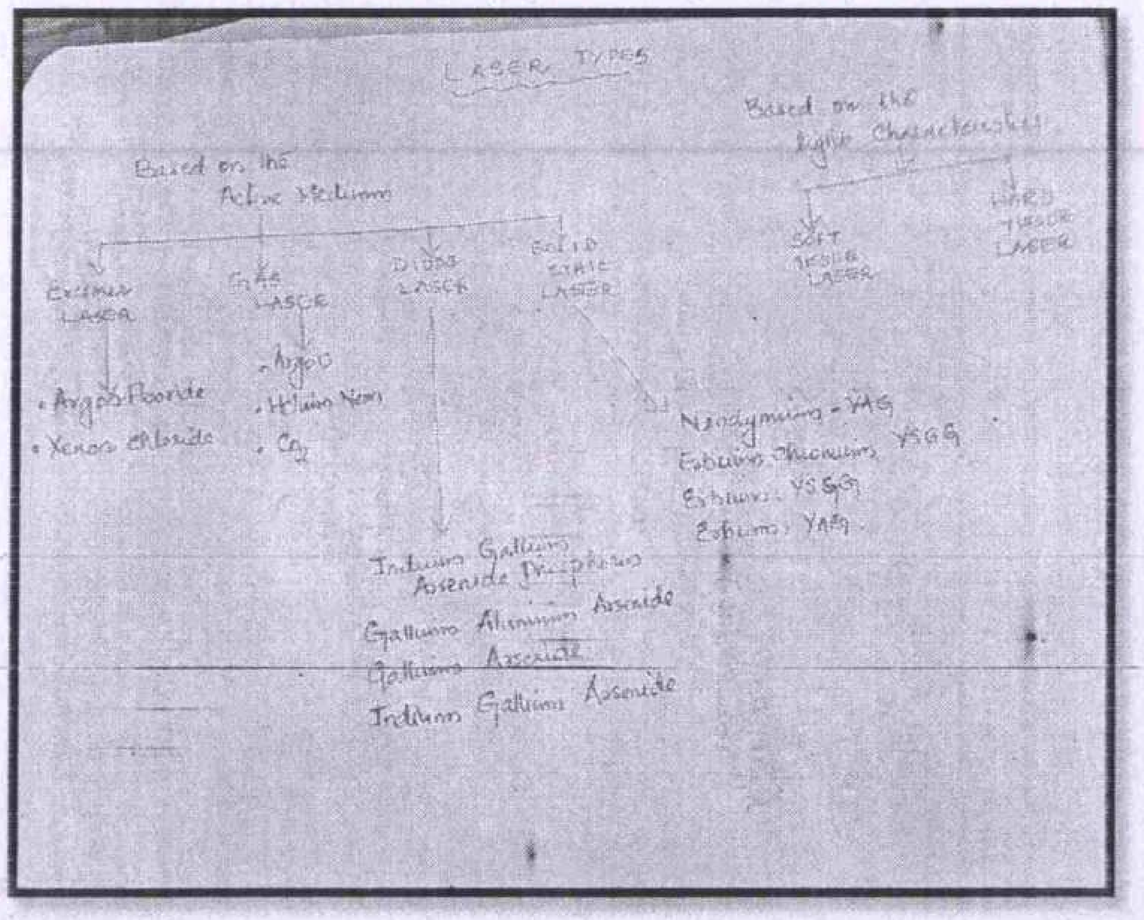






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**Customized Learning Plans**:

- Tailored learning plans are designed to cater to specific learning styles, pace, and requirements, ensuring a more personalized learning experience.

| LESSON PLAN | | | | | |
|---|---|---|---|---|---|
| **Lesson Title:** | Chronic Periodontitis | | **Lesson No.** 32 | **Date:** | |
| **Teacher** | Dr. Anish Varkey | **Subject** | Periodontology | **Class** | Part I (R) |

**Goal:** To make students aware of etiology, clinical features, types of progression, radiographic findings of Chronic periodontitis

**Learning outcome/ objectives:** At the end of the class the student should be able to

1. Understand the aetiology, diagnosis clinical features, radiographic findings and treatment/
2. Understand the difference in systemic associated periodontitis and due local factors.
3. Answer the question in theory exam and viva

**Prerequisite Concepts and Skills:** The student is required to know basic defence body mechanisms.

**Materials and Resources:**

| Teacher | Students |
|---|---|
| • Custom prepared power point of the topic<br>• Black board | Note book |



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**Lesson Activities:**

| Teacher Activities | Student Activities | Time |
|---|---|---|
| • Introduction (anticipatory set):<br>• Etiology<br>• Body: Detailed description about chronic periodontitis, diagnosis and their treatment procedures.<br>• Closure: Recent concepts<br>• Students will be encouraged to answer the puzzles and clinical photographs to assess that learning objective is achieved and show published articles. | • Listen to the class<br>• Make notes and write down important points<br>• Answer the questions, recent articles and clinical photographs. | 1 hour |

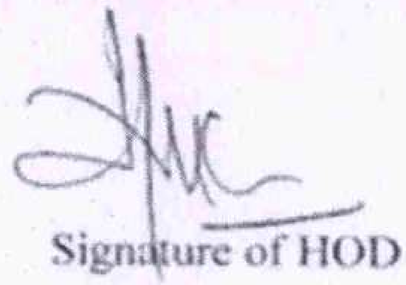
**Strategies**: Students are made sit comfortably. All students should have a proper view of power point display and black board. Question and contributions will be encouraged from the students.

**Assessment and evaluation**: At the end of the class students will be asked to answer the questions and evaluate few clinical photographs.

**Extensions**: The students will be able to link this topic with number of systemic /medical conditions and sequences and their treatment approach.

**Differential instruction**: Differentially able and gifted students will be challenged with the relevant questions and clinical puzzles.

**Reflections:** Feedback from students will be obtained about the class.



Signature of HOD

Head of Department
Dept. of Periodontics
K M C T Dental College, Calicut

**Signature of HOD**

**Department of Periodontics**



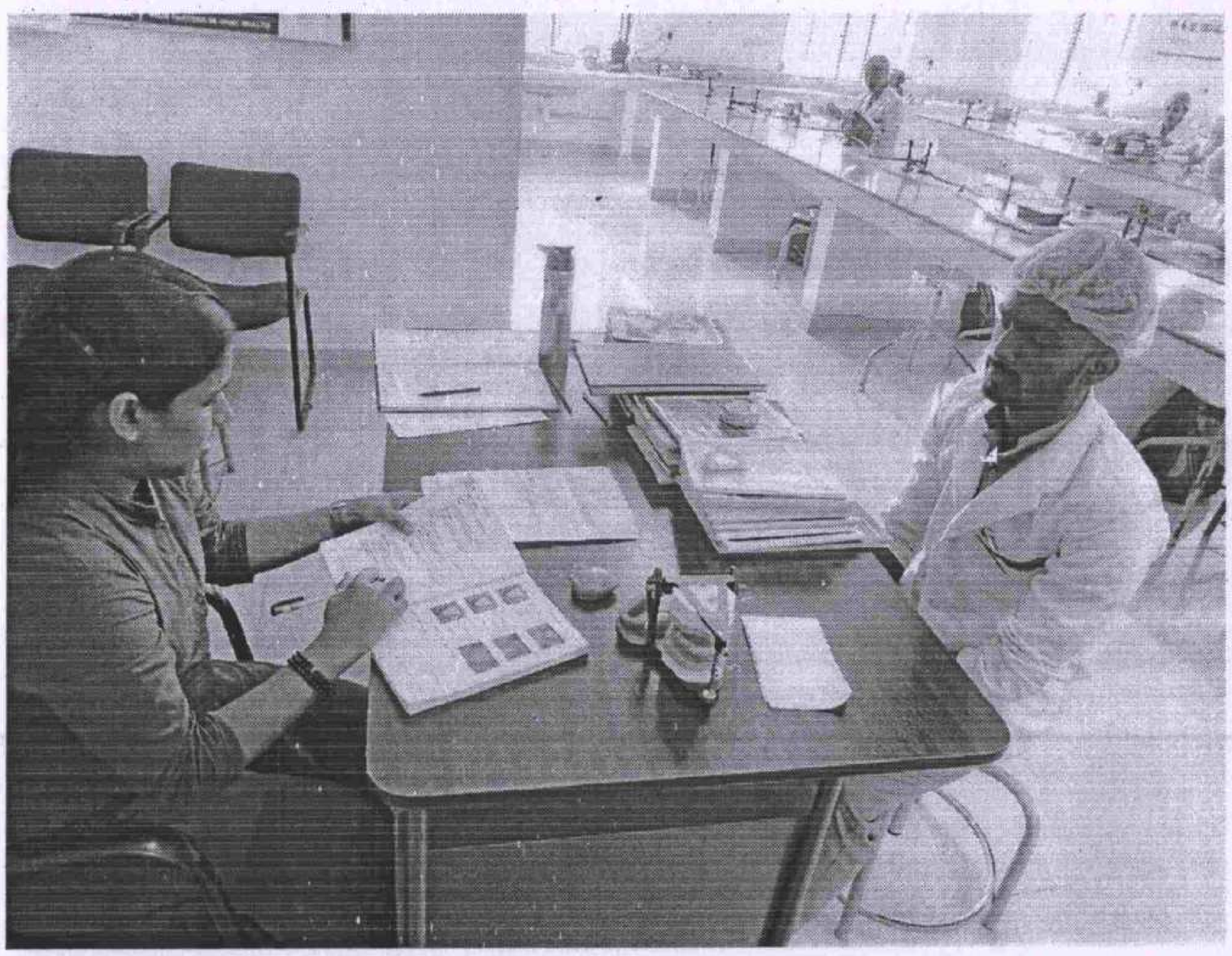
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# DEPARTMENT OF PROSTHODONTICS ,CROWN BRIDGE AND IMPLANTOLOGY

## DETAILS OF SPECIAL PROGRAMS FOR FAST LEARNERS

**Continuous Monitoring and Individual Attention by Mentors**: Each student receives personalized attention from assigned mentors who regularly monitor their academic progress, identify areas of improvement, and provide guidance and motivation.



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- **Special Classes with Subject Experts**: Slow performers attend additional classes conducted by subject experts. These sessions focus on clarifying concepts, addressing doubts, and providing extra guidance on challenging topics.



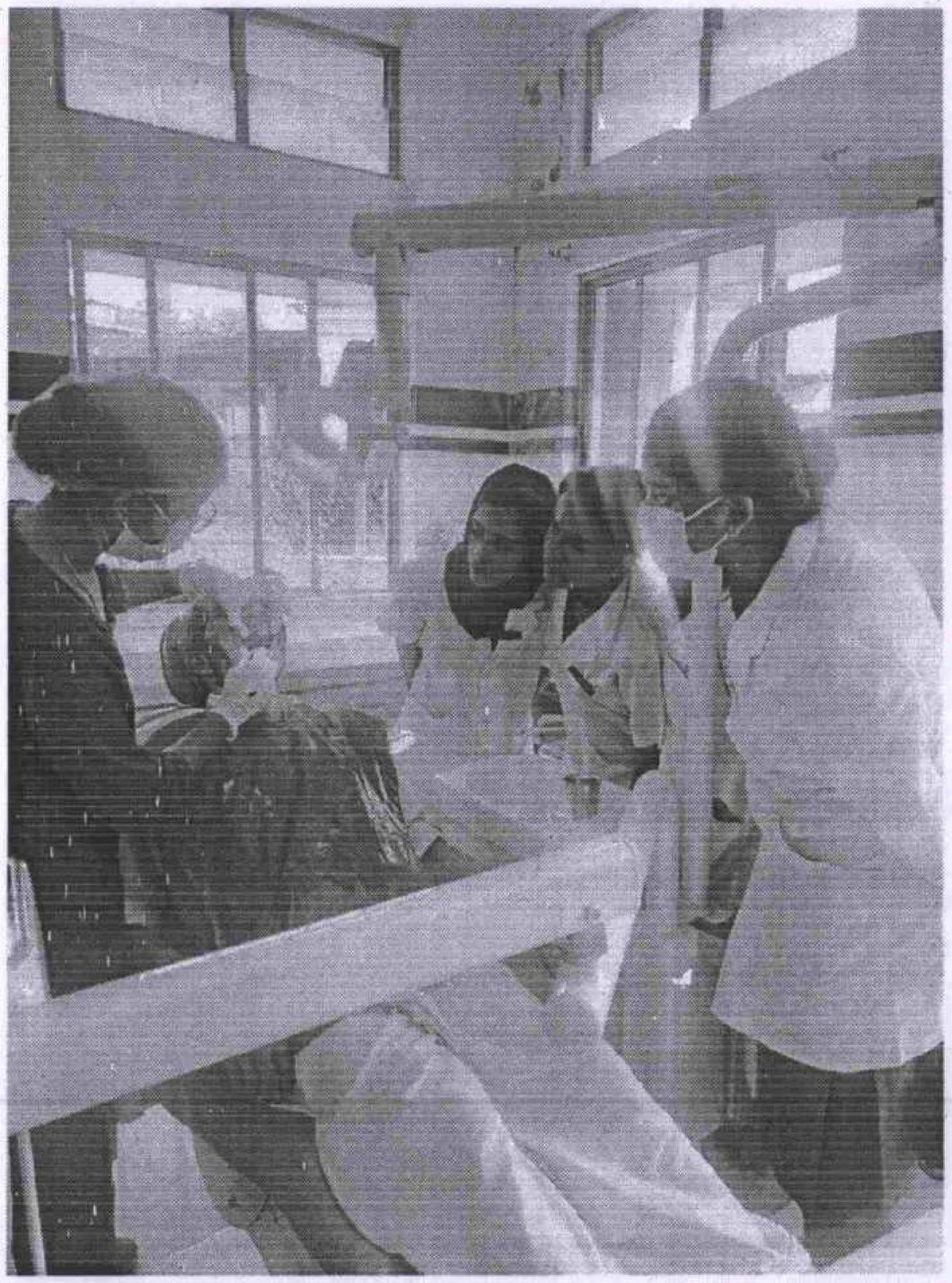
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**Encouragement of Study with Clinical exposures s**: study groups are formed, and clinical exposures were given .which help in understanding the subject better.



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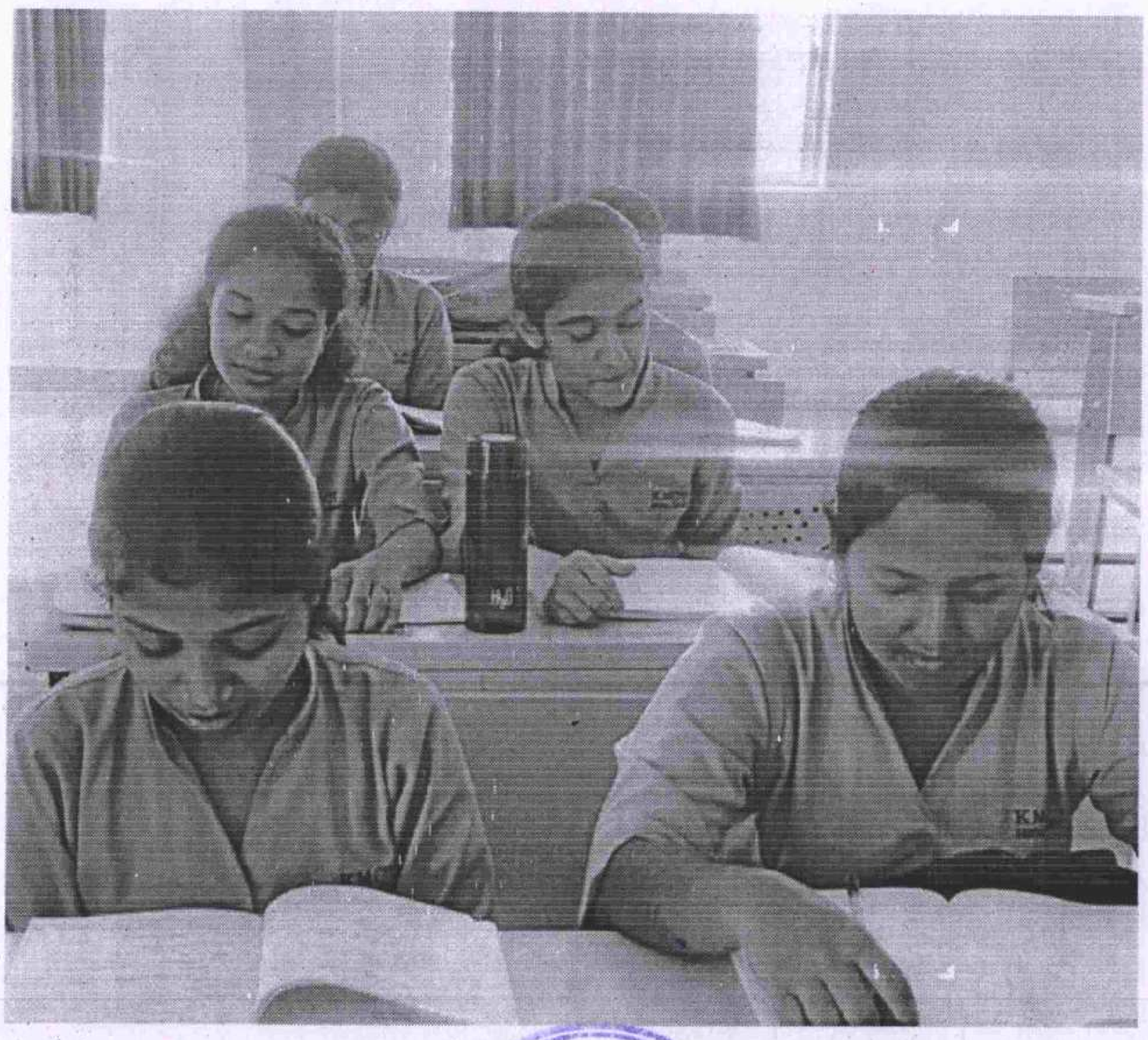
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**Encouraging Reading Books with Simple Language**: To improve comprehension and understanding, students are encouraged to read.



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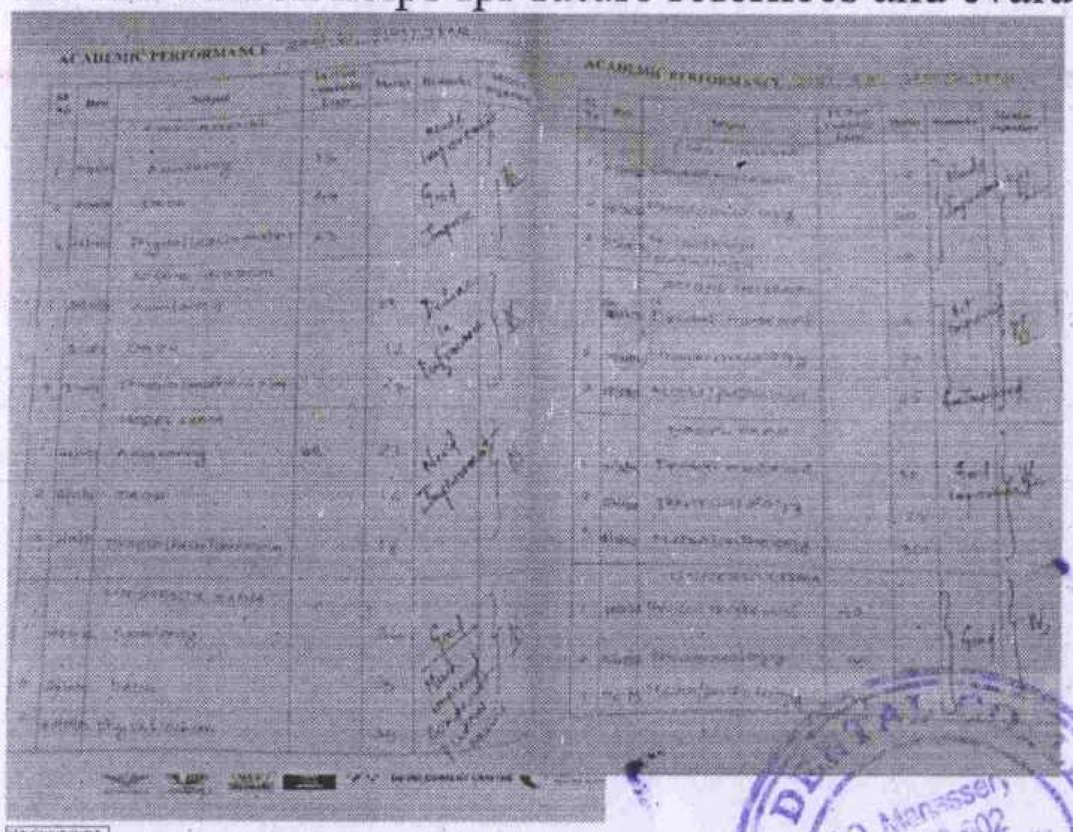
# DEPARTMENT OF PROSTHODONTICS

## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

**Continuous Monitoring and Individual Attention by Mentors**: Each student receives personalized attention from assigned mentors who regularly monitor their academic progress, identify areas of improvement, and provide guidance and motivation.



Mentors and mentees are maintaining a logbook for each meeting. Mentorship documentation is done in a structured format, to assist the students in all areas of development, and this documentation helps fpr future refernces and evaluation.




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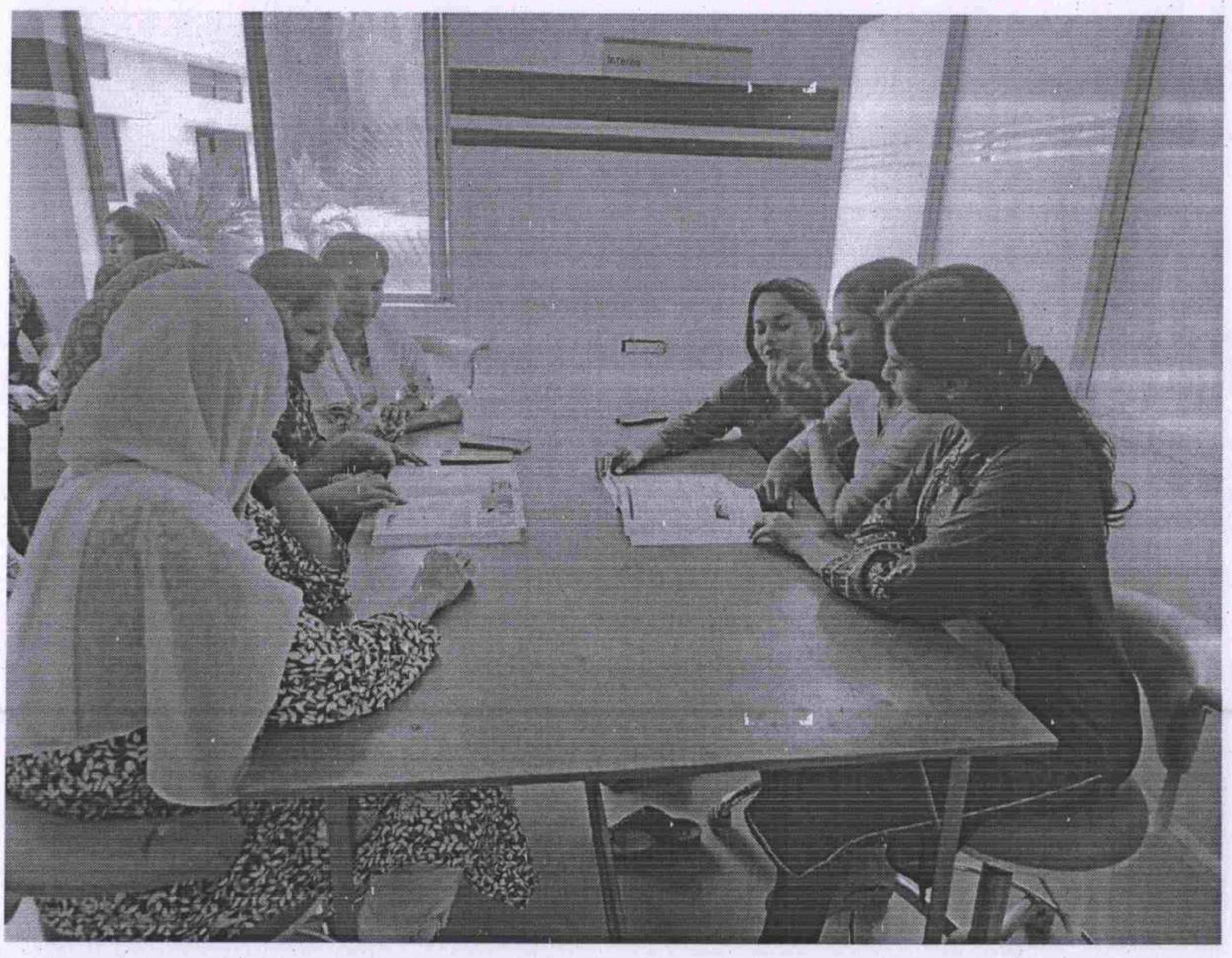


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**Special Classes with Subject Experts**: Slow performers attend additional classes conducted by subject experts. These sessions focus on clarifying concepts, addressing doubts, and providing extra guidance on challenging topics.

**Encouragement of Collaborative Study with Advanced Learners**: Collaborative study groups are formed, pairing slow performers with high-achieving peers. This fosters a supportive learning environment where advanced learners mentor and assist their peers in understanding complex subjects



Advanced learners's helped the slow learners in making notes and aidentifying the key areas while studying and writing exams.

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# Resin bonded bridges:

A fixed partial denture that is luted to tooth structure, preferably enamel, which has been etched to provide micromechanical ret for the resin luting agent.

Classification

acc to metal surface finishing technique

Rochelle bridge - macromechanical retent

Maryland bridge

Rochette bridge

Alain L Rochette (1973) - French physician and dentist

retentive holes in wings

funnel shaped

1.5 mm inner diameter

each perforation (hole) should be 1 mm apart

if holes are too close ⇨ breakage of weakened wings

wider opening towards outside

exposed resin is subjected to wear

1mm

diameter inner - 1.5 mm

Mechanical - Rochelle bridge

Micromechanical - Maryland bridge

Macromechanical - Virginia bridge

Cast mesh fixed Partial Denture

Chemical (Adhesive bridges) - Modified Bis-GMA cement
- superbond
- rocatec system

# Soft excision

palatal torus

mandibular - lingual, C & PM area, Torus mandibularis

indic? - extremely large filling palatal vault
traumatized overlying mucosa
extend beyond hpc area
Post interference
Deep undercut

small tori - OSTEOTOMY CHISEL

large tori - BUR

- interference
undercut
pain/ulcer?

# buccal exostoses

Ph functional thickening of bone

MAX > MAND

near crest of alv bone @ PM & M region

# tuberosity reduction

supraeruption → red tuberosity

Bone rongeur used.

# frenectomy:

high frenal attachment

indic? of labial frenectomy:
- frenum close to ridge crest
- irritated by flange
- midline diastema

method - (labial)

Diamond type

Z plasty - broad frenum, short vestibule

V-Y plasty

↳ for lengthening localized area

Semilunar incision - broad PM area in region frenum.

lingual frenum - cross diamond.

# epulis fissuratum

benign, pedunculated → excess / redundant tissue of vestibule area c/o over extended denture border.

Cryosurgery, Sharpe excision, Laser, electrocautery

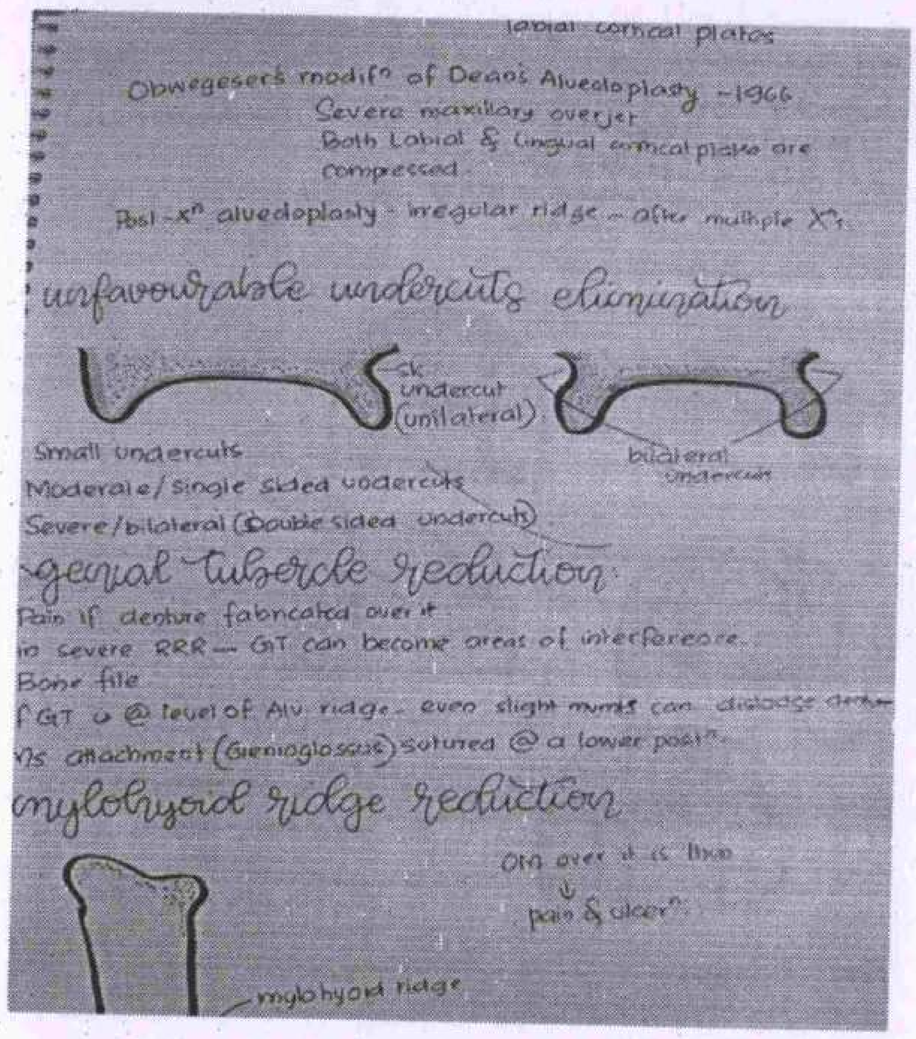
# papillary hyperplasia

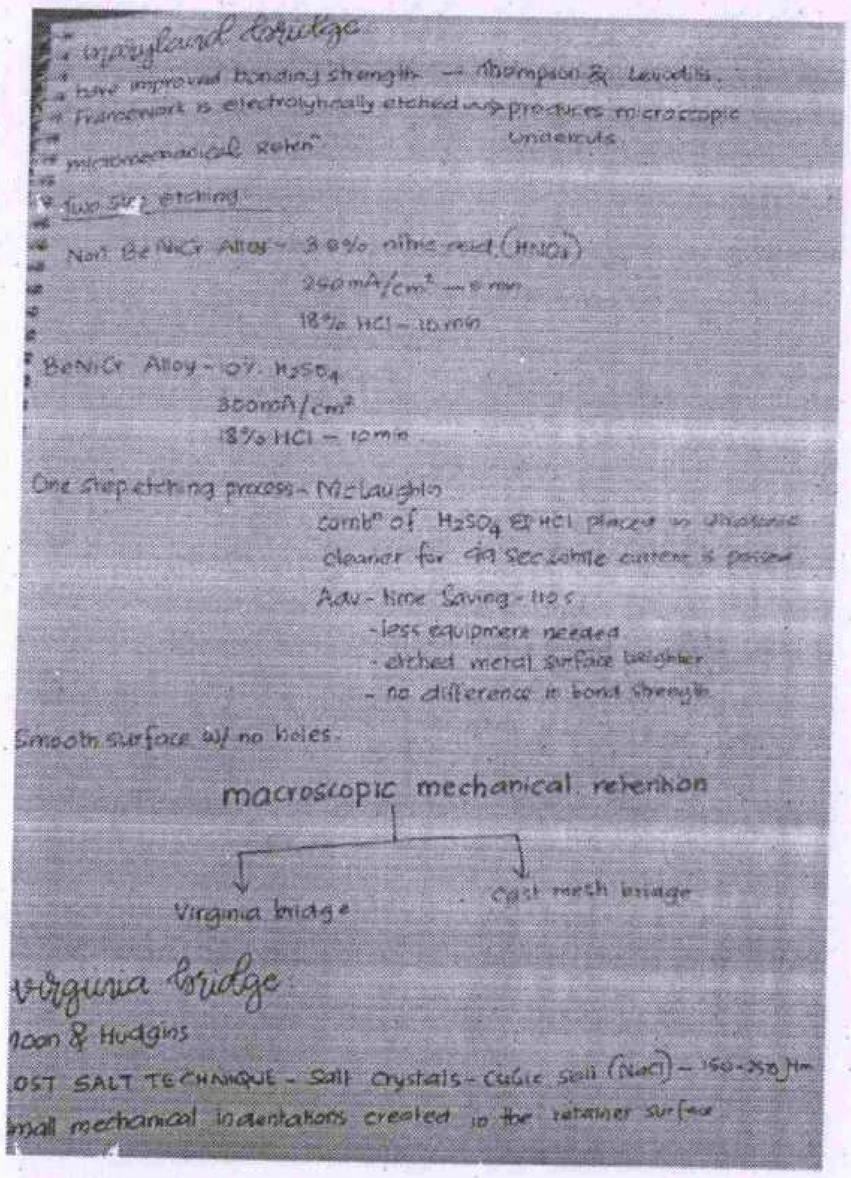
Chr. irritn d/t ill fitting denture

Candida inf? superimposed

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Manassery, Mukkam




**Counseling for Students and Parents with Psychologists**: Professional counselors conduct regular sessions for both students and parents to address academic concerns, study-related stress, and provide guidance on effective study techniques, enhancing mental well-being. This is done under Happiness Department

Parents meeting were conducted on a regular basis for all batches to ensure communication between parents and teachers and to help parents to identify and meet the poroblems faced by slow learners



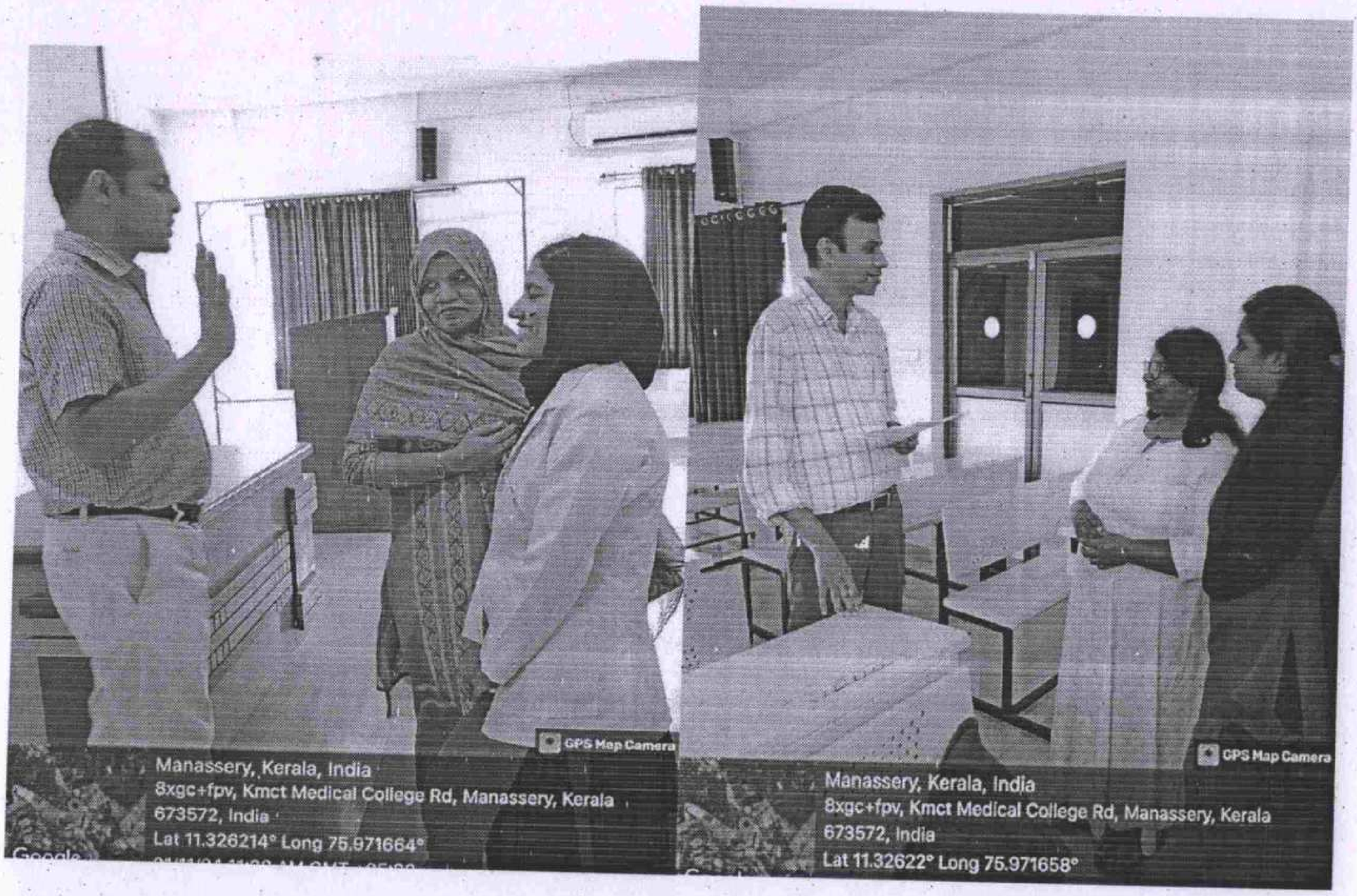

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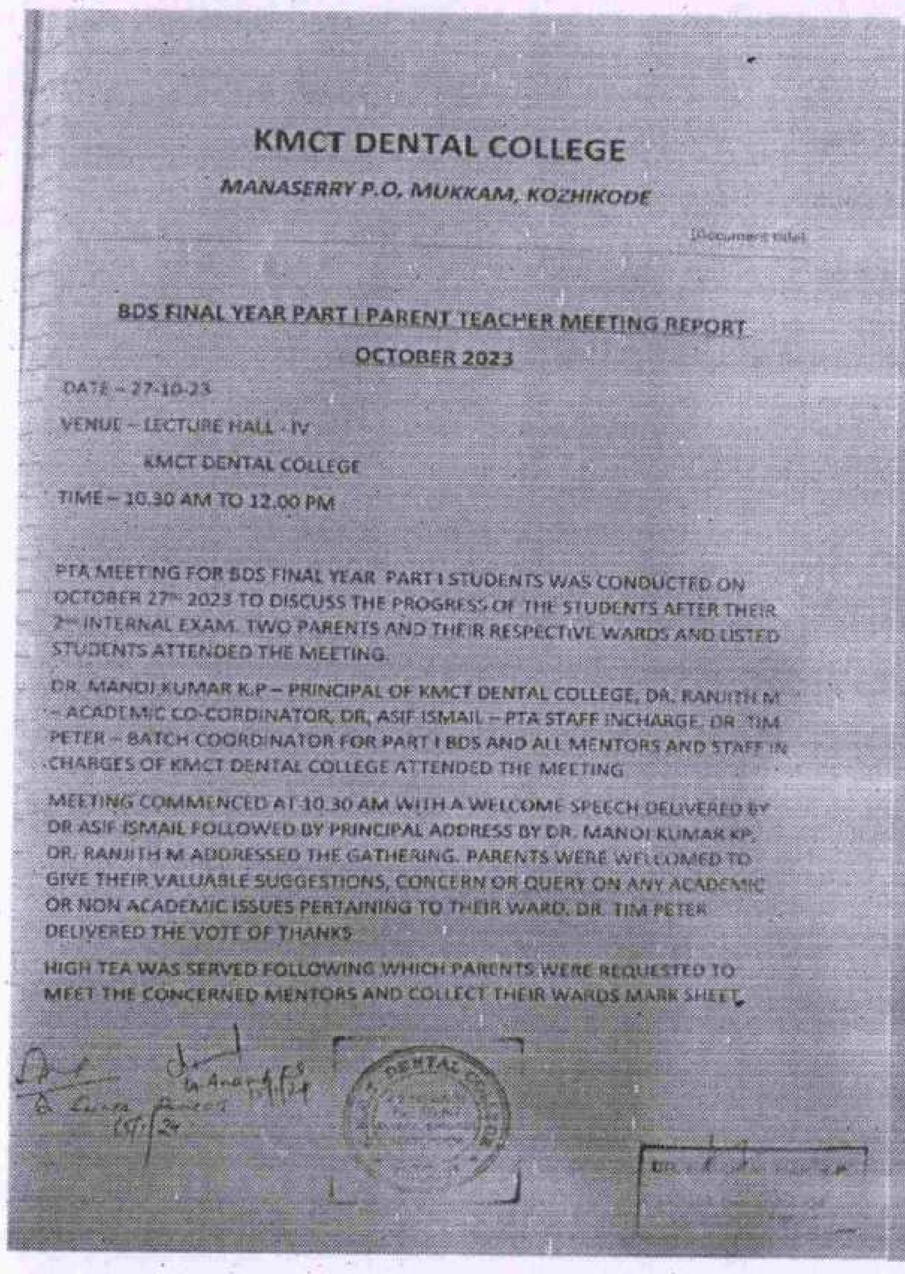
FINAL YEAR BDS REGULAR BATCH PARENTS

MEETING STUDENTS

| Sl No | Name | Reg No |
|---|---|---|
| 1 | Ardra Asok | 190020829 |
| 2 | Abhijith PA | 190020830 |
| 3 | Abhirami SV | 190020832 |
| 4 | Akshay VR | 190020838 |
| 5 | Anjala K Thampi | 190020845 |
| 6 | Grace Eliz John | 190020865 |
| 7 | Hiba Rahman KP | 190020869 |
| 8 | Jomol Ann Joseph | 190020873 |
| 9 | Lazin Fathima | 190020877 |
| 10 | Majidha | 190020879 |
| 11 | Malavika | 190029880 |
| 12 | Merin Mathew | 190020885 |
| 13 | Mohammed Anas U | 190020889 |
| 14 | Nadha Nadeer K | 190020893 |
| 15 | Naji Muhammed N | 190020895 |
| 16 | Neha Shezin MI | 190020900 |
| 17 | Shijas Ahammed MCC | 190020914 |
| 18 | Zeba Nasar | 190020927 |
| 19 | Dhanya Radhakrishnan | 180020441 |
| 20 | Abila J Soman | 170020531 |
| 21 | Ananthapadmanabhan RS | 150021388 |
| 22 | Sanida DS | 130021129 |
| 23 | Sabikha V | 120020717 |

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*MANASERRY P.O. MUKKAM, KOZHIKODE*

BDS FINAL YEAR PART I PARENT TEACHER MEETING REPORT

OCTOBER 2023

DATE – 27-10-23

VENUE – LECTURE HALL - IV

KMCT DENTAL COLLEGE

TIME – 10.30 AM TO 12.00 PM

PTA MEETING FOR BDS FINAL YEAR PART I STUDENTS WAS CONDUCTED ON OCTOBER 27th 2023 TO DISCUSS THE PROGRESS OF THE STUDENTS AFTER THEIR 2nd INTERNAL EXAM. TWO PARENTS AND THEIR RESPECTIVE WARDS AND LISTED STUDENTS ATTENDED THE MEETING.

DR. MANOJ KUMAR K.P – PRINCIPAL OF KMCT DENTAL COLLEGE, DR. RANJITH M – ACADEMIC CO-CORDINATOR, DR. ASIF ISMAIL – PTA STAFF INCHARGE, DR. TIM PETER – BATCH COORDINATOR FOR PART I BDS AND ALL MENTORS AND STAFF IN CHARGES OF KMCT DENTAL COLLEGE ATTENDED THE MEETING

MEETING COMMENCED AT 10.30 AM WITH A WELCOME SPEECH DELIVERED BY DR ASIF ISMAIL FOLLOWED BY PRINCIPAL ADDRESS BY DR. MANOJ KUMAR KP, DR. RANJITH M ADDRESSED THE GATHERING. PARENTS WERE WELCOMED TO GIVE THEIR VALUABLE SUGGESTIONS, CONCERN OR QUERY ON ANY ACADEMIC OR NON ACADEMIC ISSUES PERTAINING TO THEIR WARD. DR. TIM PETER DELIVERED THE VOTE OF THANKS

HIGH TEA WAS SERVED FOLLOWING WHICH PARENTS WERE REQUESTED TO MEET THE CONCERNED MENTORS AND COLLECT THEIR WARDS MARK SHEET

KMCT DENTAL COLLEGE

BDS THIRD YEAR

PTA MEETING

25-10-2023

| SL NO | STUDENT NAME | PARENT NAME | PARENT MOBILE NUMBER | PARENT SIGNATURE |
|---|---|---|---|---|
| 1 | [illegible] | [illegible] | [illegible] | |
| 2 | [illegible] | [illegible] | [illegible] | |
| 3 | [illegible] | [illegible] | [illegible] | |
| 4 | [illegible] | | | |
| 5 | [illegible] | [illegible] | [illegible] | |
| 6 | [illegible] | [illegible] | [illegible] | |
| 7 | [illegible] | [illegible] | [illegible] | |
| 8 | [illegible] | [illegible] | [illegible] | |
| 9 | [illegible] | [illegible] | [illegible] | |
| 10 | [illegible] | | | |
| 11 | [illegible] | | | |
| 12 | [illegible] | | | |
| 13 | [illegible] | [illegible] | [illegible] | |
| 14 | [illegible] | [illegible] | [illegible] | |
| 15 | [illegible] | [illegible] | [illegible] | |
| 16 | [illegible] | [illegible] | [illegible] | |
| 17 | [illegible] | | | |
| 18 | [illegible] | | | |
| 19 | [illegible] | [illegible] | [illegible] | |

**Periodical Assessments with Class Tests and Evaluation:** Regular class tests and assessments are conducted to track progress, identify weak areas, and provide timely feedback. This helps students understand their strengths and weaknesses.

Midposting exams between the postings and module exams were conducted with 2-3 topics. Helps the student to cover maximum topics in detail.

**KMCT DENTAL COLLEGE**

**DEPARTMENT OF PROSTHODONTICS**

**SECOND MODULE EXAMINATION FINAL YEAR PART 2**

**DATE:16/10/23**

**Total Marks :15**

**Long Essay: ( 10 Marks)**

1. Define Single Complete denture. Explain in detail about Maxillary single complete denture. (2+8)

**Short Essay:( 1*5 Marks )**

2. Explain in detail about combination syndrome.

**DEPARTMENT OF PROSTHODONTICS**

**FINAL YEAR PART II**

**MID POSTING EXAM**

**TIME: 1HR MAX. MARKS: 20**

**10 MARKS EACH**

1. WRITE IN DETAIL ABOUT RESTS AND REST SEATS INREMOVABLEPARTIAL DENTURE

2. EXPLAIN IN DETAIL ABOUT TRIAL APPOINTMENT AND TRIAL DENTUREIN COMPLETE DENTURES

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Dr. MANOJ KUMAR.K.P
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1Q) Define indirect retainer. Enumerate position of indirect retainers. Briefly describe type of indirect retainer

2a) Define direct retainer. Describe in detail about requirement of clasp

2b) Classify direct retainers. Name components of clasp assembly. Discuss each component with its function

4Q) Define & classify port. And role of selection of port.

ANSWERS

1Q) CONTENTS → Definition
→ Function
→ Types

Definition

* Part of removable dental prosthesis that resist the displacement of distal extension denture base

Q: Indirect retainer

- that component of the removable partial denture that aids the direct retainer in preventing dislodgement of the distal extension denture base along the fulcrum line away from the tissue surface.

Functions of indirect retainer

1 The primary function of the indirect retainer is to resist the direct retainer & tissue dislodgement due to rotational forces along the fulcrum line

2 Auxiliary function
- provide stabilization to major connector
- prevent anteroposterior tilting
- prevent rotational movement
- lack of adaptation of indirect retainer contact

2 Impression techniques in FPD

① Types

① Single impression
② Double impression

① Single impression: Impression is taken only once, that is the tray is selected & used only once.

② Double impression: Here Two impressions are taken initially with a stock tray & then spacer is adapted and wax rim using altered impression material. Then a custom tray is prepared and another impression is taken using low viscosity material.

① Single impression: ① Single mix
② Double mix

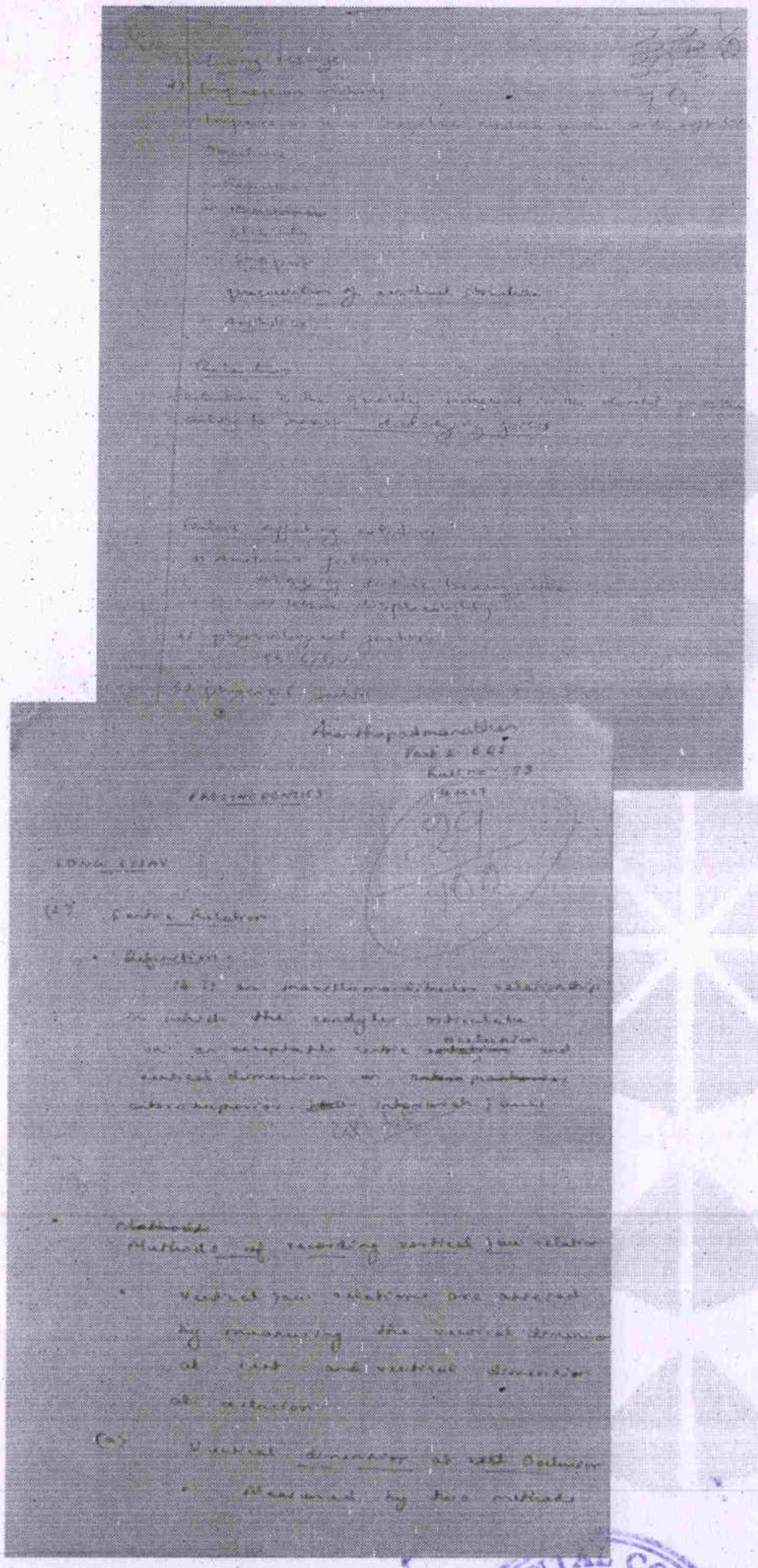
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**DEPARTMENT OF PROSTHODONTICS**
**FINAL YEAR BDS PART-II REPEATERS BATCH JANUARY 2025 EXAM)**
**MODULE EXAM TOPICS**

| SI NO | TOPICS | MODULE EXAM NO. |
|---|---|---|
| 1 | Introduction to Complete Denture | MODULE EXAM 1 |
| 2 | Objectives of Impression Making – Retention | |
| 3 | Maxillary & Mandibular Impression Procedures | |
| 4 | Diagnosis & Treatment Planning | |
| 5 | Support & Stability | |
| 6 | Posterior Palatal Seal | |
| 7 | Orientation Jaw Relation | |
| 8 | Horizontal Jaw Relation | |
| 9 | Vertical Jaw Relation | |
| 10 | Selection of Anterior Teeth | |
| 11 | Selection of Posterior Teeth | |
| 12 | Articulation | |
| 13 | Trial Denture | |
| 14 | Relining & Rebasing | |
| 15 | Balanced Occlusion | MODULE EXAM 2 |
| 16 | Overdenture | |
| 17 | Single complete Denture | |
| 18 | Immediate Dentures | |
| 19 | Preprosthetic Surgery | |
| 20 | Residual ridge resorption | |
| 21 | Mouth Preparation | |
| 22 | Surveyors | |
| 23 | Surveying | |
| 24 | Rest & Rest seats | |
| 25 | Principles of RPD Design | MODULE EXAM 3 |
| 26 | Direct Retainers | |
| 27 | Indirect Retainers | |
| 28 | Impression Procedures (KPO) | |
| 29 | Introduction to FPD & Parts of FPD | |
| 30 | Principles of tooth preparation | |
| 31 | Preparation for all ceramic crowns | |
| 32 | Diagnosis and treatment planning in FPD | |
| 33 | Materials used in MFP | |
| 34 | Obturator | |
| 35 | Full metal and Metal Ceramic tooth preparation | |
| 36 | Connectors | |
| 37 | Pontics | |
| 38 | Finishing & Cementation | |
| 39 | Provisional Restoration | |
| 40 | Treatment for Endodontically Treated Tooth | |
| 41 | Fundamentals of Occlusion | |
| 42 | Fluid Control & Soft Tissue Management | |
| 43 | Implant Supported FPD | |
| 44 | Impression Techniques in FPD | |
| 45 | Resin Bonded FPD | |
| 46 | Preparation of Partial Veneer Crowns | |
| 47 | Working Cast & Dies | |
| 48 | Implant failures | |

HEAD OF THE DEPARTMENT

**Encouraging Reading Books with Simple Language**: To improve comprehension and understanding, students are encouraged to read supplementary materials or simplified textbooks that explain complex topics in simpler language.

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# QUESTION BANK

DEPARTMENT OF PROSTHODONTICS CROWN & BRIDGE AND IMPLANTOLOGY
KMCT DENTAL COLLEGE,
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## COMPLETE DENTURE

### 1. INTRODUCTION AND BIOMECHANICS OF EDENTULOUS STATE

SHORT NOTE

- Age changes in edentulous patients
- Mediolus

### 2. RESIDUAL RIDGE RESORPTION

LONG ESSAY

- Define Residual ridge resorption. Discuss the factors influencing RRR.

### 3. MOUTH PREPARATION

LONG ESSAY

- Write briefly about the various pre-prosthetic surgical procedures.

SHORT NOTE

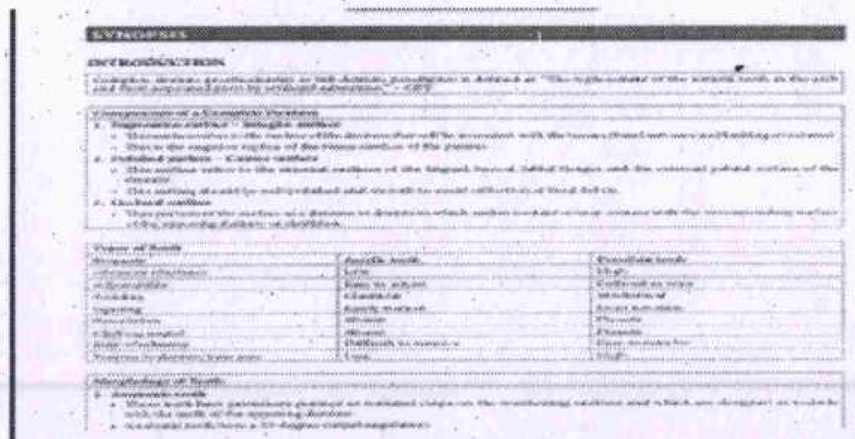
- Ridge augmentation procedures

### 4. IMPRESSIONS & PRINCIPLES OF RETENTION STABILITY AND SUPPORT

LONG ESSAY

- Define impression in prosthodontics. Classify impression materials and enumerate and detail the objectives of impression making in complete denture.

**Provision of Special Notes**: Specialized study materials, including simplified notes and summaries, are provided to slow performers, aiding in better understanding and retention of crucial concepts.



**Secondary Impression Procedures**

- The materials of choice for a secondary impression are zinc oxide eugenol impression paste or medium bodied elastomeric impression materials.
- Recording the posterior palatal seal is very important for the retention of the denture.
- The various methods used for marking postdam are as follows.

**1. Conventional approach**

- This procedure is done after the wash impression is made and the master cast is poured.
- The "T" burnisher is used to locate the hamular notch by palpating posteriorly to the maxillary tuberosity on both sides.
- The full extent of the hamular notch is marked with an indelible pencil.
- The area between the anterior and posterior vibrating line is scrapped in the master cast to a depth of 1–1.5 mm on either side of the mid-palatine raphe.
- In the region of mid palatine raphe, it should be only 0.5–1 mm in depth.
- The entire border of the post dam resembles the shape of a Cupid's bow.

**2. Fluid wax technique**

- This technique is done immediately after making the wash impression and before pouring the master cast.
- Zinc oxide eugenol and impression plaster are the suitable materials for this technique as fluid wax adheres well to them.
- The wash impression is painted with fluid wax. Commonly used waxes are

| | | |
|---|---|---|
| Iowa wax | White color | Dr. Smith |
| Korecta wax no. 4 | Orange color | Dr. O. C Applegate |
| Acupol wax | Green color | Nathan. G. Kaye |
| H-L physiological paste | Yellow-white | C. S. Harkins |

- The patient's head should be positioned such that the Frankfort's horizontal plane is 30 degrees below the horizontal plane.
- The wax in the anterior vibrating line should have a knife-edge margin. Blunt margins indicate improper flow and the impression should be repeated.
- The border molding procedure for the mandibular impression is Fournier and Tuller's technique.

**Preparation of the Master Cast and Special Tray**

- Beading is done to preserve the width and height of the sulcus in a cast.
- Boxing is done to obtain a uniform, smooth, well-shaped base for the cast.
- A 12–15 mm strip of modeling wax is used for boxing. The boxing strip should be at least 15 mm measured vertically from the highest point of the impression.
- The beading wax is adapted 3–4 mm below the height of contour of the impression flanges. The beading should be at least 4 mm wide.
- Caulking compound and paddle boxing method is best suited for zinc oxide eugenol impressions. Beading is done using caulking compound and boxing is done using a metal strip.
- The boxed impression is attached/supported with a table tennis paddle while pouring the cast.
- Ideal requirements of a temporary denture base was given by Elder (1959).
- Tucker in 1966 stated that the base plate should not abrade the surface of the cast during removal and placement.

**Customized Learning Plans**: Tailored learning plans are designed to cater to specific learning styles, pace, and requirements, ensuring a more personalized learning experience.

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## DEPARTMENT OF PROSTHODONTICS

| LESSON PLAN | |
|---|---|
| LESSON TITLE | UNDERSTANDING VAROUS DIES AND DIE SYSTEMS |
| TEACHER | DR.MONISHA KP |
| BATCH | FOURTH YEAR PART 2 |
| DATE | 22/8/2023 |

**Duration: 2 hours**

**Objectives:**

To understand the preparation, materials, and systems used for dies in prosthodontics, and their role in fabricating indirect restorations.

By the end of this lesson, participants will be able to:

1. Understand the lab procedures involved in fabricating a die.
2. Understand the steps in pouring cast and dies, fabricating wax patterns
3. Describe the process of fabricating dies, and different die systems, including recent advances
4. Explain and understand the recent advances in die systems

**Materials:**

- Presentation slides
- Casts, dies, dowel pins
- Die materials (gypsum products, die stones, epoxy resins, etc.)
- Visual aids (models, diagrams)
- Handouts with key points



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**LESSON PLAN:**

1. **Introduction (15 minutes)**
   - Introduction of the topic.
   - Discuss the significance of lab procedures in FPD
   - Present the learning objectives.

2. **Overview of Lab procedures in FPD (20 minutes)**
   - Explain about working casts and dies, requirements and materials for working casts and dies
   - Brief overview of the importance of dies in prosthodontics
   - Explanation of what a die is and its role in fabricating indirect restorations

3. **Die Preparation (20 minutes)**
   - Steps involved in die preparation
   - Importance of accurate impressions and pouring techniques
   - Trimming and finishing of the die

4. **Die Materials (30 minutes)**
   - Types of die materials: gypsum products (Type III, IV, V), die stones, epoxy resins, etc.
   - Properties, advantages, and disadvantages of each material
   - Selection criteria for die materials based on the type of restoration

5. **Die Systems (30 minutes)**
   - Overview of different die systems: removable die systems, solid cast systems, articulated systems



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- Advantages and applications of each system
- Practical demonstration of setting up a die system

**6. Hands-On Activity (20 minutes)**

- Students practice preparing a die using gypsum products
- Demonstration of trimming and finishing techniques
- Discussion on common challenges and troubleshooting tips

**7. Q&A and Discussion (10 minutes)**

- Open floor for questions and answers
- Discussion on real-life applications and case studies

**8. Conclusion (10 minutes)**

- Recap of key points covered in the lesson
- Importance of proper die preparation and selection in achieving optimal fit and function of restorations
- Encouragement for further reading and practice

**Assessment:**

- Short quiz on die materials and systems
- Practical assessment of die preparation skills

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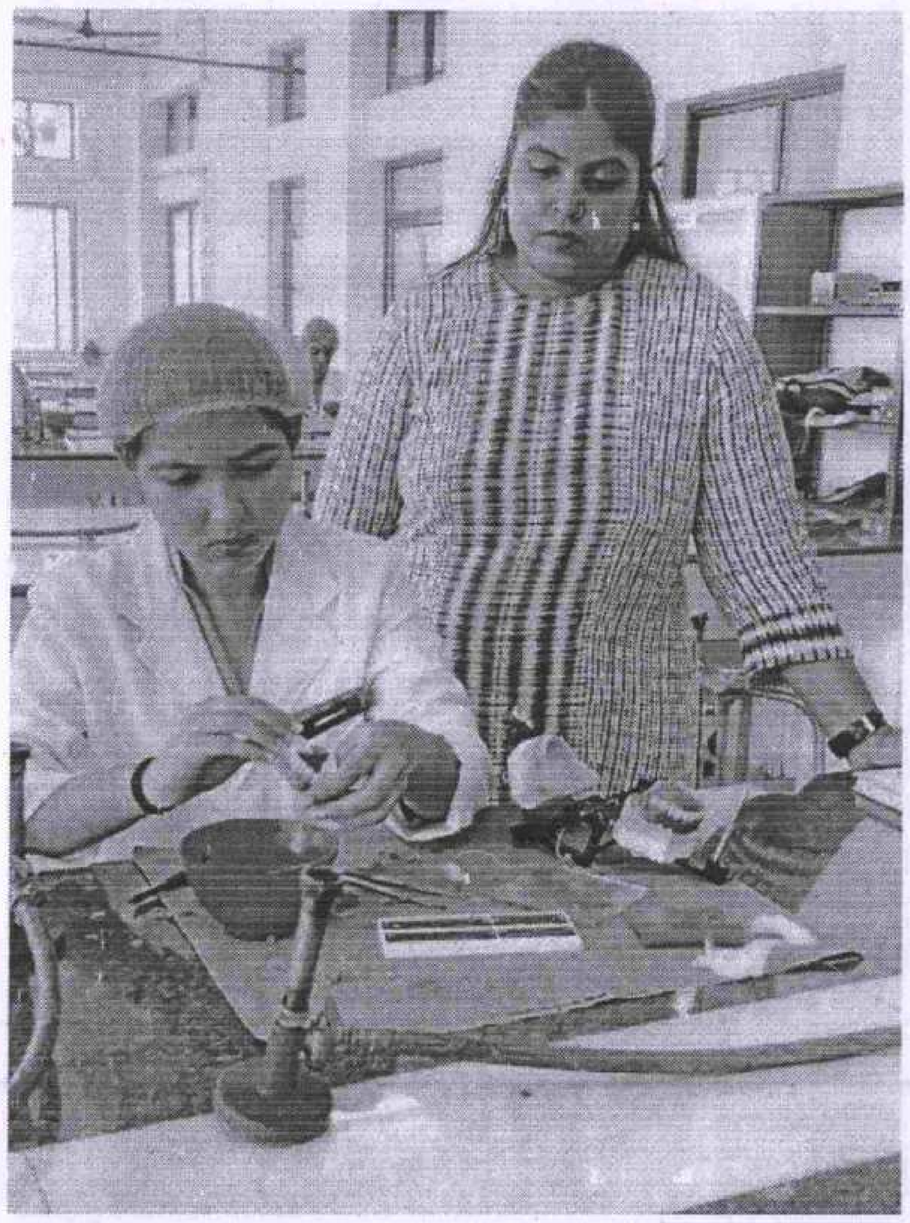


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# DEPARTMENT OF PROSTHODONTICS,CROWN BRIDGE AND IMPLANTOLOGY

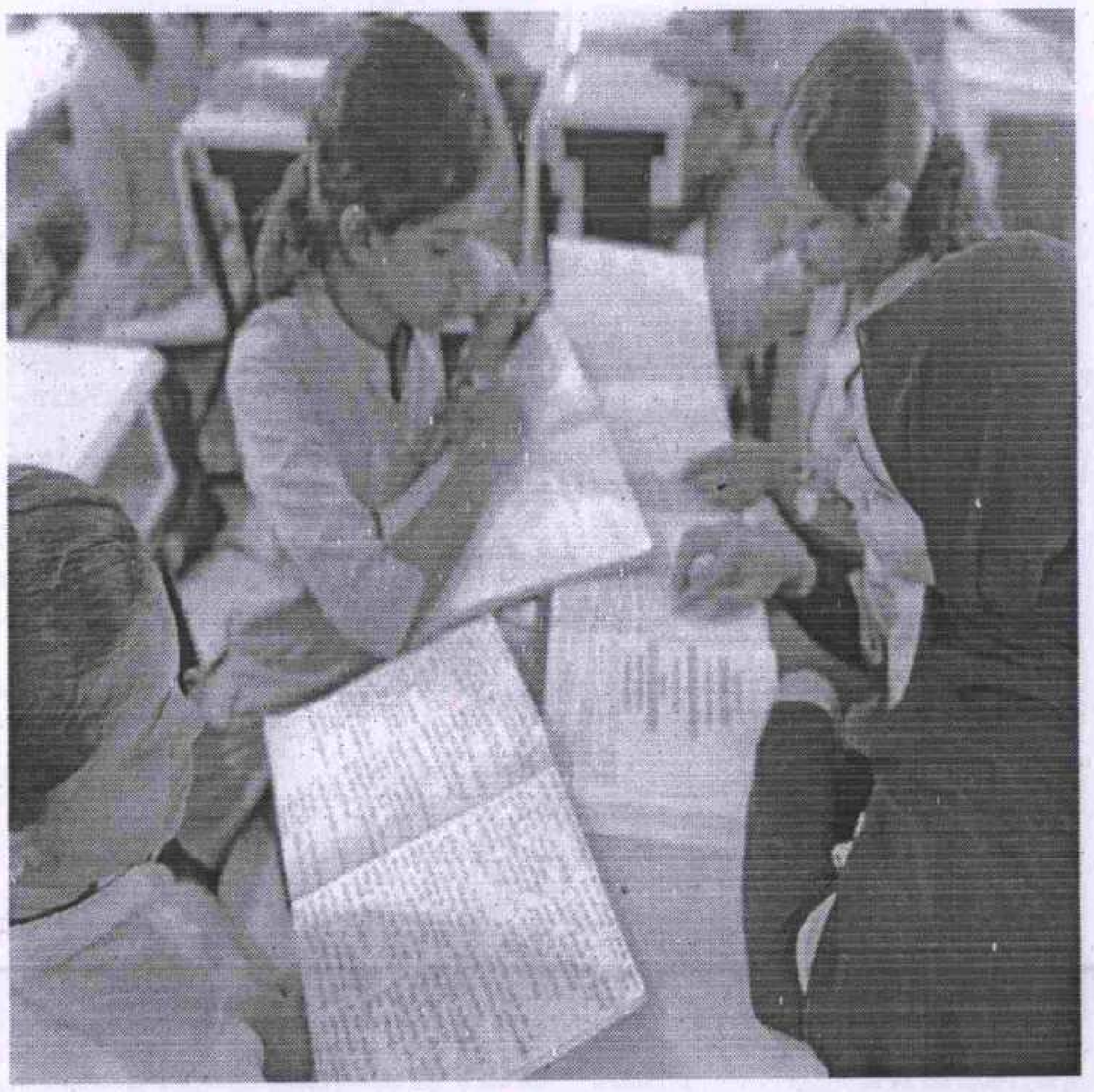
**Special Classes with Subject Experts**: Slow performers attend additional classes conducted by subject experts. These sessions focus on clarifying concepts, addressing doubts, and providing extra guidance on challenging topics.



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**Encouragement of Collaborative Study with Advanced Learners**: Collaborative study groups are formed, pairing slow performers with high-achieving peers. This fosters a supportive learning environment where advanced learners mentor and assist their peers in understanding complex subjects.



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**Periodical Assessments with Class Tests and Evaluation:** Regular class tests and assessments are conducted to track progress, identify weak areas, and provide timely feedback. This helps students understand their strengths and weaknesses.

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1. Classify investment materials ? Write composition, setting reaction of phosphate bonded (10)
2 Divestments.
3 Ethyl silicate bonded
4 Thermal expansion of gypsum.

10 h
25

1. Investment material is a ceramic material which is used to make moulds in to which metal or alloy are casted. This process is refferd to as Investing.

Classification.

Investment materials

Based on binders
① phosphate bonded investments
② Gypsum bonded investment
③ Ethyl silicate bonded investment materials

Based on method of expansion obtained
① Type ① - Thermal expansion mainly
② Type ② - Hydroscopic expansion mainly
③ Type ③ investment materials

1. Clasify denture base resin. composition and details about compression mould technique

2 Curing cycle
3. Injection moulding tehnique
4. manipulation of chemically achivated resin

15/25

→ Introduction

1.. The artificial replacement partheris is called denture
• The denture consist of a teeth portion which is embedded inb the gingival portion. This gingival portion is called denture base
• The substances or materials used to fabricate denture base is called denture base materials.

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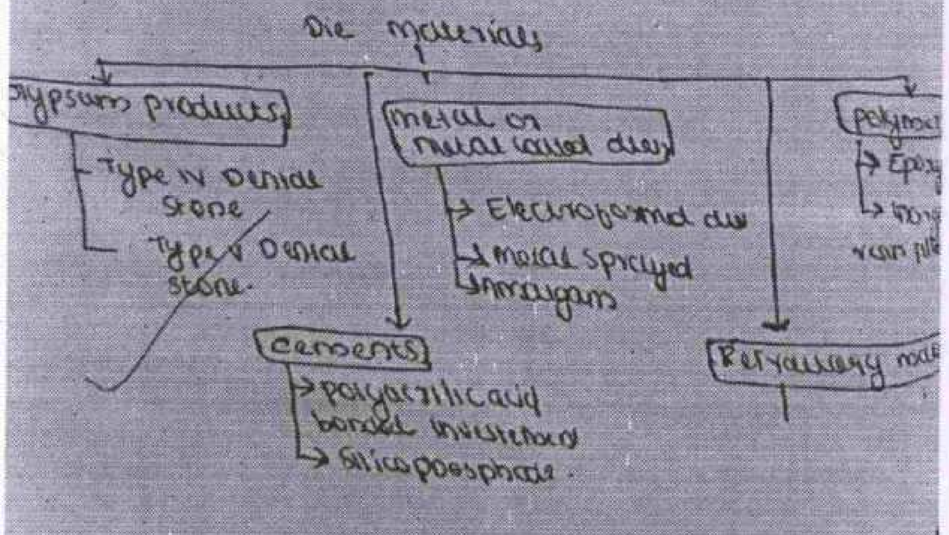
1) classify die materials write details about epoxy resin die material (10).
2) die spacer and die hardness (5)
3) Amalgam die (5)
4) uses of electroplated die (5)

14½/25

10): Die:

Die is the positive reproduction of form of prepa teeth in suitable materials.

classification.




1) classify abrasive. write in detail about coated abrasives (10).
2) speed used in finishing and polishing.
3) Truing and dressing.
4) Non-bonded abrasives.

18½/25

Answers.

1) Abrasives are materials which wears away the substrate on which it is applied, with some relative motion in between two.
- Natural abrasives
eg: chalk, white, diamond, emery, quartz etc.
- Synthetic abrasives
eg: Aluminium dioxide, diamond, carbides.
- classification of abrasives
- abrasives are classified into bonded and non-bonded abrasives.

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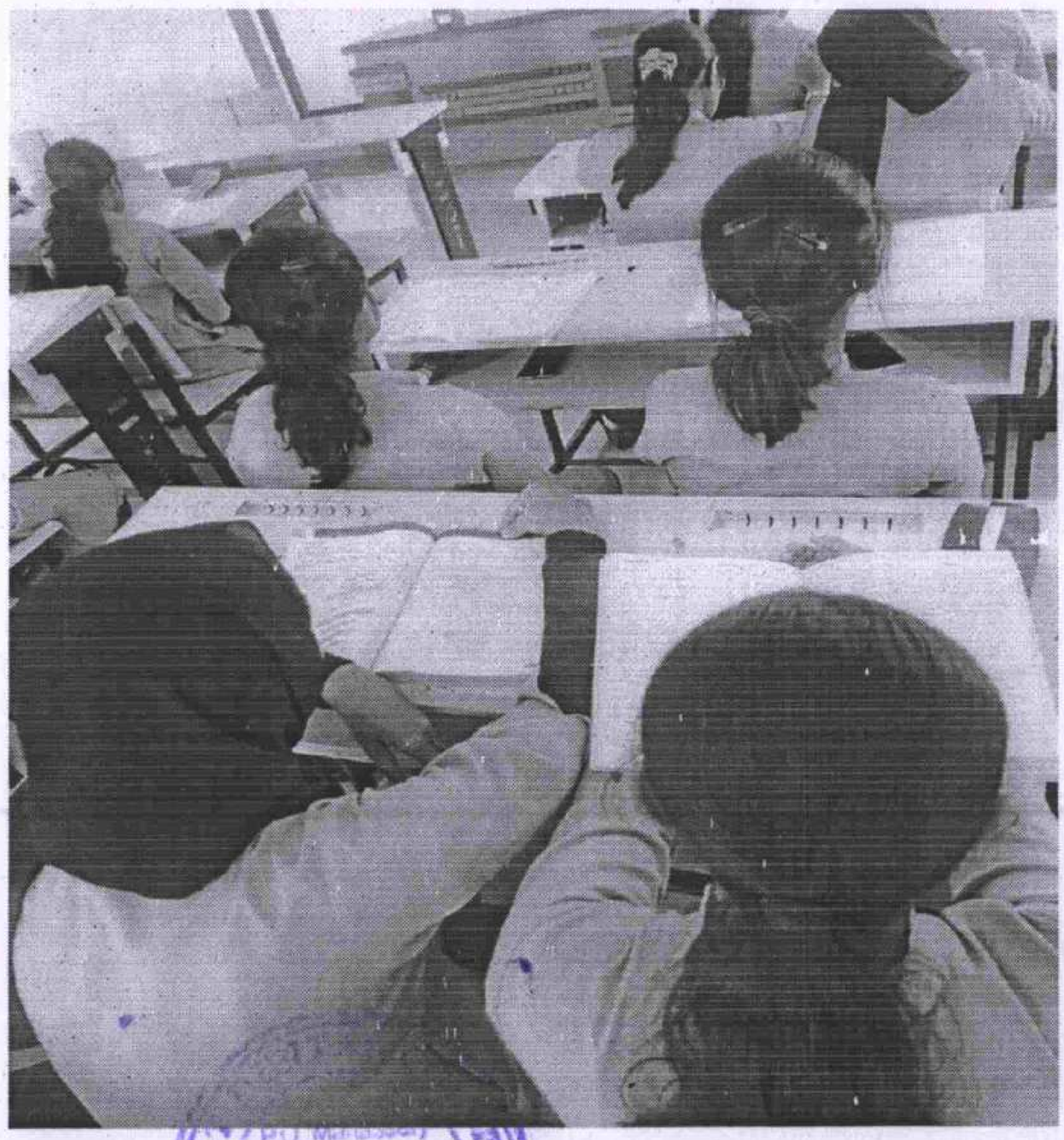
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| MODULE | TOPIC | DATE |
|---|---|---|
| MODULE -1 | -STRUCTURE OF MATTER<br>-IMPRESSION MATERIALS<br>-GYPSUM PRODUCTS<br>-DIE AND DIE MATERIALS | 9/10/23 |
| MODULE -2 | -DENTAL POLYMERS<br>-DENTURE BASE RESINS<br>-FINISHING AND POLISHING<br>-DENTAL IMPLANT BIO MATERIALS | 1/11/23 |
| MODULE 3 | --CASTING INVESTMENTS<br>-CASTING PROCEDURES<br>-DENTAL CERAMICS | 19/11/23 |
| MODEL EXAM | ALL TOPICS | 9/12/23 |

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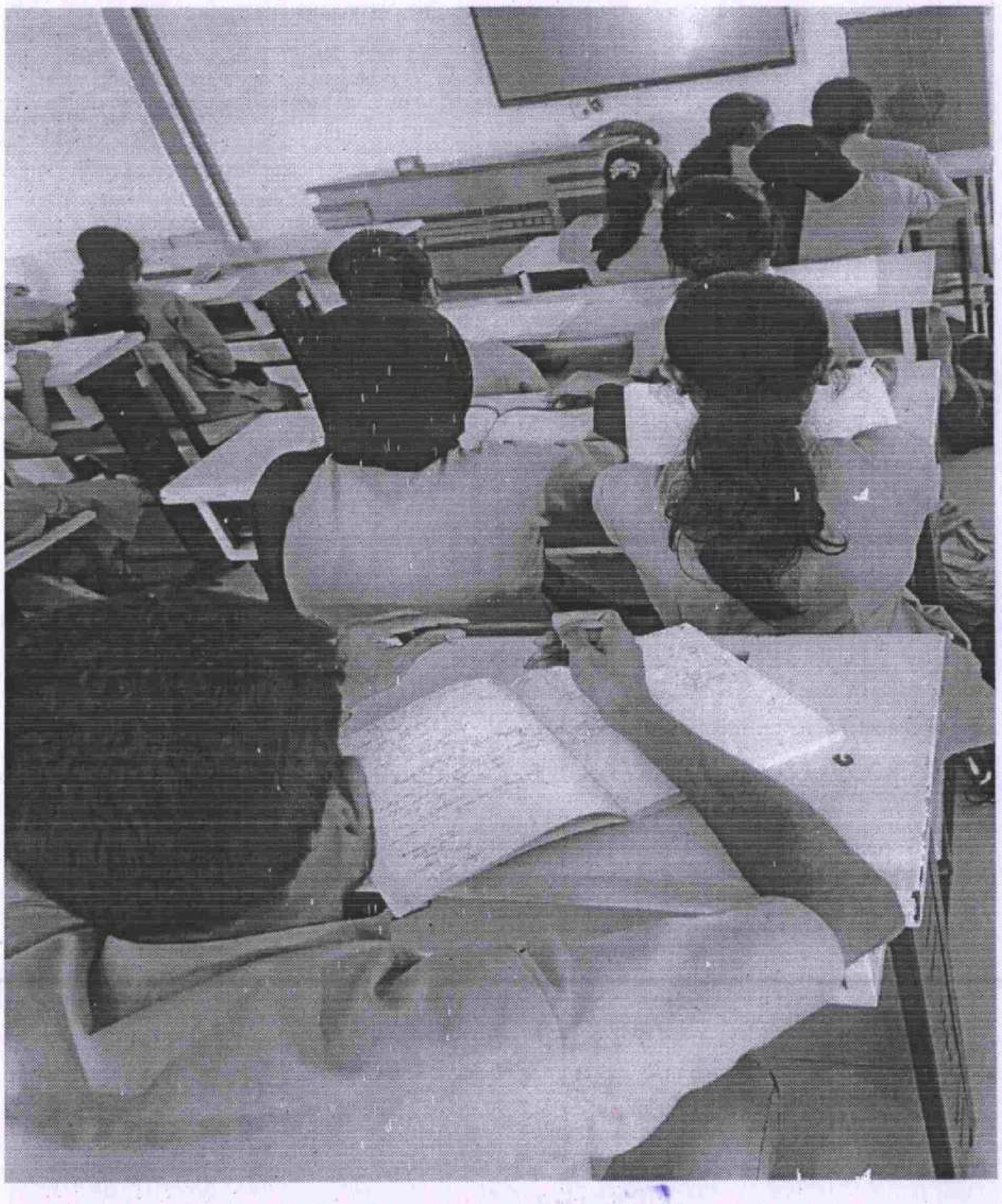
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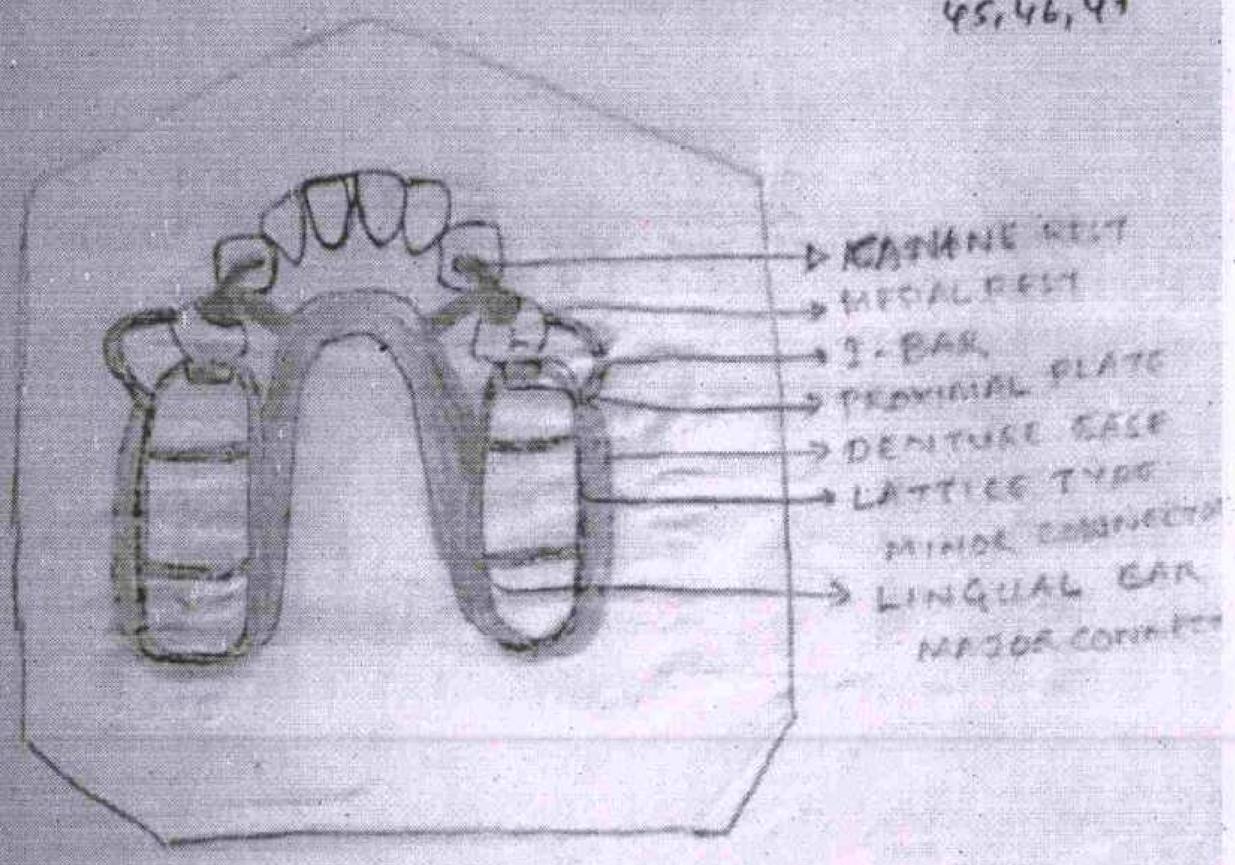
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**Provision of Special Notes**: Specialized study materials, including simplified notes and summaries, are provided to slow performers, aiding in better understanding and retention of crucial concepts.

KENNEDEY'S - CLASS - I

MANDIBULAR




MAJOR CONNECTOR - LINGUAL BAR
DIRECT RETAINER - I-BAR ON 34 & 44
REST SEAT. - MESIAL REST ON 34 & 44
PROXIMAL PLATE - DISTAL SIDE OF 34 & 44
INDIRECT RETAINER - CANINE REST ON 33 & 43
SADDLE AREA - LATTICE TYPE

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# DIVESTMENT

- It is gypsum bonded Material investments mixed with colloidal silica.
- As there is Px·q colloidal silica presence - It help to withstand high temp.
- Setting Expn — 0·9%

Thermal Expn — 0·6% when Heated to 677°C

- The die is made the Mix (Die stone + Investment mat).

& Wax pattern is then constructed on it.

⇓

The whole complex is then invested in a mixture of Divestment & water

- This combination used to compensate distortion of wax Pattern & long span bridges / RPD Frame work during removal from die.

(*) Divesting is Removal of cast from Investment Mold.

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# Gypsum Products

- classification
- Manufacturing Proces / Calcination 3/5 Mark.

(include Reaction).

- Theories of Set. Rctn. + setting reactions essay / 5M/3M.
- Normal setting expn. (Fig) 3M.
- Hygroscopic expn. 5M/essay. (Fig)
- Diff b/w Normal / Hygro. (X)
  - * column / Para.
  - * Fig
  - *) Graph.
- Testing setting time (5M)
  - Vicat
  - Gillmore } 3 marks. (explain dimension Diagram)

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# DEPARTMENT OF PROSTHODONTICS
# KMCT DENTAL COLLEGE
# 2ND YEAR BDS
# DENTAL MATERIALS - QUESTION BANK

## STRUCTURE OF MATTER

1) DIFFERENCE BETWEEN CRYSTALLINE AND NON CRYSTALLINE STRUCTURE (SE)
2) WETTABILITY, WETTING ANGLE (SE/SN)
3) DIFFERENCE BETWEEN ADHESION AND COHESION (SE/SN)

## POLYMERS IN DENTISTRY

1) DIFFERENCE BETWEEN ADDITION POLYMERISATION REACTION AND CONDENSATION POLYMERISATION REACTION (SN/SE)
2) CLASSIFICATION OF DENTURE BASE MATERIALS. CHEMICAL STAGES OF POLYMERISATION (LONG ESSAY)
3) DENTURE LINERS (SE)
4) MAXILLOFACIAL PROSTHETIC MATERIAL (SE)
5) DENTURE ADHESIVES (SE/SN)

## DENTURE BASE MATERIALS

1) CLASSIFICATION OF DENTURE BASE RESINS. (PART OF LONG ESSAY)
2) COMPOSITION OF HEAT CURE ACRYLIC RESIN. WRITE IN DETAIL ABOUT COMPRESSION MOLDING TECHNIQUE (LONG ESSAY)
3) COMPOSITION OF LIGHT CURE ACRYLIC RESIN (PART OF LONG ESSAY OR SE)
4) COMPOSITION OF SELF CURE ACRYLIC RESIN (PART OF LONG ESSAY OR SE)
5) COLD MOLD SEAL/ SEPERATING MEDIUM(SE/SN)
6) PHYSICAL STAGES OF POLYMERISATION OF HEAT CURE ACRYLIC (PART OF LONG ESSAY)
7) CURING CYCLE (SE/SN)
8) INJECTION MOLDING TECHNIQUE (SN/SE/PART OF LONG ESSAY)
9) MICROWAVE POLYMERISED PMMA (SN/SE)
10) TISSUE CONDITIONERS – CLASSIFICATION AND WRITE BRIEFLY ON EACH (SE)
11) REPAIR RESINS (SN)
12) POROSITIES IN DENTURE BASE (PART OF LONG ESSAY)
13) REINFORCED DENTURE BASE RESINS (SE)
14) FLEXIBLE DENTURES (SE/SN)
15) DENTURE CLEANSERS (SE/SN)

## DENTAL IMPLANT BIOMATERIALS

1) OSSEOINTEGRATION (SE/SN)
2) CLASSIFY IMPLANT BIOMATERIALS. WRITE IN DETAIL ABOUT ANY TWO. (LONG ESSAY)
3) WRITE BRIEFLY ABOUT DIFFERENT IMPLANT BIOMATERIALS (PART OF LONG ESSAY)
4) WRITE BRIEFLY ON SURFACE MODIFICATIONS OF IMPLANT BIOMATERIALS (SE)



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**DEPARTMENT OF PROSTHODONTICS**
**KMCT DENTAL COLLEGE**
**2ND YEAR BDS**
**DENTAL MATERIALS - QUESTION BANK**

## IMPRESSION MATERIALS AND TECHNIQUES

1) CLASSIFY IMPRESSION MATERIALS. WRITE COMPOSITION, SETTING REACTION, PROPERTIES, USES, ADVANTAGES AND DISADVANTAGES OF ADDITION SILICONE IMPRESSION MATERIAL (LONG ESSAY)
2) CLASSIFY IMPRESSION MATERIALS. WRITE COMPOSITION, SETTING REACTION, PROPERTIES, USES, ADVANTAGES AND DISADVANTAGES OF ZINC OXIDE EUGENOL IMPRESSION PASTE (LONG ESSAY)
3) CLASSIFY IMPRESSION MATERIALS. WRITE COMPOSITION, SETTING REACTION, PROPERTIES, USES, ADVANTAGES AND DISADVANTAGES OF ALGINATE IMPRESSION MATERIAL (LONG ESSAY)
4) CLASSIFY IMPRESSION MATERIALS. WRITE COMPOSITION, SETTING REACTION, PROPERTIES, USES, ADVANTAGES AND DISADVANTAGES OF AGAR IMPRESSION MATERIAL (LONG ESSAY)
5) CLASSIFY IMPRESSION MATERIALS. WRITE COMPOSITION, PROPERTIES, USES, ADVANTAGES AND DISADVANTAGES OF IMPRESSION COMPOUND. ADD A NOTE ON GLASS TRANSITION TEMPERATURE (LONG ESSAY)
6) CLASSIFY ZINC OXIDE EUGENOL. WRITE ITS SETTING REACTION (SN)
7) IMBIBITION AND SYNERESIS (SN)
8) MANIPULATION OF AGAR (SN/SE)
9) MODIFIED ALGINATES (SN)
10) POLY ETHER IMPRESSION MATERIAL (SN/SE)
11) CONDENSATION SILICONE IMPRESSION MATERIAL (SN)

## GYPSUM

1) CLASSIFY GYPSUM PRODUCTS. WRITE IN DETAIL ON HYGROSCOPIC SETTING REACTION (LONG ESSAY)
2) MANUFACTURING PROCESS OF GYPSUM MATERIALS (SE/SN)
3) SETTING REACTION OF GYPSUM AND VARIOUS THEORIES OF SETTING REACTION (SE)
4) WRITE BRIEFLY ON TESTS FOR SETTING TIME OF GYPSUM PRODUCTS (SE)
5) METHODS TO CONTROL SETTING TIME OF GYPSUM (SE/ PART OF LONG ESSAY)
6) DIFFERENCE BETWEEN NORMAL SETTING EXPANSION AND HYGROSCOPIC SETTING EXPANSION (SE/ PART OF LONG ESSAY)
7) MODIFICATIONS OF GYPSUM (SE)

## DIE AND DIE MATERIALS

1) CLASSIFY DIE MATERIALS. WRITE IN DETAIL ON ELECTROPLATED DIES (LONG ESSAY)
2) METALLIC DIES (SE)
3) EPOXY RESIN DIE MATERIALS (SN)

## INVESTMENT MATERIALS

1) CLASSIFY INVESTMENT MATERIALS. WRITE THE COMPOSITION AND SETTING REACTION OF PHOSPHATE BONDED INVESTMENT MATERIAL (LONG ESSAY)
2) GYPSUM BONDED INVESTMENT MATERIAL (SE/ PART OF LONG ESSAY)

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3) COMPOSITION AND SETTING REACTION OF ETHYL SILICATE BONDED INVESTMENT MATERIAL (SE/ PART OF LONG ESSAY)
4) DIVESTMENT (SN)

**CASTING PROCEDURES AND CASTING DEFECTS**

1) CASTING CRUCIBLES (SN)
2) DIMENSIONS AND TECHNIQUE OF ATTACHMENT OF SPRUE (SE)
3) PARTS OF FLAME (SE/ PART OF LONG ESSAY)
4) DIFFERENCE BETWEEN DIVESTMENT AND DIVESTING (SN)
5) CASTING MACHINES (SE/ PART OF LONG ESSAY)
6) VARIOUS HEAT TREATMENTS IN CASTING PROCEDURE (SE)
7) CLASSIFY CASTING ALLOYS. ENUMERATE CASTING DEFECTS AND WRITE BRIEFLY ON ANY TWO (LONG ESSAY)
8) POROSITIES IN CASTING (SE)
9) CASTING DEFECTS (SE/ PART OF LONG ESSAY)

**FINISHING AND POLISHING**

1) SPEEDS USED IN FINISHING AND POLISHING(SN)
2) BONDED ABRASIVES (SE)
3) CLASSIFY ABRASIVES. WRITE IN DETAIL ABOUT COATED ABRASIVES (LONG ESSAY)
4) NON BONDED ABRASIVES (SE)
5) TRUING AND DRESSING PROCEDURE (SN)

**DENTAL CERAMICS**

1) DEFINE CERAMICS. CLASSIFY DENTAL CERAMICS. WRITE THE BONDING MECHANISM OF CERAMIC TO METAL (LONG ESSAY)
2) METHODS OF STRENGTHENING THE CERAMICS (SE/ PART OF LONG ESSAY)
3) WRITE THE COMPOSITION OF CERAMICS (SE)
4) INTERRUPTION OF CRACK PROPAGATION (SE)
5) PRESSABLE CERAMICS (SE)
6) CAD-CAM CERAMICS (SE)

**PROPERTIES OF DENTAL MATERIALS**

1) CREEP (SE/SN)
2) WRITE A NOTE ON STRESS (SE/SN)
3) STRESS- STRAIN GRAPH (SE/SN)
4) POISSON'S RATIO (SE/SN)
5) HOOKE'S LAW (SN)
6) MODULUS OF ELASTICITY (SE/SN)

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7) PROPORTIONAL LIMIT (SE/SN)
8) WRITE A NOTE ON HARDNESS TESTS (SE)
9) DUCTILITY AND MALLEABILITY (SE)
10) DIMENSIONS OF COLOUR (SE/SN)
11) TESTS FOR DUCTILITY (SN)
12) METAMERISM (SN)
13) METAMERISM AND FLOURESCENCE (SN)
14) SHADE GUIDES (SN)
15) SQUINT TEST (SN)
16) FACTORS INFLUENCING SHADE SELECTION (SN)
17) TARNISH AND CORROSION (SE/SN/ PART OF LONG ESSAY)
18) DEFINE TARNISH AND CORROSION. CLASSIFY CORROSION. WRITE BRIEFLY ON GALVANIC CORROSION (LONG ESSAY)
19) CREVICE CORROSION (SN/ SE/ PART OF LONG ESSAY)
20) ELECTROCHEMICAL CORROSION (SE)
21) PREVENTION OF CORROSION (SN/ PART OF LONG ESSAY)
22) METHODS FOR EVALUATION OF BIOCOMPATIBILITY/ BIOCOMPATIBILITY TESTS (SE)
23) ADVERSE EFFECTS OF DENTAL MATERIALS (SE/SN)

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**Customized Learning Plans:**

Customized learning plans are tailored educational strategies designed to meet the unique needs, strengths, interests, and goals of individual students. These plans are particularly effective in fostering engagement, enhancing learning outcomes, and supporting diverse learners.

## DEPARTMENT OF PROSTHODONTICS,CROWN BRIDGE AND IMPLANTOLOGY

| LESSON PLAN | |
|---|---|
| TITTLE | CASTING PROCEDURES IN PROSTHODONTICS |
| TEACHER | DR AKHILA S ABOOBACKER |
| BATCH | SECOND YEAR |
| DURATION | 2 HOURS |
| DATE | 10/08/202& 11/08/2023 |

**Learning Objectives:**
By the end of the lesson, students should be able to:

1. Understand the principles and steps involved in the casting process.
2. Identify the materials and equipment used in casting.
3. Demonstrate knowledge of common errors and troubleshooting in casting.
4. Correlate the casting process to prosthodontic applications.

## Lesson Plan Outline

### 1. Introduction (15 minutes)

**Objective**: Provide an overview of the casting process and its importance.

- **Teaching Method**: Interactive discussion with visual aids (e.g., diagrams, videos).
- **Content**:
  - Definition of casting in prosthodontics.
  - Applications: Fabrication of crowns, bridges, removable partial dentures.
  - Importance of accuracy and precision.
- **Activity**: Icebreaker—Ask students to list common dental restorations that require casting.

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**2. Materials and Equipment (20 minutes)**

**Objective**: Familiarize students with casting materials and instruments.

- **Teaching Method**: Lecture with demonstration.
- **Content**:
  - **Wax pattern materials**: Inlay waxes.
  - **Investments**: Gypsum-bonded, phosphate-bonded investments.
  - **Casting alloys**: Types and applications (e.g., noble metals, base metals).
  - Equipment: Casting rings, burnout furnace, centrifugal casting machine.
- **Activity**: Hands-on identification of materials and equipment.

---

**3. Step-by-Step Casting Procedure (40 minutes)**

**Objective**: Explain the casting process in detail.

- **Teaching Method**: Guided demonstration or video tutorial.
- **Content**:
  - **Waxing**: Creating the wax pattern.
  - **Spruing**: Attaching sprues to the wax pattern.
  - **Investing**: Preparing the mold with investment material.
  - **Burnout**: Removing the wax pattern through controlled heating.
  - **Casting**: Pouring molten metal into the mold.
  - **Cooling and Recovery**: Allowing the metal to solidify and removing the cast.
  - **Finishing and Polishing**: Smoothing and refining the cast restoration.
- **Activity**: Students create a basic wax pattern and observe the spruing and investing process.

---

**4. Common Errors and Troubleshooting (20 minutes)**

- **Objective**: Address common challenges in the casting process.
- **Teaching Method**: Group discussion and problem-solving.
- **Content**:
  - Porosity issues.
  - Incomplete casting.
  - Surface defects.
  - Methods to prevent errors.
- **Activity**: Case-based scenarios—students analyze causes of defective casts and propose solutions.

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**5. Correlation with Clinical Applications (10 minutes)**

**Objective**: Relate casting procedures to prosthodontic restorations.

- **Teaching Method**: Interactive Q&A.
- **Content**:
  - Clinical implications of accurate casting in crown and bridge work.
  - Integration into patient care.
- **Activity**: Review a clinical case with improperly cast restorations and discuss the consequences.

**6. Summary and Assessment (15 minutes)**

**Objective**: Reinforce learning and evaluate understanding.

- **Teaching Method**: Recap key points and conduct an assessment.
- **Content**:
  - Quick review of steps and materials.
  - Importance of precision in prosthodontic outcomes.
- **Assessment Options**:
  - Short quiz (multiple-choice or fill-in-the-blank).
  - Practical skill assessment (e.g., proper waxing or investing techniques).

---

**Resources Required**:

- Wax patterns, sprues, investment material.
- Casting machine, burnout furnace.
- Handouts or digital slides.

**Follow-Up**: Assign a task for students to practice creating wax patterns or casting a simple design.

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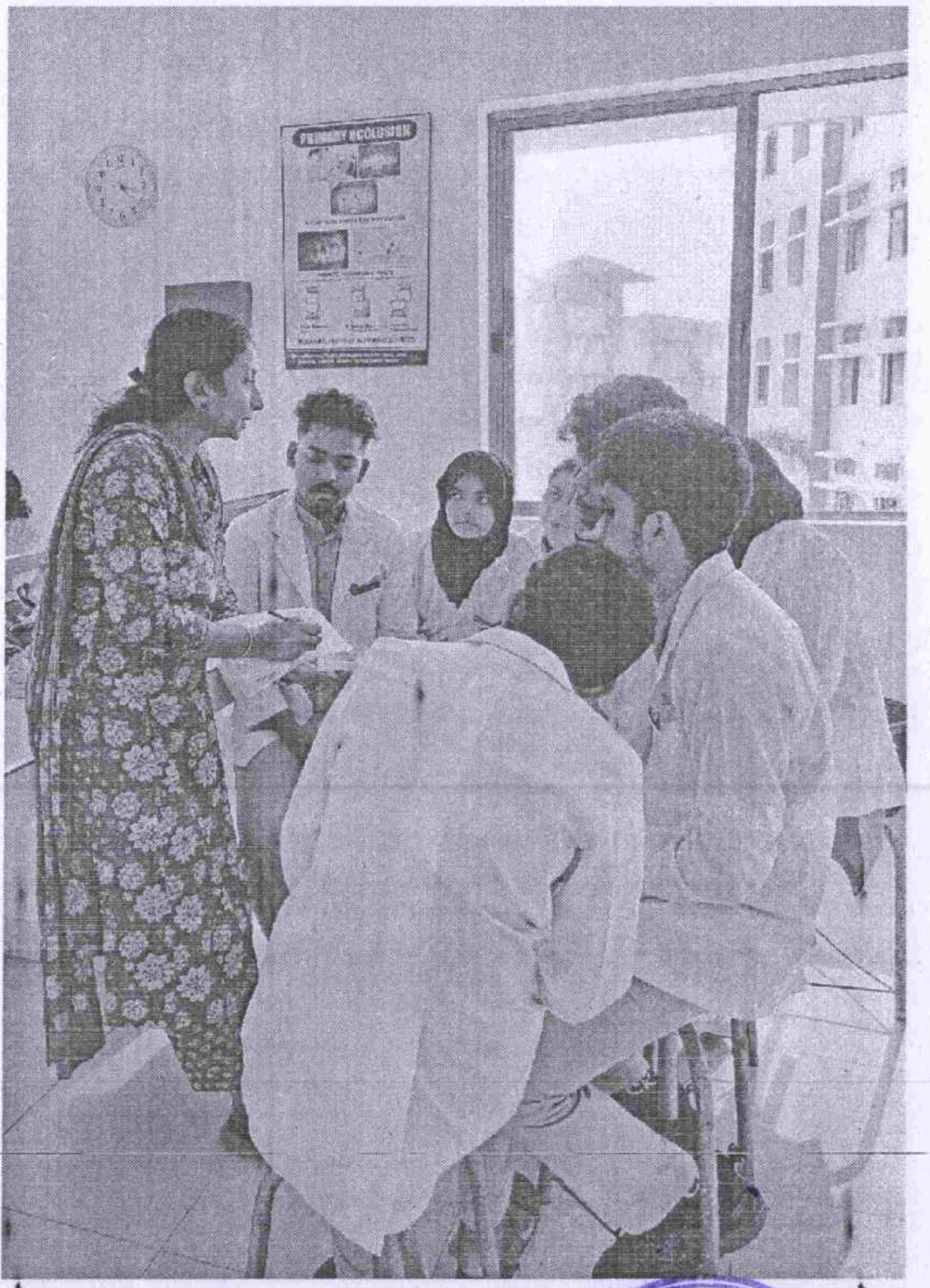
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## DEPARTMENT OF ORAL PATHOLOGY & MICROBIOLOGY

### ❖ DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

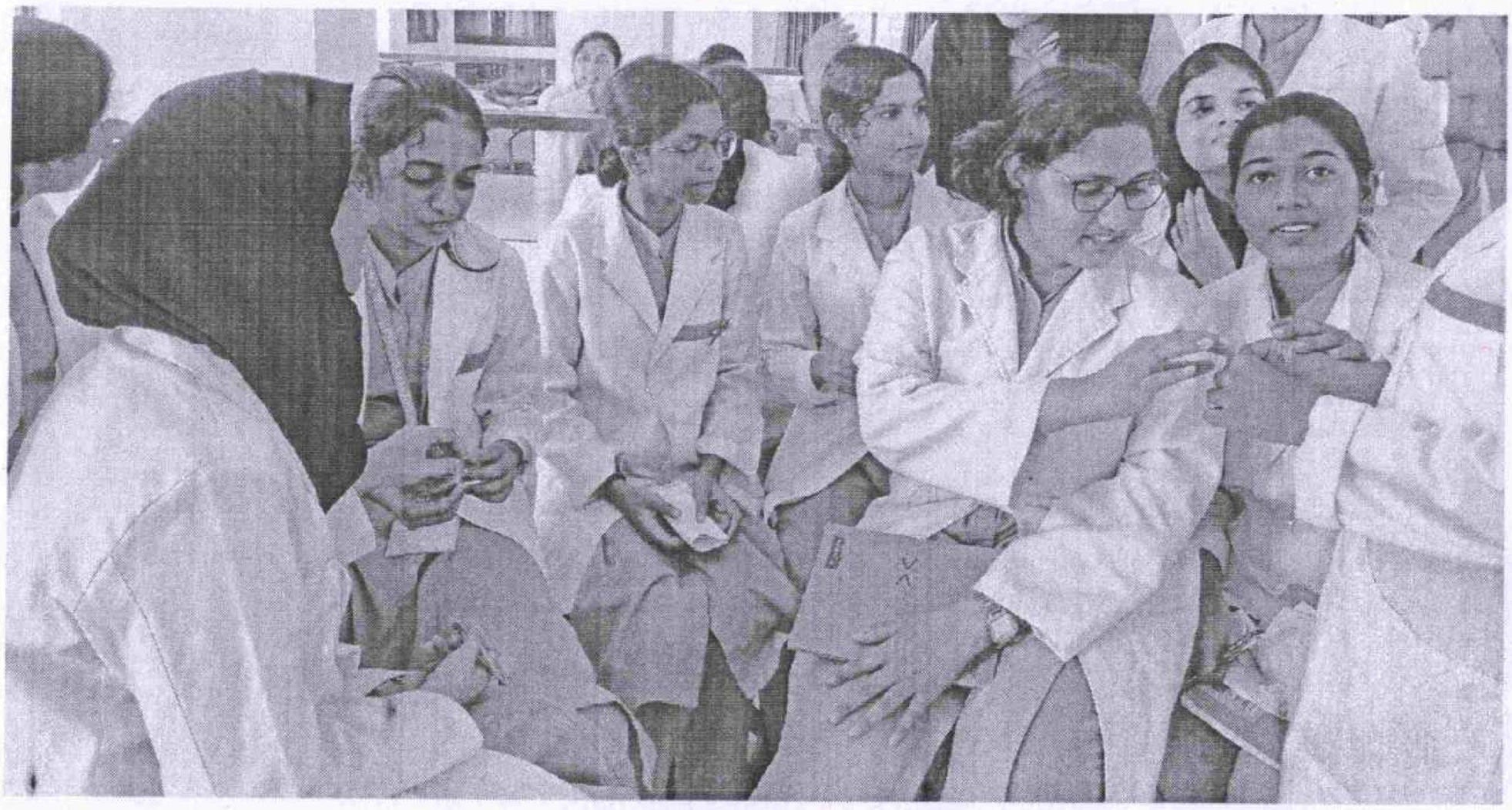
- **Special Classes with Subject Experts**: Slow performers attend additional classes conducted by subject experts. These sessions focus on clarifying concepts, addressing doubts, and providing extra guidance on challenging topics.



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- **Encouragement of Collaborative Study with Advanced Learners**: Collaborative study groups are formed, pairing slow performers with high-achieving peers. This fosters a supportive learning environment where advanced learners mentor and assist their peers in understanding complex subjects.



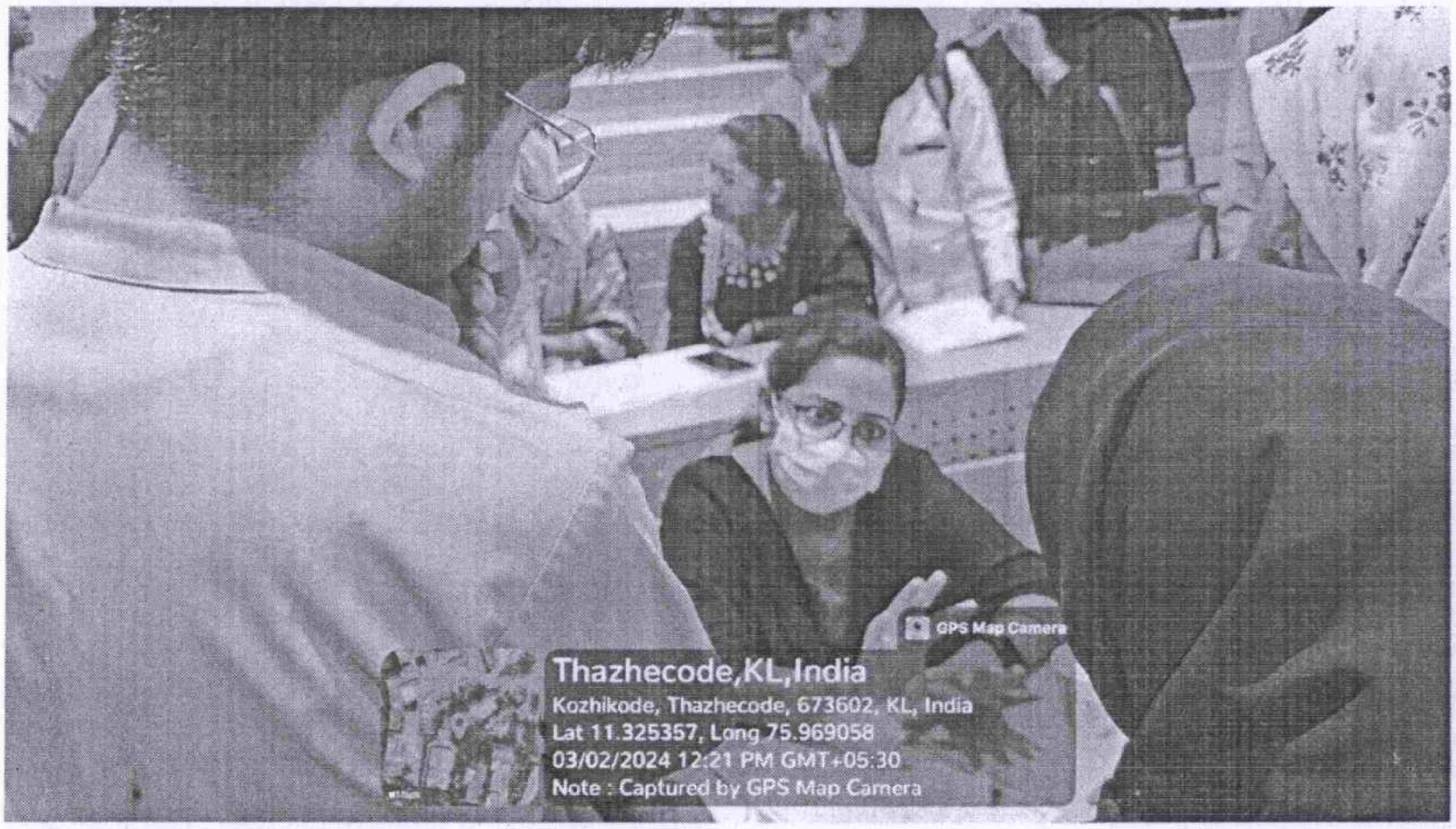
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- **Periodical meeting with students and parents together by the subject expert:**

This improves learning outcome and reduces study-related stress, and provide guidance on effective learning techniques and improves mental well-being.




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- **Periodical Assessments with Class Tests and Evaluation:**

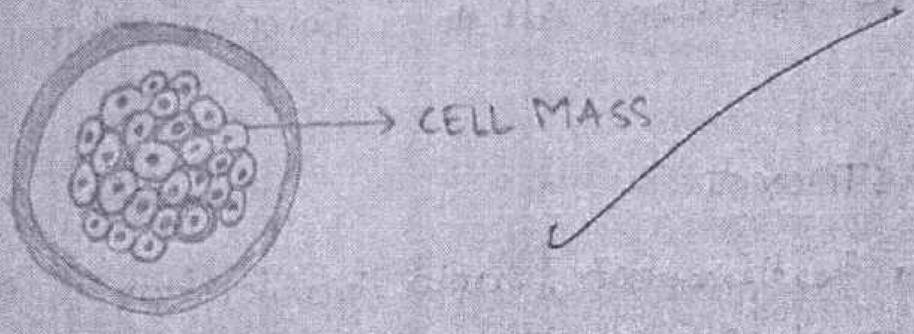
Regular class tests are conducted to track progress, and make the student understand the shortcomings in the exam preparation.

2. MORULA

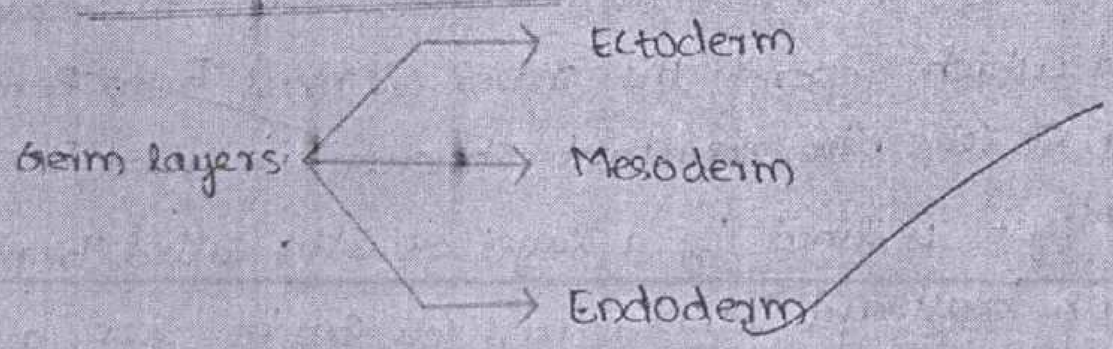
> Fertilization occurs when Male and Female gamates (Sperm -atozoon and ovum) unite to form zygote.

> After fertilization, Rapid Proliferation of cells takes plac leading to the Formation of cell Mass called Morula.

>This Morula is a "golf ball" like a little Mass of cells and consi of a group of cell centrally placed cells termed as inner cell Mass, sorrounded by peripheral layer of cells.




3. GERM LAYER DERIVATIVES




>Structure of Ectodermal Origin:

*Cutaneous Structures:

- skin and its appendages
- Oral mucous membrane
- Enamal of teeth.

* Neural System - Central and Peer peripheral nerve syster

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02.11.2024

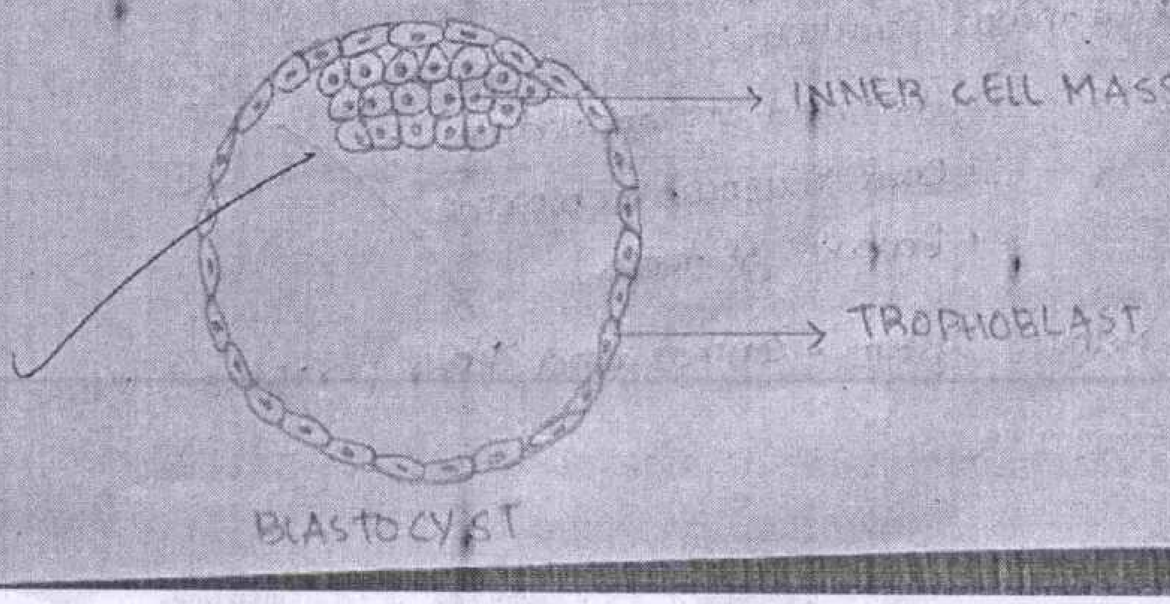
1. Define Embryology. Write about Blastocyst.
2. Morula
3. Germ layer derivatives
4. Formation of Ectoderm, Endoderm and Mesoderm.

## 1. EMBRYOLOGY

Embryology is the study of growth and differentiation which an organism undergo during its development from a single Fertilized cell to a complex independent living being.

## BLASTOCYST

- After Fertilization, rapid Proliferation of cells takes place leading to Formation of a cell mass called Morula [golf ball]
- Once morula enters in to the uterine cavity by 7 to 8 days it turns into a Fluid Filled Structure due to seepage of Fluid which seperate the inner cell mass from Peripheral layer of cells. The resultant structure is called Blastocyst
- Blastocyst is lined by a layer of cells called Trophoblast
- Within Blastocyst, inner mass cell can be seen attached to one side of the inner aspect.




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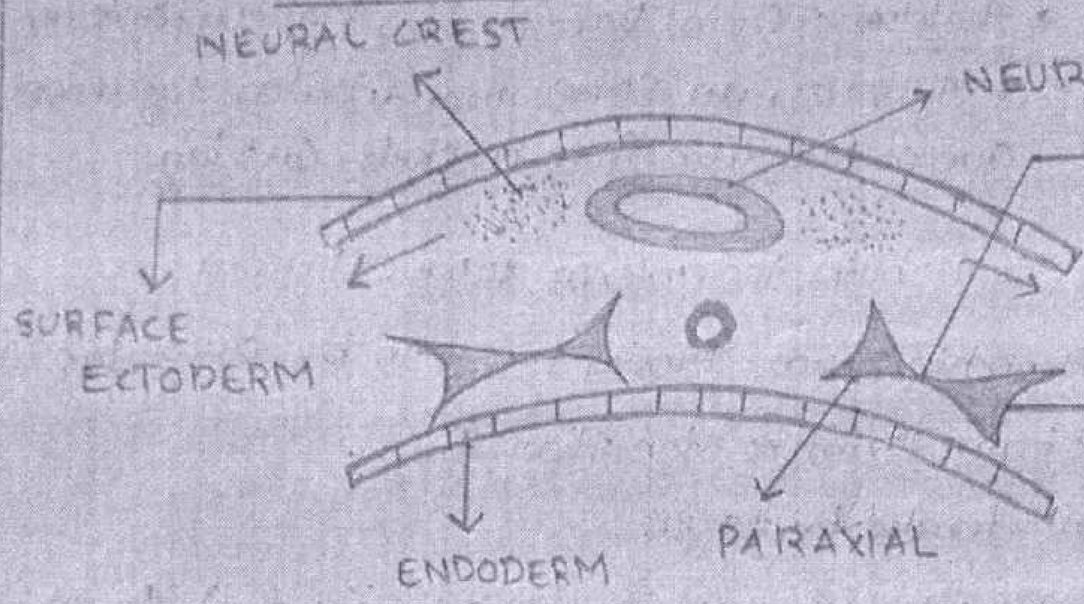


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> Due to defective migration of neural crest cells, a developmental disorder called Treacher Collin Syndrome which manifest with various craniofacial developmental defects.

DERIVATIVES OF GERM LAYERS AND NEURAL CREST




2. Derivatives of Branchial arch :

> There are Six Pharyngeal arches. 1st arch is Mandibular arch which plays a very important role in craniofacial development. 2nd arch is hyoid arch and 5th arch disappears soon after formation. 3, 4, 6 arches do not have specific names.

1. MANDIBULAR : Contributes to Facial Prominence and anterior tongue Mucosa.

* Branchial pouch : Tubotympanic recess, which form auditory tube and middle ear cavity
  - obliterated by tongue.
* Arch Arteries : external carotid and Maxillary arteries
* Muscles : Muscles of Mastication [Temporal Masseter and Pterygoids] Mylohyoid, digastric, Tensor Veli Palatini, Tensor Tympani (origin : somitomere 4)

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1. Neural Crest Cells ?
2. Derivatives of Branchial arch (Table)
3 What is Branchial arch and Pharyngeal Pouches

## 1. NEURAL CREST CELLS

> Neural crest cells are a group of Pleuripotent cells that develop from ectoderm along the lateral margins of neural plate
> These cells migrate extensively in developing embryo between Ectoderm and endoderm and intra mesodermally and differentiate into different types of cells that Form Various tissues of body
> They move around the sides of developing head beneath the surface of ectoderm as sheets of cells
> They migrate and Form entire Connective tissue of upper facial region and in lower Facial region they migrate into already existing Mesenchyma
> connective tissue beneath the developing ectoderm in this region is ectomesenchyma
> Structures that develop from the neural crest cells

*Head and Neck : Neural crest cells differentiate to form connective tissue components including Bone, cartilage, dermis and tissue that form tooth except Enamel and also contribute Formation of Muscles and Arteries of this region

*Trunk region : Neural, endocrine and Pigment producing cells. In the trunk Sensoryganglion, Schwann cells and neurons are also derived from neural crest

> Neural Crest have significant role in Craniofacial development and Formation of Teeth

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> structure of Mesodermal Origin :

* Cardiovascular System - Heart and blood Vessels
* Locomotor system - Bones and muscles
* Connective tissue
* Components of teeth other than enamel

> structure of Endodermal origin :

* Lining Epithilium of Respiratory tract.
* Lining epithilium of alimentary canal.
* Secretory cells of liver and pancreas.

4. At the stage of Blastocyst, it has two different types of cell ; inner cell mass which occupies at the centrer portion and an outer layer that sorrounds the cell mass. As the Blastocyst develops Further, some cells of the inner cell mass differentiate into Flattened cells and line the Free Surface while the other changes into colamnar cells.

> The Flattened cell constitute the Endoderm
> coloumnar cells Forms Ectoderm :

After the Formation of Prochordal plate, the cells of Ectoderm Proliferate near tail and Forming Primitive streak. These proliferated cells initially Form a thickening and later spread sideways between Ectoderm and Endoderm Forming a third layer Mesoderm.

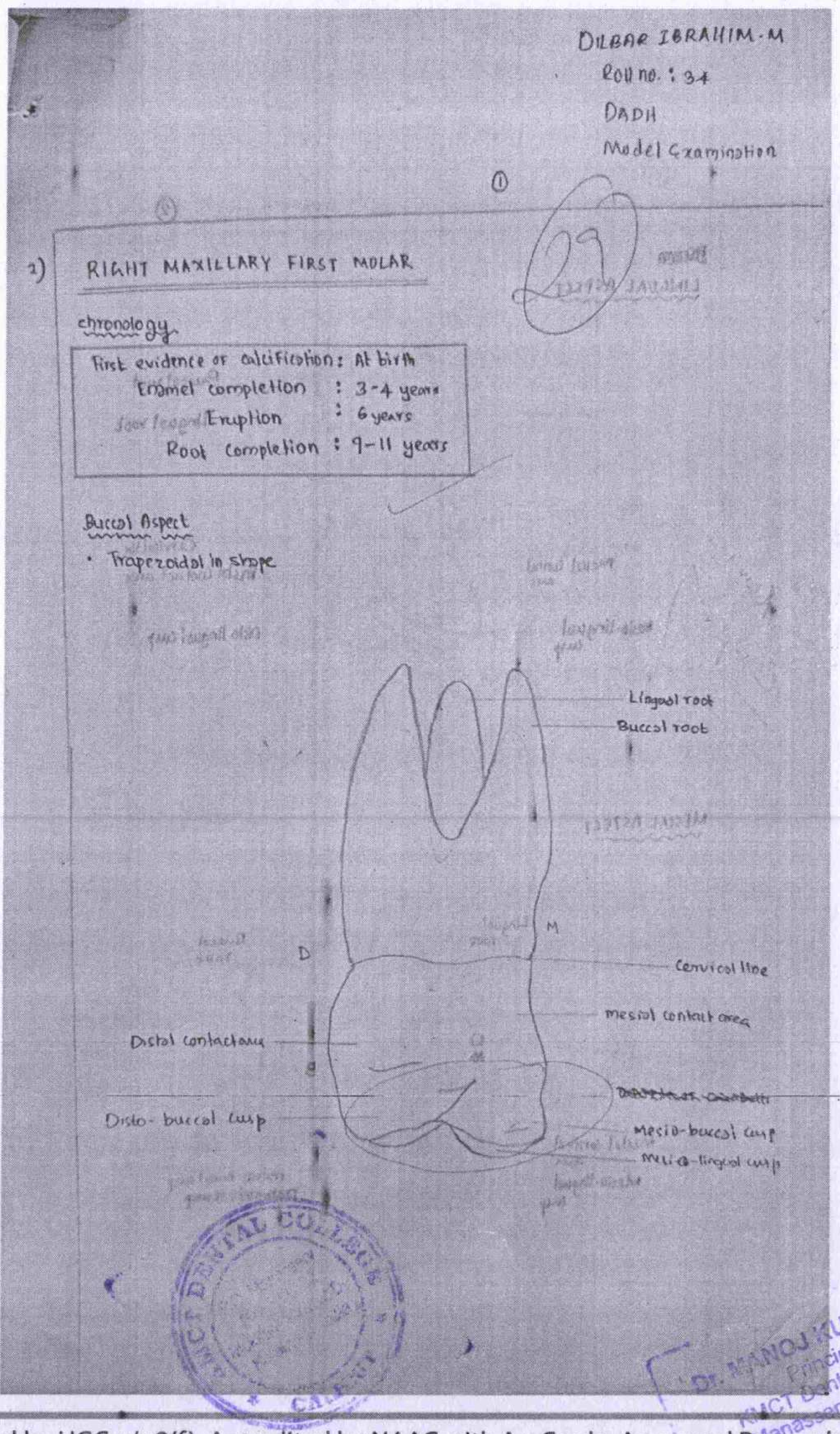
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- **Revision Tests Before University Examinations**: Conduction of special revision sessions and tests in university pattern are organized by subject expert before university exams. This aids in practicing time management and improves the self confidence to appear for university exams.




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### DEPARTMENT OF ORAL PATHOLOGY AND MICROBIOLOGY

REMODEL EXAM DATE: 05-12-2023

SUB: DENTAL ANATOMY AND DENTAL HISTOLOGY

NAME: DILBAR IBRAHIM M COURSE: BDS

R. NUMBER: 34 SIGNATURE OF CANDIDATE

| Q NO | MARKS ALLOTED | MARKS OBTAINED |
|---|---|---|
| 1 | 10 | |
| 2 | 10 | |
| 3 | 5 | |
| 4 | 5 | |
| 5 | 5 | |
| 6 | 5 | |
| 7 | 3 | |
| 8 | 3 | |
| 9 | 3 | |
| 10 | 3 | |
| 11 | 3 | |
| 12 | 3 | |
| 13 | 3 | |
| 14 | 3 | |
| 15 | 3 | |
| 16 | 3 | |
| TOTAL/70 | | 36 ½ |
| SIGNATURE OF EXAMINER | | |

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Dilban Ibrahim. M
Roll no. : 34
DADH

36 1/2
40

1) ODONTOGENESIS

Odontogenesis means the the formation of tooth.

↳ Stages

odontogenesis have stages classified into physiological stage and morphological stage

× Physiological stages

i) initiation
ii) Proliferation
iii) Apposition
iv) Morphodifferentiation
v) Histodifferentiation

× Morphological stages:

i) Bud stage

ii) cap stage
- Early cap stage
- Late cap stage

iii) Bell stage
- Early bell stage
- Advanced bell stage

■ Advanced bell stage

- Apposition, it is the mineralised dentin formation.
- After apposition, the beginning of Advanced bell stage
- Also called maturation stage.
- It contain 4 layer, that is,

Outer enamel Epithelium
Stratum Intermedium
Stellate reticulum
Inner Enamel Epithelium

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- **Provision of Special Notes:**

Specialized study materials are provided as notes to the slow performers, which helps to improve the understanding and retention of difficult concepts.

Amelogenesis is the formation of enamel. Enamel is formed by epithelial derived cells called ameloblasts. Ameloblasts secrete matrix proteins and creates an environment favourable for the deposition of minerals.

In Bell stage the inner enamel epithelium cells differentiate into preameloblasts which later differentiate into ameloblasts to start amelogenesis.

The ameloblasts will only become functional after the first layer of dentine is formed

Crown formation begins from the cusp tip and continues along the cusp slopes. It starts from the DEJ to outer surface of the crown. Crowns of teeth increase in size by incremental deposition of enamel matrix

Ameloblasts undergo morphological and physiological changes which are described as life cycle of Ameloblasts. According to the functions performed life cycle of Ameloblasts are divided into three main functional stages: presecretory, secretory and the maturation stage

- ***Pre-secretory stage***

Morphogenic stage

Organising / Differentiating stage

- ***Secretory stage***

Formative stage

- ***Post secretory stage***

Maturative stage

Protective stage

Desmolytic stage

**Presecretory stage:**

**During this stage**

- Determination of shape of tooth takes place
- IEE interacts with underlying c/t through differential growth and establishes DEJ which determines shape of tooth
- Histologically– ameloblasts appear low columnar in shape with centrally placed nucleus and not abundant cytoplasmic organelles

Organising stage

- IEE undergo differentiation to ameloblasts
- Ameloblasts exert organising influence on dental papilla cells to differentiate into odontoblasts
- Histologically Ameloblasts increase in ht - 40µ

Develop abundant cytoplasmic organelles

Nucleus moves to apical end [reverse polarity]

Centrioles & golgi apparatus move from apical cytoplasm to basal or distal part of cell. Organelles move to secretory end of cell.

Mitochondria becomes concentrated at proximal end

Intercellular junctions develop at proximal & distal ends termed as proximal & distal

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Intercellular junctions develop at proximal & distal ends termed as proximal & distal terminal bars

- At the terminal phase of this stage Dentin formation begins and basal lamina disintegrates
- Ameloblasts derive alternate source of nutrition from dental sac as dentin deposition starts.

**Secretory stage**

During this stage the ameloblasts secrete the matrix proteins.

Protein is synthesised in the rough endoplasmic reticulum and modified in the golgi complex and packed as proteins in secretory granules in the basal cell region and released into extracellular space by a process called exocytosis.

Ameloblasts develop junctional specialization at proximal and distal end which maintains organisation of ameloblast layer and controls metabolite diffusion

During this stage Ameloblasts develop cytoplasmic extension on the apical end called Tomes process

The acquisition of Tomes process signals the beginning of the secretory stage

The contents of secretory granules are released against the newly formed mantle dentine which, immediately becomes partially mineralized to form the initial layer of enamel. This layer does not contain enamel rods

As the first increment of enamel is formed, ameloblasts move away from the dentine surface

When enamel formation begins Tomes process comprises only a **proximal portion**, after the initial layer is formed it develops a **distal portion** as an outgrowth of the proximal process

Therefore secretion of enamel proteins is established from two sites, the proximal portion and the distal portion of the Tomes process

Secretion from the first site (proximal portion) results in the formation of enamel partitions that surround a pit in which resides the distal portion

These partitions form the **interrod enamel**

Secretion from the second site fills the pit which, after mineralization forms the **enamel rod**

Enamel formed from both sites is of identical composition but differ only in orientation of crystals. The distal Tomes process retreats leaving a narrow space that is filled with organic material forming the **rod sheath**

Eventually the ameloblasts become smaller like they were while secreting the initial enamel layer. Because rods form in relation to the distal portion of the Tomes process the final few increments of enamel do not contain any rods

Thus enamel is composed of a rod-containing layer sandwiched between thin rodless initial and final layers

**Maturation stage**

When secretion of the full thickness of enamel is complete, ameloblasts enter the maturation stage

In this stage they shorten and transform into cuboidal shaped cells. The adjacent stratum intermedium and stellate reticulum reorganize to form a papillary layer

They undergo 'modulation', alternating between ruffle-ended apical surfaces to smooth

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When secretion of the full thickness of enamel is complete, ameloblasts enter the maturation stage

In this stage they shorten and transform into cuboidal shaped cells. The adjacent stratum intermedium and stellate reticulum reorganize to form a papillary layer

They undergo 'modulation', alternating between ruffle-ended apical surfaces to smooth ended apical surfaces. When they posses ruffle ended apices the width and thickness of the pre-existing crystals increase tremendously by induction of calcium ions

When they posses smooth ended apices water and organic material is removed thus forming mature enamel.

**Protective stage**

When the enamel is fully mature the ameloblasts shorten to cuboidal and along with the collapsed layer of enamel organ form a 2-3 layer stratified epithelium termed **reduced enamel epithelium** which, thereafter performs protective function

**Desmolytic stage**

REE secretes collagenase enzyme which destroys connective tissue between oral mucosa and erupting tooth which facilitates tooth eruption.

Eventually ameloblasts undergo programmed cell death – **apoptosis**

**Amelogenesis**

Process of formation of enamel which involves two steps

- Matrix deposition
- Mineralisation

Matrix deposition

Secretory Ameloblasts secrete enamel proteins after a layer of dentin is deposited. Secretory granules containing enamel proteins are released by exocytosis over newly formed dentin. Enamel formation begins in cusp tips and incisal edges and progresses outward and cervically. Enamel matrix mainly contains enamel proteins like amelogenin and non amelogenin. Amelogenins control the crystal growth. Enamel proteins help in enamel mineralisation by promoting nucleation or regulating crystal growth.

In the initial stage of secretory phase ameloblasts have flat basal region. After little thickness of enamel matrix is developed ameloblast develop conical process at the base called Tomes Process.

Enamel secretion takes place through two sites in tomes process. 1) interrod growth region formed by proximal end of Tomes process. Accumulation of enamel matrix between adjacent tomes process produces inter rod enamel.

2) Rod growth region located at distal portion of tomes process and is associated with formation of enamel rod.

Tome's process is responsible for rod structure of enamel. Border between rod and inter rod enamel a sheath like zone of organic matrix called prism sheath is formed.

Mineralisation of enamel matrix

Mineralisation takes place in two steps partial mineralisation and maturation

Mineralisation occurs by deposition of minerals in secreted protein matrix. Secretory ameloblasts are involved in production of enamel matrix and mineralisation. Calcium required for mineralisation reaches through circulation to tissue fluid. Calcium from tissue fluid is transported into the cell and gets attached to calcium binding proteins. Complex of calcium and calcium binding protein moves towards distal cytoplasm and released.

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formation of enamel rod.

Tome's process is responsible for rod structure of enamel. Border between rod and inter rod enamel a sheath like zone of organic matrix called prism sheath is formed.

Mineralisation of enamel matrix

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Mineral deposition in enamel matrix occurs in four phases

1) Primary mineralisation – 30% mineral deposition
2) Secondary stage – starts at surface and proceeds toward DEJ
3) Tertiary stage -mineral rebounds from inner layer of enamel to outward
4) Fourth stage – further deposition of minerals in surface enamel.

Immediate partial mineralisation

Enamel matrix undergoes immediate partial mineralisation immediately after its laid down. 25-30% total mineral content is deposited. Mineralisation begins at DEJ where tuftelin, ameloblastin and enamelin proteins are deposited on layer of dentin. Initial enamel crystals are needle like oriented perpendicular to DEJ. Enamel crystallites elongate to produce enamel ribbons and the process continues entire thickness of secreted enamel matrix.

Maturation

Characterised by gradual completion of mineralisation. Massive re absorption of matrix proteins and water takes place by ameloblasts along with rapid growth of crystallites which grow in width and thickness.

Tertiary stage of mineralisation

Maturation process starts at DEJ and progresses to surface similarly from cusp or incisal tip to cervical region.

Prepared by

**Dr Usha Balan**

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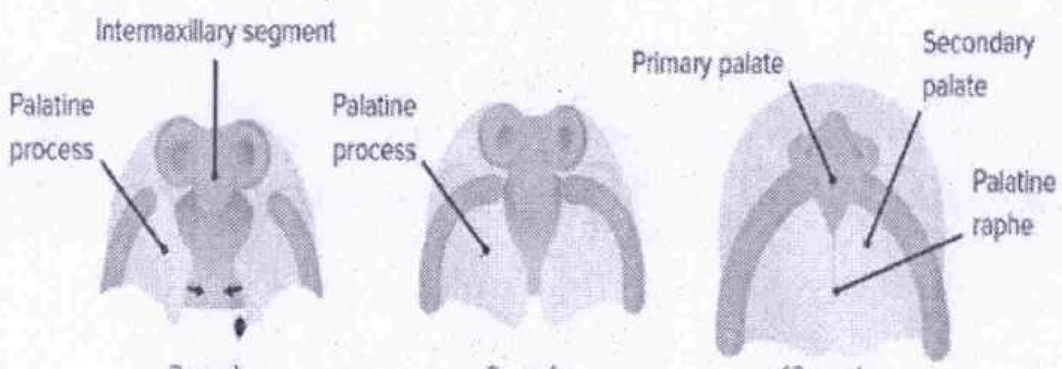
## Formation of Palate

Palate develops from primary palate and palatal processes.

Medial growth of maxillary process forms upper lip, it also extends backward on either side of stomatodeum. Backward extension of maxillary process forms two plate like shelves which grow medially called palatal process. Primary palate is formed from fronto nasal process.

Initially the palatal shelves are vertically oriented on either side of the tongue so all the processes are widely separated. During 8th week of IUL after descent of tongue, palatal shelves alter and position in horizontal direction. Two palatal shelves grow medially towards each other and fuse in the midline and with the posterior margin of primary palate to form roof of mouth.

Palatal shelves fuse with nasal septum to separate two nasal cavities. Junction of union of these palatal components is marked by incisive papilla overlying incisive canal. Ossification of palate starts at 8th week of intrauterine life by intramembranous ossification of mesoderm. Ossification does not occur in the posterior part of palate giving rise to region of soft palate




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# DENTAL LAMINA




- Dental lamina is the lingual subdivision that forms from the primary epithelial band and is intimately concerned with both formation
- The dental lamina proliferates into the underlying ectomesenchyme and forms a U-shaped band along the future dental arches in each jaw.
- This structure that forms in the 7th week of intrauterine life, act as the primordium for the enamel organ of deciduous teeth.
- The dental placodes that form along the dental lamina gives rise to the enamel organ
- In prenatal life, permanent successors develop from the lingual ~~ex~~ successional lamina.
- Successional lamina of central incisor develops at the 5th month in utero and second premolar at the 10th month of age. The permanent molars develop from the distal posterior extension of dental lamina, referred to as accessional lamina or parent dental lamina or lamina of permanent molars.
- Average period of activity of dental lamina is 5 years.
- A few remnant cells may persist even after the degeneration of dental lamina
- These remnants are named as cell rests of Serres.
- These are seen in connective tissues of gingiva or in the jaw bone.
- These cells may proliferate under certain condition giving rise to odontogenic cyst or tumor

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**Customized Learning Plans**: Tailored learning plans are designed to cater to specific learning styles, pace, and requirements, ensuring a more personalized learning experience.

KMCT DENTAL COLLEGE 2022-23

Lesson plan Number: /2022-23

**Subject/ Course/ Topic/Subtopic:** Dental Anatomy, Embryology and Oral Histology / BDS/ Enamel/Introduction/Properties of enamel

**Name of teacher:** Dr Rajeesh Mohammed

**Target group:** BDS students **Term:** 1st BDS **Number of students:**93

**Duration:** one hour **Date:** **Time:** 10-am11am

**Topic:** Enamel/Introduction/Characteristics/Properties of enamel

**Set Induction: Video presentation on development and structure of enamel and reflection on the same**

| S No | Specific learning Objective | Content | TL Method | Teaching Learning Aid | Duration |
|---|---|---|---|---|---|
| 1. | Introduction | Summarizing the development of tooth with emphasis on enamel formation | Interactive lecture | Powerpoint | 20 mins |
| 2. | Characteristics of enamel | General characteristics of enamel | Interactive lecture | Powerpoint | 10 mins |
| 3. | Properties of enamel | Physical properties Chemical properties | Interactive lecture | Powerpoint | 30mins |

**Teacher/ Student activity:** Interactive class with discussion

**Assignment:** Moodle forum activities

**References:**

1. Orban's Oral Histology & Embryology, 14th Edition- By G. S. Kumar
2. Ten Cate's Oral Histology: Development, Structure, and Function by Antonio Nanci
3. Oral Development and Histology by James K. Avery
4. Essentials of Oral Biology – Maji Jose

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Department of Oral Pathology and Microbiology — Lesson Plan



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KMCT DENTAL COLLEGE 2022-23

**Lesson plan Number: /2022-23**

**Subject/ Course/ Topic/Sub Topic :** Dental Anatomy, Embryology and Oral Histology/ BDS/
**Topic:** Permanent maxillary Premolars/ Distal and Occlusal

**Name of teacher: Dr Usha Balan**

**Target group: BDS** **Term- First year** **Number of students:93**

**Duration:60 minutes** **Date:** **Time:10.00 am-11.00am**

**Topic: Topic:** Introduction and various aspects of maxillary Premolar

**Set Induction: Image projection on power point and reflection on the same**

| S No | Specific learning Objective | Content | TL Method | Teaching Learning Aid | Duration |
|---|---|---|---|---|---|
| 1 | To understand the morphology of maxillary premolar | Distal aspect | Interactive lecture | Power point and video presentation | 15mins |
| 2 | To understand the morphology of maxillary premolar | Occlusal aspect | Interactive lecture | Power point and video presentation | 15mins |
| 3 | To understand Class traits of maxillary premolar | All aspects in general | Interactive lecture | Power point and video presentation | 15mins |

**Teacher/ Student activity:** Interactive class with discussion on video presentation

**Assignment: Moodle Forum**

**References:**

1. **Essentials of Oral Biology – Maji Jose**
2. **Wheelers dental anatomy**



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# DEPARTMENT OF ORAL PATHOLOGY & MICROBIOLOGY

## REPORT

## TEST AND RETEST CONDUCTED FOR THE SLOW LEANERS

Conducted to improve the outcome after identifying the "slow learners" using RUBRICS formula.

**Objectives of the Test and Retest Program**

The primary objectives of the Test and Retest Program are to:

1. Identify students facing academic difficulties.
2. Provide extra care to enhance the concentration and knowledge of students.
3. Assess progress through a retesting mechanism.

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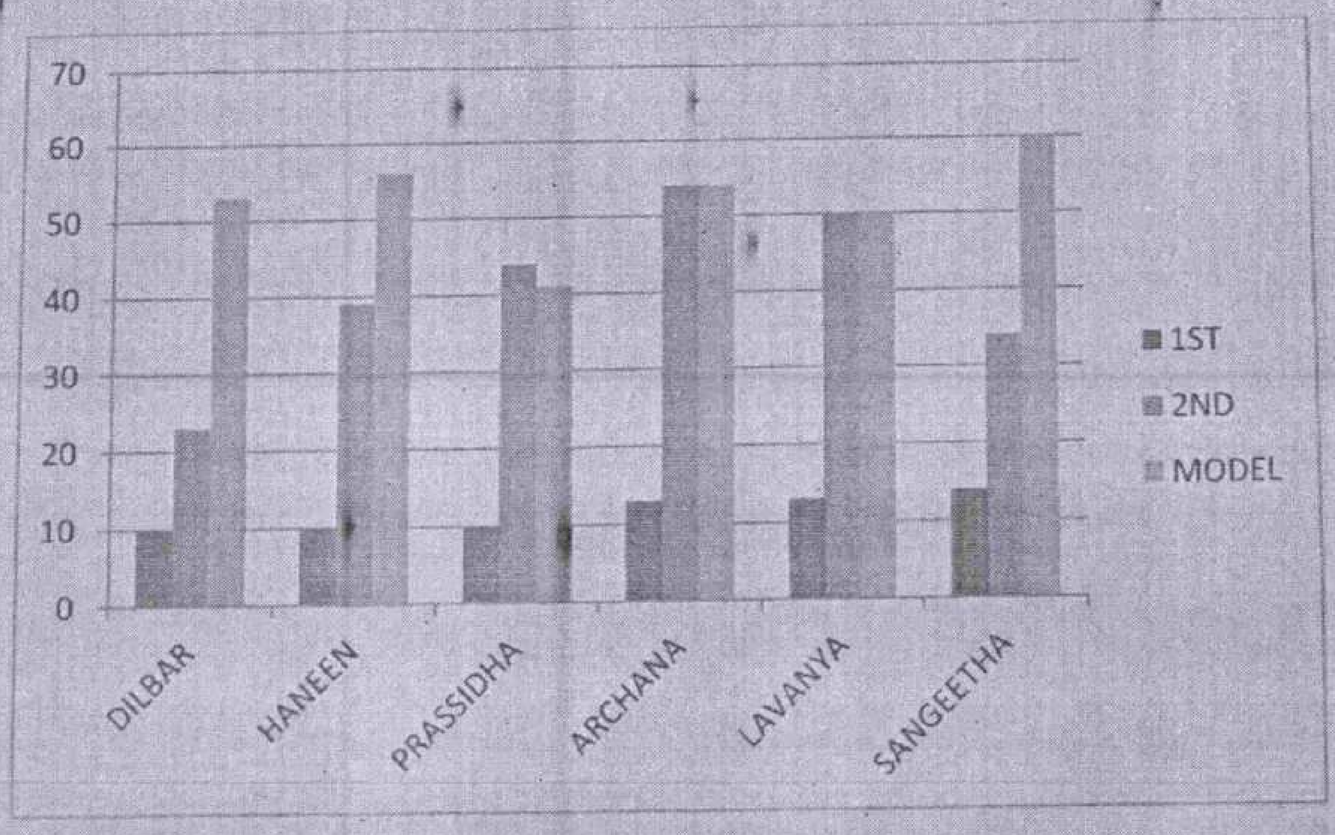
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1st YEAR BDS (2022-23)

SUBJECT- DADH ( DENTAL ANATOMY AND DENTAL HISTOLOGY)

## SLOW PERFORMERS

| No: | NAME | 1ST INTERNAL MARKS /70 | 2ND INTERNAL /70 | MODEL |
|---|---|---|---|---|
| 1 | DILBAR IBRAHIM | 7 | 16 | 36.5 |
| 2 | HANEEN POONGADEN | 7 | 27 | 38.5 |
| 3 | M PRASIDDA | 7 | 31 | 29 |
| 4 | ARCHANA UV | 9 | 38 | 38 |
| 5 | LAVANYA | 9 | 35 | 34 |
| 6 | SANGEETHA | 10 | 24 | 42 |




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## KMCT DENTAL COLLEGE

## DEPARTMENT OF ORAL PATHOLOGY AND MICROBIOLOGY

2nd INTERNAL EXAM DATE: 22-07-23

SUB: DENTAL ANATOMY AND DENTAL HISTOLOGY

NAME: DILBAR IBRAHIM-M COURSE: BDS

R. NUMBER: 34 SIGNATURE OF CANDIDATE

| Q NO | MARKS ALLOTED | MARKS OBTAINED |
|---|---|---|
| 1 | 10 | |
| 2 | 10 | |
| 3 | 5 | |
| 4 | 5 | |
| 5 | 5 | |
| 6 | 5 | |
| 7 | 3 | |
| 8 | 3 | |
| 9 | 3 | |
| 10 | 3 | |
| 11 | 3 | |
| 12 | 3 | |
| 13 | 3 | |
| 14 | 3 | |
| 15 | 3 | |
| 16 | 3 | |
| TOTAL/70 | | 16 16. |
| SIGNATURE OF EXAMINER | | |

DADH

2nd internal Exam

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Dilbon Ibrahim M
Roll no.: 34
DADH



2) MAXILLARY RIGHT CANINE

- Maxillary Right canine is seen in 1st quadrant
- FDI :- 13

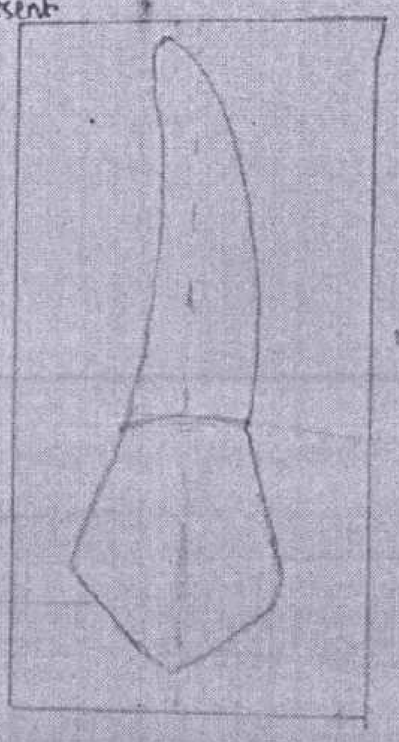
chronology

First evidence of calcification :- 4-5 Months
Enamel Completed :- 5-6 yrs
Eruption :- 11-12 yrs
Root completion :- 13-15 yrs

- Morphology of Maxillary canine is described in 5 aspect; Labial, Lingual, Mesial, distal and occlusal aspect.

LABIAL ASPECT

- Crown is wide and narrow
- Conical root
- Mesial slope is shorter than distal slope
- Labial ridge is Present




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Model exam

## KMCT DENTAL COLLEGE

## DEPARTMENT OF ORAL PATHOLOGY AND MICROBIOLOGY

MODEL EXAM DATE: 20-10-2023

SUB: DENTAL ANATOMY AND DENTAL HISTOLOGY

NAME: DILBAR IBRAHIM.M COURSE: BDS

R. NUMBER: 34 SIGNATURE OF CANDIDATE

- WRITE ESSAY IN DETAIL
- EXPLAIN EACH ASPECT IN DETAIL FOR ESSAY Q (DA)

| Q NO | MARKS ALLOTED | MARKS OBTAINED |
|---|---|---|
| 1 | 10 | 11,12 |
| 2 | 10 | 1,2,3,4 |
| 3 | 5 | NA |
| 4 | 5 | 6,7 |
| 5 | 5 | 5,6 |
| 6 | 5 | 4,5 |
| 7 | 3 | NA |
| 8 | 3 | 7,8 |
| 9 | 3 | 12 |
| 10 | 3 | 8 |
| 11 | 3 | NA |
| 12 | 3 | 9,10 |
| 13 | 3 | NA |
| 14 | 3 | 10 |
| 15 | 3 | 9 |
| 16 | 3 | NA |
| TOTAL/70 | | |
| SIGNATURE OF EXAMINER | | |

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DILBAR IBRAHIM.M
Roll no. : 34
DADH
Model Examination

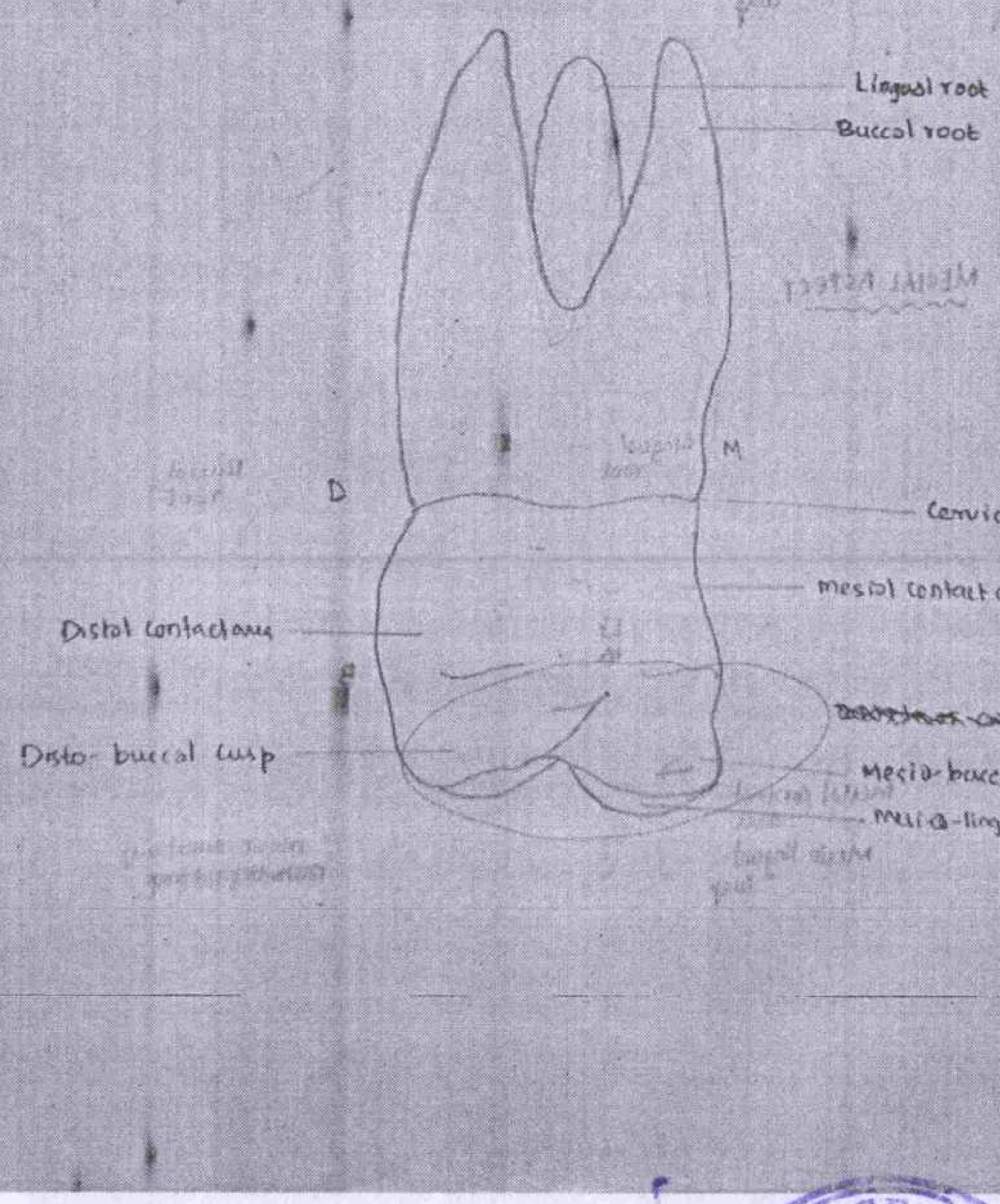
2) RIGHT MAXILLARY FIRST MOLAR

chronology

| | |
|---|---|
| First evidence of calcification | : At birth |
| Enamel completion | : 3-4 years |
| Eruption | : 6 years |
| Root completion | : 9-11 years |

Buccal Aspect

- Trapezoidal in shape




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Remodel exam

## KMCT DENTAL COLLEGE

### DEPARTMENT OF ORAL PATHOLOGY AND MICROBIOLOGY

REMODEL EXAM DATE: 05-12-2023

SUB: DENTAL ANATOMY AND DENTAL HISTOLOGY

NAME: DILBAR IBRAHIM M COURSE: BDS

R. NUMBER: 34 SIGNATURE OF CANDIDATE

| Q NO | MARKS ALLOTED | MARKS OBTAINED |
|---|---|---|
| 1 | 10 | |
| 2 | 10 | |
| 3 | 5 | |
| 4 | 5 | |
| 5 | 5 | |
| 6 | 5 | |
| 7 | 3 | |
| 8 | 3 | |
| 9 | 3 | |
| 10 | 3 | |
| 11 | 3 | |
| 12 | 3 | |
| 13 | 3 | |
| 14 | 3 | |
| 15 | 3 | |
| 16 | 3 | |
| TOTAL/70 | | 36 ½ |
| SIGNATURE OF EXAMINER | | |

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Roll no. : 34
DADH

36½/40

1) ODONTOGENESIS

Odontogenesis means the the formation of tooth.

↳ Stages

odontogenesis have stages classified into physiological stage and morphological stage.

X Physiological stages

i) initiation
ii) Proliferation
iii) Apposition
iv) Morphodifferentiation
v) Histodifferentiation.

X Morphological stages:

1) Bud stage

ii) cap stage
- Early cap stage
- Late cap stage

iii) Bell stage
- Early bell stage
- Advanced bell stage

■ Advanced bell stage

- Apposition, it is the mineralised dentin formation.
- After apposition, the beginning of Advanced bell stage.
- Also called maturation stage.
- It contain 4 layer, that is,

Outer enamel Epithelium
Stratum Intermedium
Stellate reticulum
Inner Enamel Epithelium

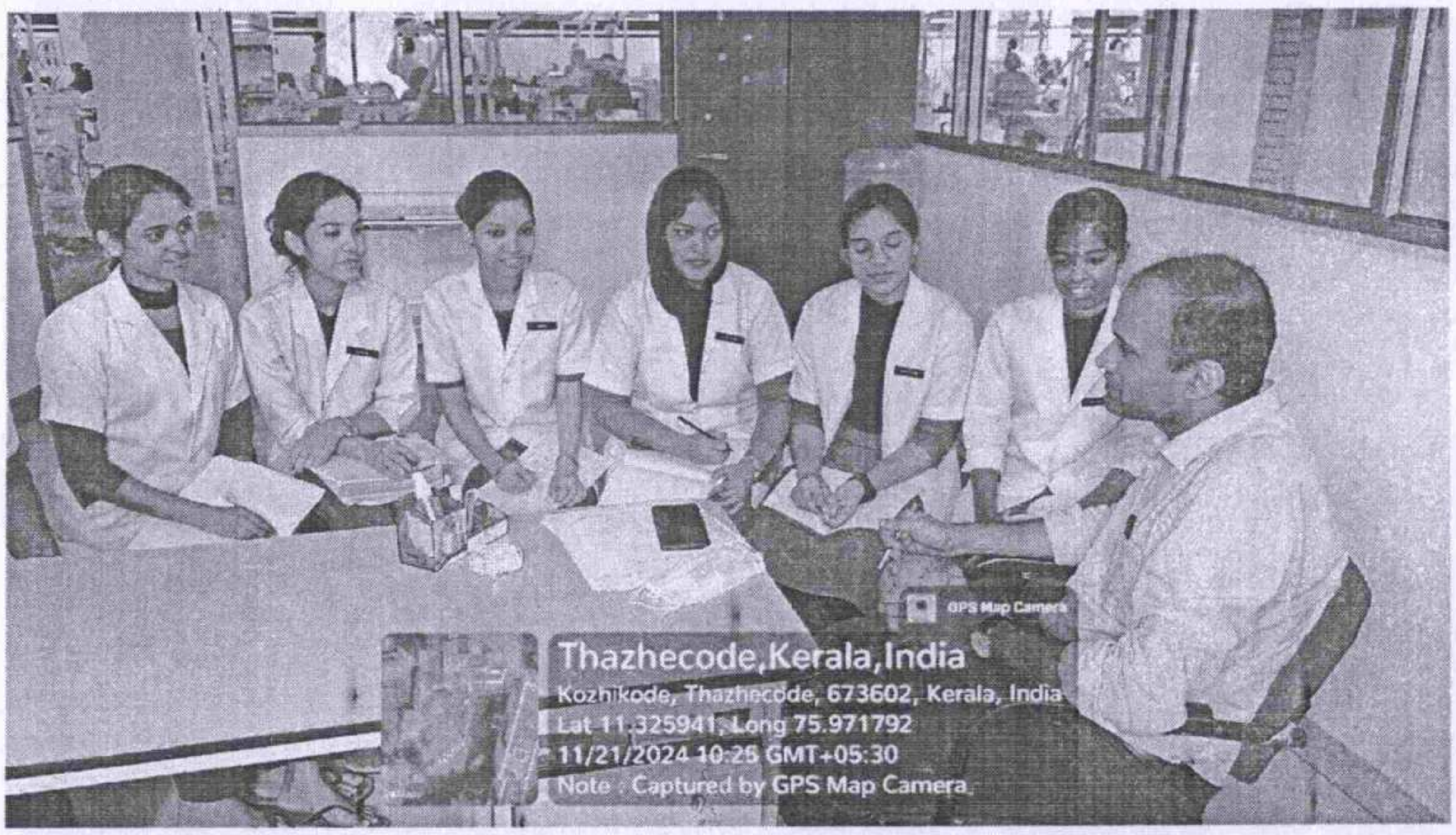
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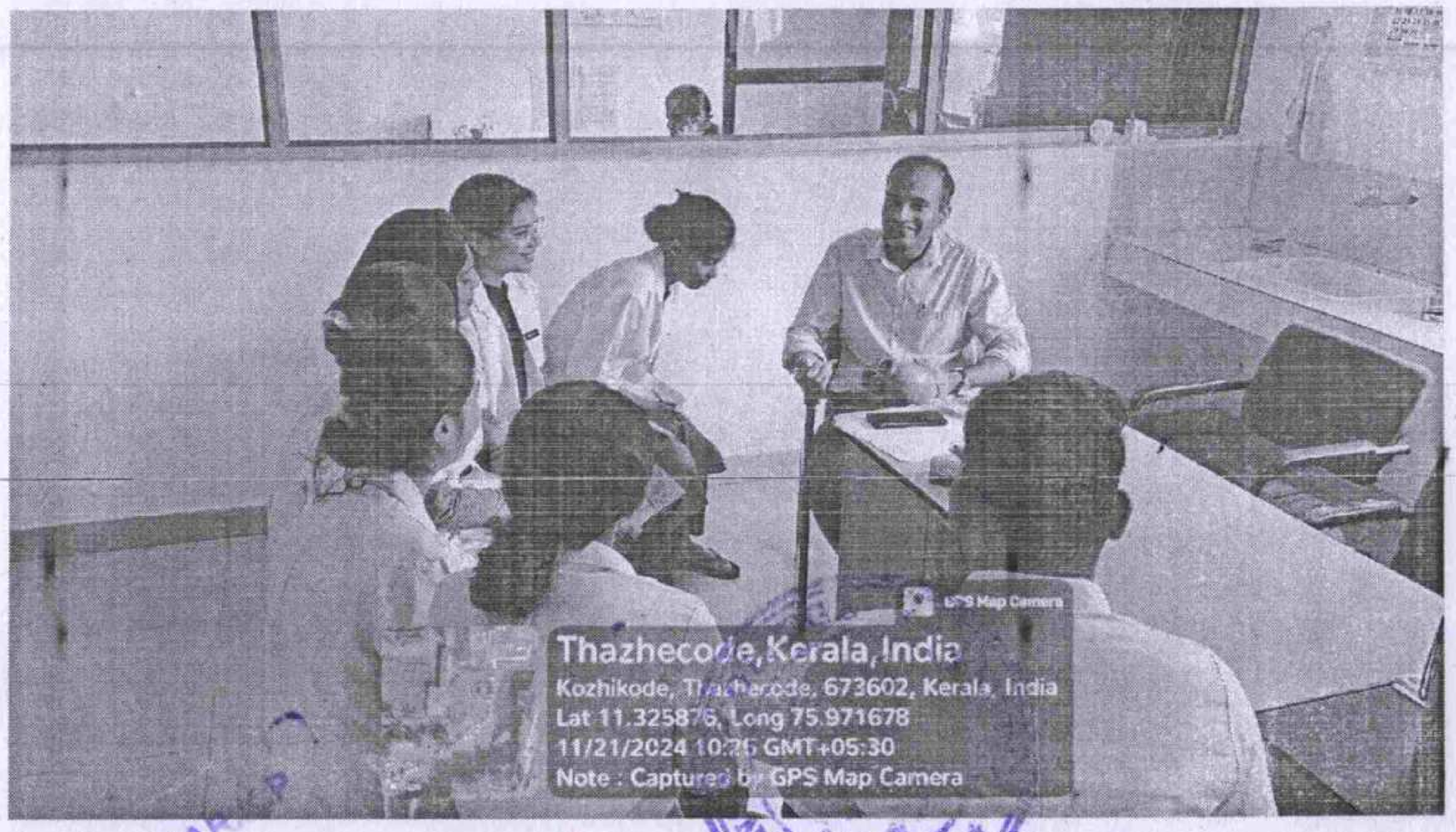
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# DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY

## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

**Continuous Monitoring and Individual Attention by Mentors**: The assigned mentors give each student individualized attention, keeping track of their academic achievement, pointing out areas for growth, and offering support and encouragement.






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**Special Classes with Subject Experts**: Additional classes taught by subject matter specialists are attended by slow performers. These meetings concentrate on answering questions, elucidating ideas, and offering more direction on difficult subjects.







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**Encouragement of Collaborative Study with Advanced Learners**: Slow-performing students are paired with high-achieving peers to establish collaborative study groups. This creates a helpful learning atmosphere where more experienced students guide and help their peers grasp challenging material.

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**Counseling for Students with Psychologists**: In order to improve mental health, professional counselors meet with parents and students on a regular basis to discuss academic issues, stress linked to studying, and offer advice on efficient study methods. The Happiness Department is in charge of this.




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**Periodical Assessments with Class Tests and Evaluation:** Tests and assessments are conducted in class on a regular basis to monitor progress, pinpoint areas of weakness, and give prompt feedback. Students gain a better understanding of their skills and shortcomings as a result.

↳ Immediate rxn — Type I exophylaxis.
↳ Systemized anaphylaxis - all systems
↳ Type I rxn — one system.

Signs and symptoms

1) Dermatologic rxns
↳ urticaria and angioedema

2) Respiratory rxns.
↳ Respiratory distress
↳ Dyspnea
↳ cyanosis.

3) Cardiovascular anaphylaxis
- Life threatening allergic disease
↳ clinical death occurs within few minutes
↳ develop after administration of an antigen by any route but is more common after parental administration
- Time of response variable

Signs & symptoms
Skin reactions → smooth muscle spasm of GIT / Genitourinary or Bronchospasm → Respiratory distress
↓
Cardiovascular collapse.

(2)

After the tooth is removed, lingual plate is grasped with hemostat & formed from soft tissue is removed.
Smoothening of edge done by bone file, wound irrigated & sutured.

-) Splitting of tooth / root odontotomy

Mesioangular Impaction
- Distal half of the crown is sectioned off from the buccal groove till the CEJ from buccal to lingual & extended into the furcation
- A straight elevator is placed in the cut & rotated to fracture the distal portion of the crown which is removed. It is then placed in mesial aspect of 3rd molar below cervical area.

1) Elevators
- Coupland elevator — placed at the base of the crown.
- Warter types — used in raising roots / buccal elevation

Chisel & Mallet technique
1st step - for mandibular / maxillary molar, the 1st step is the placement of vertical slot which is made by placing 3 mm or 5 mm chisel vertically at the distal aspect of 2nd molar with bevel facing posteriorly.

2nd step - At the base of vertical slot the chisel is placed at an angle of 45° with the bevel facing upwards or occlusally & oblique cut is made till the distal cervical point of 2nd molar. Additional triangular piece of bone is removed as function of socket & adjacent bone. Then distal bone is removed.

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Sadhuda Hamza
4th

Oral & maxillo-facial Surgery

1 classification :-

I classification as per the angulation of impacted tooth with molar -

Winters classification [Most]

- According to the position of the impacted tooth 3rd molar to the long axis of the 2nd molar

i) mesioangular



ii) distoangular



iii) Vertical



iv) Horizontal



v) Buccoversion



vi) linguoversion



vii) Inverted



Eg :- Impacted canines

associated with

Theory & day docket

(1) Biers Fibrinolytic theory :

After extraction of tooth an inflammatory process begins that could affect the formation and retention of clot

• fibrinolytic activity.

– Fibrin disintegrate due to effect of kinin liberated in the inflammation process or due to direct or indirect activation of plasminogen, which effect stability of clot

2. Bacterial theory :

• Night count of anaerobic bacteria around extraction site

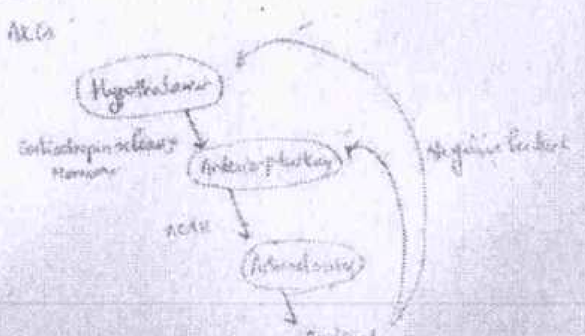
• Anaerobic microorganisms are found and disorder pain is due to the effect of bacterial toxins on the nerve ends of the alveolus.

• most frequent in patients with poor oral hygiene

• Actinomyces viscosus, Treponema denticola & Bacteroides

(3) Adrenal insufficiency

HPA axis




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Antibiotic prophylaxis

→ Given against bacterial endocarditis

Recommended for

- Dentoalveolar procedures
- periodontal procedures including surgery, scaling & root planing, probing and recall maintenance
- Dental implant placement and reimplantation of avulsed teeth
- Endodontic instrumentation or surgery only beyond apex
- Subgingival placement of antibiotic fibers or chips
- Initial placement of orthodontic bands but not brackets
- Intra ligamentary local anesthetic injection
- prophylactic cleaning of teeth
- Restorative dentistry with or without retraction cord

Restriction

High risk category - recommendations

- prosthetic cardiac valves
- previous bacterial endocarditis
- complex cyanotic CHD
- Surgically constructed systemic pulmonary shunts

Moderate risk category

- Most other congenital cardiac malformations
- Acquired valvular dysfunction eg: RHD
- Hypertrophic cardiomyopathy
- Mitral valve prolapse

a hypersensitive stage through exposure to the particular allergen. one to which produces a heightened capacity to react.

type I : immediate

type II : cytotoxic

type III : Immune Complex

Type IV : Delayed

type V : Collagenic

Predisposing factors

allergic response to a LA include dermatitis, bronchospasm and systemic manifestations

- localised dermatological rash
- hypersensitivity to other type LA.

Content of LA cartridge;

- local anesthetic agent
- vasoconstrictor
- sodium metabisulphite
- methyl paraben
- sodium chloride
- sterile water

Allergens in LA

- Sodium bisulfite allergy
- Latex allergy
- topical constituent allergy

Clinical manifestations

- immediate in onset with features expand from indirect type I, II, III hypersensitivity rxn.
- with delayed in clinical manifestation develops hours to days after antigenic exposure.

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widened, debridement & smoothening of bone margin
gation with normal saline & the socket
swelling to remove any remaining dental bacteria & infections.
both for pieces of coronal pulpa. Check for remnants of bone
fragments, blood clots
injection in the fracture of buccal plate or sharp margins or
lingual margin.
Round off the margins of the socket with bone wax and bur
Irrigate the socket again & repeat again.
- control the bleeding before suturing

Closure with proper approximation

- 3-0 black silk is used, 3-4 interrupted sutures given
- 3/8 or 1/2 circle cutting needle is used
- the knot is placed distal to 2nd molar to provide watertight seal and prevent pocket.
- sutures are maintained for 7 days.

## Local Anesthesia

local anesthesia is defined as a loss of sensation in a circumscribed area of the body caused by depression of excitation nerve endings or inhibition of conduction process in peripheral nerve.

Systemic complication of LA

1- overdose reaction

Co toxicity - refers to symptoms manifested as a result of overdosage or excessive administration of solution.

Etiology

- too fast dose of drug
- accidental IV injection
- too large dose of drug

Ranjusha Rajan
No: 47

ORAL&MAXILLOFACIAL SURGERY

## IMPACTED TOOTH

Impacted tooth is the one that is unable to fully erupt in its normal functional occlusion or location by its expected age of eruption, because it is blocked by overlying soft tissue bone or another tooth.

classification

i) WINTER'S CLASSIFICATION

→ Mesioangular
→ Distoangular
→ Horizontal
→ Vertical
→ Inverted
→ Transverse

ii) PELL & GREGORY

Acc. to depth of impacted 3rd molar

→ position A: occlusal plane of the impacted on a level with occlusal line
→ position B: occlusal plane of the impacted tooth below occlusal line
→ position C: the impacted tooth is below the cervical level of 2nd molar

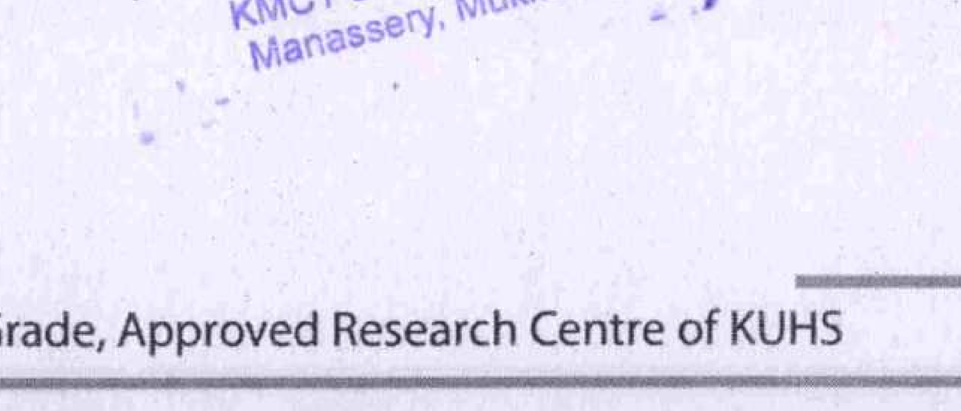
iii) Ramus relationship

→ class 1: Sufficient space available b/w the anterior border of the ascending ramus & distal side of 3rd molar
class II: Space available is less than the mesiodistal width of the crown of 3rd molar
class III: The 3rd molar is embedded in the bone

Etiology

Local causes
obstruction for eruption
lack of space
Ankylosis of 1° or 2° teeth
Non absorbing deciduous bone
Ectopic position of tooth bud

Systemic cause
Prenatal causes
postnatal
Hereditary.




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**Rapid Revision and Revision Tests Before University Examinations**: Prior to tests, special review sessions are planned to swiftly go over the syllabus, emphasizing important subjects. Revision tests help students practice time management by simulating exam situations.

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No: 47

ORABSMAXILLOFACIAL SURGERY

IMPACTIONOFTOOTH

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Ectopic position of tooth bud

Systemic cause
Prenatal causes
postnatal
Hereditary




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→ Bone removal

Bur technique:-

- either no 7/8 round bur | a straight no 702/703 carbide ~~bur & used~~ fissure bur is used
- 1st step: Bur used in a scraping motion around the occlusal, buccal & distal aspect of the mandibular 3rd molar crown to expose 77 & to have pts orientation.
- 2nd step (crane Cuthbert collar technique)
  - once the crown has been located, the buccal surface of the tooth is exposed with the bur to the cervical level of the crown contour & a buccal trough or gutter/collar created.

→ Splitting of tooth/tooth odontectomy

mesioangular impaction:-

- distal half of the crown is sectioned off from the buccal groove till the CEJ from the buccal to lingual and extended into furcation.
- Straight elevator is placed in the cut & rotated to fracture the distal portion of the crown which is removed;
- Straight elevator is placed on the mesial aspect of 3rd molar below cervical bone.
- purchase point is prepared into crown at mesiobuccal line angle with a small round bur
- Cryer elevator is used to elevate tooth.

→ Elevation:

- Coupland elevator: at base of crown
- Winter cryers: used in wedging action/ buccal elevation

→ Debridement, decontamination & smoothening of bone margins:-

- irrigation with normal saline of the socket
- curetting to remove any remaining dental follicle & epithelium

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- look for pieces of coronal portion, check for remnants of bone, granulation tissue, bleeding
- Inspection for the fracture of lingual plate sharp margin on the lingual margin
- check for caries to adjacent teeth

Round off the margins of the socket with a vulcanite round bur (bone file)

- irrigate the socket again & inspect again control bleeding before suturing

→ closure with proper approximation

- A 3-0 black silk is used
- 3-4 interrupted sutures given
- 21mm/26mm half circle / 1.25mm 5/8 circle cutting needle is used
- 1st suture is placed distal to and mid ai to ensure tight seal & prevent pocket. maintained for 7 days

## 2) Local Anesthesia

Transient loss reversible, loss of sensation in a circumscribed / limited area of the body caused either a depression of excitation in nerve endings, or an inhibition of conduction process in the peripheral nerves, without loss of conscious mind.

### Systemic complications

1) Overdose reaction

LA toxicity: refers to the symptom manifested as a result of overdose or excessive administration of the

etiology: large dosage drug
accidental IV injection
high con of drug
slow distribution
slow elimination
use of highly toxic drugs
injection of drug in highly vascular area



→ CNS

Early CNS stimulation symptom

| cerebral cortex | medulla |
|---|---|
| • talkative | lethargy |
| • restlessness | sleepiness |
| • apprehensive | unconscious |
| • excited | |
| • convulsive | |

late CNS depression symptom

| cerebral cortex | medulla |
|---|---|
| • BP ↑ | ↓ BP |
| pulse rate ↑ | • pulse rate ↓ |
| • Respiratory rate ↑ | • Heart rate ↓ |
| • Nausea | • Respiratory depression |
| • Vomiting | • Unconsciousness |

prevention: pre analgesic evaluation of the pt
use of the weakest possible concentration
use vasoconstrictor whenever possible.
use the least possible volume
Aspirate before injection
Slow injection
monitor the pt carefully after injection

Treatment

mild stimulation: no treatment
stop further injection

moderate stimulation: IV injection of barbiturates
0.2% 30% of sodium thiopental
oxygen inhalation

convulsion phase: Anticonvulsant IV/IM
Valium (150-600mg IV)
Diazepam 100mg IV

Depression phase: Artificial respiration
IV fluids
Sympathomimetic drug

→ vasoconstrictor toxicity

etiology: Accidental IV injection

sign: sharp, elevated in BP, reflex bradycardia, elevated heart rate, possible cardiac dysrhythmia

symptoms: Restlessness, nervousness, trembling, dizziness, weakness, drowsiness, fainting, respiratory difficulty, respiration

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## SURGICAL REMOVAL

Steps 1 - Clinical assessment of the impacted, mesioangular

Step 2 - Radiographic assessment
Arc of rotation is drawn with the center of circle at distal root tip & periphery at mesial cusp tip
As the arc crosses adjacent tooth distal half

Step 3 - preparation of surgical site
Scrubbing + painting of skin & oral mucosa using Cetrimide + absolute alcohol + CHX
Drape the patient with sterile drapes to cover upper part of face.

Step 4 - Anesthesia which is obtained by nerve block of the inferior alveolar nerve, lingual nerve, long buccal nerve

Step 5 - Ward's Incision is made
Anterior incision is made including interdental papilla of 2nd molar
It extends downward at 45°
cervicular or internal bevel incision done to remove sulcus epithelium
Distal release incision done to avoid encountering lingual nerve.

Step 6 - Buccal mucoperiosteal flap is raised, Envelope, L shaped, Bayonet by Austin retractor and Ward's placed over Extended oblique with Lingual mucoperiosteal flap - Howarth periosteal Elevator

Step 7 - Osteotomy mesial, buccal & distal bone - Moore Triffle technique

Step 8 - odontectomy along the long axis of tooth midway at the bifurcation
Accurate root sectioning of the tooth can also be planned for the same.
odontectomy performed until 2/3rd of the buccolingual width

Step 9 : Removal of distal segment

Step 10 : Removal of the mesial segment into distally created space using mesial point of elevation

Step 11 : Extraoral reorientation of the extracted tooth segments & Confirmation of complete tooth extraction

Step 12 : Wound debridement & primary closure

## SYSTEMIC COMPLICATIONS

Loss of sensation in circumscribed area of the body caused by depression of excitation in nerve endings or interference of the conduction process in peripheral nerves.

Systemic Complications

1) Overdose reactions
- LA toxicity
- Vasoconstrictor

2) Allergy

3) Idiosyncrasy

Principles of Systemic Complications

Principle 1: No drug ever exerts a single action

Principle 2: No clinically useful drug is entirely devoid of toxicity

Principle 3: The potential toxicity of a drug rests in the hands of man

1) Overdose reactions
Refers to the symptoms manifested as a result of a overdosage or excessive administration of the injection.

Etiology
- large dose done
- Accidental intravenous injection
- High concentration of a drug
- Slow elimination of drug from the body

Clinically Symptoms

| Early | | Later | |
|---|---|---|---|
| Cerebral centers | Medulla | Cerebral centers | Medulla |
| Talkative | Lethargy | ↑ BP, Pulse rate, Respiratory rate | ↓ BP, ↓ PR, ↓ Heart rate, Respiratory depression |
| Restlessness | Sleepiness | | |
| Apprehension | Unconsciousness | | |
| Excited | | | |
| Convulsions | | | |

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**Provision of Special Notes**: Slow performers are given specialized study tools, such as condensed notes and summaries, to help them comprehend and remember important ideas.



e) Position the patient
(i) Supine is recommended
d) Locate the extraoral landmarks :
(i) Intertragic notch.
(ii) Corner of the mouth on the contralateral side.
b) Determination of Coronoid notch.
c) Visualize the intraoral landmarks.
(i) mesiolingual cusp of the maxillary 2nd molar.
(ii) Needle penetration site is just distal to the maxillary 2nd molar at the height of the tip of its mesiolingual cusp.
f) Prepare tissues at the site of penetration :
(i) Dry tissues with sterile gauze
(ii) Apply topical antiseptic
(iii) Apply topical anesthetic for min of 1 minute
g) Stretch the tissues on the lingual aspect of the ramus
h) Direct the syringe toward the site of injection from the corner of mouth on the opposite side.
(i) Insert the needle gently into tissues at the injection site just distal to maxillary 2nd molar at the height of its mesiolingual cusp
- Direct the syringe toward the target area on the tragus.
- Slowly advance the needle until bone is contacted
  - Bone contacted is the neck of the condyle
  - The average depth of soft tissue penetration to bone is 25 mm.
- If bone is not contacted, do not deposit any local anesthetic
- Withdraw the needle 3 mm.
- Aspirate in 2 planes.
- If positive, withdraw the needle slightly, angle it superiorly, retract, reaspirate and if now negative, deposit the sol.
- If negative, slowly deposit 1-2 ml of solution over 60 to 90 seconds. When partial anesthesia develops after administration of 1-2 ml, a 2nd injection of approximately 1-2 ml is recommended
- Withdraw the needle and make the needle safe

→ Excessive volume of anesthetic solution.

Prevention

→ Use sharp, shorter, disposable needle.
→ Properly care for & handle dental cartridges
→ Use an aseptic technique
→ Practice atraumatic insertion & injection technique
→ Avoid repeated injection
→ Use minimum effective volume of LA.

Management

1) With mild pain and dysfunction :
- Heat therapy ; Warm saline, analgesics & muscle relax
- Heat therapy ; applying hot or moist towel for approximately 1 hour.
- Warm saline rinse ; 1 teaspoon of salt is added to a 12 glass of warm water.
- Aspirin 325 mg or Ibuprofen 600mg - ~~analgesic~~
- Diazepam 10 mg muscle relaxant.
- Advice to institute physiotherapy consisting of opening & mandible for mouth as well as lateral excursions for 3-4 hrs.

⇒ For severe pain or dysfunction, if no reduction noted, the should be referred to as oral & maxillofacial surgeon for

6) Stages of GA

Stage I - Analgesia
→ pupil size, eye movement were normal.
→ Rate of respiration, intercostal & diaphragm muscle tone now
→ Airway reflexes abolished - none
→ In CVS, ↑ Heart rate Res, BP normal, muscle tone normal
→ Used for venipuncture, labour pain, dental analgesia

Stage II - excitement
→ Reflexes abolished - eyelashes, gag

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Mook principles of elevators

1) Lever principle
2) Wedge principle
3) Wheel and axle principle

Lever principle : A ~~widest~~ modest force is transmitted at long power ~~arm~~ or handle, so that mechanical advantage is derived at short-weight arm ; ie ; working end / blade, which engages the tooth, eg: Straight elevator, Apexoelevator

wedge principle : The wedge elevator is forced ~~the~~ the root and bone parallel to long axis of tooth - A small apexoelevator can displace the root towards the periodontal plane out of Socket. eg: Apexoelevator, Cryer's elevator

wheel et axle principle : when light force is applied to a handle on to the side of a wheel creates a torque about the axis centerline to lift a heavy load. The effort is applied to circumference of a wheel which turns the axle ~~so~~ so as to raise a wt. eg: crocs bar.

pathogenesis of Syncope

Anxiety
↓
Release of catecholamines
↓
↓ Use peripheral Vascular resistance
↓
pooling of blood
↓
Compensatory mechanism
↓
Heart rate, rapid breathing, pallor
↓
Decompensation
↓ BP, ↓ Use Cerebral blood flow
↓
Syncope.

Socket theories

Am's fibrinolytic Theory :- Acc. to this theory after extraction ~~with~~ an inflammatory process begin, that would affect the with an inflammatory process begin, that would affect the valve & retention of clot. chemical studies have shown increase of fibrinolytic activity in the pathogenesis of dry socket fibrin would disintegrate. due to the effect of ~~bacteria~~ activator related in the inflammation process or due to direct action of plasminogen, which affects stability of dry Socket.

Bacterial Theory : Anaerobic microorganisms are generally found and the alveolar toxin due to the effect of external toxin on the nerve ending in the alveolus. ~~dry~~ Socket is also more frequent in patient with poor oral hygiene & in previously existing periodontal illness.

Antibiotic prophylaxis

| SITUATION | ANTIBIOTIC | REGIMEN |
|---|---|---|
| Raised General prophylaxis | Amoxycillin | Adult, 2.0g : children; 50mg/kg orally 1hr before procedure |
| use oral medication | Ampicillin. | Adult, 2.0g IM/IV ; children 50 mg/kg with 30-60 m before procedure. |
| | cefazolin/ Ceftriaxone | Adult, 1.0g IM/IV; children 50 mg/kg IM/IV |
| Allergic to penicillin | clindamycin/ Erythromycin | Adult, 600 mg ; children 20 mg/kg orally 1hr before proced |
| | Cephalexin | Adult 2.0g, children 50 mg/kg orally |
| | Azithromycin | Adult : 500mg : children 15 mg/kg orally 1hr before |
| Allergic to penicillin Unable to oral ration | clindamycin/ Ceftriaxone | Adult 600mg IV children : 15-20 mg/kg IV 1 hr before procedure. |

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**Customized Learning Plans**: Tailored learning plans are designed to cater to specific learning styles, pace, and requirements, ensuring a more personalized learning experience.

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**DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY**

| **LESSON PLAN** | | | | |
|---|---|---|---|---|
| **Lesson Title:** | **Teacher** | **Subject** | **Batch** | **Date** |
| Local Anesthesia | Dr Sunu VS | OMFS | III BDS | 14/08/2023 |

**Goal :** To make students aware of local anesthesia and techniques of L.A

**Learning outcome/ objectives:** At the end of the class the student should be able to understand:

1. The techniques of LA
2. Team approach and interdisciplinary care
3. How to approach a question in theory exam and viva

**Prerequisite Concepts and Skills:** The student is required to know about local anesthesia

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**Materials and Resources:**

| Teacher | Students |
|---|---|
| • Power point presentation prepared on multiple referances<br>• Black board | • Note book |

**Lesson Activities:**

| Teacher Activities | Student Activities | Time |
|---|---|---|
| • Introduction (anticipatory set):<br>• Classification of local anesthetic agents<br>• Ideal requirements<br>• Mechanism of action Armamentarium required<br>• Types of local anaesthesia<br>• Use of vaso constrictors in local anesthetic solution -Advantages, contra-indications<br>• Various vaso constrictors used.<br>• Anatomy of trigeminal nerve Anaesthesia of the mandible Intra Inferior Alveolar Nerve Block<br>• Mental nerve block<br>• Gow gates technique<br>• Variraniakinosi<br>• Anaesthesia of Maxilla – Infiltrations, Infra - orbital nerve block,<br>• Posterior superior alveolar nerve block, Infiltrations, Maxillary nerve block – Intra oral and extra oral TechniquesBody: Detailed description about individual medical conditions and their respective manifestation and their treatment procedures.<br>• Complications of local anaesthesia- local and systemic<br>• Closure: Conclusion about the special precautions need in local anesthesiabefore the surgical procedure.<br>• Students will be encouraged to answer the puzzles and clinical photographs to assess that learning objective is achieved. | • Listen to the class<br>• Make notes and write down important points<br>• Answer the questions, puzzles and clinical photographs.<br>• Performing LA techniques using dummy syringes | 1 hour |

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**Strategies**: Students are made sit comfortably. All students should have a proper view of power point display and black board. Question and contributions will be encouraged from the students.

**Assessment and evaluation**: At the end of the class students will be asked to answer the questions and evaluate few clinical photographs.

**Extensions**: The students will be able to link this topic with number of systemic /medical conditions and sequences and their treatment approach.

**Differential instruction**: Differentially able and gifted students will be challenged with the relevant questions and clinical puzzles.

**Reflections:** Feedback from students will be obtained about the class.

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## REPORT ON TEST AND RETEST CONDUCTED FOR THE SLOW LEANERS

The Test and Retest Program was developed to support students who may require additional academic assistance, often categorized as "slow learners." The purpose of this program is to identify students who are struggling with course material, provide targeted intervention, and improve their understanding and performance through structured retesting.

**Objectives of the Test and Retest Program**

The primary objectives of the Test and Retest Program are to:

1. Identify students facing challenges in keeping up with the academic requirements.
2. Provide remedial support to enhance their understanding of essential concepts.
3. Assess progress through a retesting mechanism to track improvement.
4. Build confidence in students and reduce academic stress by offering a second opportunity for success.

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Oral and Maxillofacial Surgery Model Examination

Beniya Nazrin N
Roll No : 14

19
70
ok

preprosthetic Surgeries

- ird tissue
  - alveolar ridge preservation
  - alveolar ridge augmentation
  - alveolar ridge correction
    - orthognathic Surgery
      - Total jaw Surgery
      - Segmental jaw Surgery
- ft tissue
  - Frenectomy
  - Vestibuloplasty
  - Redundant tissue excision
    - Epulis fissuratum
    - Alveolar flabby ridge
    - Denture granuloma.
  - Mental nerve repositioning

primary ridge augmentation
Secondary ridge augmentation
Excision of tori
Genial tubercle reduction
Maxillary tuberosity reduction
Mylohyoid ridge reduction

Mandible
- Visor osteotomy
- Superior border augmentation
- Inferior border augmentation

Maxilla
- Sinus lift

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ORAL AND MAXILLOFACIAL SURGERY

Benshya Nazrin N
Roll. No 14

(22)

1 Odontogenic tumours (1992 classification)

22

odontogenic tumours

| Epithelial | Mixed (Epithelial and Mesenchymal) | Mesenchymal |
|---|---|---|
| - Ameloblastoma | - Ameloblastic fibroma | - Odontogenic fibroma |
| - clear cell odontogenic tumours | - Odontoblastoma | - Odontogenic myxoma |
| - Calcified epithelial odontogenic tumours | - Adenomatoid odontogenic tumours | - Benign cementoblastoma |
| - Squamous odontogenic tumours | - Ameloblastic fibroodontoma | |
| - ~~Adenomatoid odontogenic tumour~~ | - complex and compound odontoma | |
| | - Ameloblastic fibrodentinoma | |

## Ameloblastoma of Mandibular Angle Ramus Region

Contents

- Introduction
- etiology
- clinical features
- Radiographic features
- Diagnosis
- Management

Introduction

- epithelial odontogenic tumour
- Definition - unicentric, non-functional, Intermittent in growth, anatomically benign, clinically persistent.

Etiology




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Oral and Maxillofacial Surgery Model Examination

Bensiya Nazrin N
Roll No 14

27th May 2024

29/30

2) Ameloblastoma

- Odontogenic tumour

Definition:

- Robinson defined ameloblastoma as unicentric, non-functional, intermittent in growth, anatomically benign, clinically persistent.

Synonyms

- Adamantinoma

clinical features

- age : 20 to 40 years of age
- Sex : Male affected more than female.
- Mandible is more affected than maxilla
- Within mandible, molar and Ramus region affected more.
- Slow growing, gradually increase in size
- It initially involves the cancellous bone and spreads in anteroposterior dimension and then advances buccally or lingually
- At the time; visible symptoms had started to appear. it already had spread a large region
- Then causes gross deformity of face
- In the affected area, tooth movement and resorption of root observed.
- Thinning of cortical plate
- egg shell crackling.

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ORAL AND
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SURGERY.

SANAH BASHEER.
Roll No: 39.
Part II Regular
2019 Batch.

odontogenic tumor:

Based on origin:

1) odontogenic tumor- epithelial origin.

- Ameloblastoma
  - i) unicystic ameloblastoma
  - ii) malignant ameloblastoma
- calcifying epithelial odontogenic tumor
- adenomatoid odontogenic tumor

2) odontogenic tumor- ecto mesenchymal origin

- odontogenic fibroma
- odontogenic myxoma

3) odontogenic tumor

- mixed origin

- complex odontoma
- compound odontoma
- Ameloblastic fibroma

18 ½
10

Ameloblastoma

Acc to Robinson: Ameloblastoma is defined as unicentric, non function, intermittent in growth, Anatomically benign clinically persistent odontogenic tumor.

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Roll No : 39
Part II Regular
2019 Batch

21/70

3] Trigeminal neuralgia:

- It is unilateral, paralysis of Trigeminal nerve
- It is also called Tic Douloreux,
- It is caused when any injury happen to Trigeminal nerve
- Trigger when stimulus on Trigger zone.
- Trigger zone is present around mouth.
- This zone is trigger by - wind, cold, heat etc



- types of Trigeminal neuralgia:
  pretrigeminal neuralgia, trigeminal neuralgia, post trigeminal neuralgia.
- clinical features
pretrigeminal neuralgia:
- presence of sharp, shooting, lancinating pain:
  which is like electric shock.
- patient have difficulty in speaking.
- severe pain

P.T.O.

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ORAL & MAXILLOFACIAL SURGERY

Name
Roll no :17
part II

19
70

rigerous Cyst

s an odontogenic cyst

rmed between reduced enamel epithelium and

enamel Organ and are present around an Impacted

tooth

Gung appearance of Cyst within a Cyst

~~Etiology~~

clinical Features

Age - 30-50 years.

Sex - Male > Female

Site - mandibular 3rd Molars > Max canine > Mandibular

3rd Molars

clinical Presentation :-

- It Initially asymptomatic
- ~~Pain~~ Seen around Impacted teeth
- painless
- Slowly progressive, painless bony
  - Expansion of cortical bone
- Egg crack sound
- ~~Displa~~ displacement of Adjacent teeth.
- It forms cyst within a cyst appearance

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Department of Oral & Maxillofacial Surgery

Hana
Roll no: 17
part II

2nd Internal Examination

25 1/2
10

classification of Odontogenic Tumors

① Benign

Epithelial Origin
- Ameloblastoma
- AOT
- COT

Mixed Origin
- Ameloblastic fibroma
- Complex odontoma

Ectomesenchymal Origin
- Odontogenic fibroma

② Malignant
- Odontogenic Carcinoma
- Odontogenic Sarcoma
- odontogenic Carcinosarcoma

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Ameloblastoma

- It is the most commonly seen tumour
- ~~Defn~~ Ameloblastoma is a unicystic, nonfunctional, locally invasive growth, anatomically benign & clinically persistent

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Model Examination - 2024

Hana
part II
Roll no 17

30
70

1 Local Anaesthesia :-

reversible.
It is the loss of Consciousness in a circumscribed area by the loss depression of nerve excitation and Inhibition of nerve conduction of peripheral Nerves.

Components

Local Anaesthetic : Ligrocain
Vasopressor : Adrenalin
Preservative : Methylparaben
Fungicide : Thymol
Maintain PH : Sodium hydroxide
Maintain hypotonicity :- Sodium chloride
Diluting Agent : Distilled water.

Complications :-

1) Systemic Complications
2) local Complication :

Systemic Complication

- Allergy
- Dosage related Complications

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# DEPARTMENT OF ORAL MEDICINE AND RADIOLOGY

## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

**Continuous Monitoring and Individual Attention by Mentors**: Each student benefits from individualized support provided by dedicated mentors who closely track their academic progress, pinpoint areas needing improvement, and offer guidance and encouragement to foster their growth.



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**Encouraging Reading Books with Simple Language**: To enhance comprehension, students are encouraged to explore supplementary resources or simplified textbooks that break down complex topics into more accessible language.



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**Rapid Revision and Revision Tests Before University Examinations**: Special revision sessions are arranged before exams to review the syllabus, with an emphasis on key topics. Additionally, revision tests are conducted under exam-like conditions to help students practice time management and build confidence.

Shathi Sumi
Roll No: 23

THIRD INTERNAL EXAM OMR
PART-1.

28

2. MULTILOCULAR RADIOLUCENCIES 10

- Multilocular radiolucencies are the multiple adjascent overlaping compartments of the ~~jaw/bone~~ formed by a thin bony septa.
- Multilocular radiolucencies are more common in mandible than maxilla.

classification

| Honey coumb appearance | Soap-bubble | Tennis racket |
|---|---|---|
| Eg: ~~odontogenic myxoma~~ * central giant cell granuloma. (Homogenous) ~~appearance~~ | * Ameloblastoma * Calcifying epithelial odontogenic cyst | Eg: odontogenic myxoma. |

→ Lesions existing multilocular radiolucencies

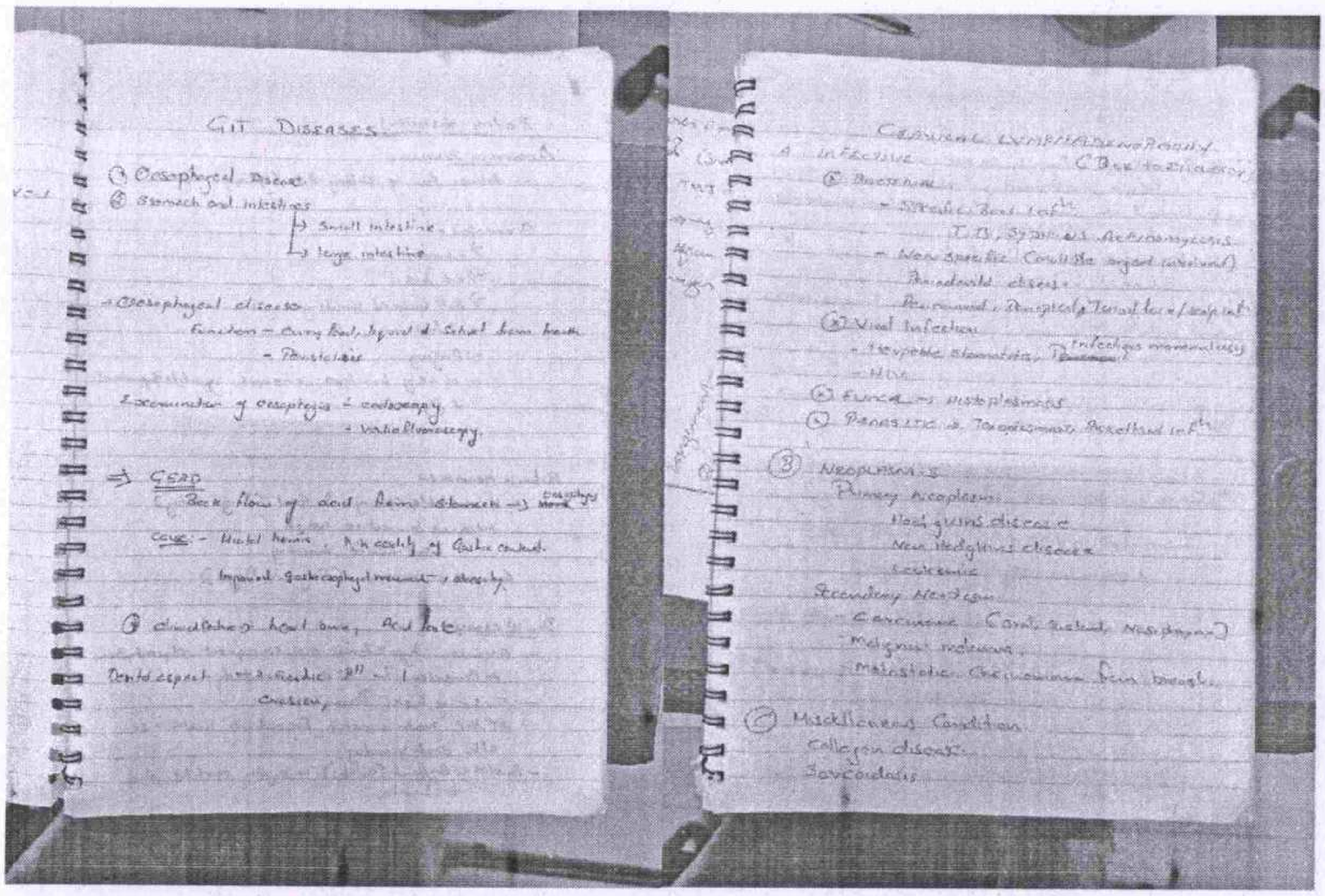
→ Ameloblastoma
→ Aneurysmal bone cyst
→ odontogenic keratocyst
→ odontogenic myxoma.
→ central giant cell granuloma.
→ Hyperparathyroidism.

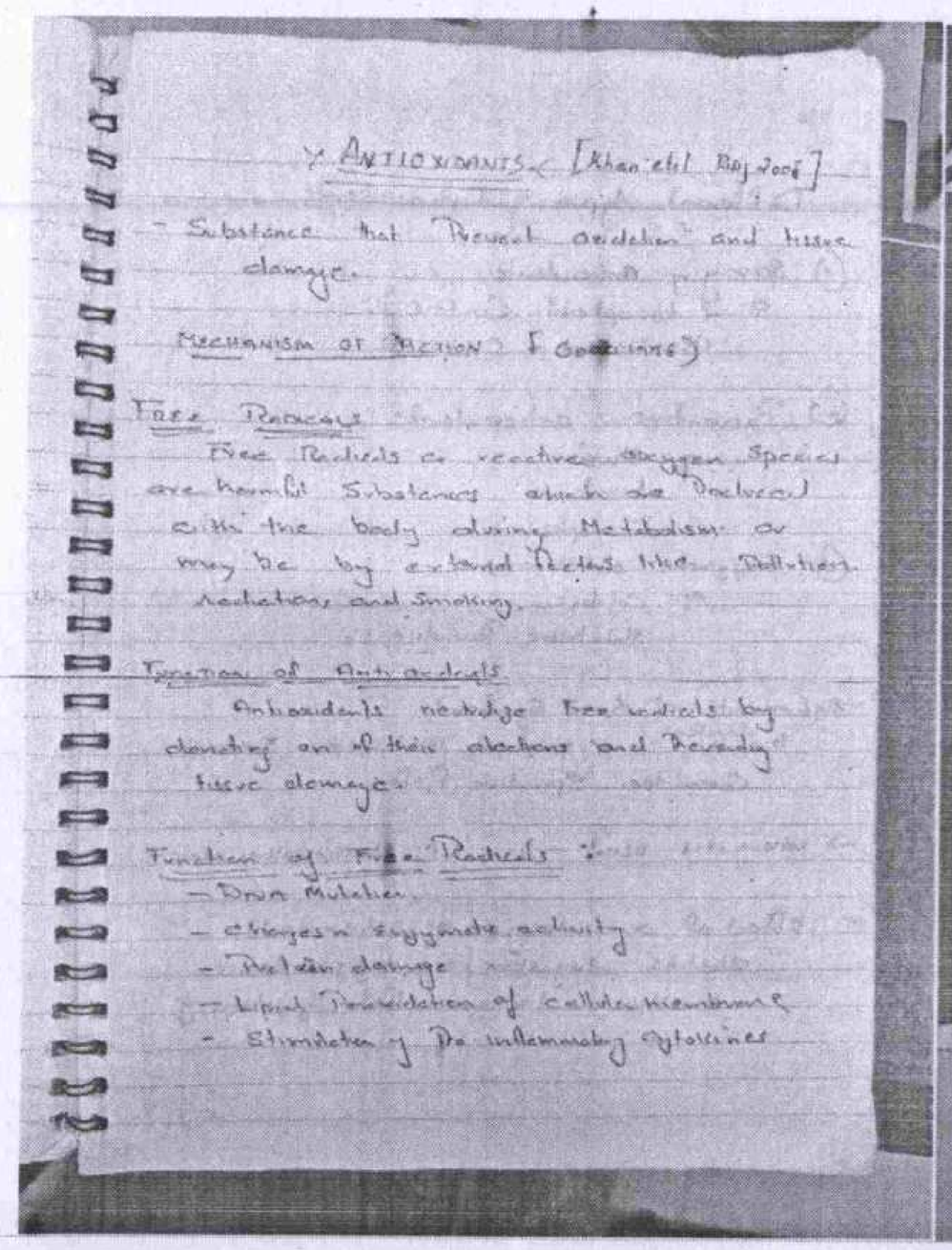
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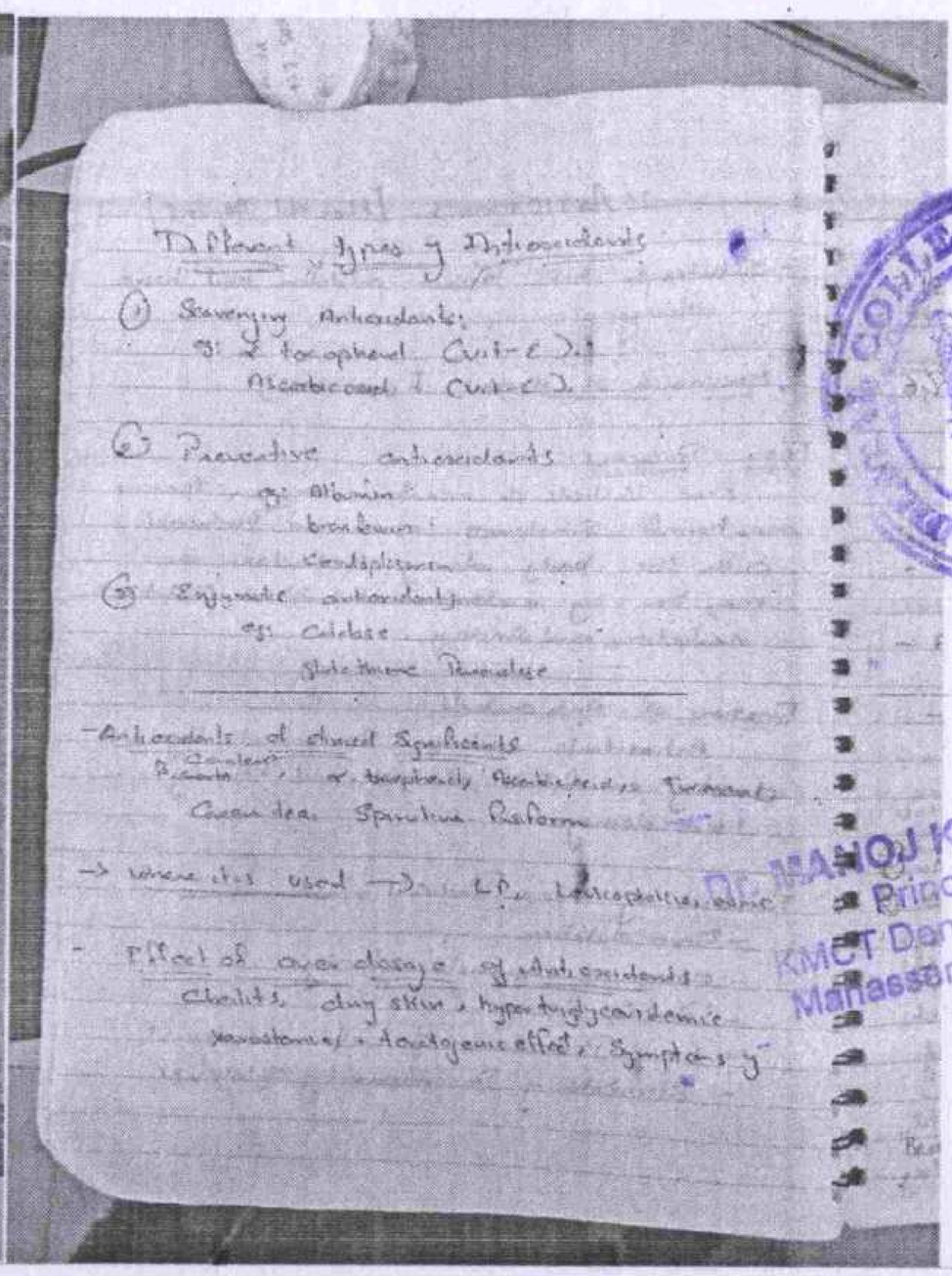


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**Provision of Special Notes**: Specialized study materials, such as simplified notes and concise summaries, are provided to students needing additional support, helping them grasp and retain essential concepts more effectively.




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DEPARTMENT OF ORAL MEDICINE AND RADIOLOGY

Lesson Plan

**Faculty:** Dr. Prejith Sampath **Batch:** Third Year Regular

**Date:** 02-11-2022

| **Topic** | Dental considerations & Oral Manifestations in Patients with Liver Disease | |
|---|---|---|
| **Session Number** | 1 out of 1 | |
| **Objectives** | **Teaching Method** | **Duration** |
| Introduction & Functions | Didactic | 5 minutes |
| Fate of Bilirubin | Powerpoint & Didactic | 5 minutes |
| Liver Diseases<br>• Dental considerations<br>• Causes of liver damage<br>• General features<br>• Hepatitis B<br>• Liver Cirrhosis | Powerpoint | 15 minutes |
| Oral Manifestations | Powerpoint | 5 minutes |
| Lab investigations | Powerpoint | 5 minutes |
| Contraindicated drugs | Powerpoint | 5 minutes |
| Evaluation | | 5 minutes |
| **Study Reference** | Scully's Medical Problems in Dentistry – 7th Edition | |

**Assessment Questions**
**Google forms (MCQ)**

1. All of these are functions of the liver except,
   a. Production of bile
   b. Storage of glycogen
   c. Removal of nitrogenous waste
   d. Production of clotting factors

2. Which of these is a false statement? Conjugated bilirubin,
   a. is also known as direct bilirubin
   b. is elevated in the blood due to biliary obstruction
   c. is responsible for colouring the faeces
   d. is not water soluble

3. A dentist needs to be aware that liver disease can cause all the following except,
   a. Clotting disorders
   b. Reduction in immunity
   c. Lentigo
   d. Alteration in drug metabolism

4. Hepatitis B virus recovery and immunity is indicated by presence of
   a. Core antibody and surface antibody
   b. Core antibody and core antigen
   c. Core antigen and Surface antigen
   d. Core antibody and Surface antigen

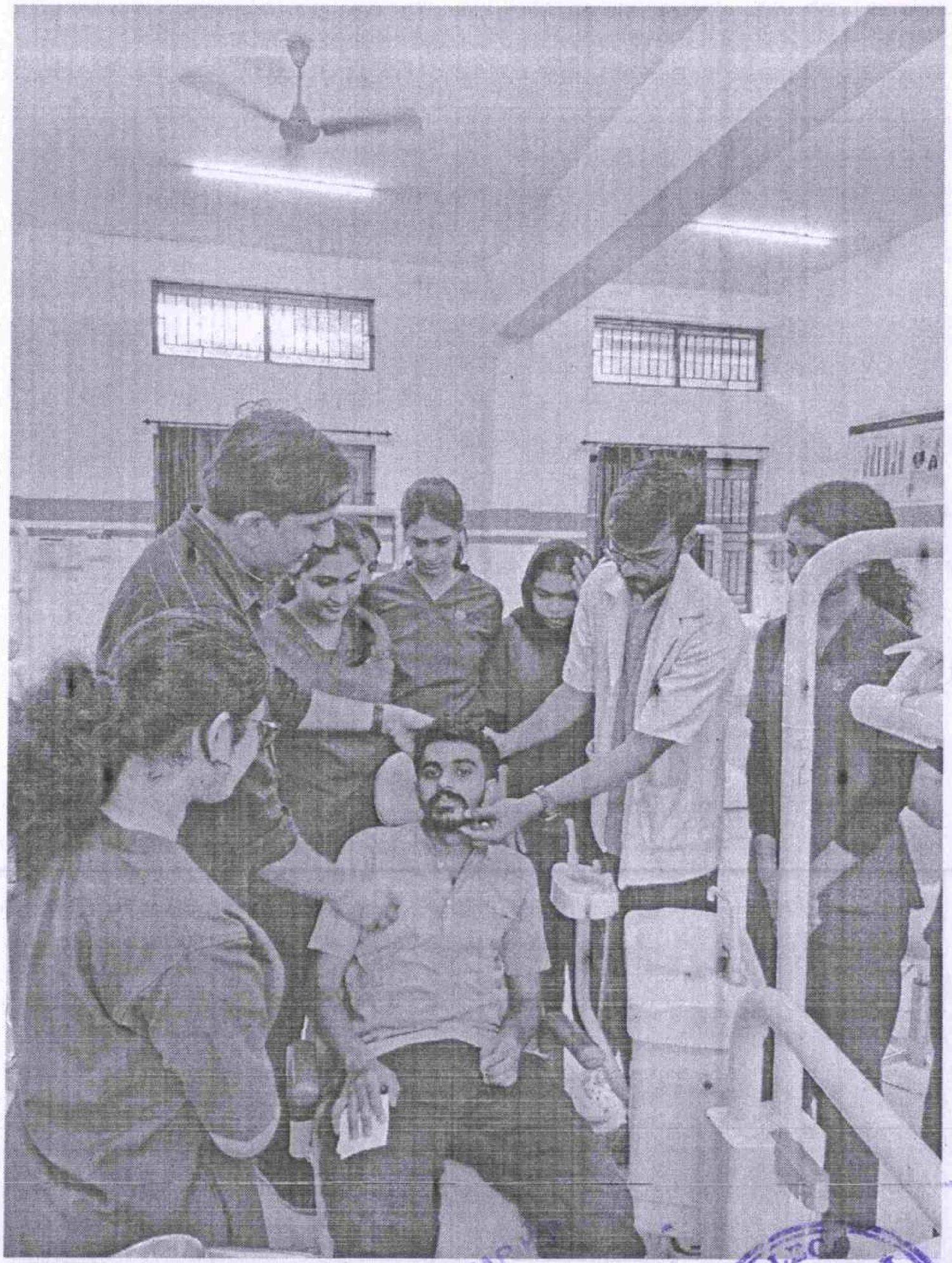
5. Most sensitive marker of liver disease is
   a. Total Bilirubin
   b. Alkaline phosphatase
   c. Alanine aminotransferase
   d. Aspartate aminotransferase

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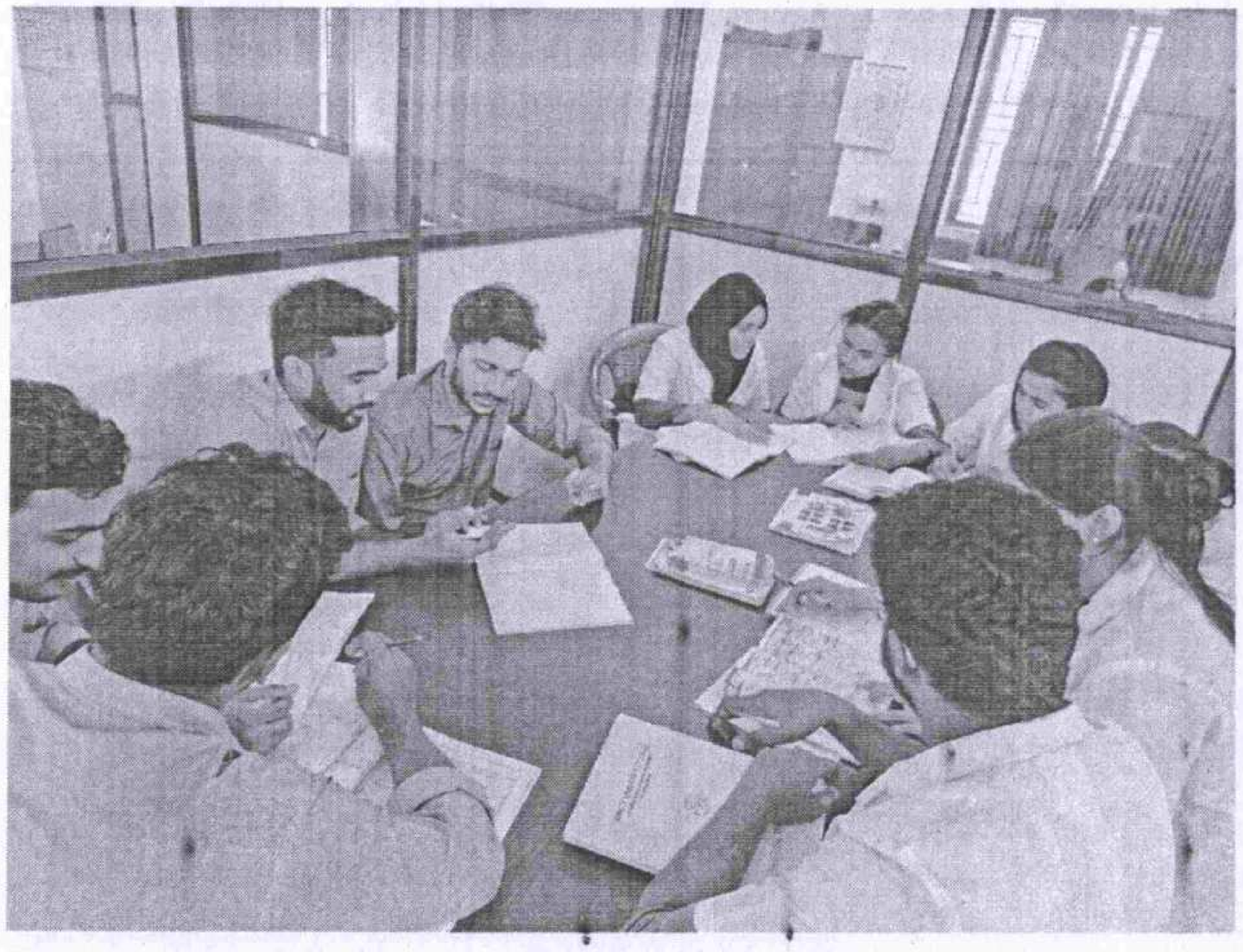
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**Encouragement of Collaborative Study with Advanced Learners**: Collaborative study groups are established, pairing students who need additional support with high-performing peers. This approach creates a nurturing learning environment where advanced learners mentor their peers, helping them grasp complex concepts.





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**Counseling for Students and Parents with Psychologists**: Professional counselors, as part of the Happiness Department, hold regular sessions for students and parents to address academic challenges, manage study-related stress, and provide guidance on effective study techniques. These sessions aim to enhance both academic performance and mental well-being.



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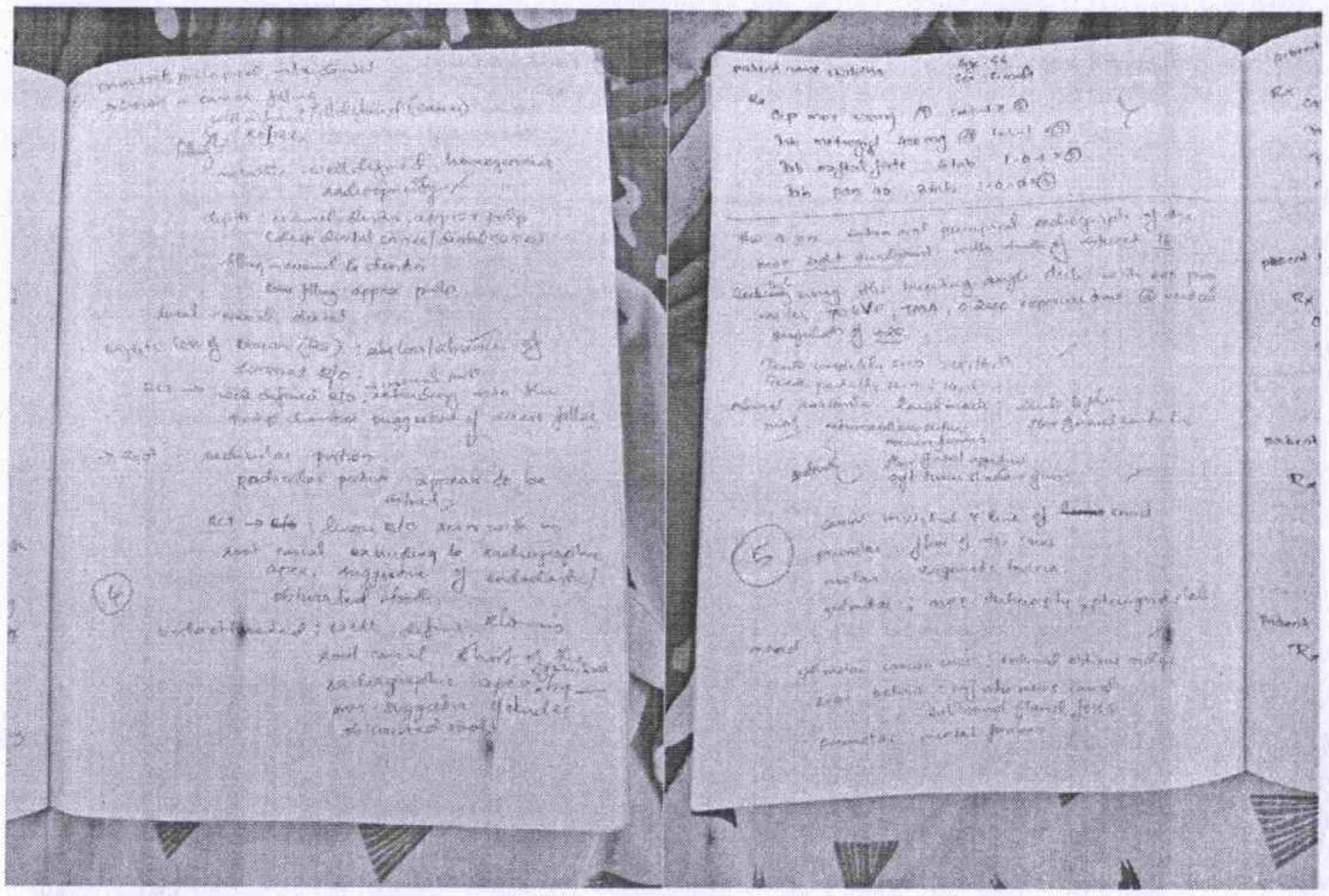
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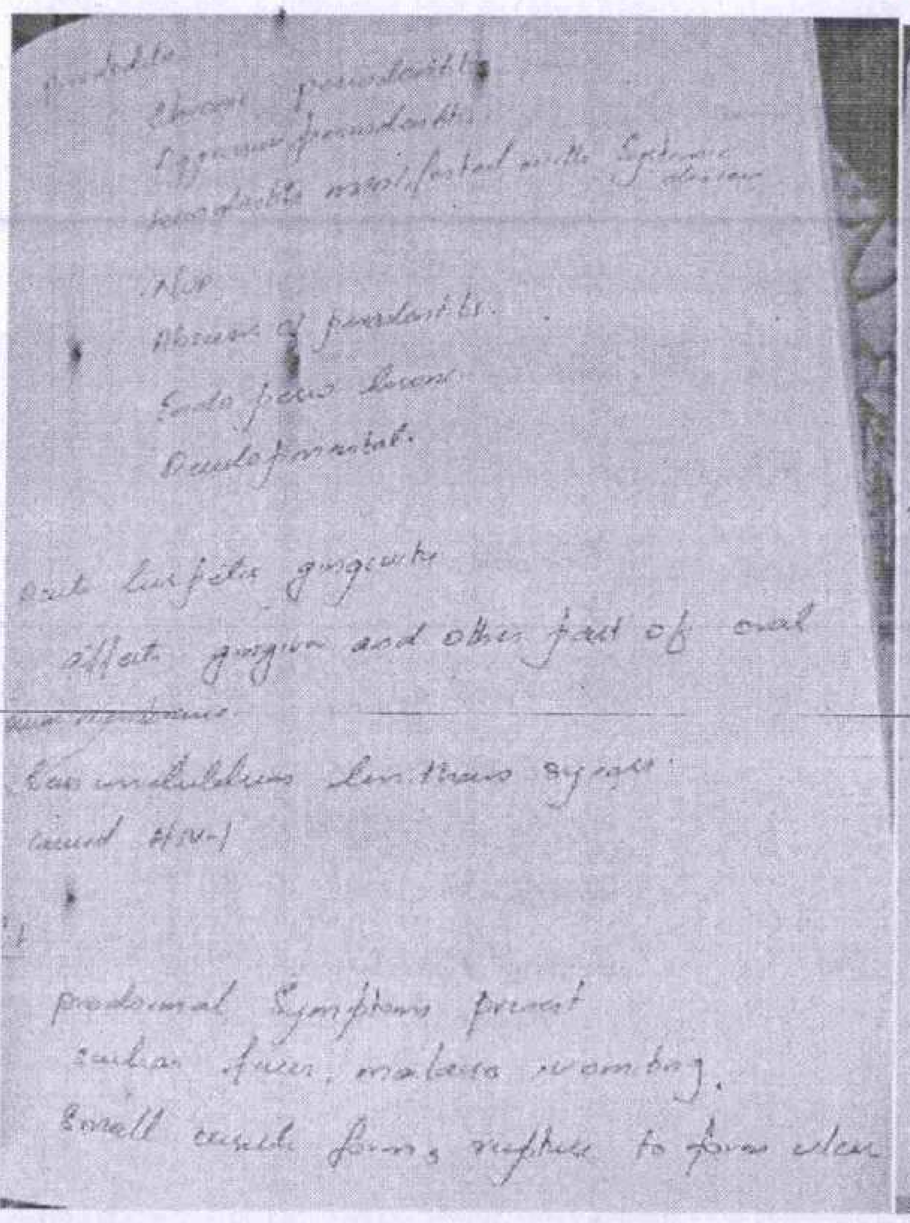


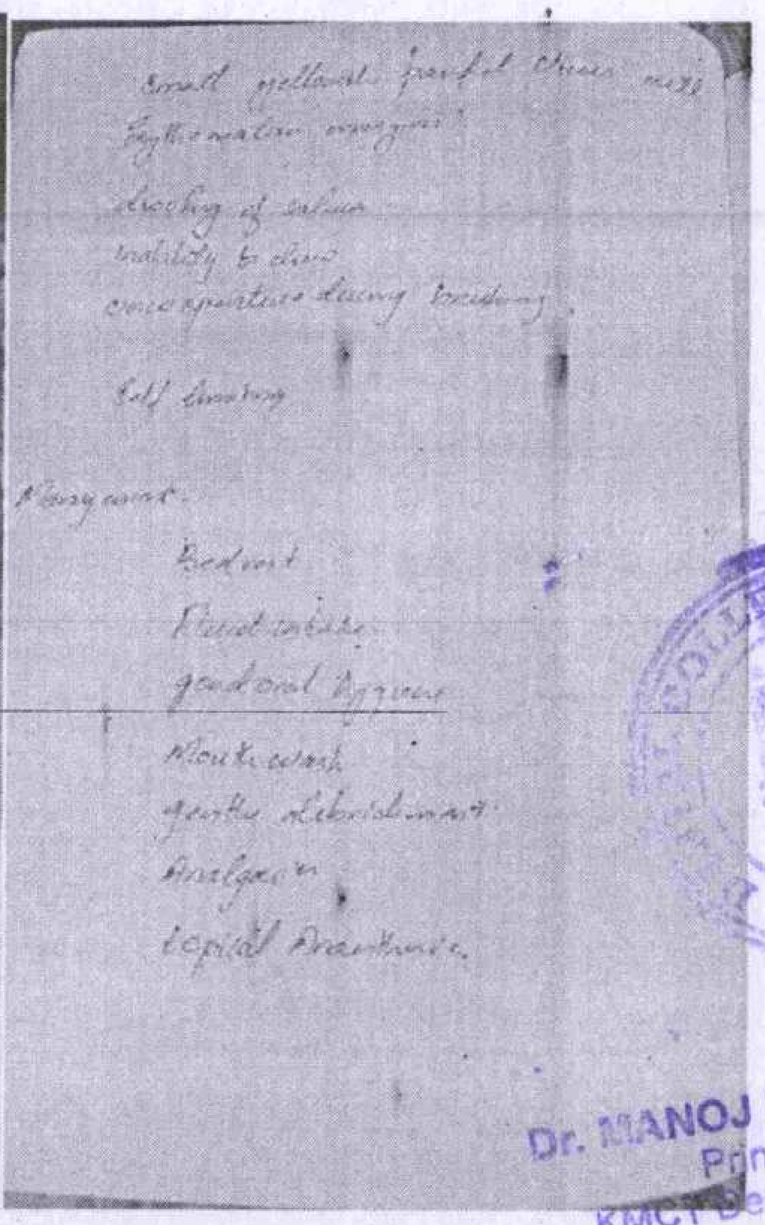
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**Periodical Assessments with Class Tests and Evaluation:** Frequent class tests and assessments are conducted to monitor progress, pinpoint areas for improvement, and deliver timely feedback. This process helps students recognize their strengths and address their weaknesses effectively.







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## DEPARTMENT OF ORAL MEDICINE AND RADIOLOGY

## REPORT ON TEST AND RETEST CONDUCTED FOR THE SLOW LEANERS

The Test and Retest Program was designed to assist students who require extra academic support, often referred to as "slow learners." This initiative aims to identify students struggling with course material, deliver targeted interventions, and enhance their academic performance through a structured retesting process.

### Objectives of the Test and Retest Program

The key objectives of the program are as follows:

1. **Identify Challenges:** To pinpoint students who face difficulties in meeting academic expectations.
2. **Provide Remedial Support:** To offer focused assistance for improving their understanding of core concepts.
3. **Track Progress:** To evaluate improvement through a systematic retesting approach.
4. **Boost Confidence:** To reduce academic anxiety and foster self-assurance by giving students a second chance to succeed

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9/10/2023
Monday

# OMR First Internal Exam

Anusha. A. M
Roll no - 5

(1)

(6) **Trigeminal Neuralgia**

22½/30

Also called as Trifacial neuralgia, Fothergill disease, Tic douloureux

Trigeminal neuralgia is an archetype of orofacial neuralgia affecting second & third divisions of trigeminal nerve.

**Etiology**

Atherosclerosis of superior cerebellar artery pressing and grooving roots of trigeminal nerve.

**Clinical features**

↳ most common cranial neuralgia
↳ Age: Occurs at any age, most commonly above the age of 50.
↳ Females are more commonly affected than males in the ratio
F: M = 3:2
↳ Acute stabbing, lancinating or throbbing pain.
↳ pain is felt when the patient touches the trigger zones which are at vermilion border of lip, alae of nose, cheeks and around eyes.
↳ pain is persists for few seconds to minutes.
↳ It is called tic douloureux as the pt patient suffers from spasmodic contractions of facial muscles. Need to work investigation and medical management.
↳ ~~Pain~~ Not associated with dental causes
↳ Not relieved by analgesics
↳ Unilateral; right side more commonly affected than left in the ratio (1.7:1)
↳ Patient learns to avoid touching skin over trigger zones in order to avoid pain, therefore the area remains unwashed, unbrushed & unshaven. Exposure to strong breeze, smiling and eating also cause pain.

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Oral medicine & Radiology

Anusutha · A · M
Roll no : (5)
14/4/2024

(7) Steps in systematic method of radiographic interpretation

Ans → Localise the abnormality -

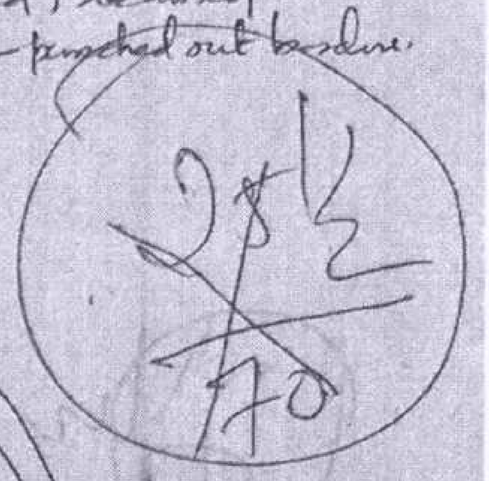
→ Assess the periphery and shape - corticated, scalloped borders - generalised, localised; - punched out borders.

→ Assess the internal structures

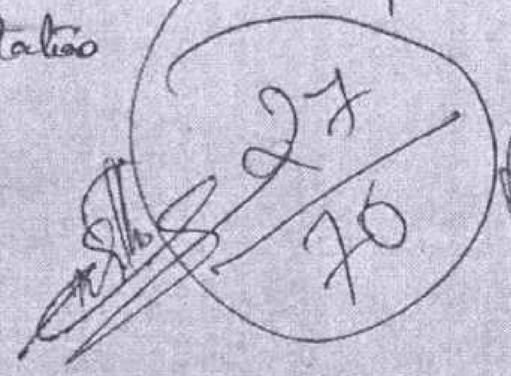
eg: trabecular bone pattern
& ornamentals, Septations



→ ~~radiographic~~ final interpretation



(8) Ghost image



Ans Image formed when the object is between centre of rotation and x-ray source.

* Images appear as magnified and blurred.
* Formed at opposite ~~direction~~ side to original anatomical position of the object and at a slightly higher level than the original position due to upward inclination of beam.
* Objects can be, any ornaments, ~~anatomy~~ etc.

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Principal
Vivekanandha College
Mukkam

Anami
Roll no: 3

19

A0

2. Imaging modalities used for salivary glands

- ~~Sialometry~~
- Sialography
- ~~Sialochemistry~~
- ~~b~~

Sialography

It is a radiographic technique used to examine major salivary gland and its duct by introducing radiopaque dye to the ductal systems.

Indications:

- To examine the rupture, structure, dilation of the duct
- To assess the location, size, extend of mass
- To assess the ductal & glandular distruction secondary to obstructions
- ~~To~~ Aid in therapeutic use that the dilatation & drainage of debris in ducts

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Ansari
ROLL No 3

22/20

22

ORAL MEDICINE AND RADIOLOGY

3. → AIDS is a infectious disease caused retrovirus - human immunodeficiency virus characterised by immunosuppression with opportunistic infections

Classification of oral manifestation of HIV

Type I - Infections/lesions strongly associated with HIV

- Candidiasis
  - Pseudomembranous
  - erythematous
- Hairy leukoplakia
- Non-hodgkins lymphoma
- Necrotizing ulcerative gingivitis
- Necrotizing ulcerative periodontitis
- Kaposi sarcoma
- Linear gingival erythema

Type II - Infections that are less associated with HIV

- Bacterial : Mycobacterium avium
- Malignant melanoma (Hyperpigmentation)

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FIRST INTERNAL EXAMINATION

ORAL MEDICINE AND RADIOLOGY

SREE GANESH S
Roll No. 25
Final Year Part-I

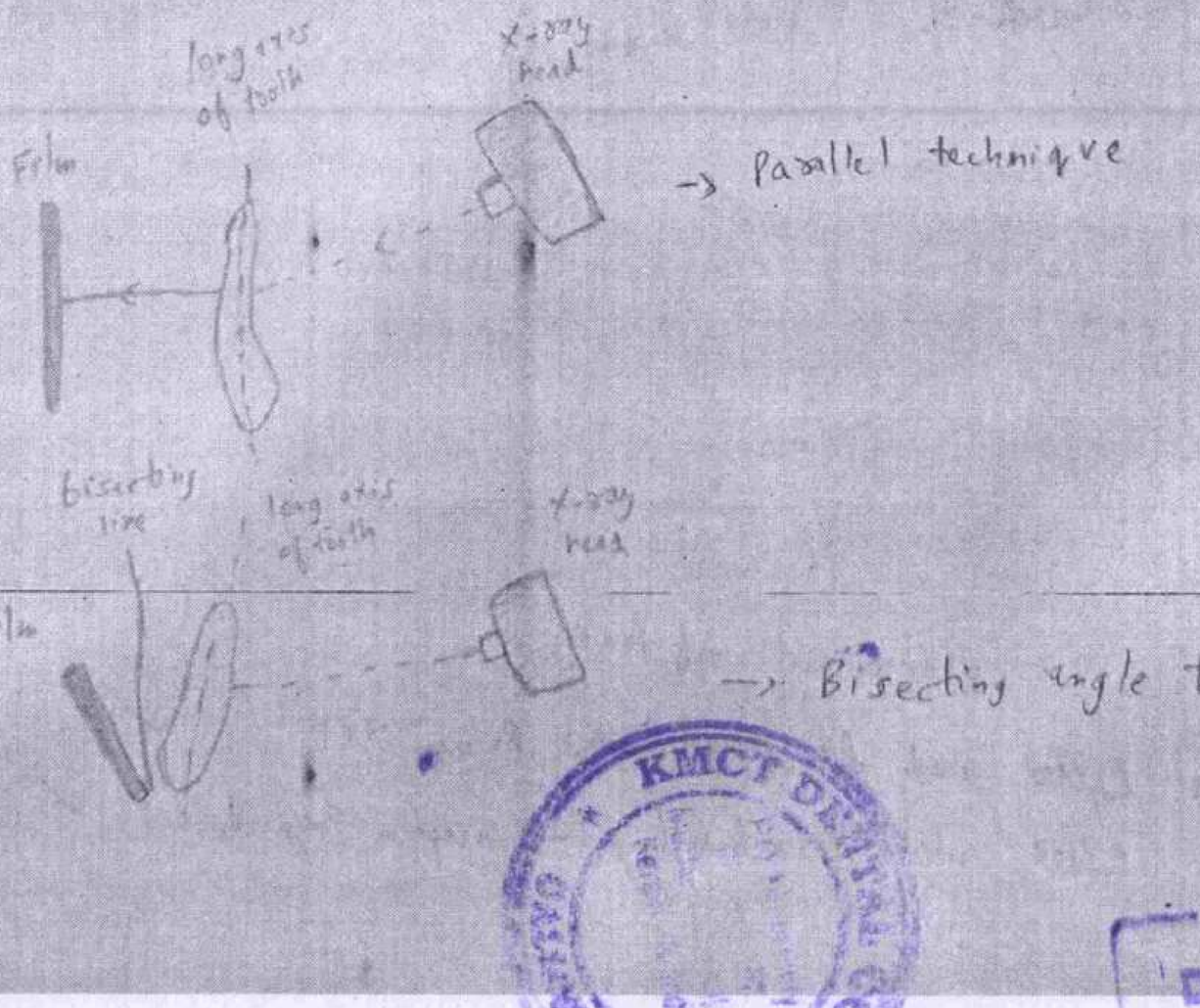
2) The various types of intra oral radiographic techniques include;

- Parallel angle technique
- Bisecting technique
- Bitewing
- Occlusal

17.5/20

- In parallel intra oral radiograph technique, the film and the object are kept parallel to each other and the x-ray radiation source is perpendicular to these both

- In Bisecting angle technique, the film and the object (tooth) are kept as close as to each other with the source of beam in bisecting the two.




→ Parallel technique

→ Bisecting angle technique

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II nd Internal Examination

SREE GANESH S
25

ORAL MEDICINE AND RADIOLOGY

9
70

1) Vesiculo bullous lesions;

-> Immunological;

. Pemphigus vulgaris
. Bullous pemphigoid
. Mucous membrane pemphigoid
. Erythema multiforme
. Epidermolysis bullosa aquisitic

-> Viral infections;

- Herpes Simplex
. Chicken pox
. Herpes zoster

5

-> Hereditary disease

. Epidermolysis Bullosa

↑

. The classification based on the clinical presentation and aetiological factor

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30/10/2023

OMR First Internal

Midhuna Mohan
17
Part I Add

15½ + 6/2

(1)

4 1) Dentist can ensure patient's safety by:

1) using high speed films liked D, E, F

Since film speed is high, radiation is less, patient is more protected.

·Film speed is defined as the radiation required to produce high density image.

2) Collimation of beams

3) Positiong of device

4) Filtration

5) Use of digital imaging.

6) Increased focal length

22½/20

2) Dentist can ensure staff safety by:

1) Use of a lead apron by the operator

2) The operator must be at a distance of 6 feet.

3) At an angulation of 30 90°.

4) & Operator should wear TLD badge, by which we can detect the amount of radiation been exposed to the operator

5) The operator should compulsorly wear TLD badge

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OMR. IInd Internal.

MIDHUNA MOHAN
Part I Add
17

35/70

7. 1) Localise the abnormality
   1) Anatomical landmark
   2) Location.
   3) Unilateral or bilateral.
   4) Single or multifocal.

2) Assess the periferay and shape
   1) Well defined
      1) Soft tissue capsule
      2) corticated
      3) punched out
      4) Sclerotic
   2) ill defined
      1) Blending
      2) Invasive
   3) Shape
      1) Irregular
      2) Circular
      3) Scalloped

3

3) Analysing the internal structure.
   1) Completely radiolucent
   2) Completely radiopaque
   3) Mixed.

4) Analysing the lesion affecting surrounding structure
   1) Tooth, Lamina Dura, periodontal ligament space
   2) mental foramen and Alveolar bone
   3) Maxillary antrum
   4) density and trabecular pattern of surrounding Bone and Structes.
   5) Periosteal bone, density.

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Sha Fir Sumi
Roll No 23
Part 1 BDS

ORAL MEDICINE AND RADIOLOGY

1 Types of Facial pain encountered in Dental practice

a) Trigeminal neuralgia
b) TMJ Dislocation
c) Frey's syndrome/ glossopharyngeal neuralgia.
d) pain due to impacted tooth
e) Migraine
f) Tooth pain due to decay

(a) Trigeminal neuralgia :

- It is a ~~needle pricking~~ needle pricking, knife edge like lancenating pain
- The pain is enhanced by wind touch etc so the patient remain without shaving & bathing for many days
- pain is mainly experienced in the ala of nose, ~~to~~ upper lip, Around the orbit etc
- ~~Because of this knife edge pricking~~
- The patient may have suicidal attempt because of this knife-edge like pain

(b) TMJ Dislocation

→ TMJ dislocation can be verily identify by the clinical examination itself
→ clicking sound can be heard

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Shafi Sumi
Roll No: 23
OMR

22½

IIND INTERNAL EXAMINATION

1. CLASSIFICATION OF VESICULOBULLOUS LESION

| VESICULOBULLOUS LESION | (i) Formation of ulcer without any vesiculobullous lesion | (ii) Formation of ulcer with vesiculobullous lesion<br>* (vesiculobullous lesion) |
|---|---|---|
| (A) IMMUNOLOGIC | → Recurrent apthous stomatitis<br>→ Behcet's disease<br>→ Reiter's syndrome. | → pemphigus<br>→ Mucous membrane pemphigoid<br>→ Bullous pemphigoid<br>→ Erythema multif...<br>→ steve-john's syndrom... |
| (B) BACTERIAL | → Tuberculosis<br>→ Actinomycosis<br>→ syphilis<br>→ Noma | (B) VIRAL<br>→ Herpes simplex virus<br>→ Herpes zoster<br>→ HIV<br>→ Herpangina |
| (C) FUNGAL | → Aspergillosis<br>→ phycomycosis<br>→ Histoplasmosis | |
| (D) BLOOD DYSCARIASIS | → Leukemia | |
| (E) potentially malignant lesion: | | |

(1) BASED ON THE FORMATION OF VESICULOBULLOUS LESION

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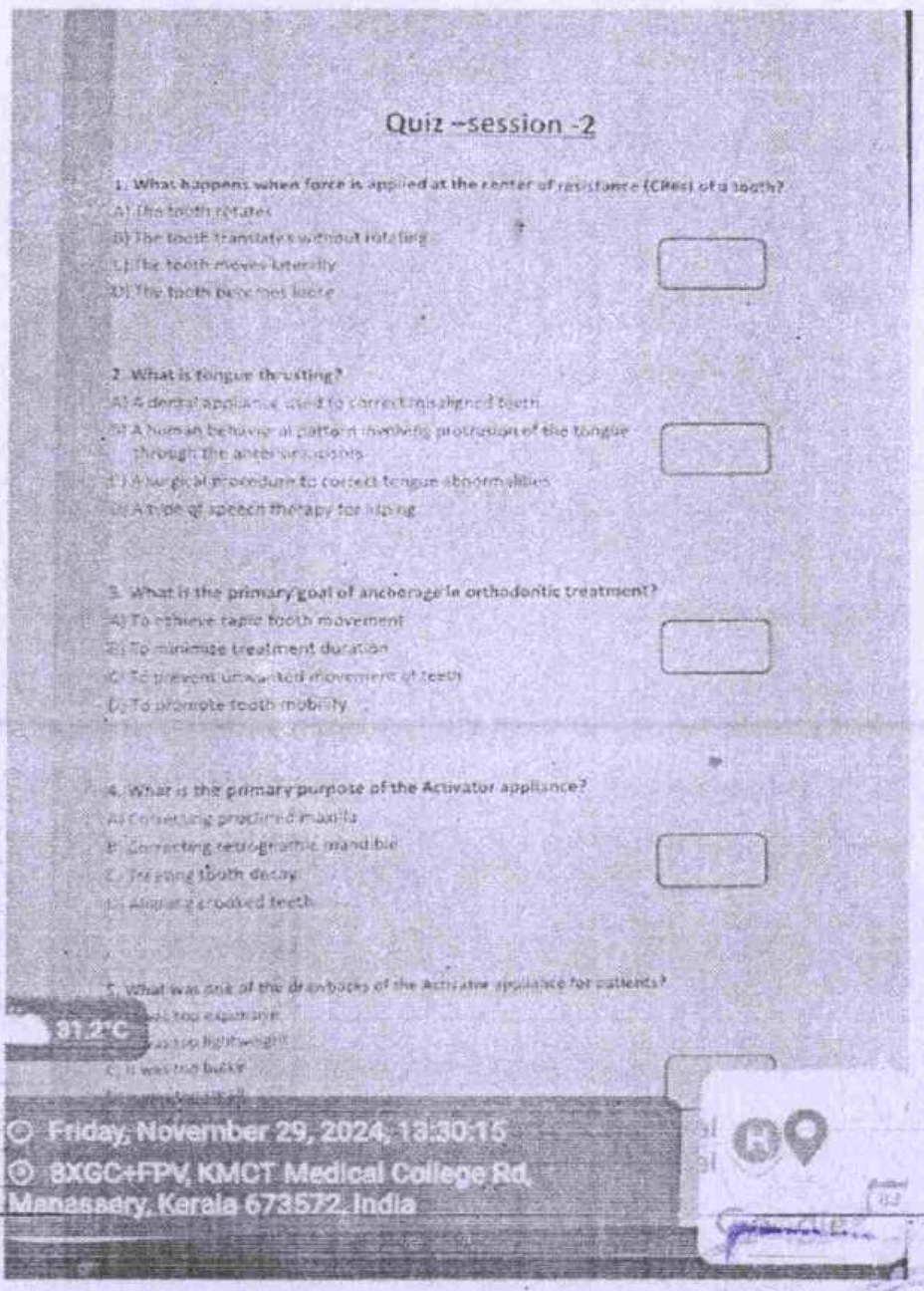
# DEPARTMENT OF ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

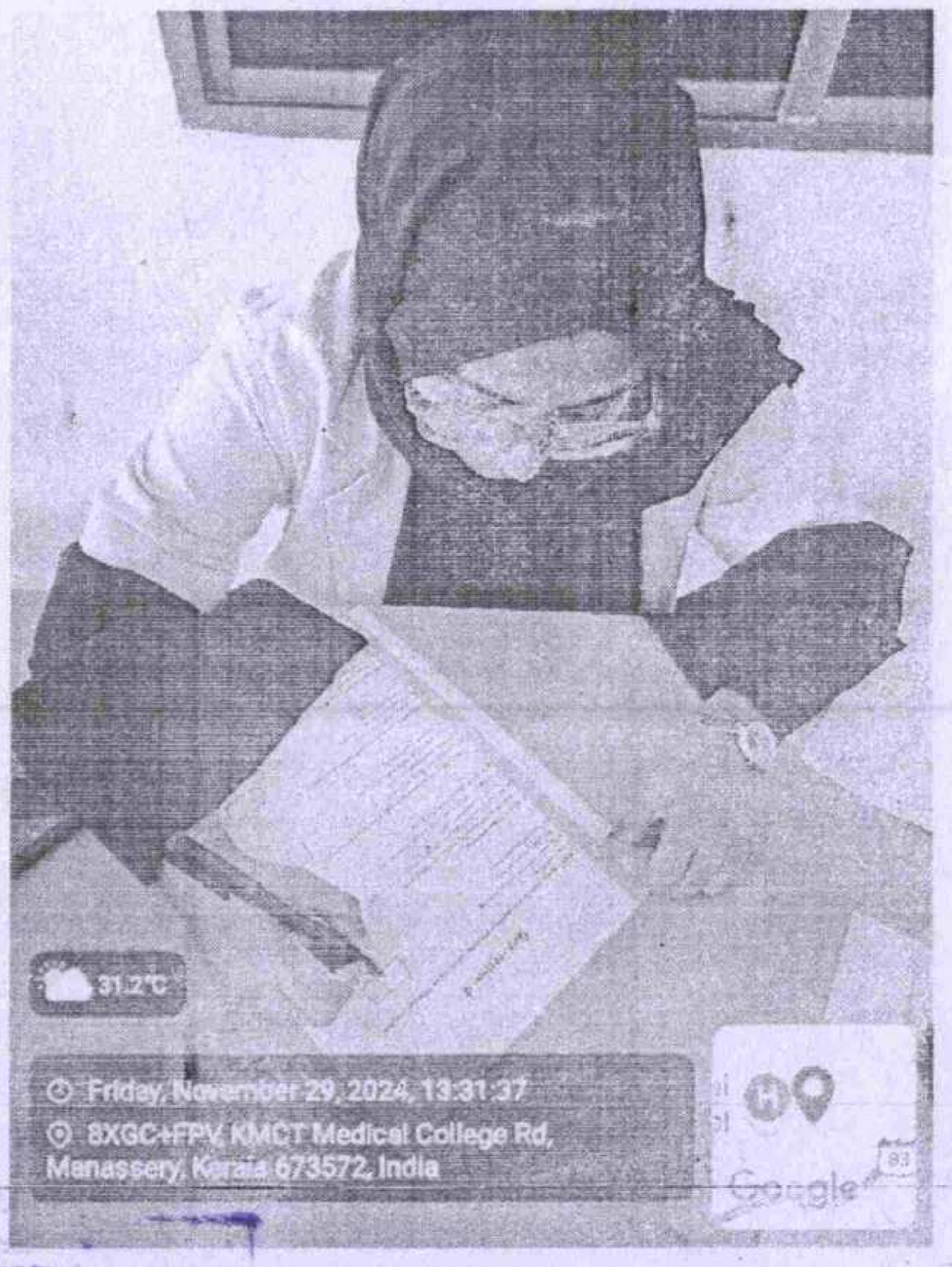
## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

### Interactive Teaching Techniques

### Quiz/MCQ based learning

Interactive teaching techniques, such as using quiz-based learning , were employed to make learning engaging and enjoyable for slow performers. These tools reinforced knowledge through gamified challenges, improved retention, and encouraged active participation in a supportive environment.




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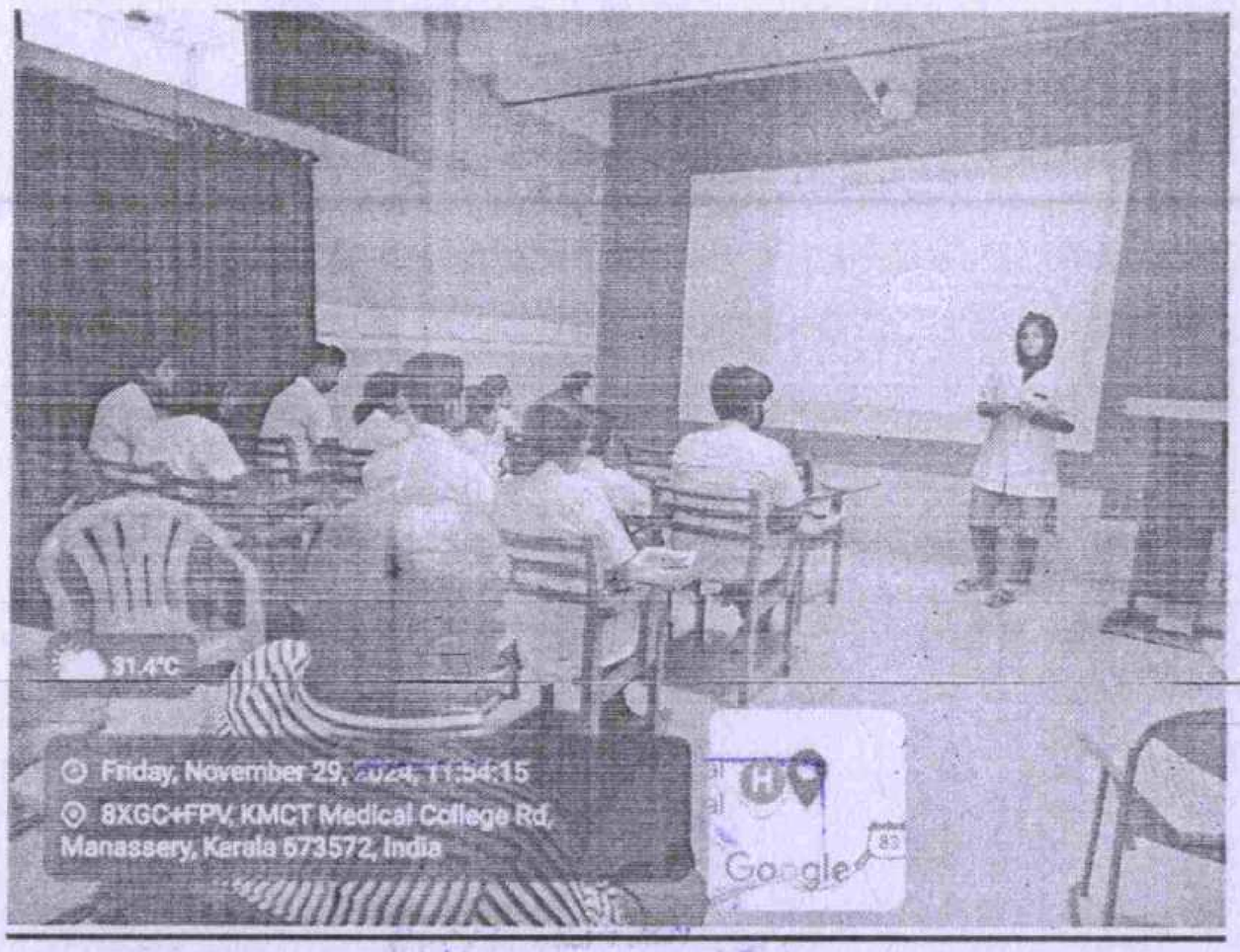
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**Teaching among peers**

The peer teaching method in the Department of Orthodontics effectively reinforced knowledge and encouraged collaboration. Students who taught their peers gained a deeper understanding of the material while developing key skills in communication, leadership, and critical thinking. The interactive learning environment fostered active engagement and improved overall student growth






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**Problem-Based Learning (PBL)**

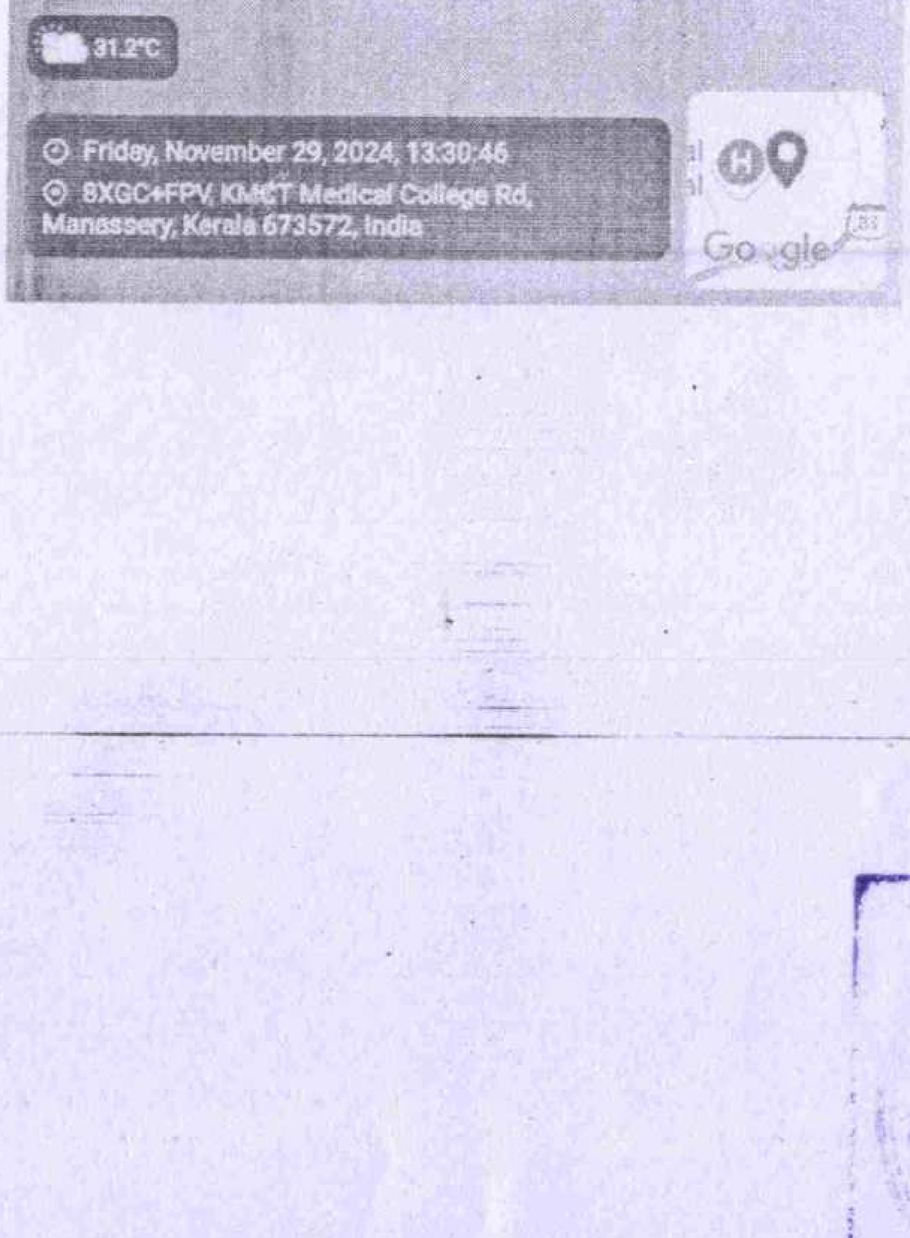
Problem-Based Learning (PBL) methods were implemented by introducing real-life case scenarios to engage students in critical thinking. Step-by-step guidance was provided to support problem-solving and decision-making, enhancing practical understanding and analytical skills.

**Case scenario -1**

A 10-year-old patient presents with concerns about "crooked" teeth, particularly noticing the upper front teeth are protruding. Clinical examination reveals:

- Proclined upper anterior teeth with moderate crowding in both the upper and lower arches.
- A significant overjet (~5 mm) and mild Class II molar relationship.
- Lip incompetence and noticeable mouth breathing habit.
- patient may be at risk for developing a Class II skeletal relationship if untreated.

Given the clinical findings, diagnose the case. Justify your choice of appliance and describe the expected outcomes. Outline the overall treatment plan and explain the follow-up steps necessary to ensure successful treatment.

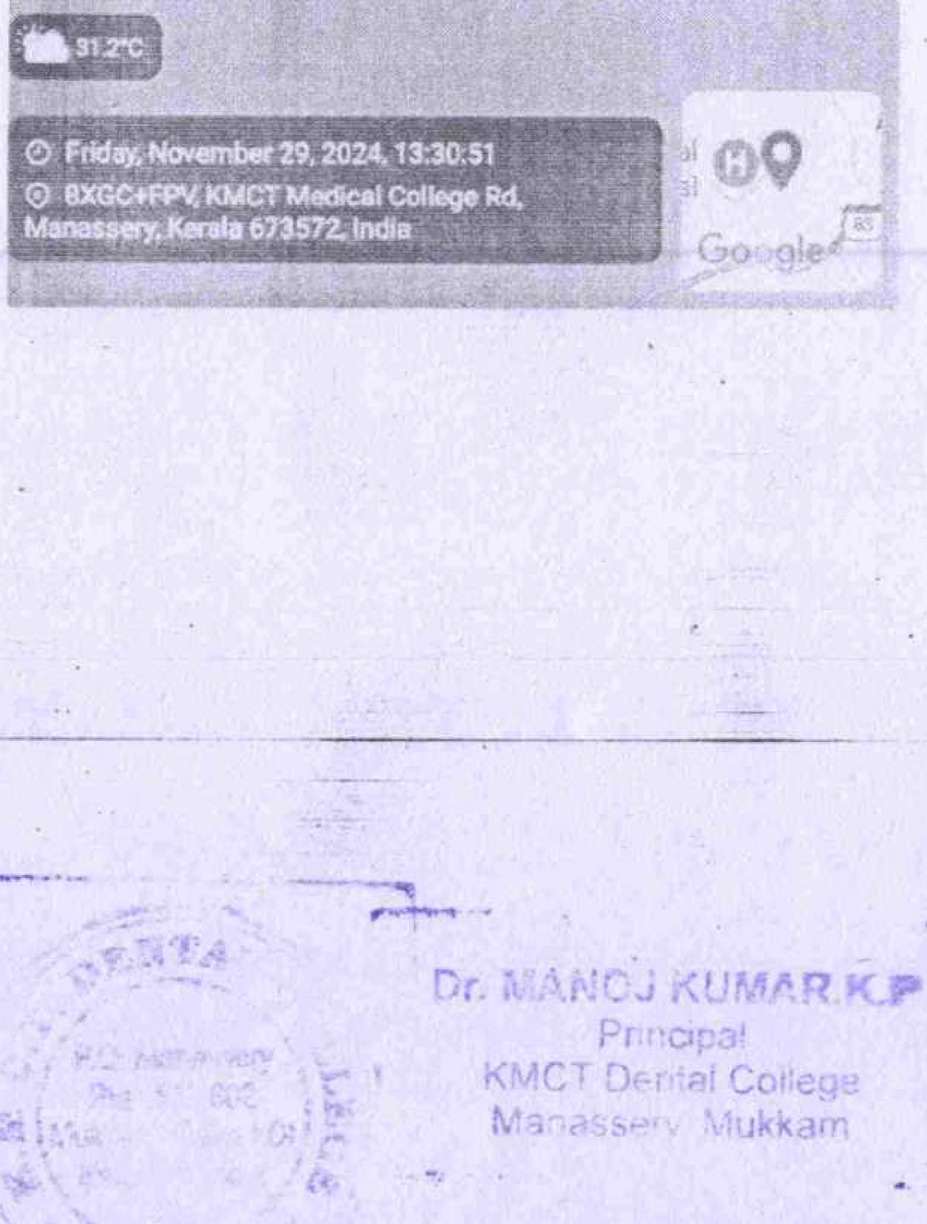



**Case scenario -2**

A 10-year-old patient presents with concerns about their teeth, particularly the upper front teeth, which appear to protrude. Clinical examination reveals:

- Proclined upper anterior teeth with moderate crowding in the upper arch.
- A Class II, Division 1 malocclusion with an overjet of approximately 6 mm.
- A convex facial profile with a noticeable upper lip protrusion.
- The patient has no significant mandibular growth deficiency, but a Class II skeletal pattern is present, with a retrusive mandible.
- The patient exhibits lip incompetence.

Based on the clinical findings, diagnose the case. Justify the choice of appliance and explain how it will address the skeletal discrepancy and dental issues. Provide a detailed treatment plan.




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**Demonstration and Guided Practice.**

Demonstration and guided practice methods were used by performing step-by-step demonstrations with detailed explanations, followed by students replicating the tasks. The "see one, do one, teach one" approach was implemented to reinforce learning and build confidence effectively.

"SEE ONE"



"DO ONE"



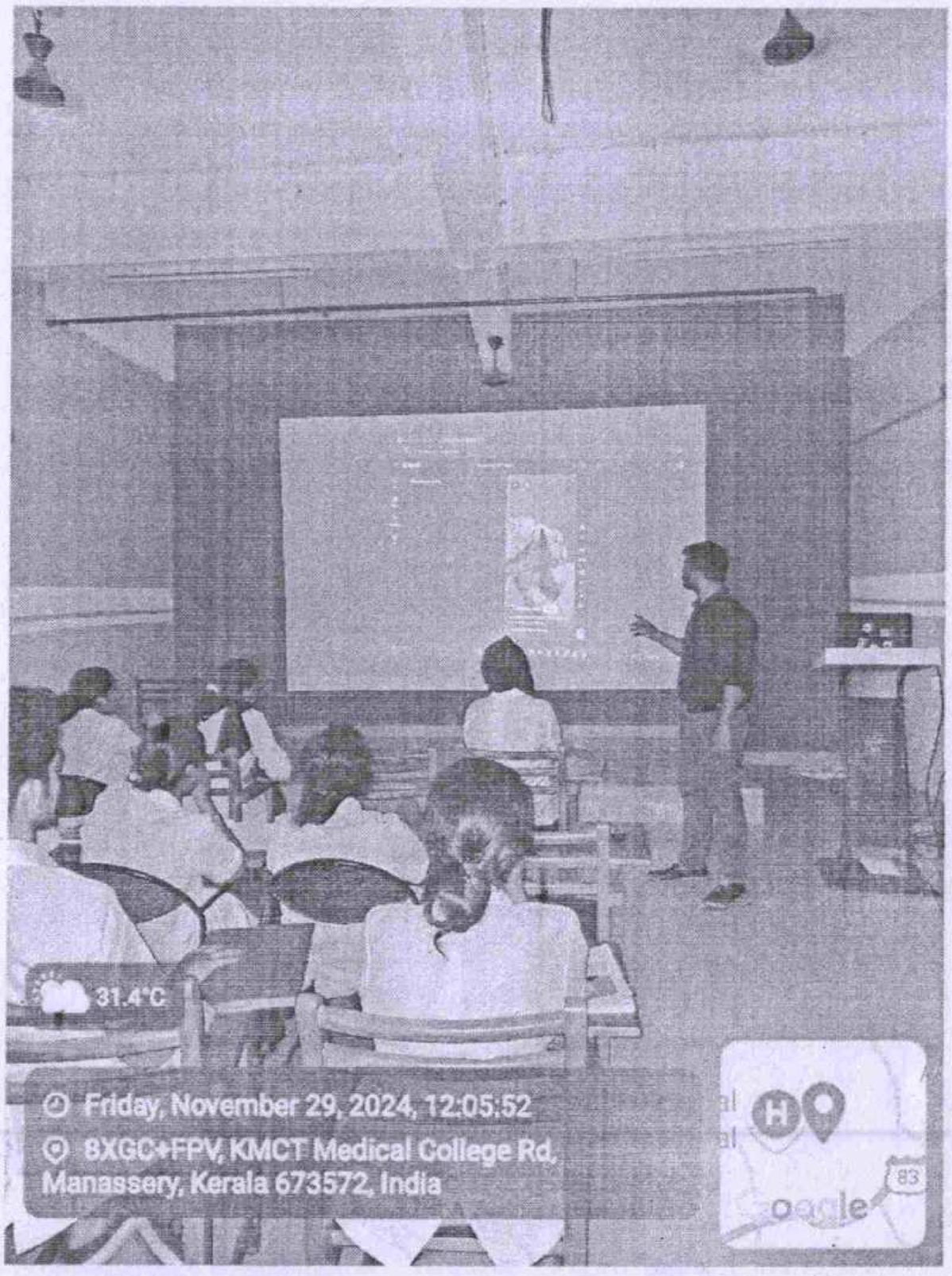


"TEACH ONE"

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**Visual Learning Aids.**

Visual learning aids, such as videos and augmented reality, were incorporated to demonstrate techniques like orthodontic wire bending. These tools provided clear, dynamic visuals to enhance understanding and improve skill acquisition.




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**Role-Playing Scenarios**

Role-playing scenarios were utilized to simulate patient interactions, allowing students to practice communication skills and treatment planning. Constructive feedback was provided on their approach to managing patient concerns, fostering improvement in clinical and interpersonal competencies.




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**One-on-One Mentoring**

One-on-one mentoring was implemented by pairing slow learners with experienced mentors or teaching assistants and also with interns posted in the department for personalized guidance. Real-time feedback was provided during procedures, enabling immediate correction of mistakes and fostering skill development.



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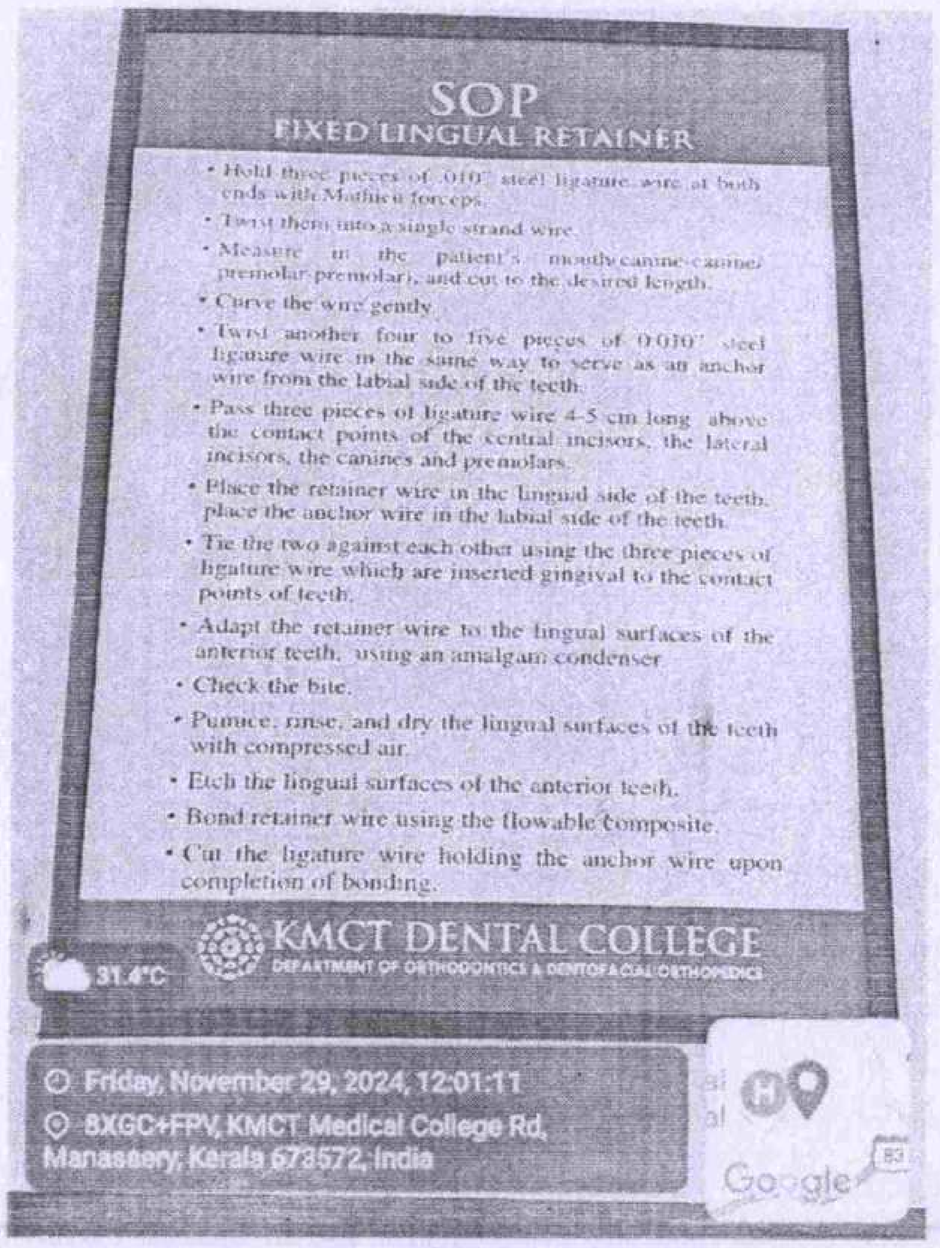
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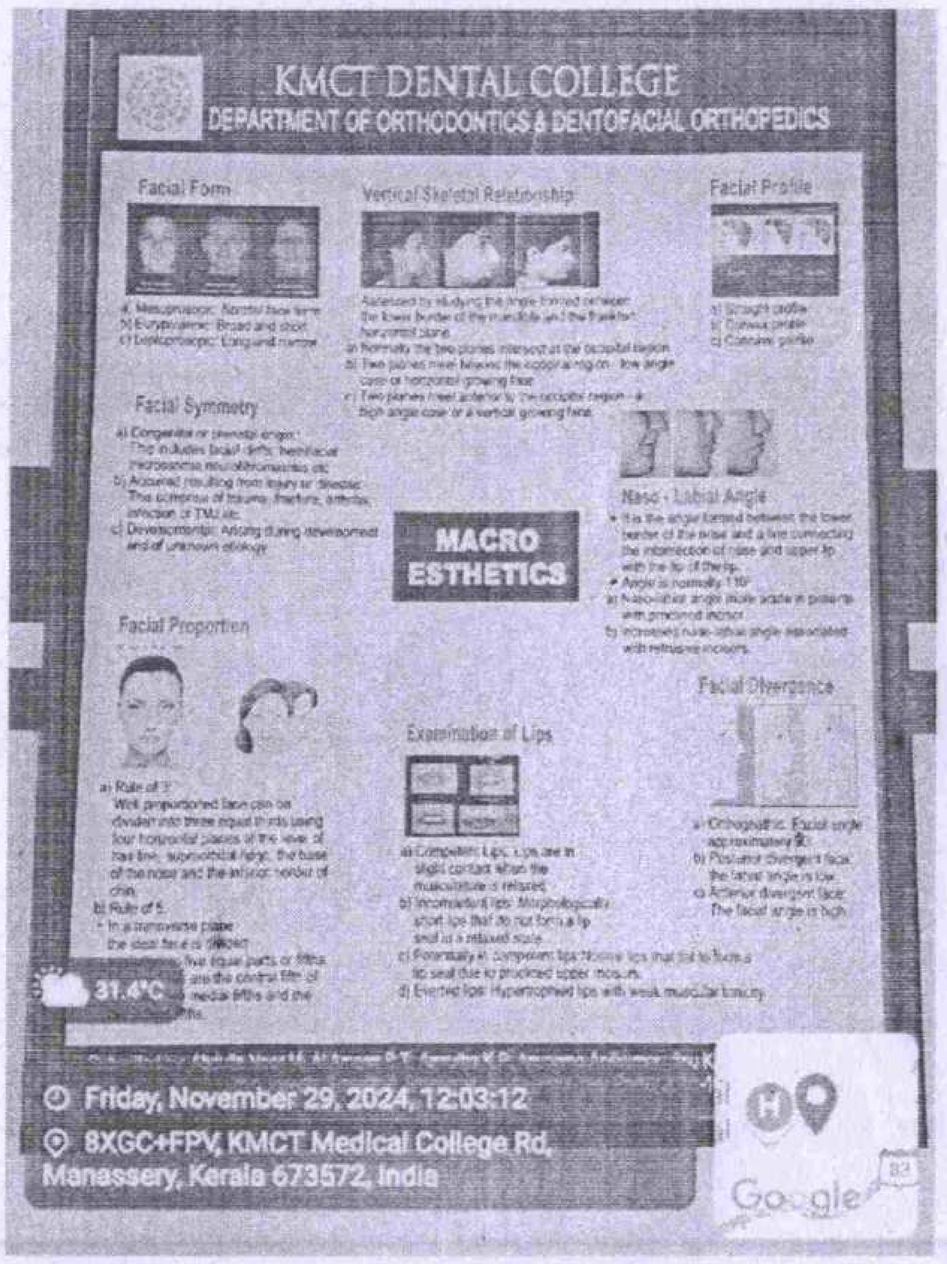
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**Standard Operating Procedures (SOP) for Slow performers**

Standard Operating Procedures (SOP) were printed and made accessible in the department to aid slow learners in quick decision-making. These SOPs outlined priority-based clinical procedures, enabling students to follow clear guidelines and minimize errors during treatment.




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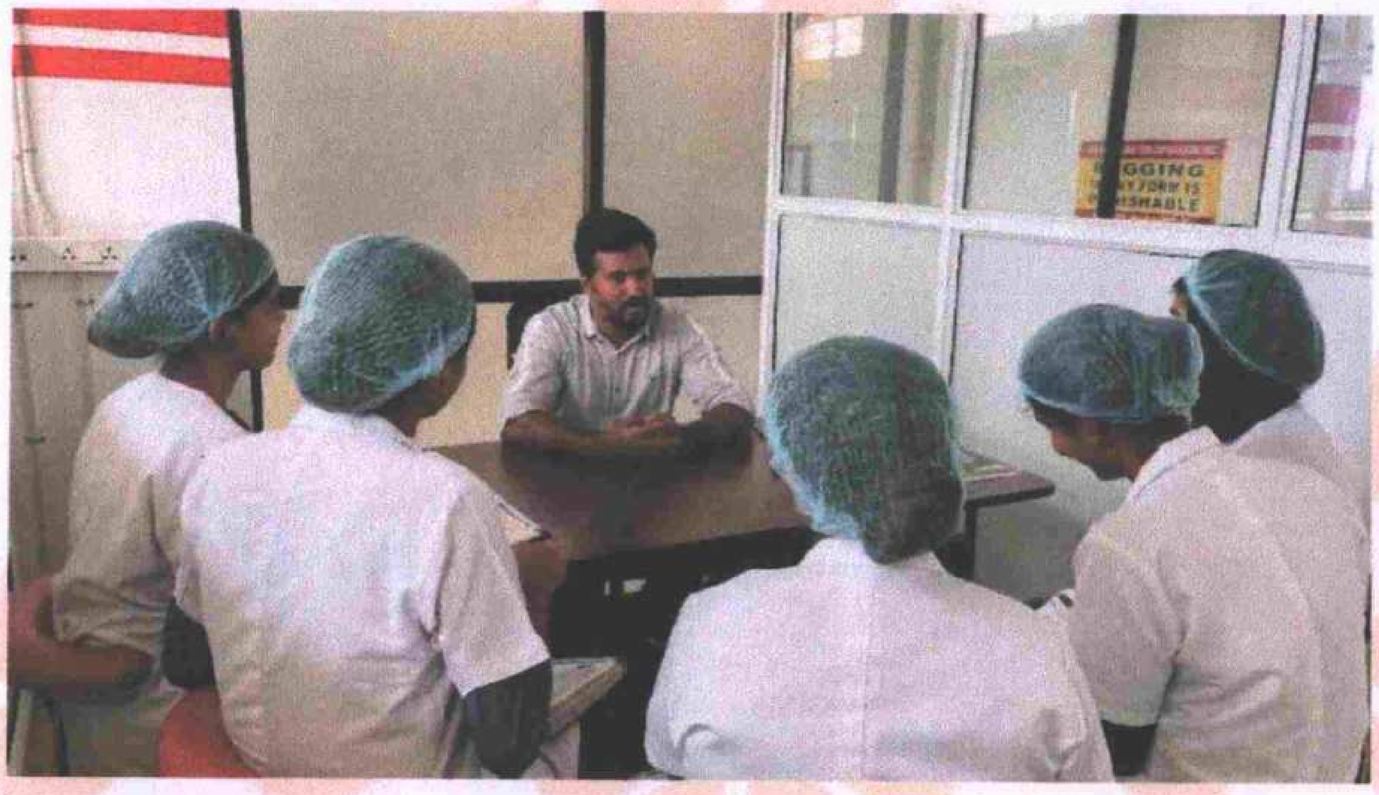
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## DEPARTMENT OF PUBLIC HEALTH DENTISTRY

## DETAILS OF SPECIAL PROGRAMS FOR SLOW PERFORMERS

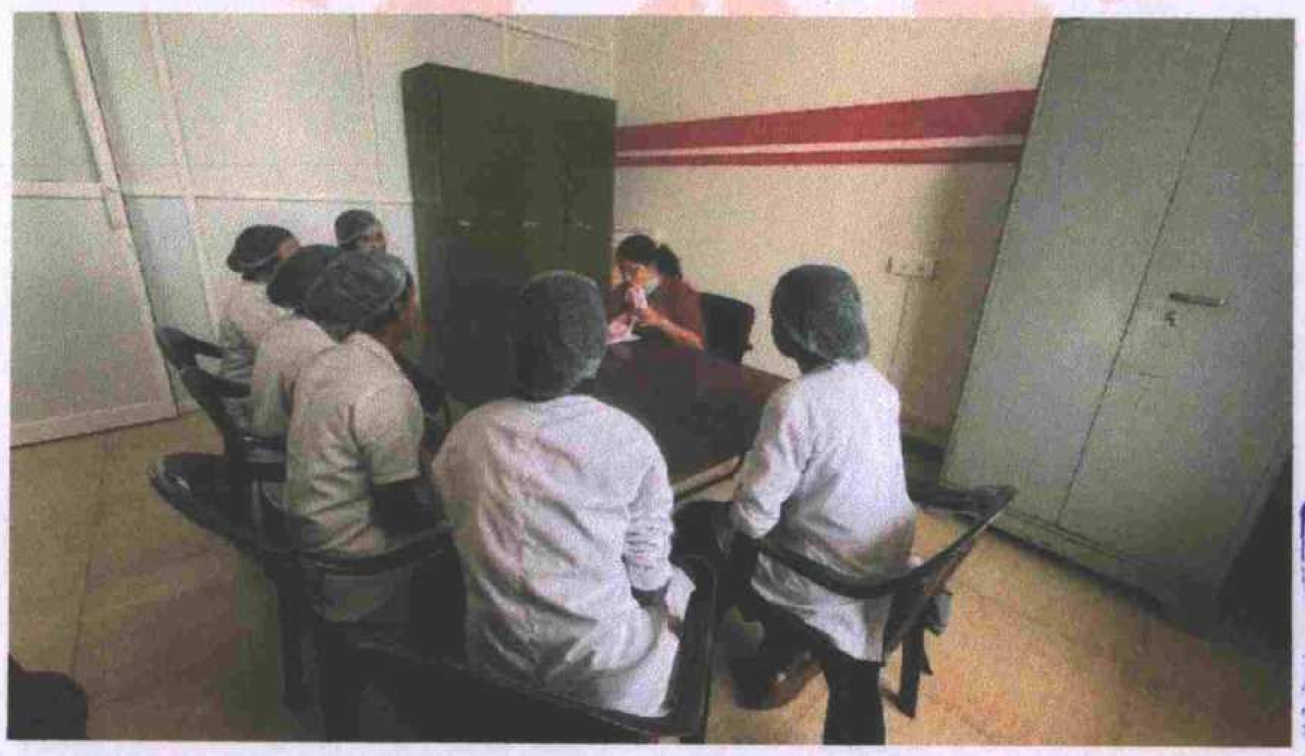
**Continuous Monitoring And Individual Attention By Mentors:**

Students were recognized as slow performers based on their internal marks , practical skill and knowledge. The students were then identified and allotted mentors for their academic improvement. Students were given special attention to improve their subject knowledge and well motivated for better performance.



**Special Classes With Subject Experts:**

Slow performers attend special classes provided by subject experts to enhance their topic knowledge and for better understanding the concepts. The sessions with subject expert provides a forum for them to clear their doubts and even discuss on various clinical findings for more exposure on challenging case study.



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**Encouragement Of Collaborative Study With Advanced Learners:**

Collaborative study among slow performers and advanced learners were organized such that students interact among their peer group for better topic understanding and motivation to learn better. The advanced learners provide short lectures to slow learners among their batch students so that a well interacted session and can help them to remember the key points and will help them to score better in academics.



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**Counselling For Students And Parents With Psychologists:**

Psychologists under the Happiness department of KMCT Dental College provide counselling to students so that they can be guided, motivated and cater a stress free academics at KMCT Dental College so that they feel ease at learning and perform better during examinations.



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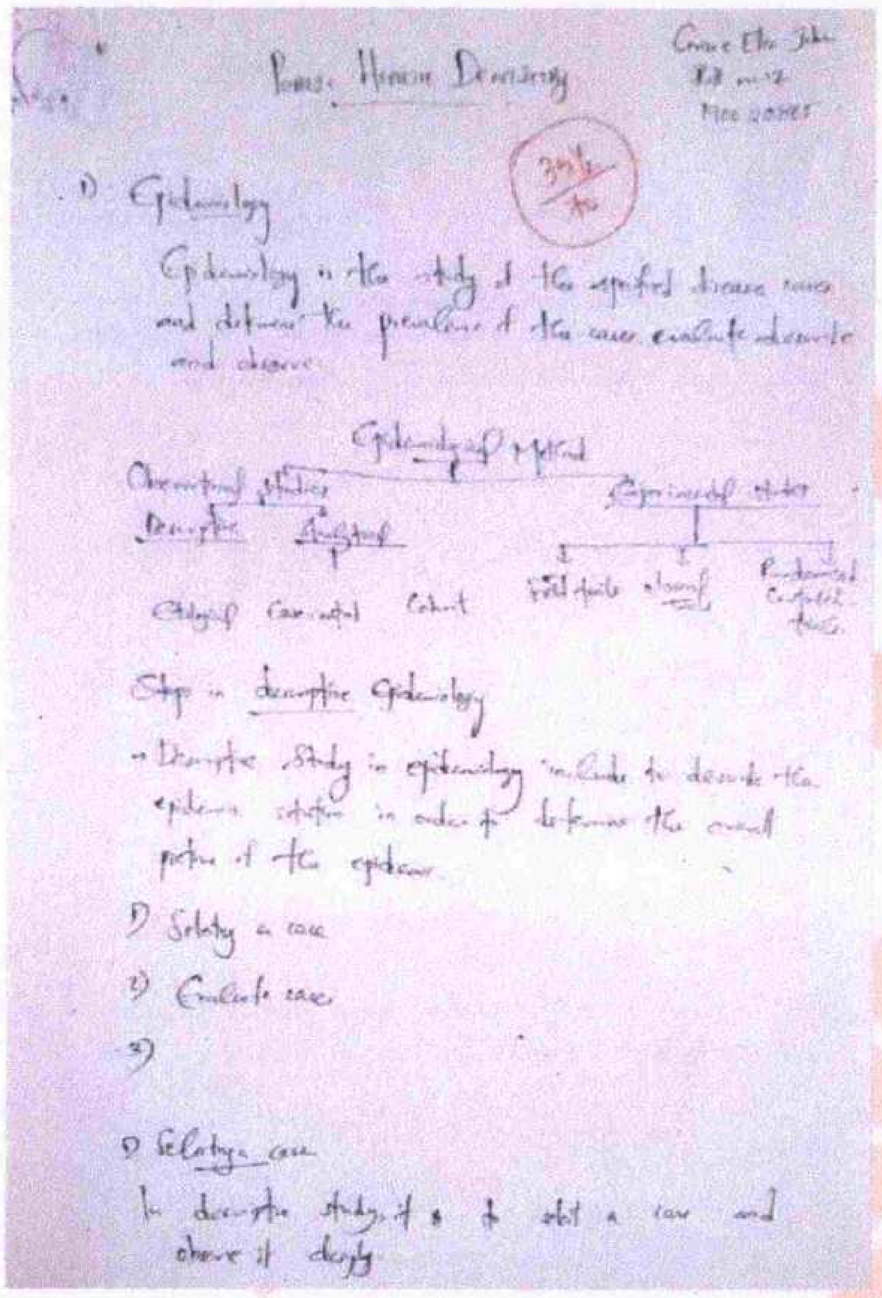
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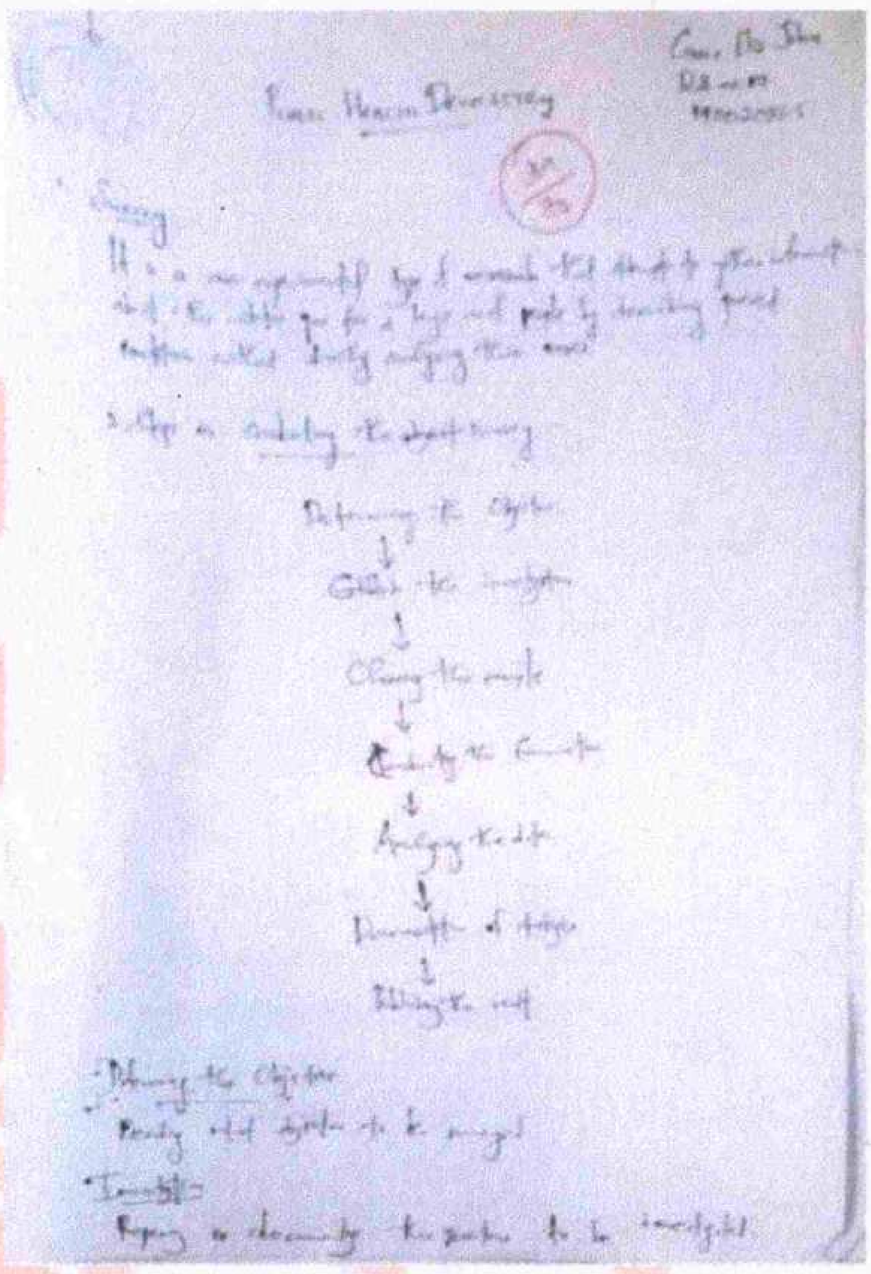
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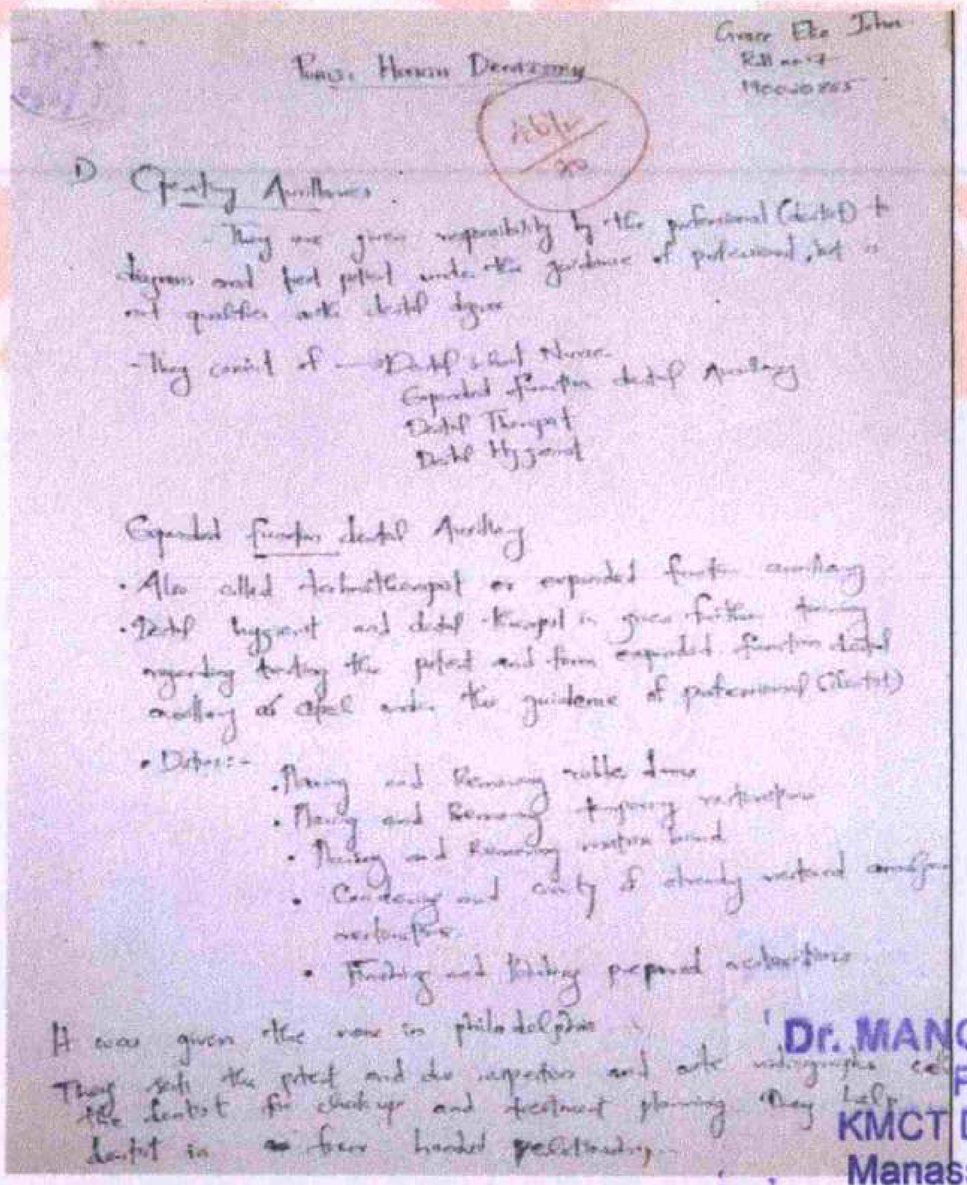
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**Rapid Revision And Revision Tests Before University Examinations:**

Rapid revision tests were conducted for slow performers for boosting their academic performance and for proper time management. Attention was given to notify whether the candidate showed improvement in each module exam.







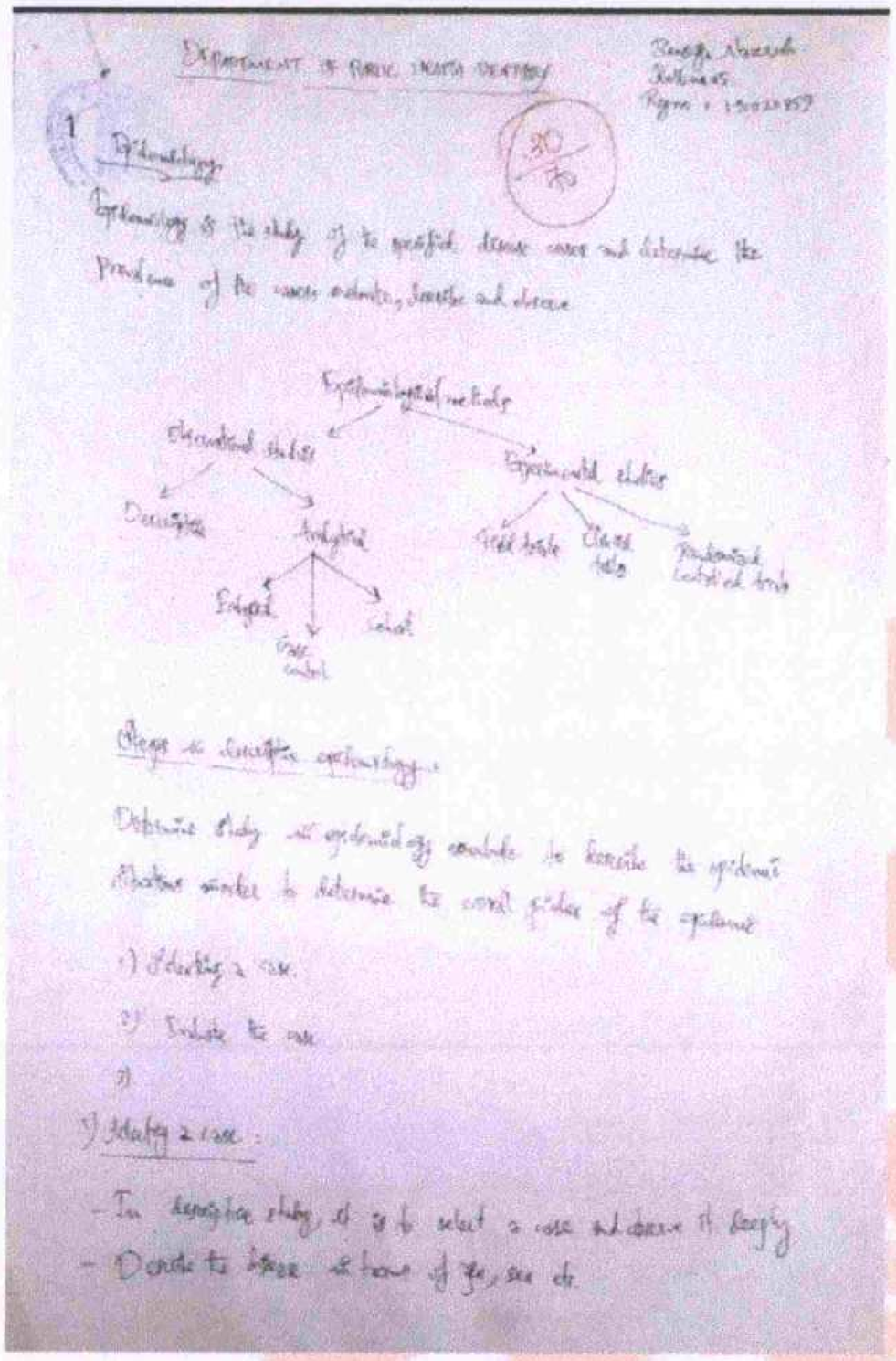
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Department of Public Health Dentistry

1 Epidemiology

Epidemiology is the study of to specified disease cases and determine the Prevalence of the causes, mechanics, transfer and disease

Epidemiological methods

Descriptive studies

Analytical

Experimental studies

Field trials

Clinical trials

Prophylactic Control trials

Stages in descriptive epidemiology :

Different study in epidemiology available to describe the epidemic Obtaining statistics to determine the causal factors of the epidemic

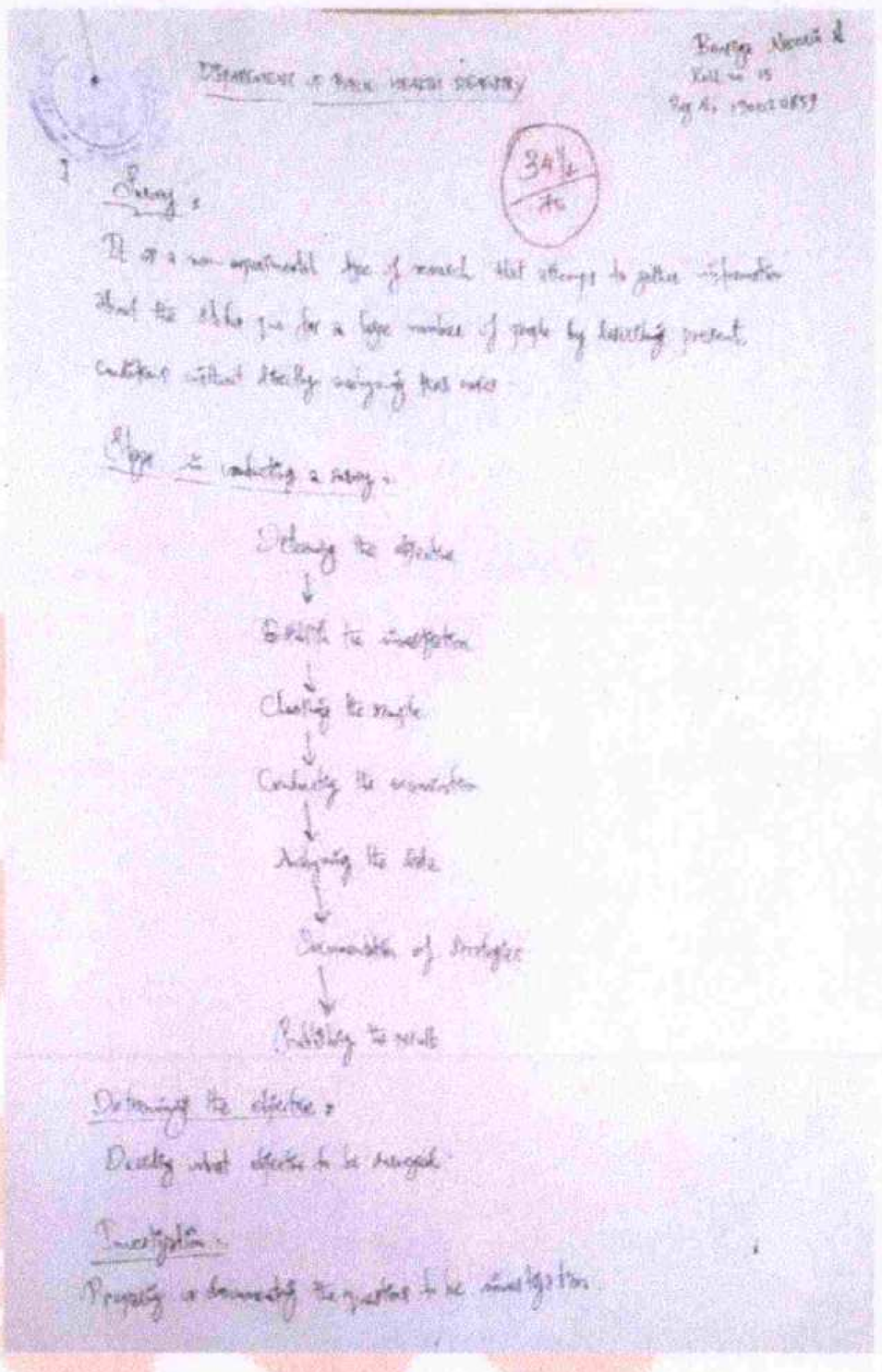
1) Identifying a case.

2) Collect the case

3)

1) Identifying a case :

- In descriptive study it is to select a case and observe it closely
- Describe to place, time of the case etc



Department of Public Health Dentistry

1 Survey :

It is a non experimental type of research that attempts to gather information about the whole from a large number of people by selecting present, Conclusions without studying every one

Steps in conducting a survey :

Defining the objective

Sketch the investigation

Choosing the sample

Conducting the examination

Analysing the data

Documentation of findings

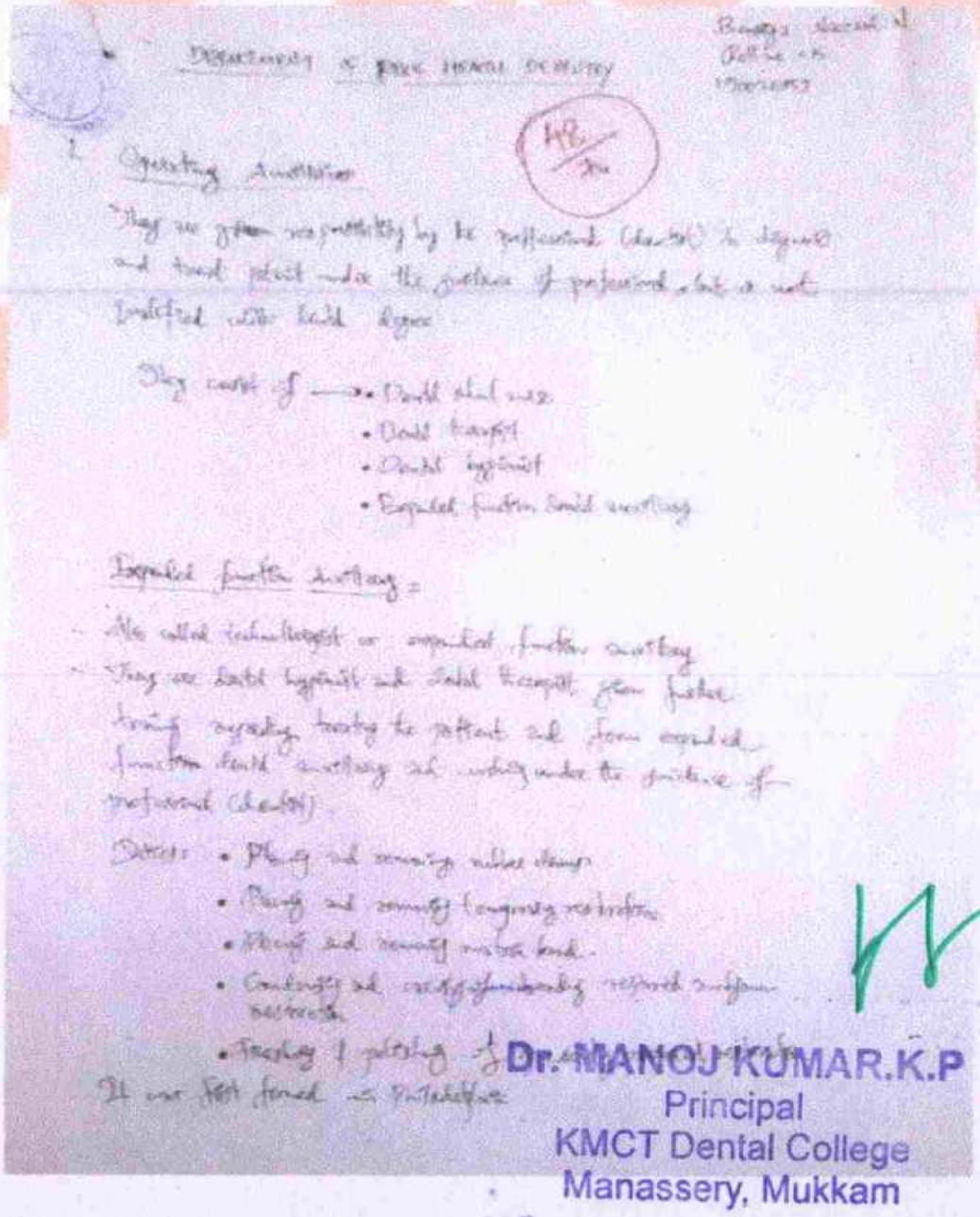
Publishing the results

Defining the objective :

Deciding what objective to be managed

Investigation :

Preparing a documenting the questions to be investigation



Department of Public Health Dentistry

1 Operating Auxiliaries

They are given responsibility by the professional (dentist) to diagnose and treat patient under the guidance of professional, but are not Identified with health Agency

They consist of —
- Dental clinical assistant
- Dental therapist
- Dental hygienist
- Expanded function Dental auxiliary

Expanded function auxiliary :

- Also called technologist or expanded function auxiliary
- They are dental hygienist and dental therapist given further training capacity having to patient care from expanded function dental auxiliary are undergraduate the guidance of professional (dentist)

Duties :
- Placing and carrying various clamps
- Placing and carrying temporary restorations
- Placing and carrying matrix bands
- Conducting oral cavity photography, required surgical instruments
- Teaching / guiding

It was first formed in Netherlands

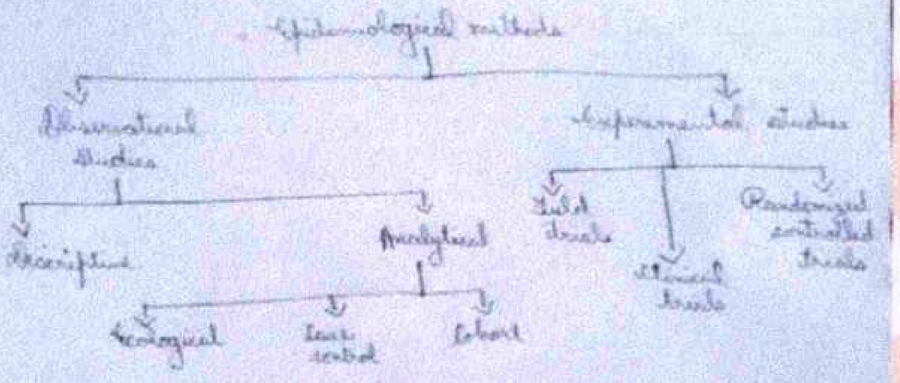
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Department of Public Health Dentistry

1) Epidemiology

Epidemiology is the study of the specified disease cases and determine the frequency of the cases, conclude, discuss & observe.




* Steps in descriptive epidemiology

Determine study in epidemiology to describe the epidemic situations in order to determine the various factors of the epidemic.

a) Selecting a case

b) Evaluate the case

c)

* Selecting a case

- In descriptive study, it is to select a case of disease, it briefly
- Describe the disease in terms of age, sex, etc.

Department of Public Health Dentistry

1) Survey

* It is usually defined regularly as " one experimental investigation".

* Steps in conducting a survey

Determining the objective
↓
Establish the investigation
↓
Choosing the sample
↓
Conducting the examination
↓
Analysing the data
↓
Documentation of strategies
↓
Publishing the result

Determining the objective

Deciding what objective to be surveyed

* Investigation

- Preparing or documenting the operating questions to be investigated

Department of Public Health Dentistry

1) Operating Auxiliaries

* They are given responsibility by the professional [dentist] to diagnose & treat patient under the guidance of professionals but it is not qualified with dental degree.

* They consists of:

- School dental nurse
- Dental therapist
- Dental hygienist
- Expanded function

* Expanded function Auxiliary

- Also called technical therapist / expanded function auxiliary
- They are dental hygienist & dental therapist given further training regarding treating the patient under from expanded function dental auxiliary and working under the guidance of professional.

- Duties

→ Placing & removing rubber dams
→ Placing & removing temporary restoration
→ Placing & removing matrix band
→ Condensing & carving amalgam restoration
→ Making & fitting of crowns
- Must formed in Third World

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**Encouraging Reading Books With Simple Language:**

Students were encouraged to utilize the special books at the library and department library during clinical postings so that certain concepts are learned in a detail manner and are useful to the students for answering in their exam better and can enhance their subject knowledge.





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**Customized Learning Plans:**

A detail learning plan is designed for better understanding the topic with ease mentioning the key points of the topic in which the candidate can remember and help in recalling and revising better.

## DEPARTMENT OF PUBLIC HEALTH DENTISTRY

| LESSON PLAN | |
|---|---|
| **LESSON TITLE** | ATRAUMATIC RESTORATIVE TREATMENT |
| **TEACHER** | ARUN PAUL |
| **BATCH** | FINAL YEAR PART 1 REGULAR (BATCH 2023-2024) |
| **DATE** | |

**DURATION : 1 hour**

**Objective :**

- By the end of the class, the students will be able to:
- Define ART.
- Understand the principles and techniques of ART
- Understand the indications and contraindications of ART
- Discuss the advantages and disadvantages of ART
- Understand the steps in ART

**Materials:**

- Powerpoint presentation slides
- A natural tooth model ( mounted natural tooth)
- Hand instruments (mouth mirror, explorer, tweezer, spoon excavator, enamel hatchet, GIC, GIC mixing pad, agates spatula, cotton pellets, cotton rolls, petroleum jelly)
- Sterile gloves and mask

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**Introduction: (5 minutes)**

- Brief overview of dental caries as a public health problem



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- Explain the need for minimally invasive and cost effective solutions
- Introduce ART as an evidence based approach in public health dentistry

**Definition and Principles of ART : (10 minutes)**

Definition : ART is a minimally invasive care approach in preventing dental caries and stopping its further progression .

Principles:

- Removing carious tooth tissues with hand instruments only
- Restoring the cavity with a restorative material that sticks to the tooth.

**Indications and contraindications : (15 minutes)**

Indications:

- Small to medium sized cavities
- Cavities accessible to hand instruments
- Can be used in public health programs

Contraindications:

- Swelling, fistula
- Pulp exposure
- Painful teeth where there is inflammation of the pulp
- Obvious carious cavity but the opening is not accessible to hand instruments.
- Clear sign of cavity but proximal surface cannot be entered through proximal or occlusal direction.

**Advantages : (10 minutes)**

Advantages:

- Biological approach
- Painless and no need of local anaesthesia
- Better infection control
- Not electrically driven so can be implemented at remote areas
- Simple- can train a non dental professional
- Cost effective
- Can be used for children,fearful adults, physically and mentally challenged and even for those handicapped
- Restorative care more accessible for all population group.

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**Steps in ART: (15 minutes)**

1. Arrange a good working environment
   - Outside the mouth

   Operator's work posture and position

   Patient position

   Head position

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Operating light

- Inside the mouth

Control saliva contamination

2. Restoring the cavity
   - Caries removal
   - Cleaning the cavity
   - Conditioning the cavity
   - Mixing GIC
   - Restoring the cavity
3. Hygiene and control of cross infections

**Assessment and feedback: (5 minutes)**

Quiz: Include multiple choice and short answer questions to evaluate understanding

Practical demonstration : Observe students perform ART on models during clinical posting hours.

Feed back from the students were taken at the end of class.

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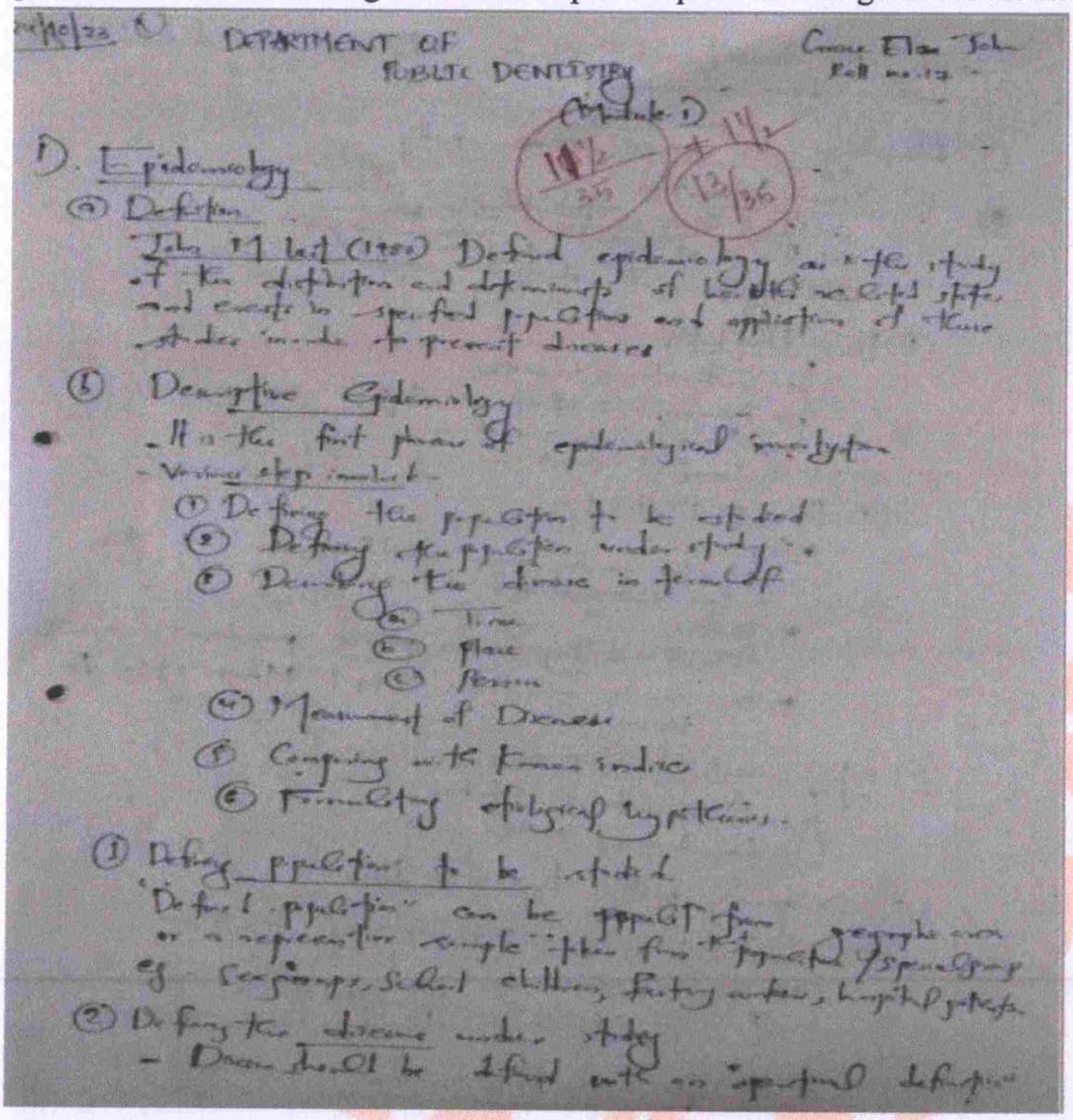


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**Periodical Assessment With Class Tests And Evaluation:**

Various class tests were conducted for slow performers as module exams and were evaluated so that the student recognizes their mistakes and can be guided for scoring better. Answer presentation and structuring the answer as per the question were guided to the slow performers.


DEPARTMENT OF
PUBLIC DENTISTRY

Module 1

11½/35 + 13/35 = 11½

1) Epidemiology

a) Definition

John M Last (1988) Defined epidemiology as the study of the distribution and determinants of health related state and events in specified populations and application of this study to control health problems

b) Descriptive Epidemiology

- It is the first phase of epidemiological investigation

Various steps involved -

1. Defining the population to be studied
2. Defining the population under study
3. Describing the disease in terms of
   a. Time
   b. Place
   c. Persons
4. Measurement of Disease
5. Comparing with known indices
6. Formulating Analytical hypothesis.

1. Defining population to be studied

'Defined population' can be defined for a representative sample like the fourth year BDS students or eg Secondary School children, factory workers, hospital patients

2. Defining the disease under study

- Disease should be defined with operational definition

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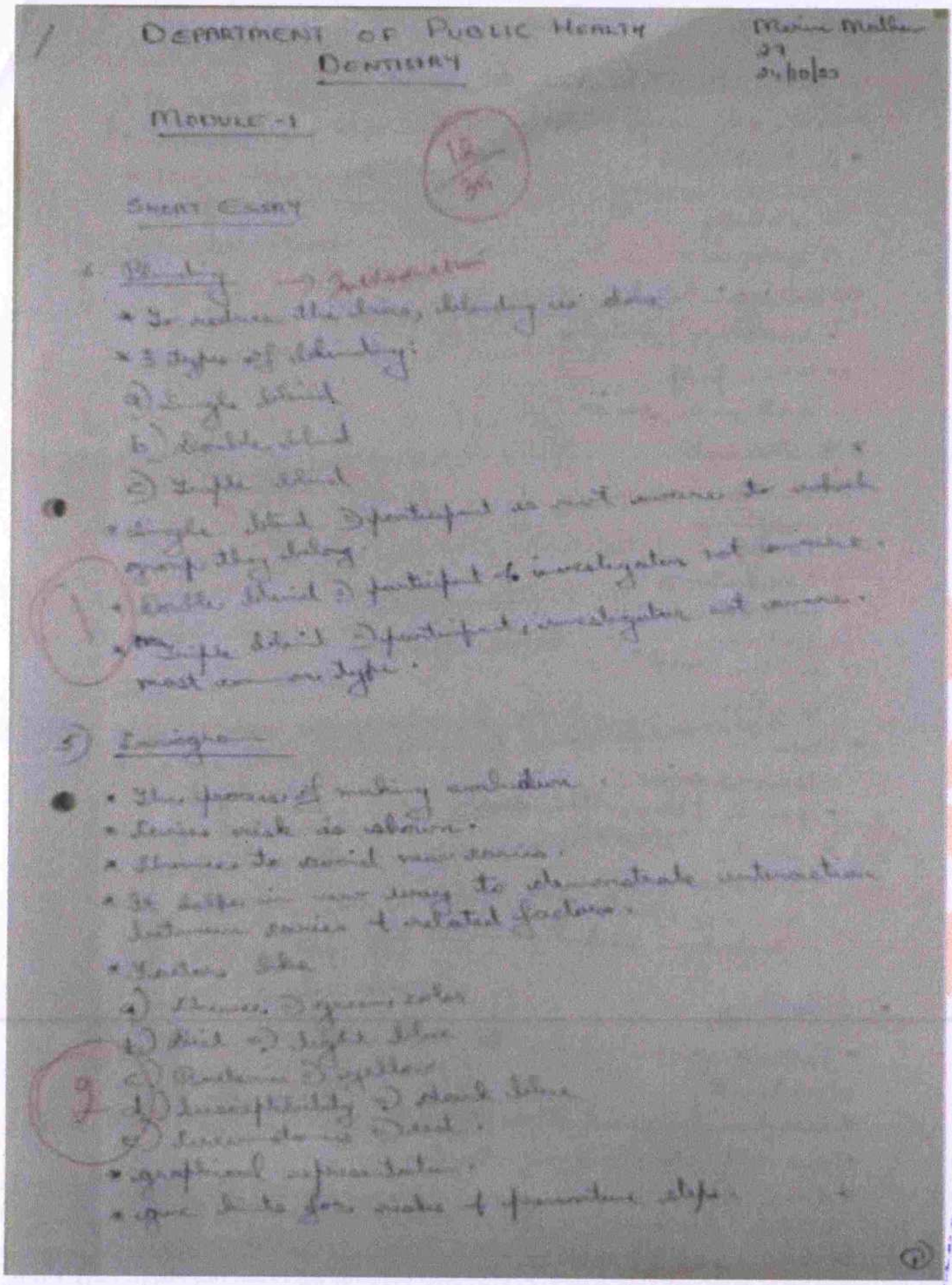
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1 Department of Public Health
Dentistry
Manipal Medical
29
24/8/23
Module - 1
Short Essay
1) Blinding → Definition
• To reduce the bias, blinding is done
• 3 type of blinding:
a) Single blind
b) Double blind
c) Triple blind
• Single blind: Participant do not aware to which group they belong
• Double blind: participant & investigator not aware.
• Triple blind: Participant, investigator & outcome assessor.
2) Excipient
• The process of mixing medicine
• Tablet will be obtain.
• Ensure to avoid any reaction
• It helps in any way to chemical interaction between active & inactive factors.
• Various type
a) Diluent b) Binder
c) Disintegrating d) Lubricant
e) Glidant f) Coloring agent
g) Sweetening agent
• Graphical representation:
• Que to be for wake & function step.

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2nd yr BDS

DEPARTMENT OF PUBLIC HEALTH DENTISTRY

Roll no 5

ASSIGNMENT - 01

Topic:

1 Epidemiology:

The study of the distribution and determinants of health related states or events in specified populations, and the application of this study to the control of health problems - [John M Last (1988)]

Descriptive epidemiology:-

Various steps are :-

1 Defining the population to be studied :

- It can be total population of a geographic area or a representative sample taken from that population
- The population should be large enough to make characteristics like age, sex etc

2 Defining the disease under study :-

After the population is defined, the next step is to define the disease under study → with an 'operational definition'

3 Describing the disease variables :

a) Time
b) Place
c) Person

a) Time distribution :

- Short-term fluctuations
- Periodic fluctuations
- Long-term fluctuations

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(4.11.23)

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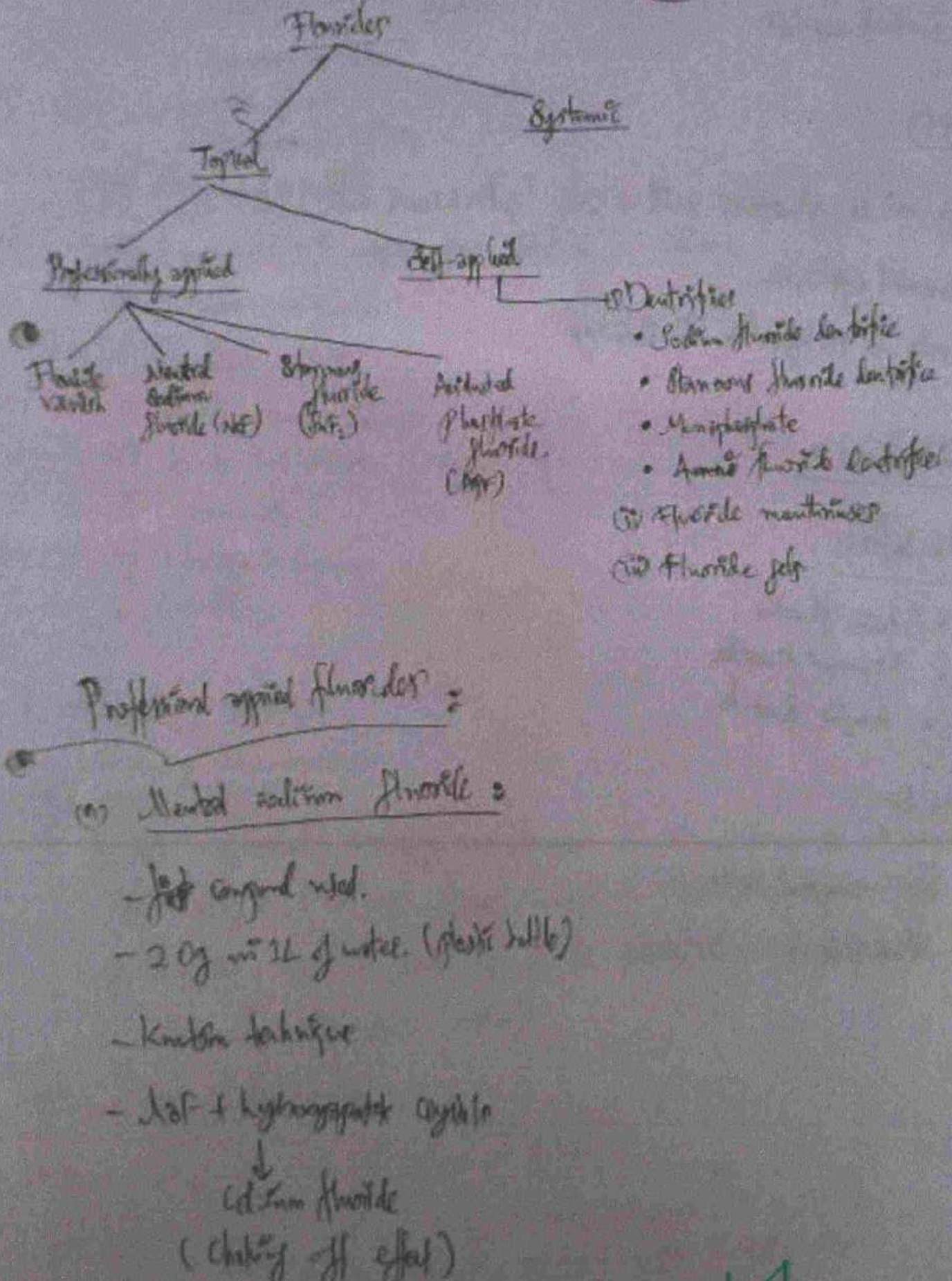
Bavitra Nazeer
Roll no: 115

MODEL EXAM-2

ESSAYS

1 FLUORIDES

15½/30




Professional applied fluorides :

(a) Neutral sodium fluoride :

- Dry compound used.
- 2 Gm with 1L of water. (plastic bottle)
- Knuckle technique
- NaF + hydroxyapatite crystals
  ↓
  Calcium fluoride
  (choking off effect)

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14/4/23 ⑧ DEPARTMENT OF PUBLIC DENTISTRY (Module 2)

Grace Elizabeth John
Roll no. 17

I) a) Classification of Topical Fluorides

18/35

Fluorides

Topical Fluorides

Systemic Fluorides

Professionally Applied

1. Fluoride varnishes
2. Fluoride solutions
3. Stannous fluoride
4. Acidulated NaF fluoride gel
5. APF Gel/Solution

Self-applied

1. Fluoride gels
2. Fluoride toothpaste
3. Fluoride Mouthrinses

1. Community water fluoridation
2. School based fluoridation
3. Fluoride supplements
4. Fluoridated salt
5. Milk fluoridation

2

Explanation?

II). Steps in planning.

Identify the problem

Collect data

Analyze the data

Conduct a needs assessment

Determine priorities

Develop program goals, objectives and activities

Identify alternative strategies

Identify barriers

Identify activities

Choose activities that are most effective

Develop implementation plan

Implement

Monitor

EVALUATE

4

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DENTISTRY

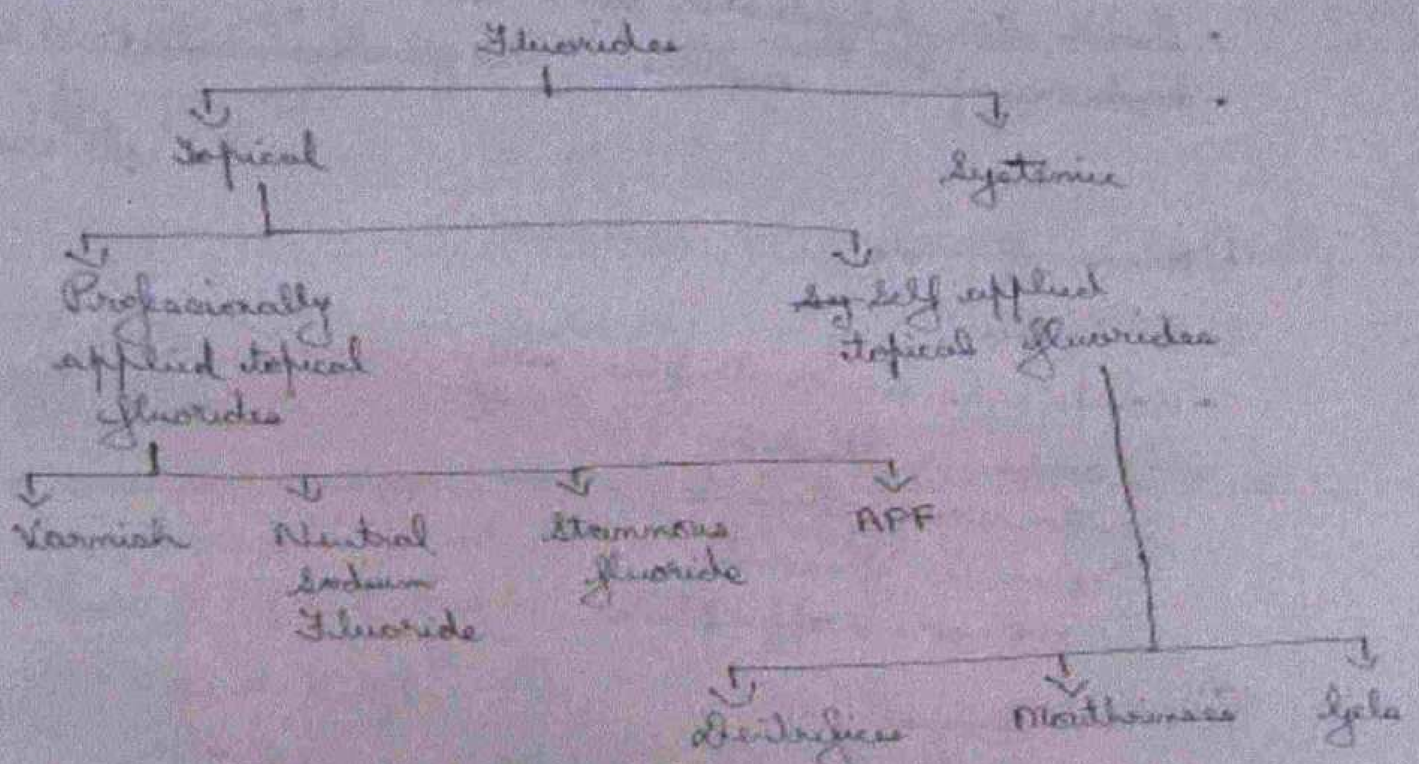
Maria Mathew
27
16/11/23

MODULE EXAM-2

21/35

ESSAY

1) Fluorides




* Professional applied topical fluorides:

a) Neutral sodium fluoride
- first compounded.
- 2% g in 1L water stored in plastic bottle
- Knutson technique.
- cleaned & isolated the teeth.
- apply 2% sodium fluoride & air dried
- NaF + hydroxyapatite sugarde
- sodium fluoride
- Stoke's effect
- 4 visits
b) Stannous fluoride
- for adults & children
- not stable
- 8g in 10 ml water; stored in plastic bottle.

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(3.4.23) DEPARTMENT OF PUBLIC HEALTH DENTISTRY Section sheet No. 5

MODEL EXAM-3

22/30

Essay:

1) Classify dental auxiliaries. Explain in detail about dental nurse

CLASSIFICATION by WHO (97)

1 Non-operating auxiliaries

- Clinical : Those who assist dentist in clinical procedures but cannot do procedures on the oral cavity.

- Laboratory : Those who help the dentist with laboratory procedures

2 Operating auxiliaries:

They are not professionals, but can work do procedures on the oral cavity under the supervision of a dentist

Operating auxiliaries: • School dental nurse
• Dental hygienist
• Dental therapist
• EFDA (Expanded function dental auxiliary)

Non-operating auxiliaries: • Dental assistant
• Dental lab technician
• Dental receptionist

SCHOOL DENTAL NURSE:

Operating auxiliaries who can diagnose dental disease and carry out certain preventive and treatment procedures which includes treatment of dental caries and other diseases in certain group of people, especially in school children

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Department of Public Health
Dentistry

Module Exam-3

Manu Mathew
2nd
3 Medical

23½
35

Essay

1) Dental auxillaries

* Classification:

Revised Classification by WHO:

a) Operating auxillaries:
- Dental therapist
- School dental nurse
- Dental hygienist
- EFDA

b) Non-Operating auxillaries:
- Dental receptionist
- Dental health educator
- Dental lab technician
- dental assistant

* Dental auxillary is a person who is given responsibility by the dentist to help in dental care, but the person doesn't have the qualified degree.

* School dental nurse:
- It is an operating auxillary
- Procedures - reversible and irreversible
- Time: 2 years
- New Zealand, 1904
- Nurse & founder
- Duties
  - Oral prophylaxis
  - Extraction of deciduous teeth
  - Cavity preparation
  - Filling using amalgam and permanent teeth.

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3/10/23 (1)

Department Of Public Health Dentistry

Grace Eliza John
Roll no: 17

(Module Exam-3)

35/35

1) @ Classification of Dental Auxiliaries

Qty of Dental Auxiliary?

* Classification by WHO (1967)
  - Clinical : Persons who assist the dentist, directly or under independent procedures
  - Laboratory : They will perform technical laboratory procedures

* Revised Classification
  - Non-operating Auxiliaries
    - Dental surgery assistant
    - Dental Health educator
    - Dental Receptionist
    - Dental Laboratory Technician
  - Operating-Auxiliaries
    - Dental School Nurse
    - Dental Hygienist
    - " Therapist
    - EDFA

(b) Dental School Dental Nurse.

- This is an operating auxiliary who is permitted to diagnose dental disease and to plan and carryout certain specific preventive treatment measures.
- Training period: Extends to 2 years.
- Dental school Nurse was first established in New Zealand
- Each school will assign a dental nurse, who take cares about 1000 - 1200 children. by (Assigned by government) under school health scheme
- Proper check up done in Blw 6 months.
- Duties
  - Oral Examination
  - oral prophylaxis
  - Fluoride (Topical) therapy
  - Advice on Fluoride supplementation
  - Extraction of 1° teeth
  - Temporary Amalgam filling

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**Provision Of Special Notes:**

Short study materials were prepared for the slow performers for recalling the points better and to give an insight on the key points needed for answering the question in a content format.

PIT AND FISSURE SEALANTS

CONTENTS:

- Introduction
- Morphology of pits and fissures
- Classification of sealant materials
- Indications and contraindications of sealants
- Techniques for the placement of sealants
- Factors affecting sealant retention
- Cost effectiveness of sealants
- Safety of sealant materials
- Preventive resin restorations
- Conclusion

INTRODUCTION:

- Only 12.5 percentage of all tooth surfaces are occlusal, yet these surfaces develop more than two-thirds of the total caries experience of children.
- Caries potential, is directly related to the shape and depth of the pits and fissure
- Narrow isolated crevices and grooves that harbour food and microorganisms are the most important anatomical features leading to the development of occlusal caries and pit and fissure sealants can help prevent occlusal caries.
- 1905: Application of silver nitrate by Miller.
- 1922: Hyatt - fill the fissures of teeth with silver or copper oxyphosphate cement as soon as the teeth erupted and when they were fully into the mouth - prepare a small occlusal cavity and fill it with silver amalgam.
- 1929: Bodecker suggested widening the fissures mechanically so that they would be less retentive to food particles.
- 1955: Buonocore introduced a method of adhering resin to an acid-etched enamel surface.
- 1962: Bowen and associates developed the Bis-GMA resin, which is the chemical reaction product of Bisphenol A and Glycidyl methacrylate.
- According to the European Academy of Paediatric Dentistry(EAPD) - 'A fissure sealant is a material that is placed in the pits and fissures of teeth in order to prevent or arrest the development of dental caries'.

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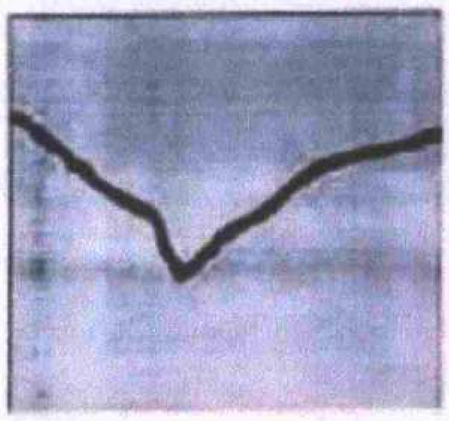
MORPHOLOGY OF PITS AND FISSURES

Types of fissures:

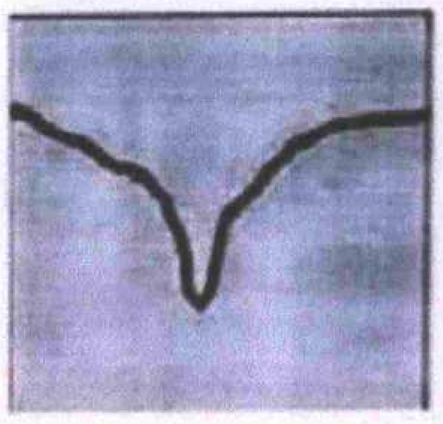
1. V type and U type:

- Are shallow and wide and tend to be self cleansing and somewhat caries resistant.
- Non invasive technique is recommended

v type

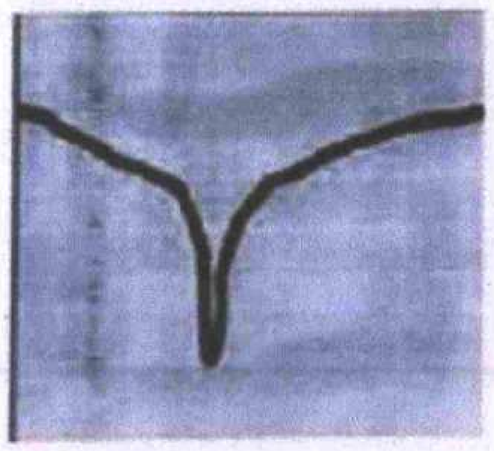


U type



2. I Type

- Is deep, narrow and quite constricted, resembling a bottle neck.
- Are caries susceptible.
- Requires invasive technique.



3. Combination types

CLASSIFICATION OF PIT AND FISSURE SEALANTS

Sealants are classified into three sealant materials:

I. Resin based sealants

II. Glass ionomer sealants

III. Polyacid-modified resin sealants

1. Resin based sealants:

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- Resin sealants are bonded to underlying enamel by use of acid-etch technique.
- Their caries preventive property is based on the establishment of a tight seal, which prevents leakage of nutrients to the micro flora in deeper parts of the fissure.
- I. Types of resin based pit and fissure sealants:
- A. Based on generation
- 1. Generation 1 Sealant:
- -Photocured via UV light of 350 nm but no longer used.
- 2. Generation 2 Sealant:
- -Auto or chemically-cured by adding tertiary amine activator to one component and mixing with another component.
- -Setting time is 1-2 minutes.
- 3. Generation 3 Sealant:
- -Photo cured via visible blue light of 470 nm.
- -Setting time is 10-20 seconds which is shorter and air bubble incorporation is eliminated.
- 4. Fluoride containing sealants:
- -Fluoride releasing particles are added to light polymerizing sealants but it does not provide long term fluoride release and there is no additional clinical benefit according to literature.
- B. Based on fillers:
- 1. Unfilled (penetration into fissures and retention is better than sealant with fillers)
- 2. Filled sealant (fillers increase abrasion resistance, bond strength). Fillers used are glass and quartz particles.
- C. Based on Colour
- 1. Clear: Aesthetic but difficult to detect in follow-up
- 2. Tinted/opaque sealant: Easy to detect.

II. Glass ionomer sealants:

- It bonds chemically to enamel and dentin through an acid-base reaction between an aqueous-based poly-acrylic acid solution and fluoro-aluminosilicate glass powder.
- It has high and low viscosity types and low viscosity type has poor physical properties and is outdated.
- High viscosity glass ionomer cement has better physical properties like flow and high fluoride release.

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- Resin-modified glass ionomer is also available and it has better physical characteristics compared to conventional GI sealants, less sensitive to water and a longer working time.
- But the main advantage of glass ionomer sealants is continuous fluoride release and it is not as hydrophobic as resin based sealants.

III. Polyacid-modified resin sealants:

- Also known as compomer and it combines advantageous properties of resin sealants and fluoride release property of glass ionomer sealants.

- It has better adhesion to enamel and dentin.
- Less water soluble compared to a GI sealant and less technique sensitive compared to resin based sealants.
- It should be noted that compomer and resin based sealants should be preferred over GI sealants wherever better moisture control is possible due to better retention and durability.
- Glass ionomer sealants are transitionally used wherever moisture control is not possible.

INDICATIONS AND CONTRAINDICATIONS OF SEALANTS

| Surface diagnosis | Do seal | Do not seal |
|---|---|---|
| Carious | If pits and fissures are separated by transverse ridge, a sound pit or fissure may be sealed | Carious pits andfissure |
| Questionable | Sound | Carious |
| | Many occlusal lesions, few proximal lesions | Many proximal lesions |
| Sound | Deep, narrow pit and fissure | Broad, well coalesced pit and fissure |
| | Recently erupted teeth | Teeth caries free for 4 years or more |
| | Sound | Caries |

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TECHNIQUES FOR THE PLACEMENT OF SEALANTS

1. Time to seal: Newly and completely erupted teeth.

2. Polish the tooth surface:

- Plaque and debris interfere with etching and sealant penetration and polishing can be done with a polishing cup and pumice.

3. Isolate and dry the tooth surface:

- It is a very important part and rubber dam is the best way but cotton rolls and saliva ejector can also be used.

4. Acid etching:

- Goal of etching is to produce an un-contaminated, dry, frosted surface and etching removes organic material, debris from surface.
- It produces micro-pores for sealant penetration.
- 35-37% phosphoric acid concentration is used and etching time has been reduced from 60 to 20 seconds.

5. Washing and drying:

- Rinsing time to wash away acid is 30 seconds and compressed air drying time is 15 seconds. Enamel should have a characteristic chalky, frosty appearance.

6. Isolate and dry the tooth:

- Salivary contamination should be prevented by rubber dam or cotton rolls and salivary ejector.

7. Bonding agents:

- Introduced in 1993 by Feigal et al.
- Bonding agents increases bond strength, reduces micro leakage and enhances flow of resin into fissures.
- Use of bonding agents also have a positive effect on increasing penetration and improving the retention rate.
- There are eight generations of bonding agents with 1 step self etch adhesive and 3 or 2 step etch and rinse adhesive.
- $8^{th}$ generation has nano fillers for better mechanical properties.

8. Sealant placement and evaluation:

- The sealant material is then applied to the tooth according to the manufacturer's directions and polymerized. Be careful not to incorporate air bubbles in the material.

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- The sealant should be evaluated visually and tactically. Take the explorer and attempt to dislodge it.
- If there are any deficiencies in the material, more sealant material should be applied.

9. Check occlusion:

- Check for occlusal high points and if present correct them.

10. Follow-Up (Recall and repair):

- It is necessary to re-evaluate the sealants at recall visits.
- At these visits the integrity of the sealants are evaluated.
- If there has been any sealant loss, new sealant can be applied over the old material.
- Average sealant loss from permanent molars is 5-10% per year.

FACTORS AFFECTING SEALANT RETENTION

1. Type of sealants:

Studies have shown that the second generation sealants provide superior retention and caries protection than first generation sealants.

2. Position of teeth in the mouth:

Better sealant retention has been reported more for the anterior and in mandibular than maxillary arch.

3. Clinical skill of the operator:

More skilled and/or clinically experienced operators also produced better sealant

retention.

4. Age of the child:

Retention is also compromised in younger children due to difficulties in maintaining a dry field resulting from behaviour Problems.

5. Eruption status of teeth:

Studies have shown that sealants placed on molars early in eruption were far more likely to require replacement within 3 years.

Sealants will be long-lasting if:

- The case is selected correctly.
- The tooth is selected correctly.
- An appropriate placement technique is Followed.
- Adequate maintenance is provided.

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COST EFFECTIVENESS OF PIT AND FISSURE SEALANTS

Cost of the treatment can be minimized by the following measures:

1. Selective application on teeth with the greatest caries risk.

2. Delegating treatment to auxiliary personnel where legally permitted.

3. Selecting commercial products that have the highest proved success rates and are approved by statutory organizations.

4. Following meticulous application protocol.

5. Applying sealants in conjunction with optimal fluoride therapy.

SAFETY OF SEALANT MATERIALS

- Some dental resins can include trace amounts of BPA(bisphenol A) from resin production.
- BPA has possible adverse oestrogen like effects.
- So as a precaution it is advised to clean and rinse sealed surfaces after placement of sealants, to limit possible exposure to BPA.

PREVENTIVE RESIN RESTORATIONS

- They are a natural extension of the use of occlusal sealants.
- There are three types off-preventive resin restoration based on the extent & depth of carious lesion as determined by exploratory preparation.
- Simonsen (1978) has classified them as :

TYPE A

TYPE B

TYPE C

TYPE A:

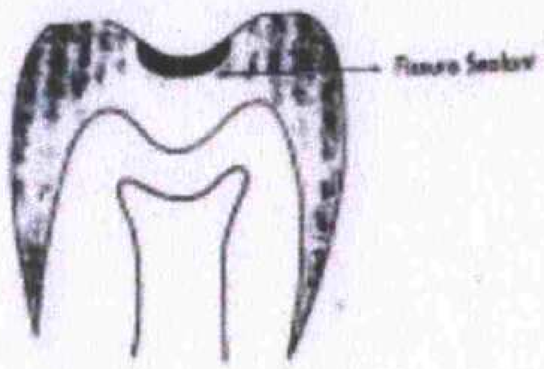
- Suspicious pits &' fissures where cariesremoval is limited to enamel.
- Local anesthesia is not required.
- A slow speed ¼ or 1/2 round bur is used toremove decalcified enamel.
- Sealant is placed.

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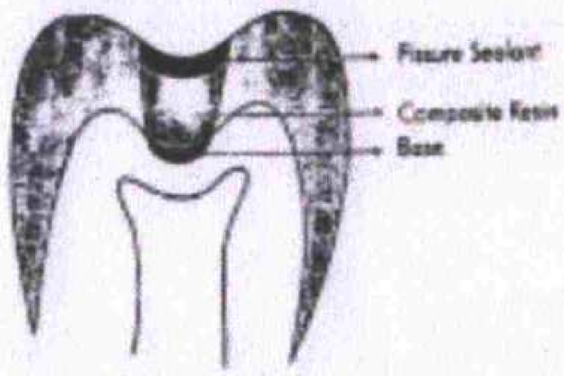



TYPE B:

• Incipient lesion in dentin that is small &confined.

• No local anesthesia is needed.

• An appropriate base is placed in areas ofdentin exposure, composite resin isplaced & the remaining pit & fissure arecovered with a sealant.



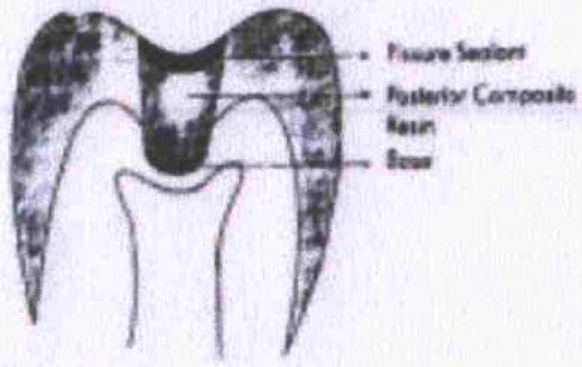

TYPE C:

• More extensive dentinal involvement &requires restorations with posterior composite material.

• Appropriate base is placed over dentin.

• Pits & fissures are covered with a sealant.

• Local anesthesia is required.




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CONCLUSION

- The cario-static properties of sealants are attributed to the physical obstruction of the pits and fissures.
- This prevents the penetration of fermentable carbohydrates and so the remaining bacteria cannot produce acid in cariogenic concentrations.
- Sealants are cost effective as it prevents dental caries and parents must be educated about importance of dental sealants.

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# DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS

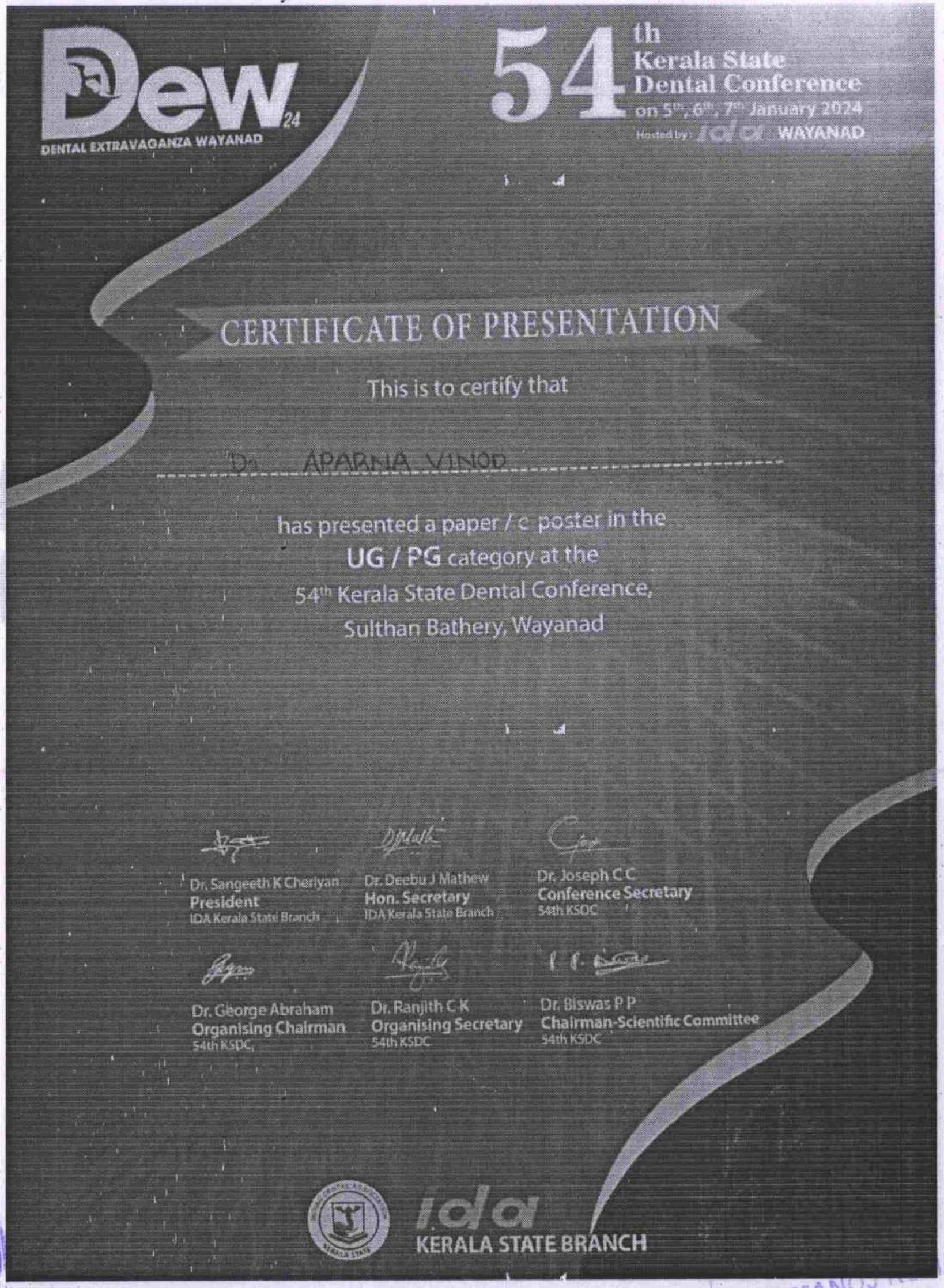
## DETAILS OF SPECIAL PROGRAMS FOR ADVANCED LEARNERS

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## 1. SCIENTIFIC PRESENTATIONS, UG CONFBRENCES AND WORKSHOPS

Scientific presentations, undergraduate conferences, and workshops are integral parts of academic growth and development. They provide students with opportunities to share their research, engage with peers and experts, and gain valuable feedback to improve their work.




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Dew 24
DENTAL EXTRAVAGANZA WAYANAD

54th Kerala State Dental Conference
on 5th, 6th, 7th January 2024
Hosted by: IDA WAYANAD

# CERTIFICATE OF ATTENDANCE

This certificate is awarded to

Dr. APARNA VINOD

for participating and contributing to the success of the

**54th Kerala State Dental Conference** held

at Sulthan Bathery, Wayanad

Accredited
12 Credit Points
by KDC.
KDC no:
CDE/13412/23/KDC

Dr. Sangeeth K Cheriyan
**President**
IDA Kerala State Branch

Dr. Deebu J Mathew
**Hon. Secretary**
IDA Kerala State Branch

Dr. Joseph C C
**Conference Secretary**
54th KSDC

Dr. George Abraham
**Organising Chairman**
54th KSDC

Dr. Ranjith C K
**Organising Secretary**
54th KSDC

Dr. Shani George
**Observer**
KDC

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## 2. PARTICIPATION IN RESEARCH PROJECTS AND PUBLICATIONS

Participating in research projects and publishing research findings are two of the most important aspects of academic and professional development. They help individuals gain hands-on experience, develop critical thinking skills, and contribute to the academic community.

स्वास्थ्य अनुसंधान विभाग
Department of Health Research

STS 2023

This is to certify that ***Ms. Hana Abdul Kareem*** student of ***BDS-IV*** of ***KMCT Dental College , Kozhikode*** has successfully completed the Short Term Studentship (STS) for a period of two months during 2023 under the guidance of ***Dr. Sarin Koroth*** for the project entitled "***AWARENESS OF TRANSMISSIBLE DISEASES AND PREVENTIVE MEASURES AMONG DENTAL AUXILIARIES IN DENTAL SCHOOLS OF KERALA : A cross-sectional study***" was graded as ***Good*** (Reference ID: ***2023-02130***).

**Dr. Geeta Jotwani**
Head, Division of HRD
ICMR

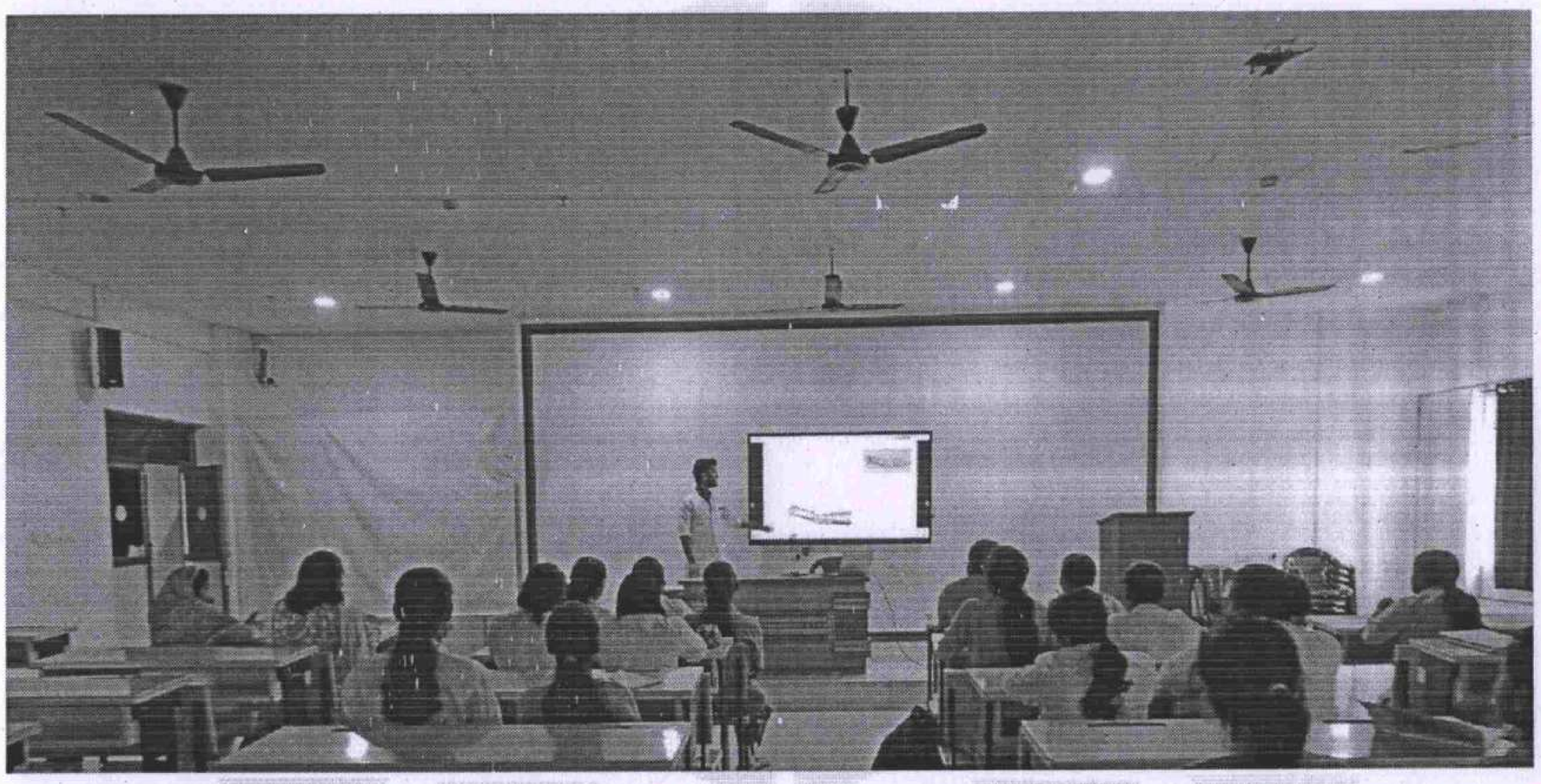
**Dr. Rajiv Bahl**
Secretary, Department of Health Research &
Director General, ICMR

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## 3. SEMINAR PRESENTATIONS

A seminar presentation is a structured session in which an individual or group shares knowledge, research findings, or ideas on a specific topic with an audience. It typically takes place in an academic or professional setting, where participants engage in discussions, ask questions, and exchange ideas.



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## 4. EXPOSURE TO COMPLEX CLINICAL SITUATION AND PROCEDURES

## ADVANCED LEARNER ASSISTING MICROSCOPIC CASE OF POST GRADUATE STUDENT



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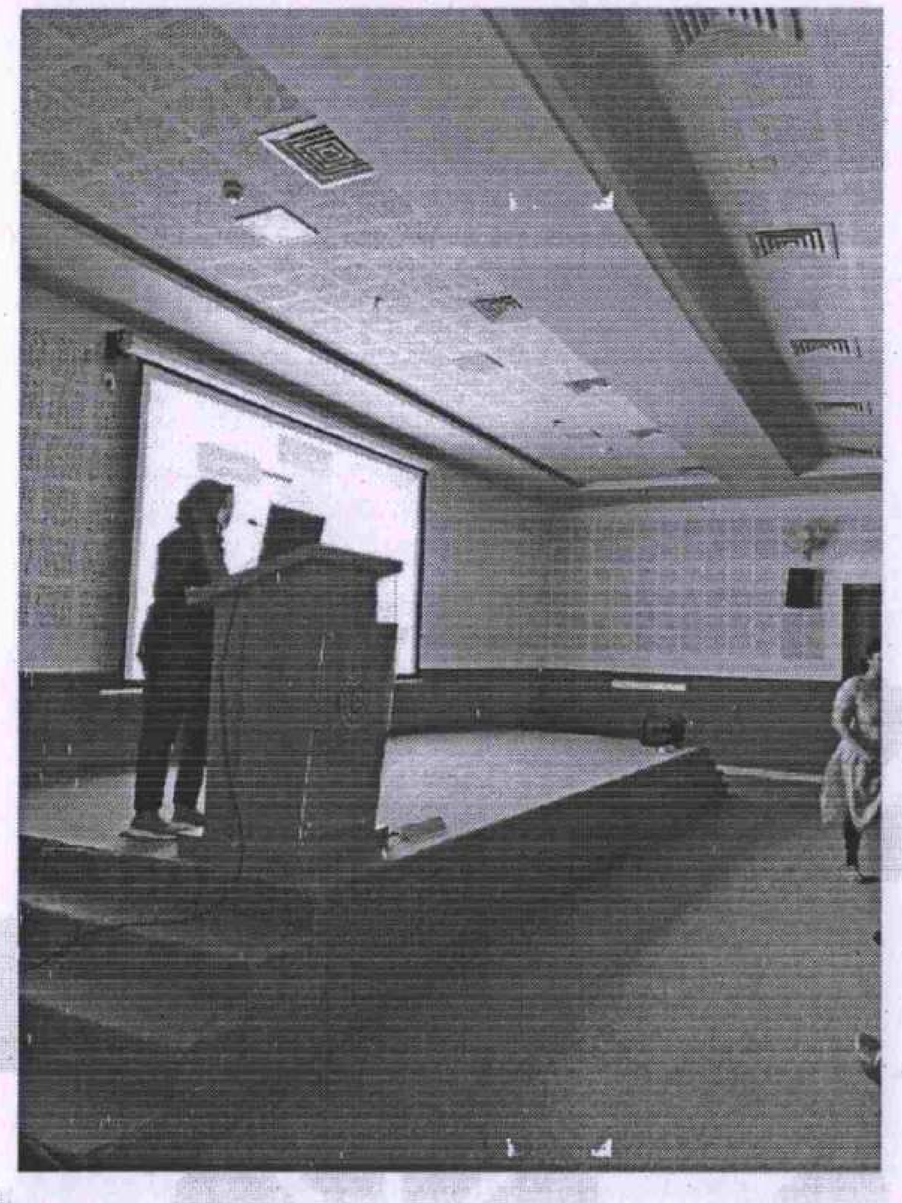
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## 5. CLINICO PATHOLOGICAL CLUB PARTICIPATION





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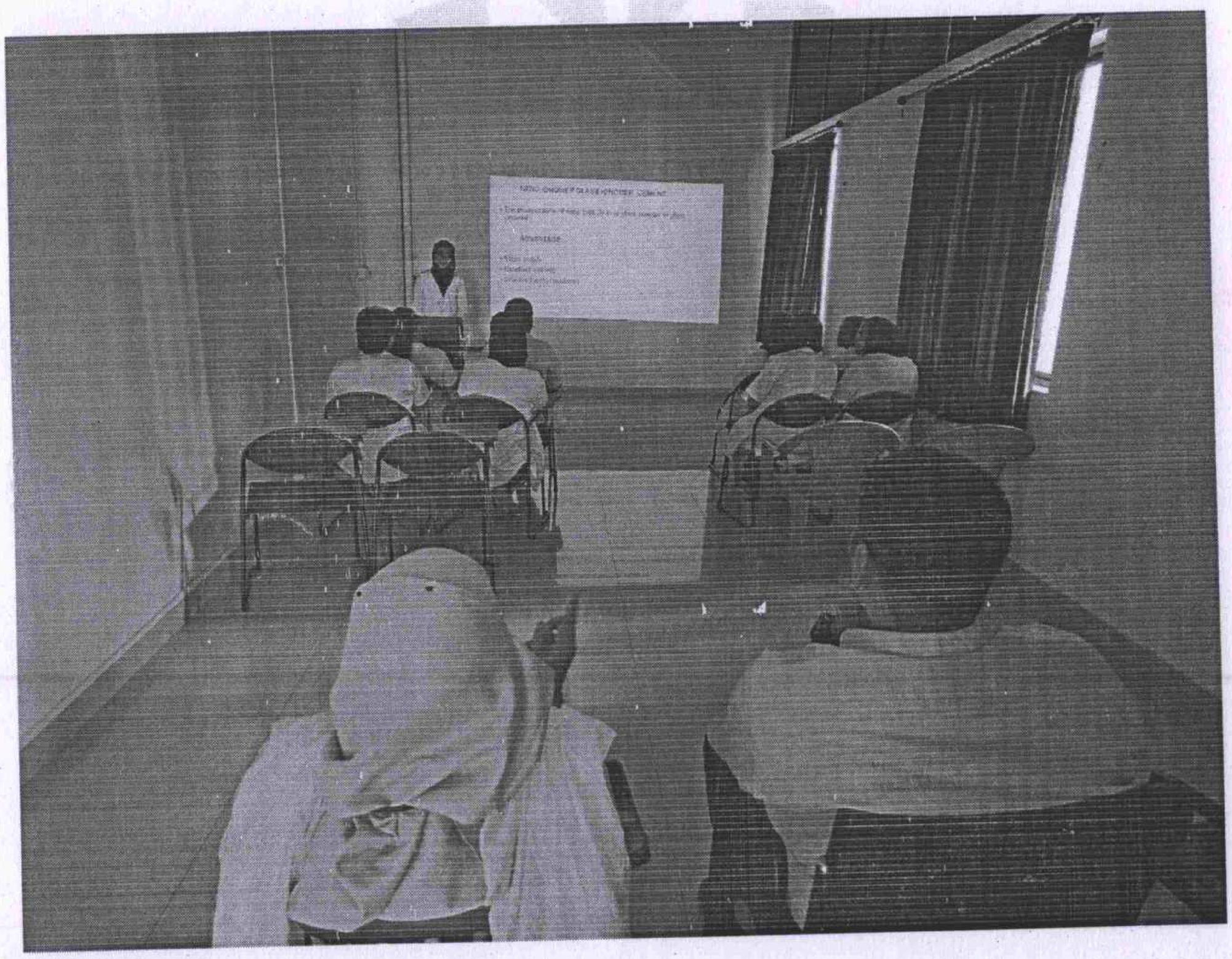
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# DEPARTMENT OF PEDIATRIC AND PREVENTIVE DENTISTRY

## DETAILS OF SPECIAL PROGRAMS FOR ADVANCED LEARNERS

**Scientific Presentations**: Advanced performers are encouraged to present their scientific research and findings at conferences, both within the college and at national/international levels. This platform allows them to showcase their knowledge and contribute to the academic community.



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**Undergraduate Conferences and Workshops**: Special provisions are made for advanced students to attend conferences and workshops specifically tailored for undergraduates. This exposure broadens their perspective, keeps them updated with the latest advancements, and encourages networking with peers and professionals.



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**Participation in Research Projects and Publications**: Advanced performers are actively involved in research projects under the guidance of faculty. Their contributions to research are often published in scientific journals, enhancing their academic profile and fostering a culture of academic excellence.

| PART-A (Registration Details) | |
|---|---|
| Reference ID | 2023-05127 |
| Email ID | rvmohammed@hotmail.com |
| **Course Details** | |
| Name | Ms. Amna Mohammed Abdusalam |
| Date of Joining | 02/09/2019 dd/mm/yyyy |
| Course | BDS |
| Year | III |
| College Name | KMCT Dental College , Kozhikode |
| College Address | Manassery PO<br>Mukkam<br>Kozhikode<br>673602<br>Kerala |
| College Telephone | - Extension |
| **Student Personal Details** | |
| Gender | Female |
| Nationality | Indian |
| Date of Birth | 23/11/2000 dd/mm/yyyy |
| Home Address | AMNAS, 9/1329, Tharangam colony road<br>Vengeri PO<br>Kozhikode<br>673010<br>Kerala |
| Mobile | 9847325749 |
| Alternate Mobile | 9847571583 |
| Alternate Email ID | anju@kmctdentalcollege.org |
| Residence Telephone No. | - |
| Where correspondance to be sent | College |

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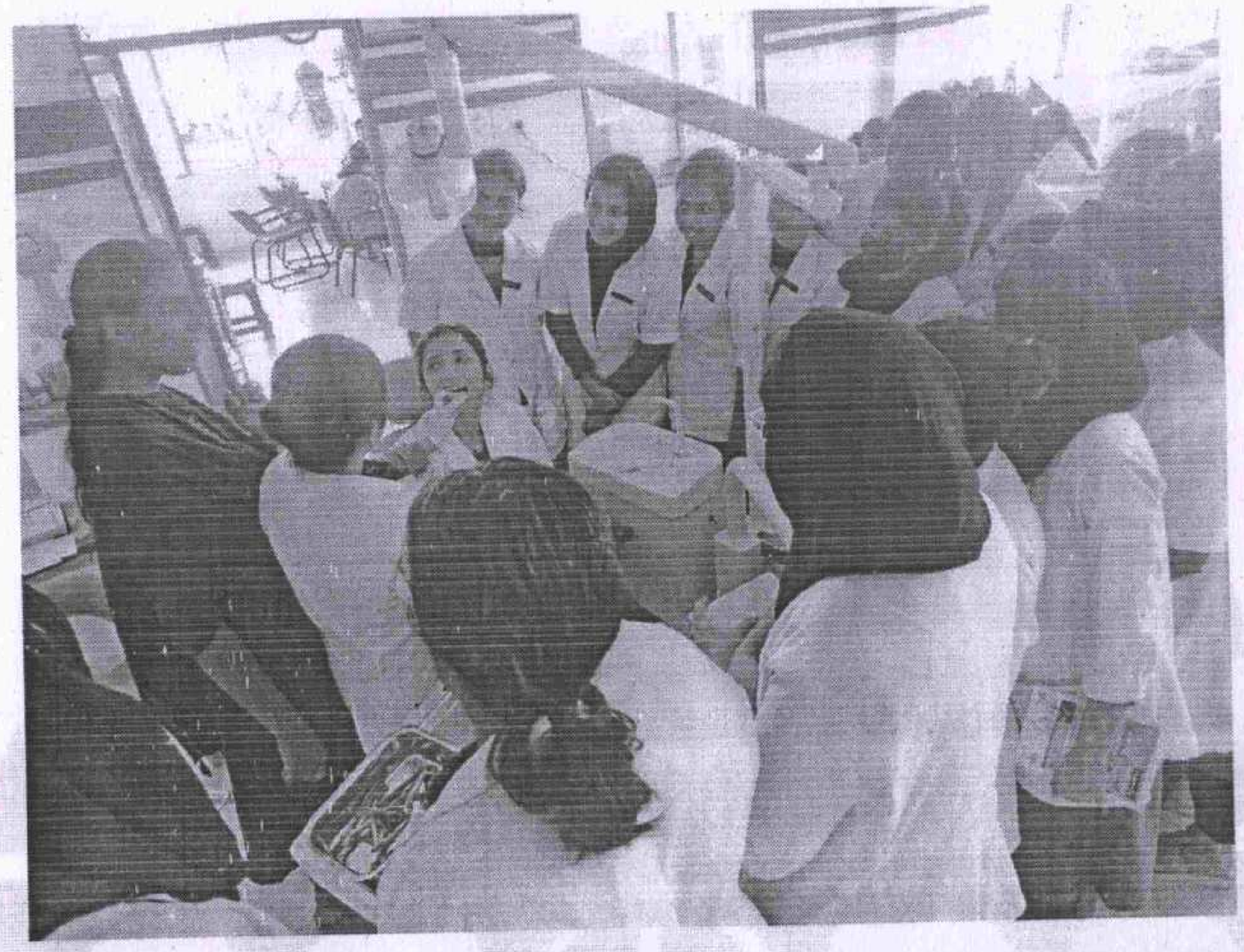
| | |
|---|---|
| Guide Name | Dr. Anju R.v |
| Designation | Associate Professor |
| Department | Pedodontics |
| College | KMCT Dental College , Kozhikode |
| College Address | KMCT Dental College Manassery, Mukkam Kozhikode 673602 Kerala |
| Mobile | 9946680710 |
| Telephone | Residance: - Office: - Extension |
| Guide email | anju@kmctdentalcollege.org |

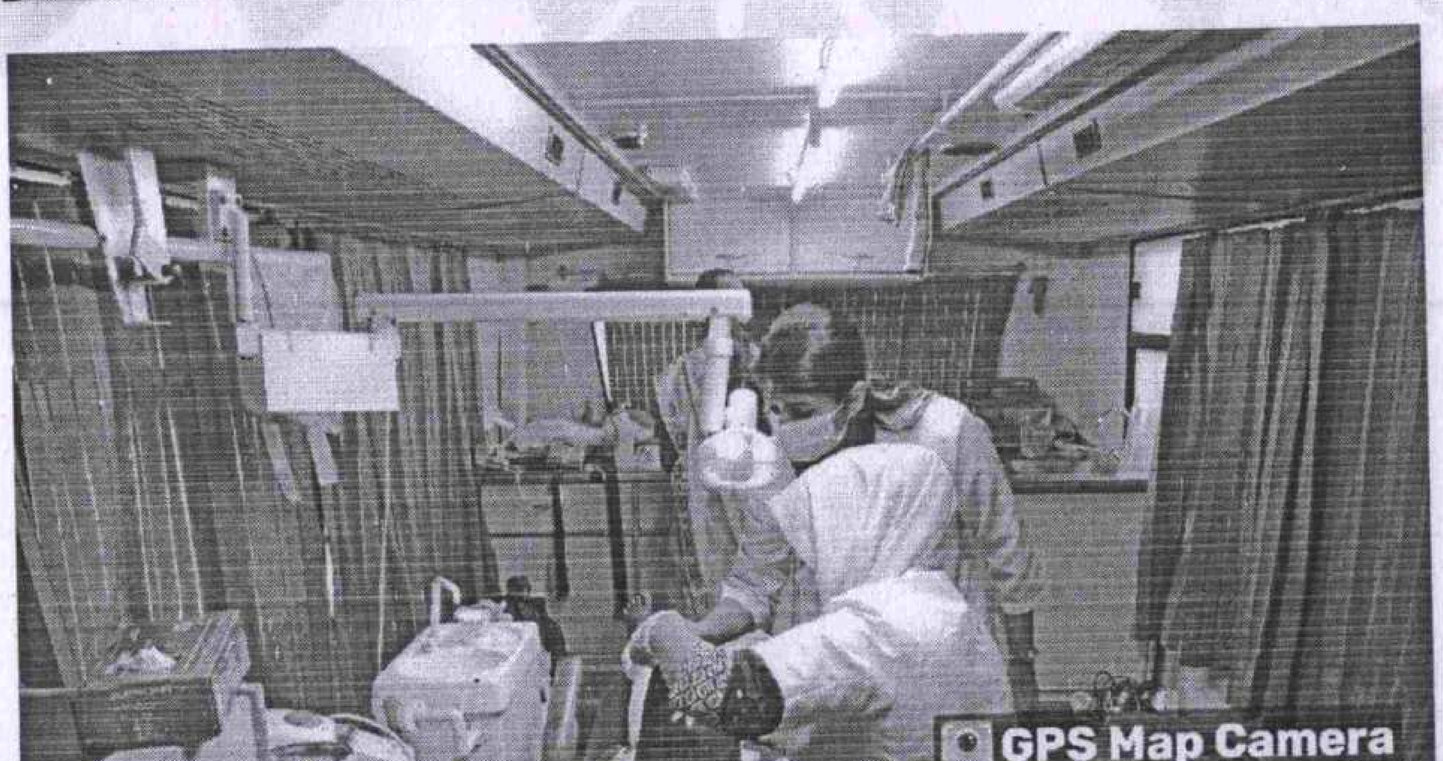
| PART-C (Attachments) | |
|---|---|
| Application Attestation Form | Yes |
| Ethical Clearance | No |
| Inform Consent Form | Yes |
| Case Study Form | No |
| Study Questionnaire | Yes |

| PART-D (Proposal Details) | |
|---|---|
| Title | Assessment of awareness on etiology and preventive practices of early childhood caries among mothers with children below 5 years in a peri-urban area. |
| Type of Study | Health Education |
| Subject Area | Pedodontics & Preventive Dentistry |
| Department *(where study will be conducted)* | Pedodontics and Preventive dentistry, immunization center of Community Health Centers, Women and Child hospital. |
| Research Proposal | Yes |

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**Exposure to Complex Clinical Situations and Procedures**: These students are provided opportunities to observe and assist in complex clinical cases and procedures. This hands-on experience under supervision enhances their clinical skills and confidence.






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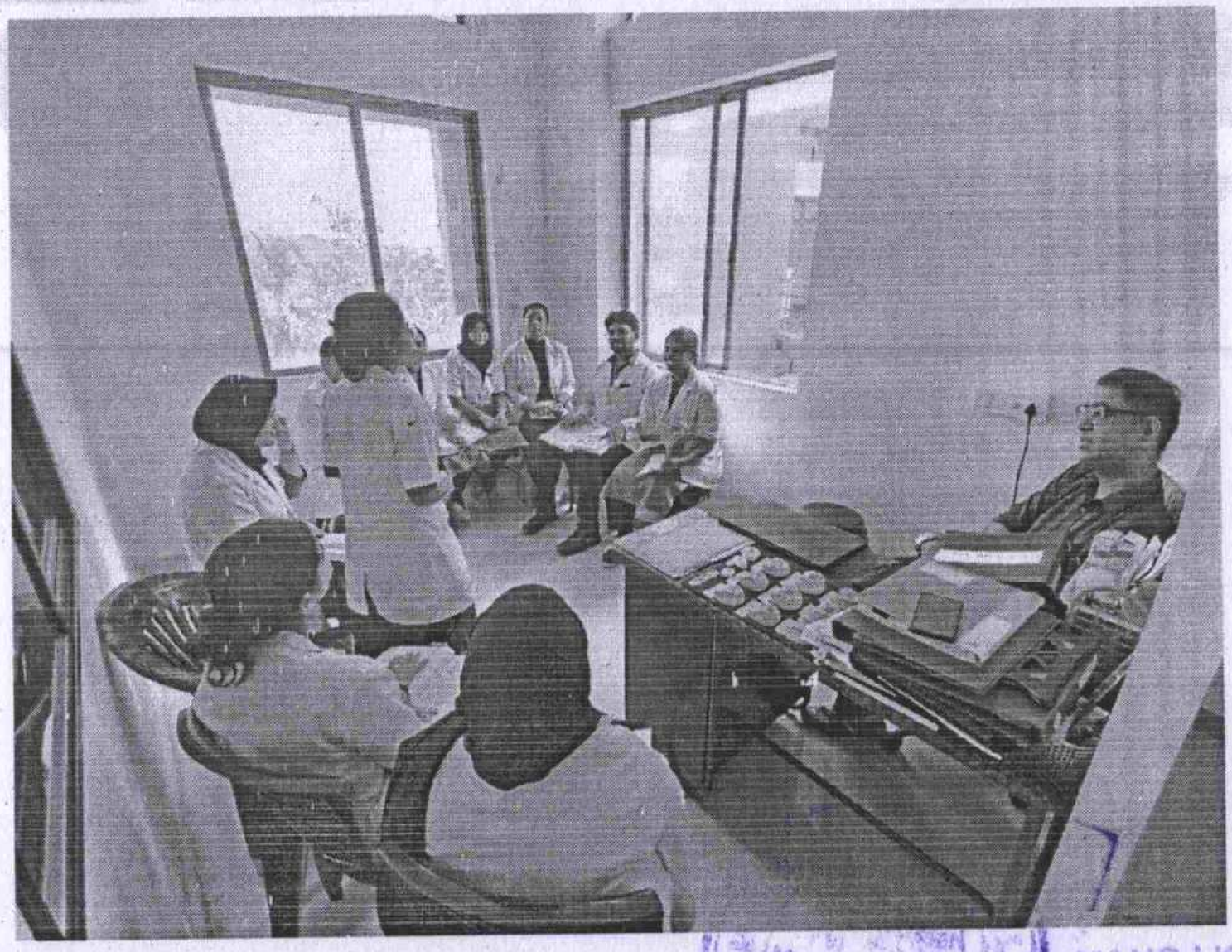
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**Seminar Presentations:** Advanced performers are encouraged to deliver seminars on specialized topics, allowing them to delve deeper into particular subjects, share their expertise, and develop their presentation skills.





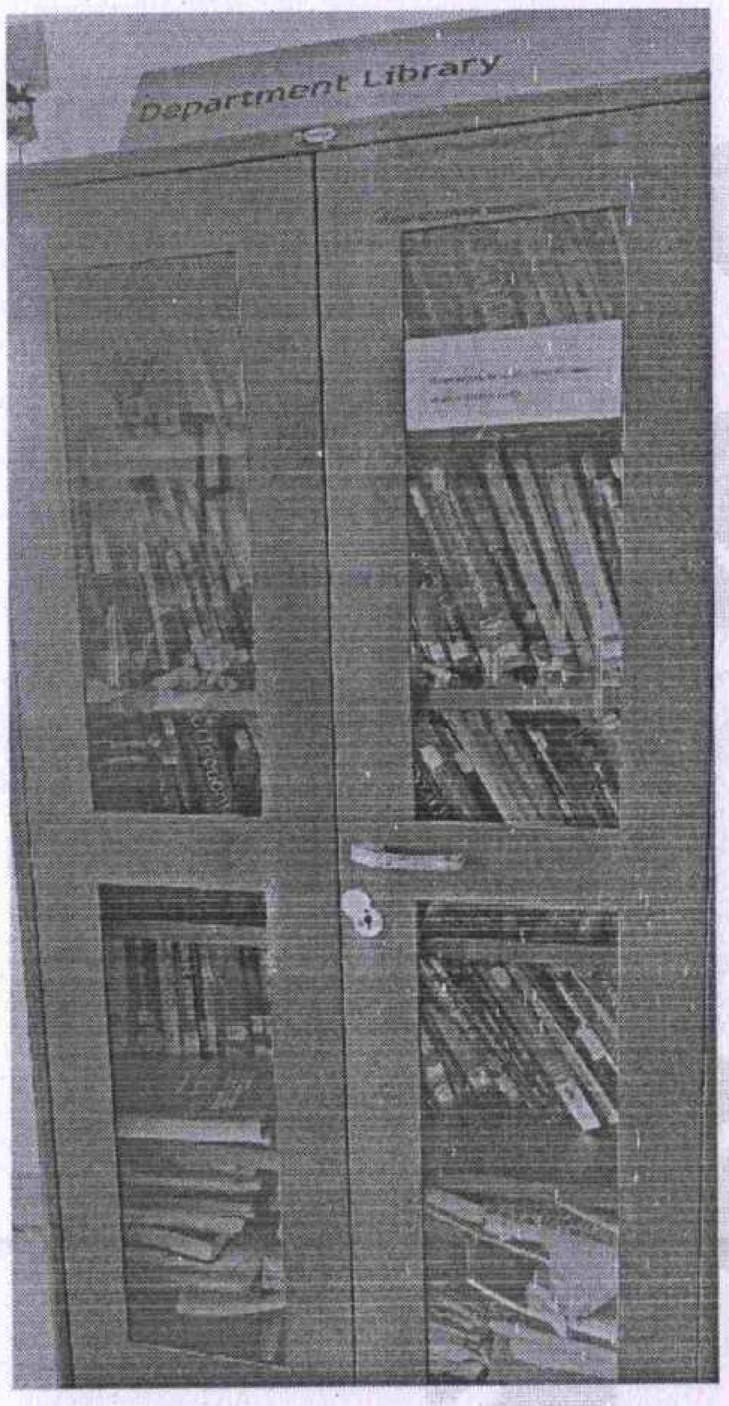
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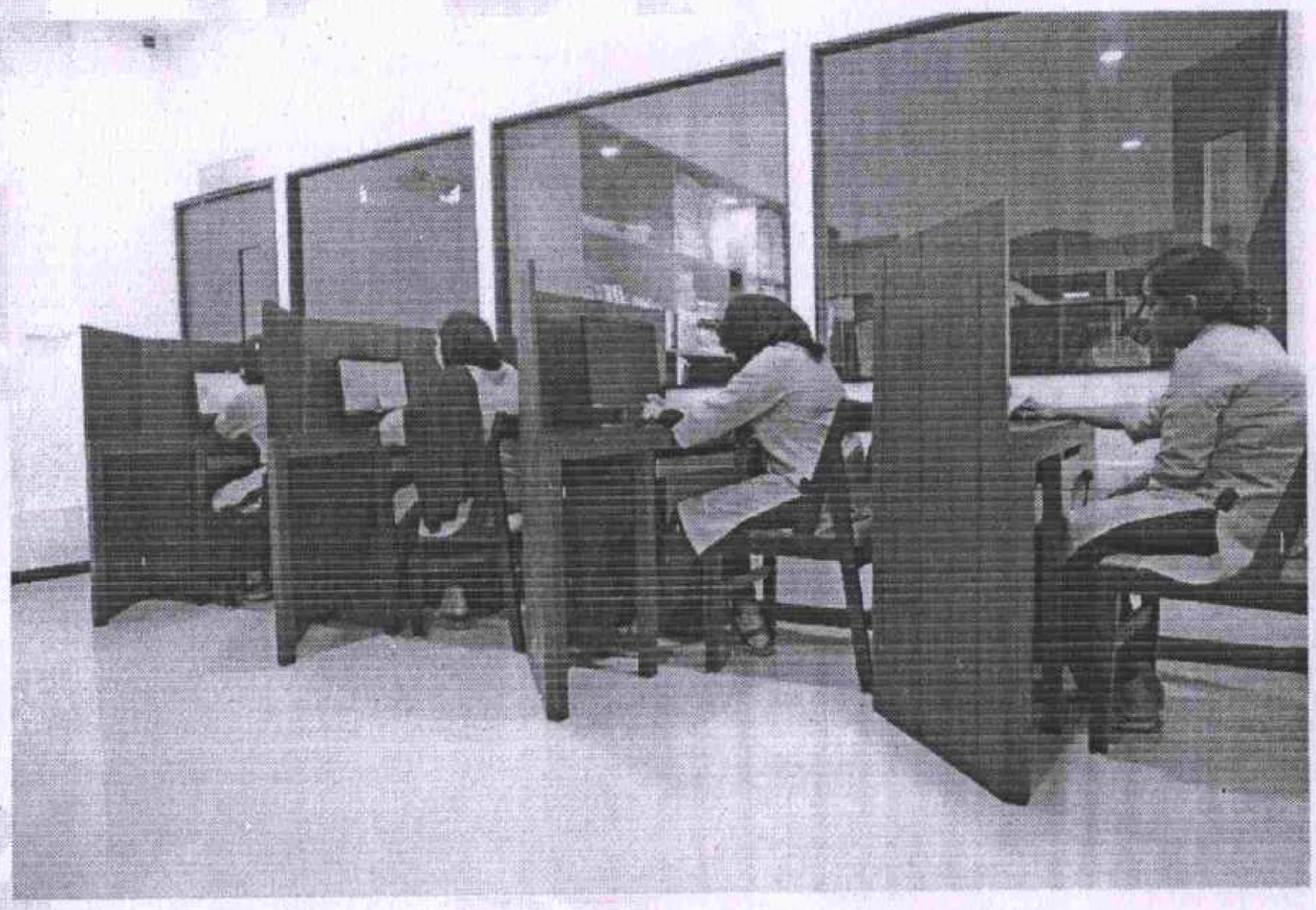


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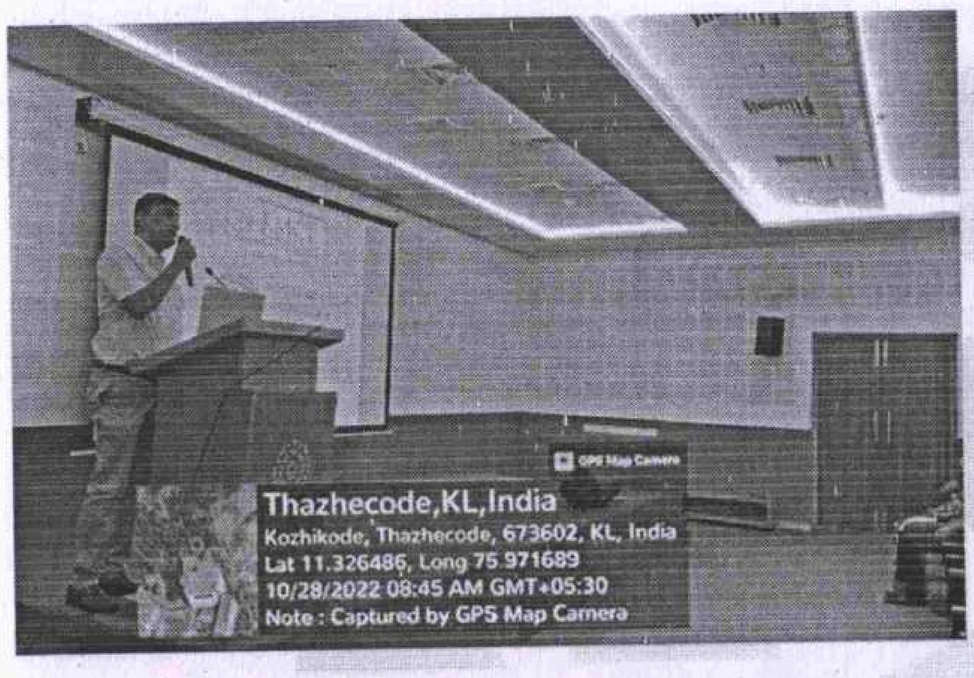
**Access to Additional Books, Journals, and E-Library**: The college ensures that these students have access to an extensive collection of books, journals, and online resources, providing them with comprehensive materials to further their knowledge beyond the standard curriculum.



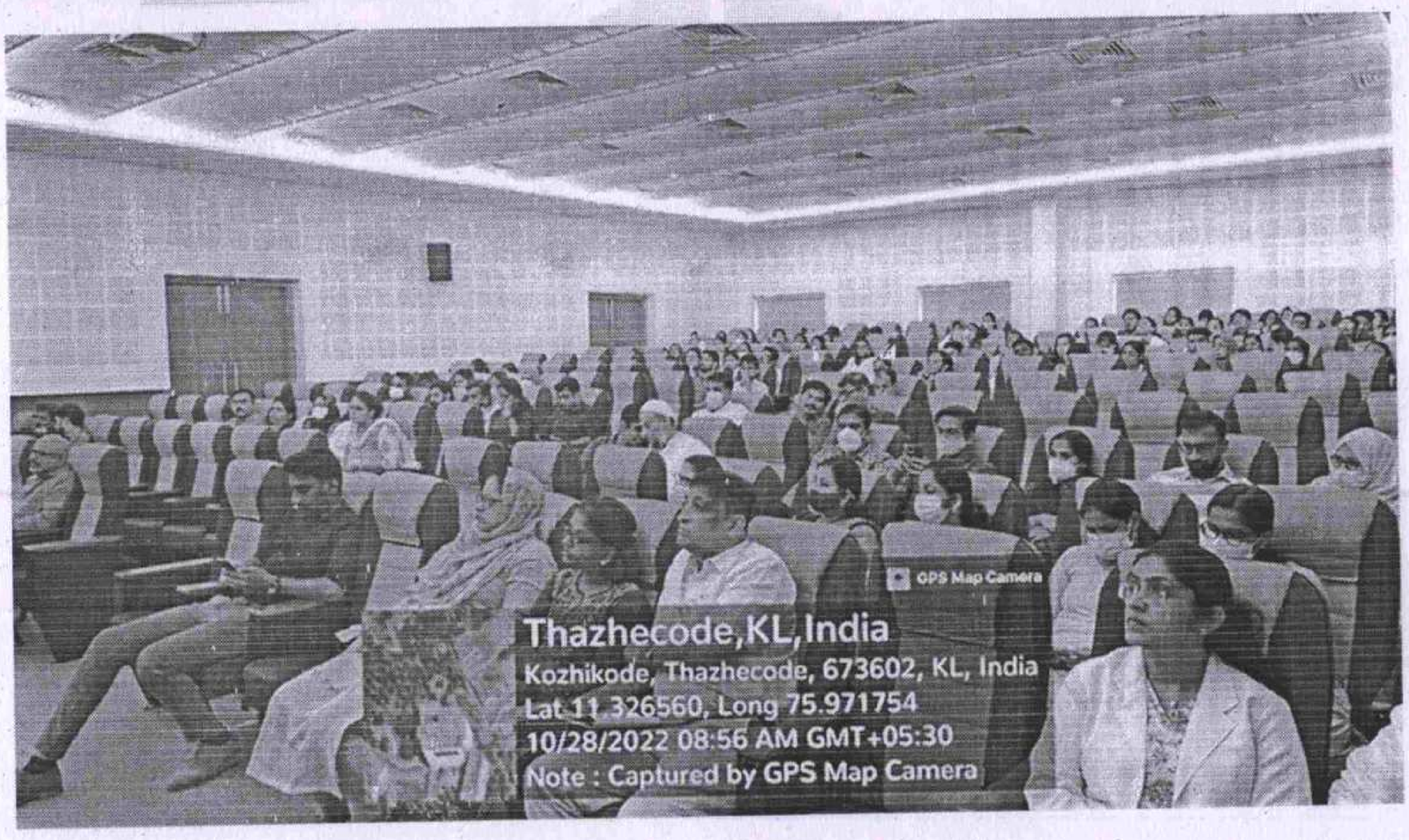
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**Clinic Pathological Club Participation**: The provision to attend and actively participate in the Clinic Pathological Club allows advanced performers to engage in discussions, case studies, and analyses, further enhancing their understanding of clinical scenarios and pathologies.










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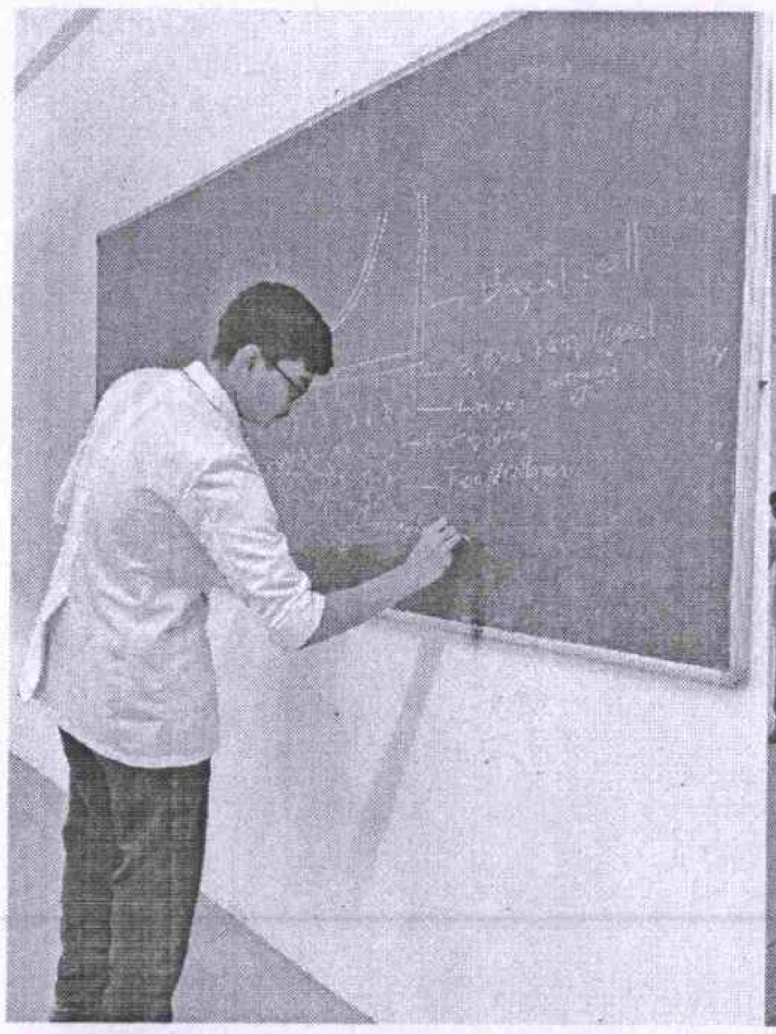
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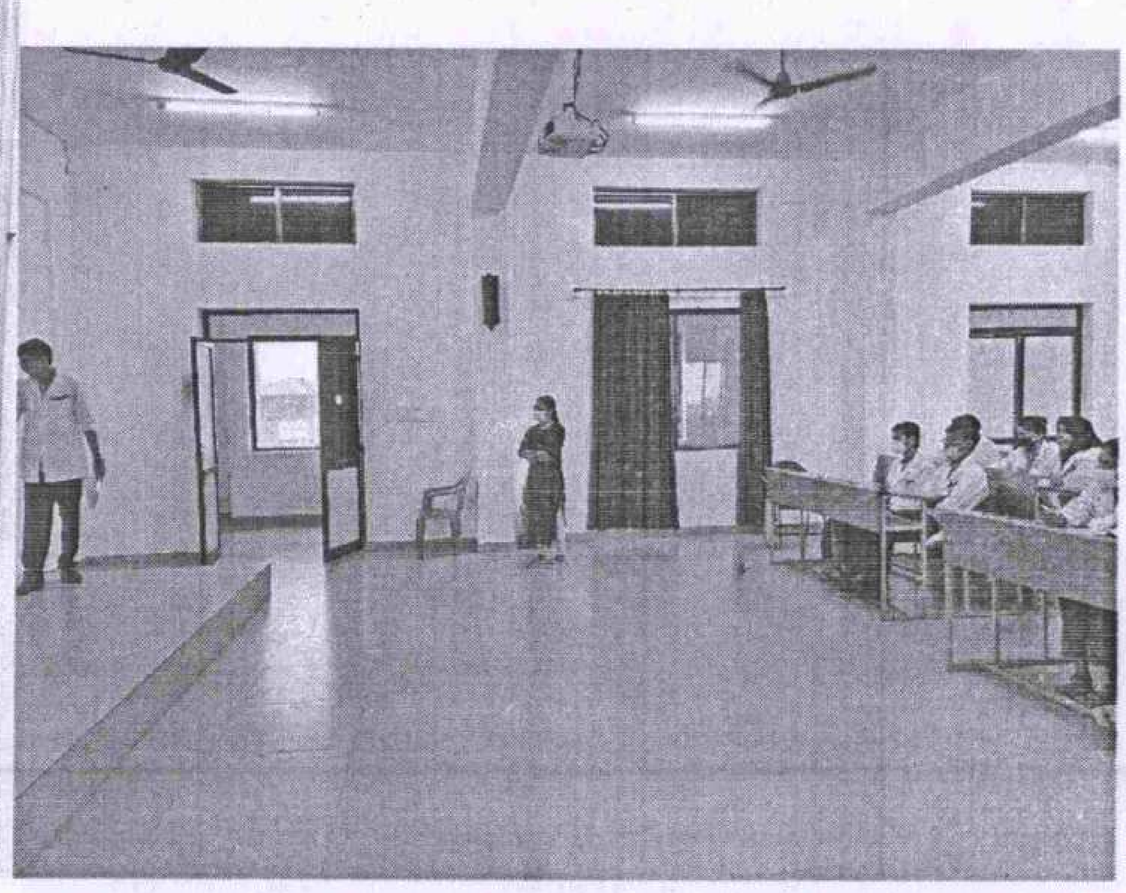
# DEPARTMENT OF ORAL PATHOLOGY & MICROBIOLOGY

## ❖ DETAILS OF SPECIAL PROGRAMS FOR ADVANCED PERFORMERS

- **Seminar presentation:**

Advanced performers are encouraged to deliver seminars on specialized topics. This enhances the deeper learning of the particular topics and develop their presentation and communication skills.



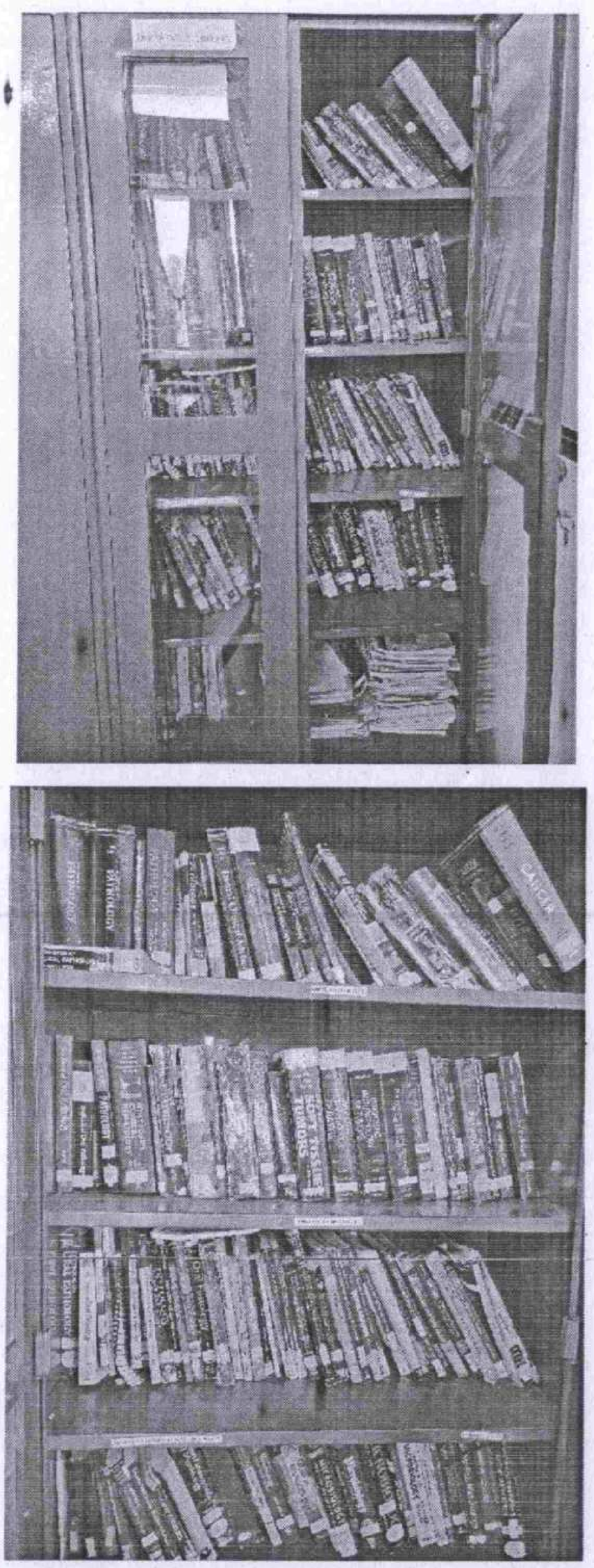


- Seminar presentation with effective illustration of the topic by the student.

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- **Access to additional books, journals and E-Library:**

The department ensures that advanced learners have access to an extensive collection of books, journals and online resources; which enhances the knowledge and deep learning process of them to excel in the subject.



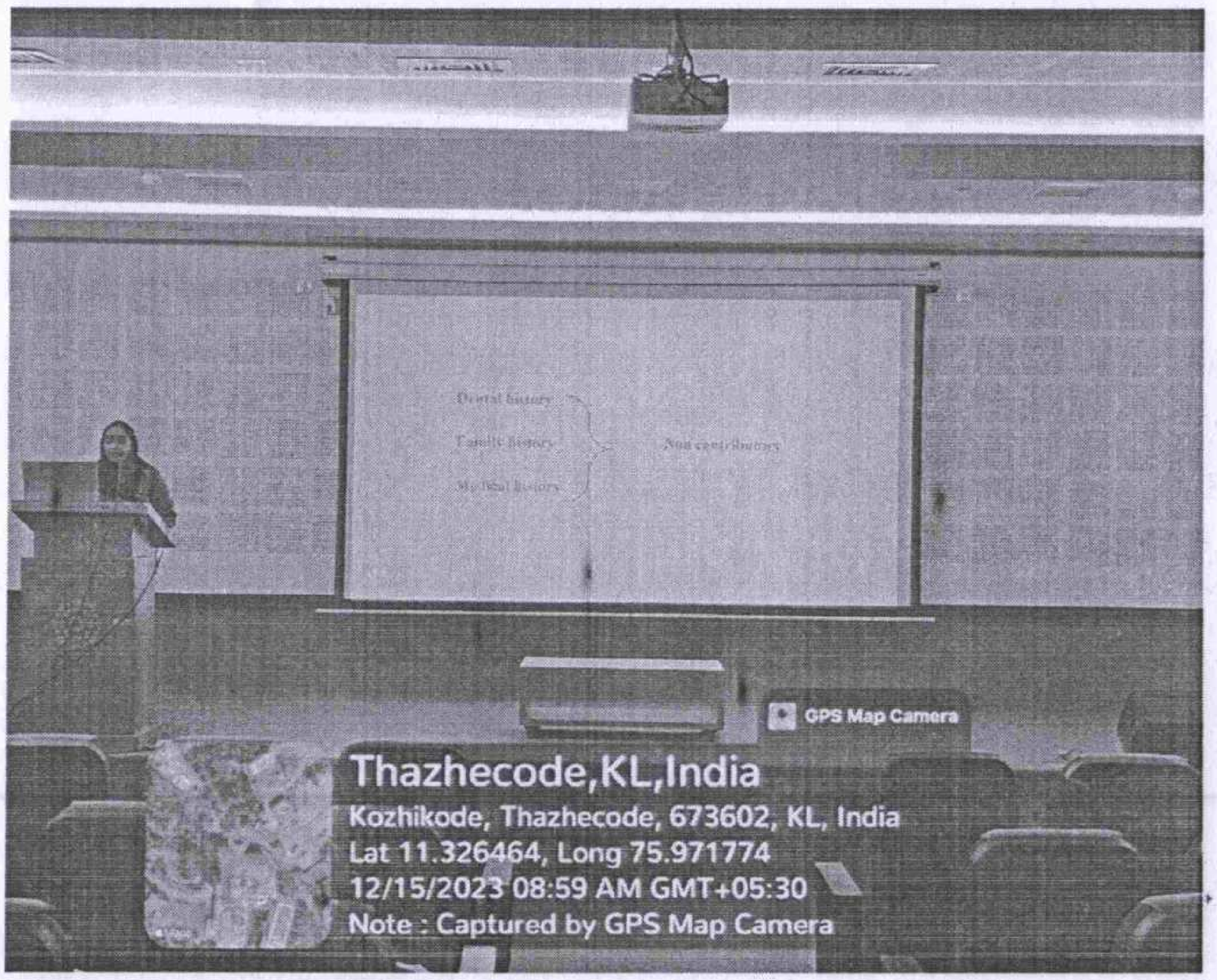
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- **Clinic Pathologic club participation:**

The Provision to attend and actively participate in the Clinic Pathological Club allows advanced performers to engage in discussions, case studies and there giving them an opportunity to showcase their clinical assessment skills and presentation skills, which improves the confidence of the student to participate in similar sessions in the future as well as to improve the learning outcome.




- Case presentation during Clinic Pathological Club by the student.

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# DEPARTMENT OF ORAL & MAXILLOFACIAL SURGERY

## DETAILS OF SPECIAL PROGRAMS FOR ADVANCED LEARNERS

**Undergraduate Workshops**: Skill enhancement worshops were conducted for the advanced learners to sharpen their surgical skills. Experts were assigned to train the students for suturing exercises on meat.



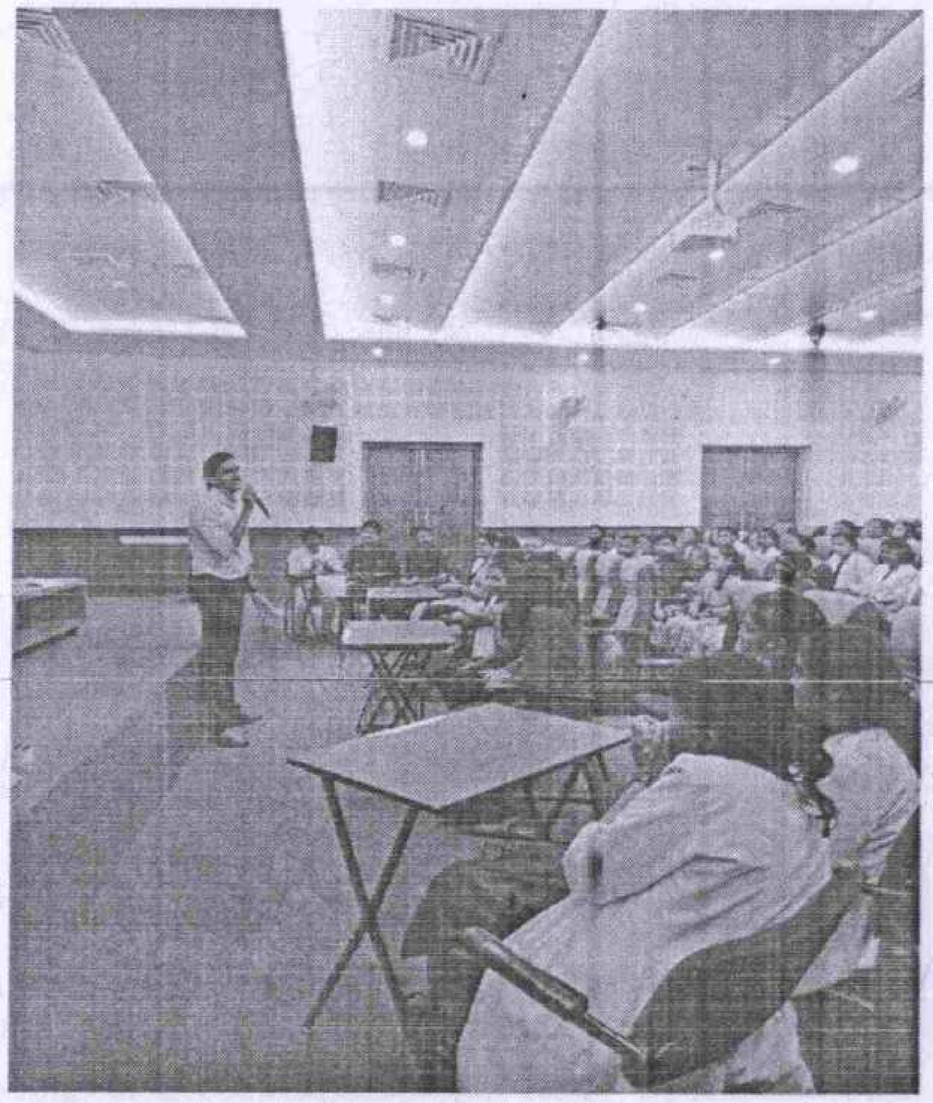



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**Quiz competitions**: Advanced learners were made to participate in Quiz competition conducted by OMFS department. It dealt with advanced basics and advanced concepts in the field of maxillofacial surgery.



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**Exposure to complex Clinical situations and procedures:** The advanced learners awere given the opurtunity to observe Major OT cases and assist Minor OT cases done by staffs and post graduate students.







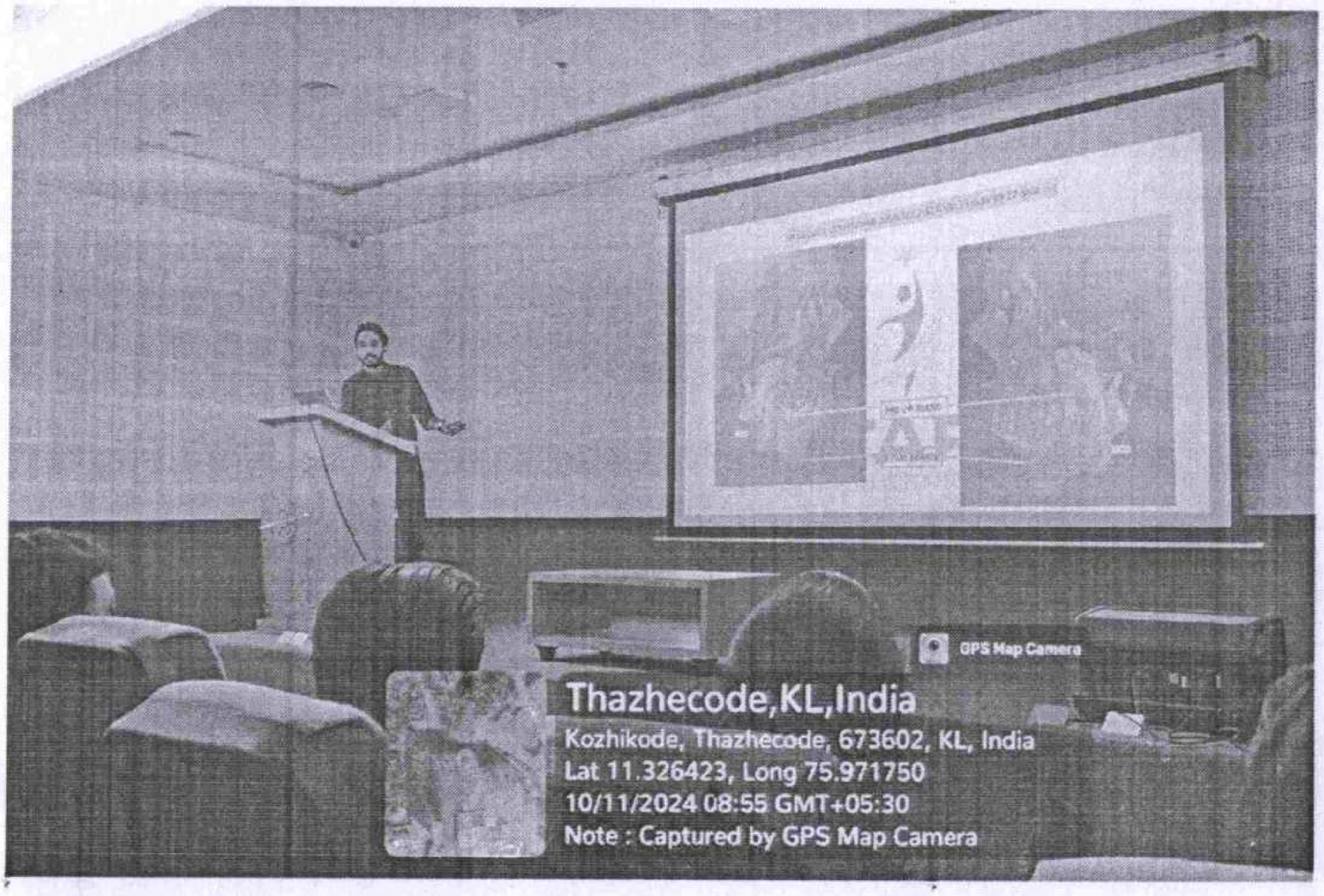
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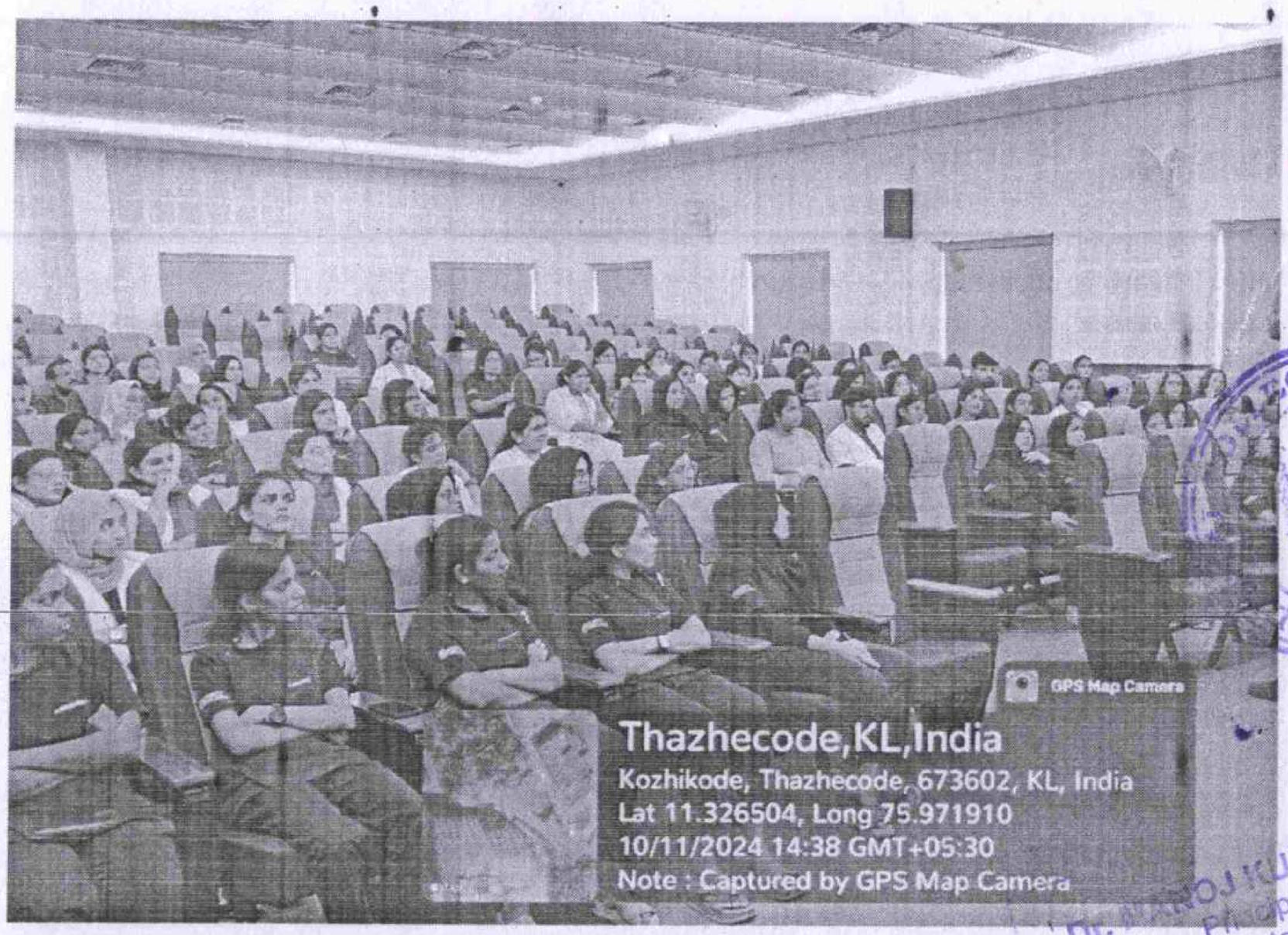


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**Participation in Clinico Pathological Clubs**: In order to build aptitude among the advanced learners, they were made to attend the Clinical club presentations done by post graduate students.




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# DEPARTMENT OF PROSTHODONTICS

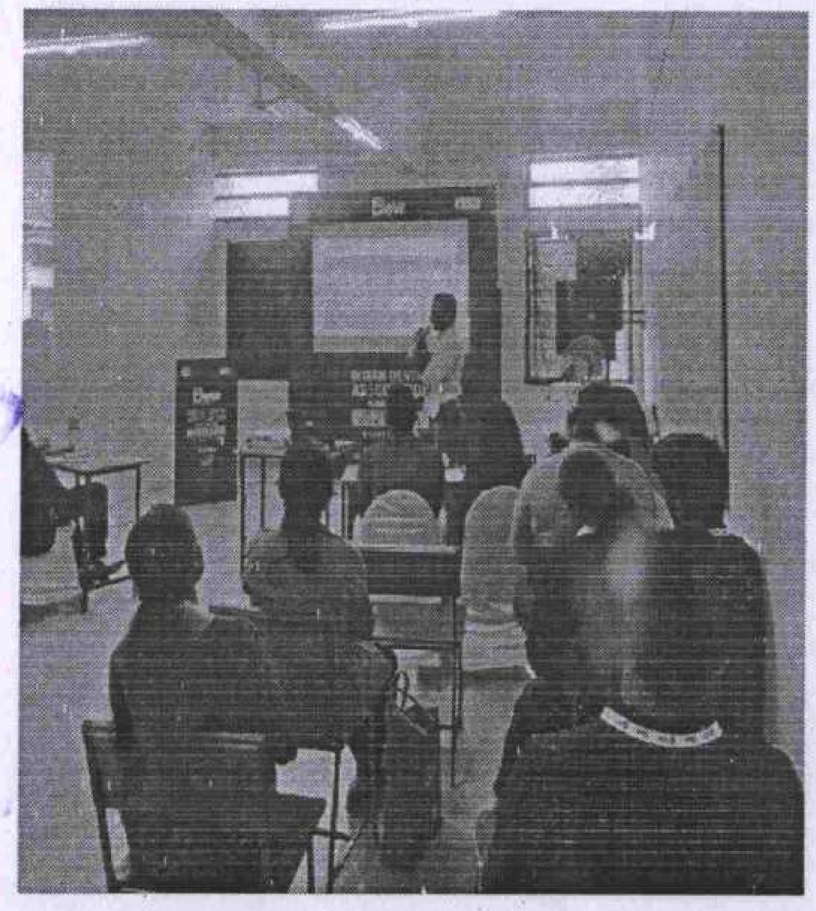
## DETAILS OF SPECIAL PROGRAMS FOR FAST PERFORMERS

**Scienitific Presentations:**

**Topics**

1. Catching rays with smart prosthesis
2. Electromagnetic articulography
3. Control of gag reflex using virtual reality headset in dental procedures
4. Sneak peek into "PEEK"
5. Salivary pacemakers



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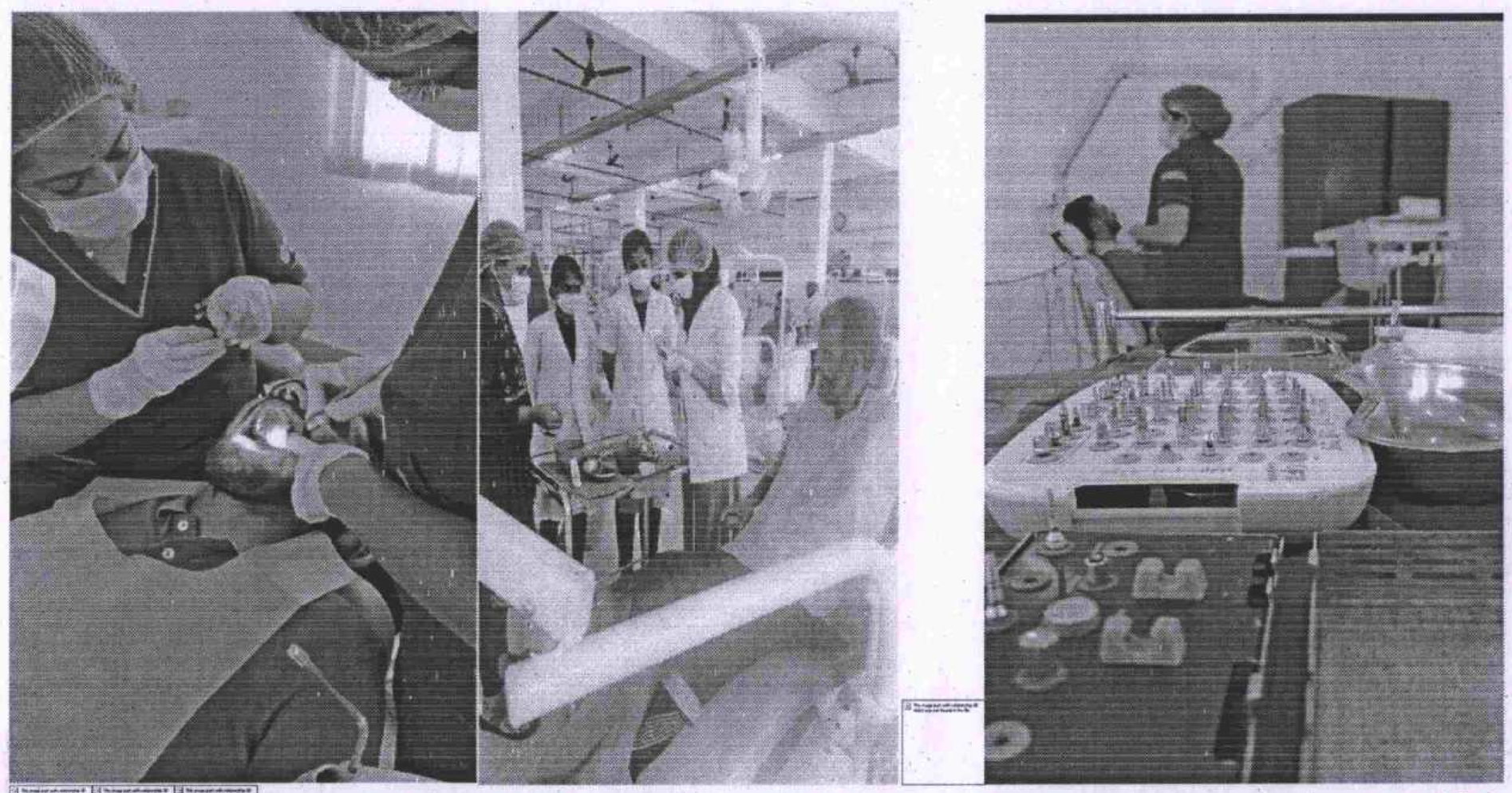
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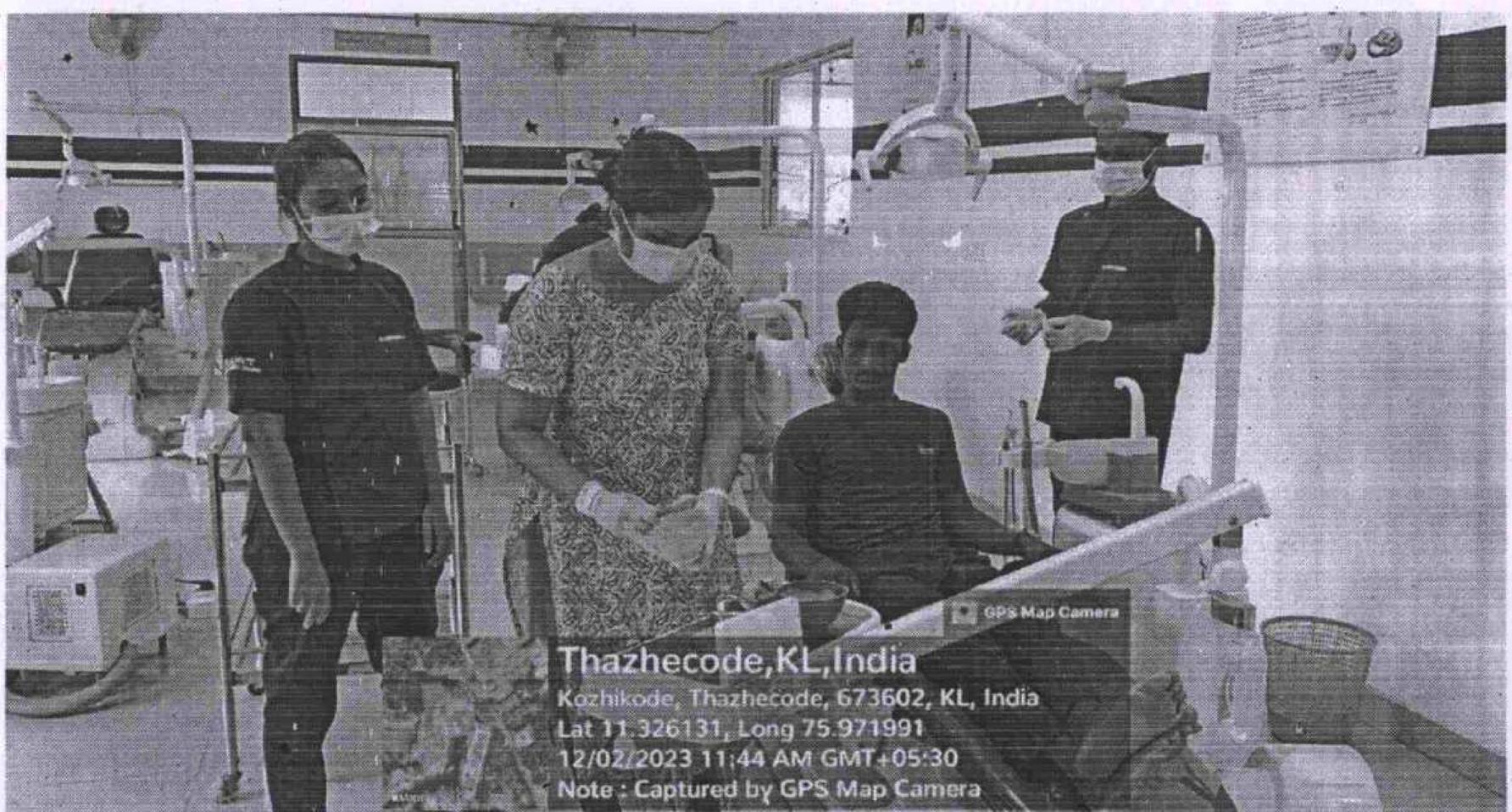
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**Exposure to complex clinical situations**

Advanced learners were given chances to assist post graduates and observe complex clinical cases in PG clinic.






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**Seminar presentations:**

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FINAL YEAR PART I REGULAR BATCH

SEMINAR SCHEDULE

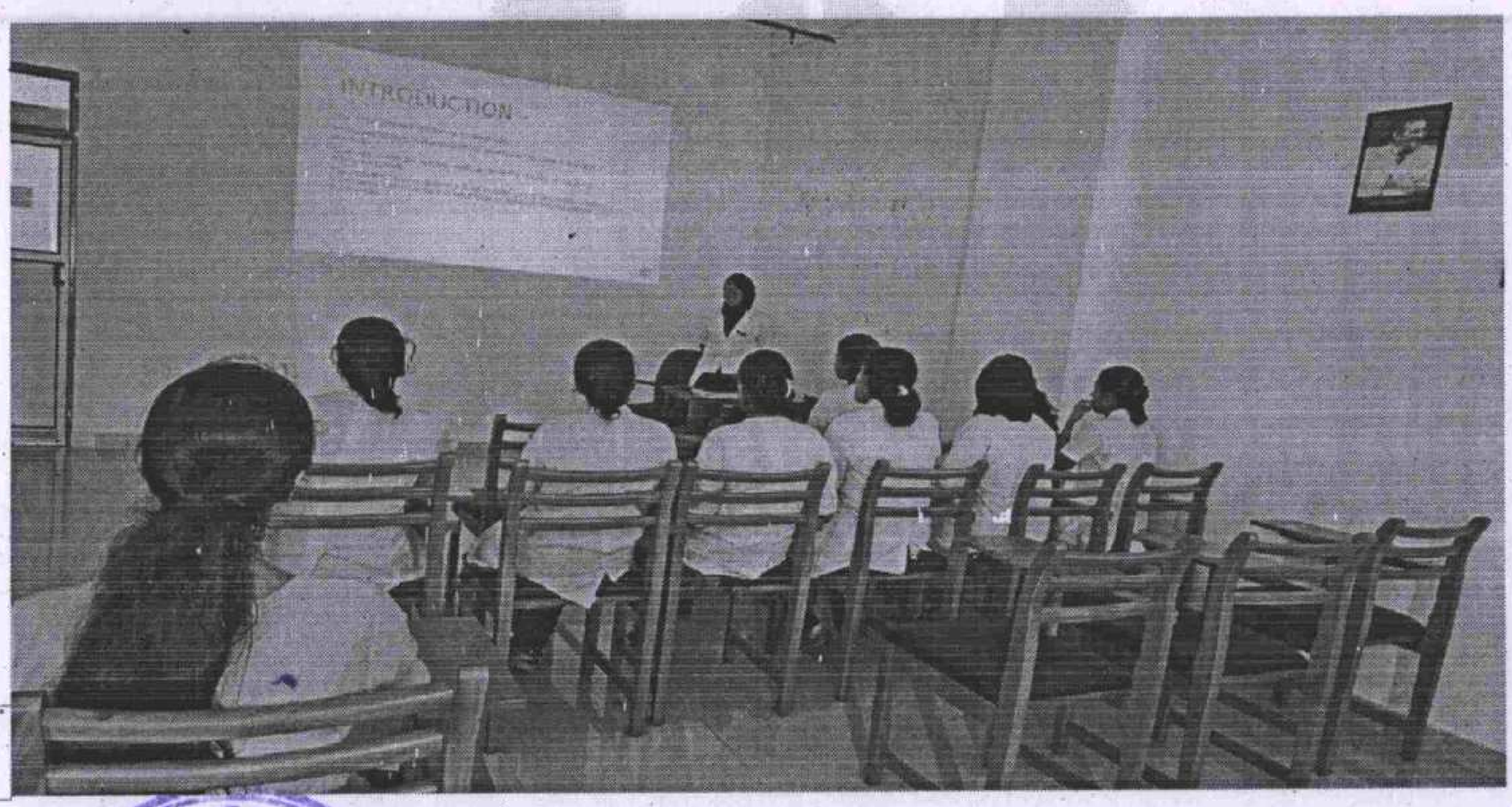
BATCH VI

| SL NO | STUDENTS NAME | TITLE OF SEMINAR | DATE |
|---|---|---|---|
| 1 | RINSHA RAJ UK | BORDER MOULDING | 11-07-23 |
| 2 | RISHIKA | VERTICAL JAW RELATION | 14-07-23 |
| 3 | SANAH BASHEER | TRY IN | 18-07-23 |
| 4 | SANDRA K | MAXILLARY MAJOR CONNECTORS | 31-07-23 |
| 5 | SANJITH SANTHOSH | MANDIBULAR MAJOR CONNECTORS | 02-08-23 |
| 6 | SHIBINI P | POSTERIOR PALATAL SEAL | 31-07-23 |
| 7 | SHIJAS AHMED MCC | REST AND REST SEATS | 29-07-23 |

| SL NO. | EXAM DATE | TOPICS |
|---|---|---|
| 1 | 29-07-23 | SEMINAR TOPICS 1-3 |
| 2 | 03-07-23 | SEMINAR TOPICS 4-7 |

MID POSTING EXAM SCHEDULE

HEAD OF THE DEPARTMENT




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**Special Classes with Subject Experts**: Slow performers attend additional classes conducted by subject experts. These sessions focus on clarifying concepts, addressing doubts, and providing extra guidance on challenging topics.

- **Encouragement of Collaborative Study with Advanced Learners**: Collaborative study groups are formed, pairing slow performers with high-achieving peers. This fosters a supportive learning environment where advanced learners mentor and assist their peers in understanding complex subjects.

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**Rapid Revision and Revision Tests Before University Examinations**: Special revision sessions are organized before exams to quickly recap the syllabus, focusing on key topics Revision tests simulate exam conditions, aiding students in practicing time management.

**Encouraging Reading Books and articles :**To improve comprehension and understanding, students are encouraged to read supplementary materials or textbooks and articles that explain important topics in wider perspectives

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## CLASSIC ARTICLE

# Evaluation of the factors necessary to develop stability in mandibular dentures

**Corwin R. Wright, DDS, MS***
University of Michigan, School of Dentistry, Ann Arbor, Mich

Stability is defined as "The quality of a denture to resist displacement by functional stresses."[1] It is usually the distinguishing factor between success and failure. Patients who possess the so-called "knack" of wearing mandibular dentures will enjoy a certain degree of stability. Those not possessing this "knack" present the dentist with a problem. All of the good that is built into a denture is rather useless to a patient unless he can keep it in position during ordinary oral functions. Building stability into mandibular dentures and teaching patients to take advantage of the quality are often separate problems. Cooperation of the patient will give the best results only when the dentist provides specific supervision.

The stresses causing instability come from many directions and are created during most of the functions of the mouth. The qualities necessary to create and maintain stability are dependent upon the following factors. (1) retention, (2) diagnosis, (3) the functions of the mouth, (4) the denture base outline, (5) the occlusal plane, (6) the arch arrangement, and (7) instruction and education of the patient.

## RETENTION

Retention is defined as "The resistance of a denture

Retention of mandibular dentures depends upon a seal in the same manner as a maxillary denture, but the seal area is not as readily located, and it has considerable movement during ordinary functions of the mouth.

## DIAGNOSIS

The examination of edentulous mouths can provide information necessary to make a diagnosis that will relate directly to the retention and stability of mandibular dentures. Many examination charts become too involved in details that have little or no direct significance in either the construction or prognosis of the finished dentures. However, there are some conditions that either affect one's ability to construct a satisfactory denture or limit the ability of a patient to adjust to a mandibular denture. Successful mandibular denture service depends to a large extent on the patient's ability to wear dentures. The question is how one can determine by an examination of the edentulous mouth who has and who does not have this so-called "knack" of handling a mandibular denture. Patients who have a normal tongue position are those who have a set of conditions that are conducive to the retention of the mandibular denture. Those who have a retracted tongue position lack the ability to de-

# EDENTULOUS IMPRESSION PROCEDURES FOR MAXIMUM RETENTION AND STABILITY

SAMUEL FRIEDMAN, D.D.S.*

*New York University, College of Dentistry, New York, N. Y.*

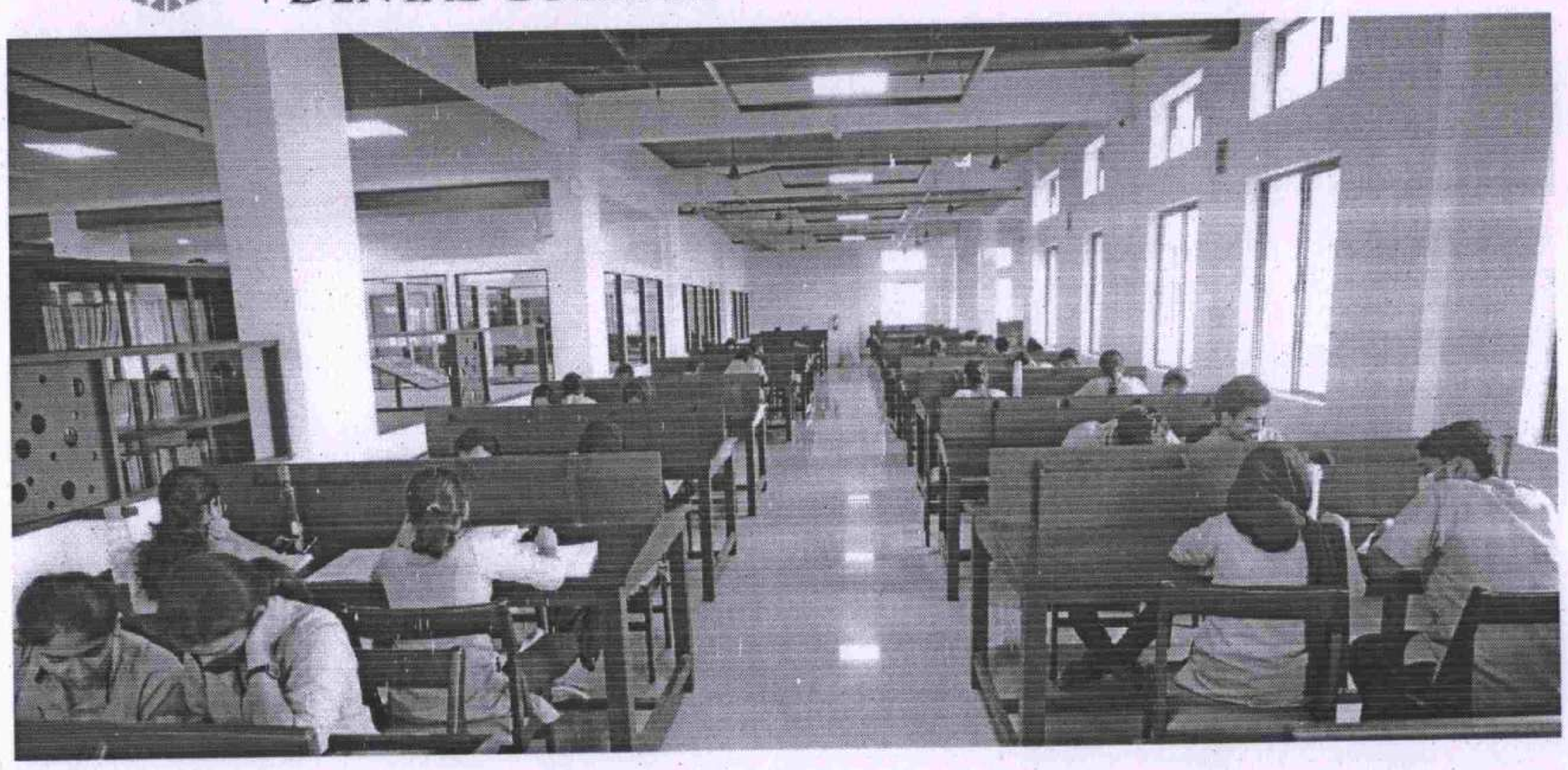
THE COMPLETE DENTURE PROBLEM poses a perpetual challenge to both the general practitioner and the prosthodontist. Its successful resolution depends upon many factors. The dentist's knowledge and possession of the necessary technical skills, plus the patient's willingness and capacity to persevere and master the use of well-constructed dentures are factors of major consideration, and vital to the ultimate result. The importance of a definite understanding with every patient prior to undertaking the construction of dentures cannot be overemphasized.

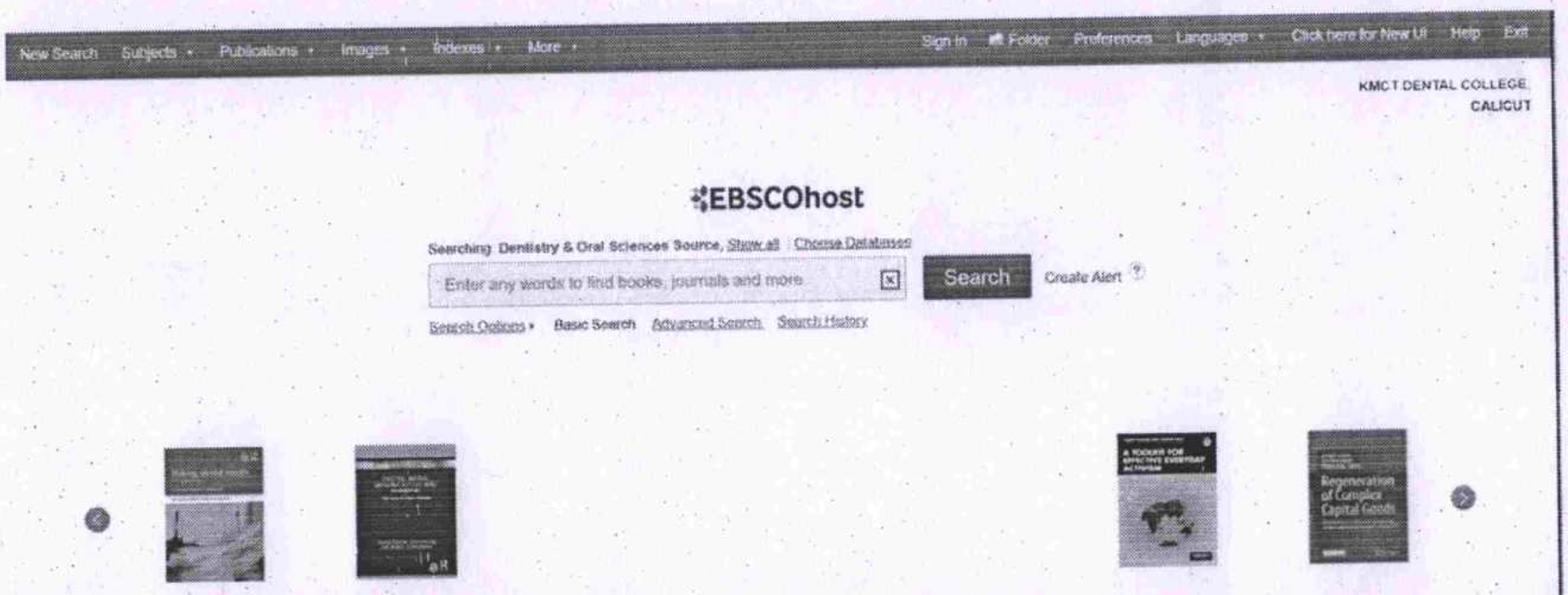
The attainment of maximum chewing efficiency[1] is a cardinal objective of the entire prosthetic procedure. For its realization, the procurement of maximum retention and stability without detriment to the underlying foundations is imperative.

Retention implies the power to counteract displacement in a direction immediately opposite the path of insertion.[2] It depends upon the forces of adhesion, cohesion, and atmospheric pressure.

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College is providing EBSCO access to the students. They can log in and access multiple aricles and textbook through this service.

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# DEPARTMENT OF PERIODONTOLOGY

# SPECIAL PROGRAMS FOR ADVANCED LEARNERS

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**Scientific presentations**

**Report**

Advanced learners are allowed to participate in scientific presentations to develop effective collaboration between researchers, clinicians to develop and translate new technologies and treatments. Students can share their ideas, research and findings with others. Active participation of students in scientific presentations emphasises their engagement, enthusiasm and contributions to the academic community.

This active participation demonstrates

- Increased confidence
- Critical thinking and analysis
- Effective communication
- Collaboration and team work
- Enthusiasm and motivation.
- Development of important skills
- Enhanced learning and engagement
- Improved academic performance.

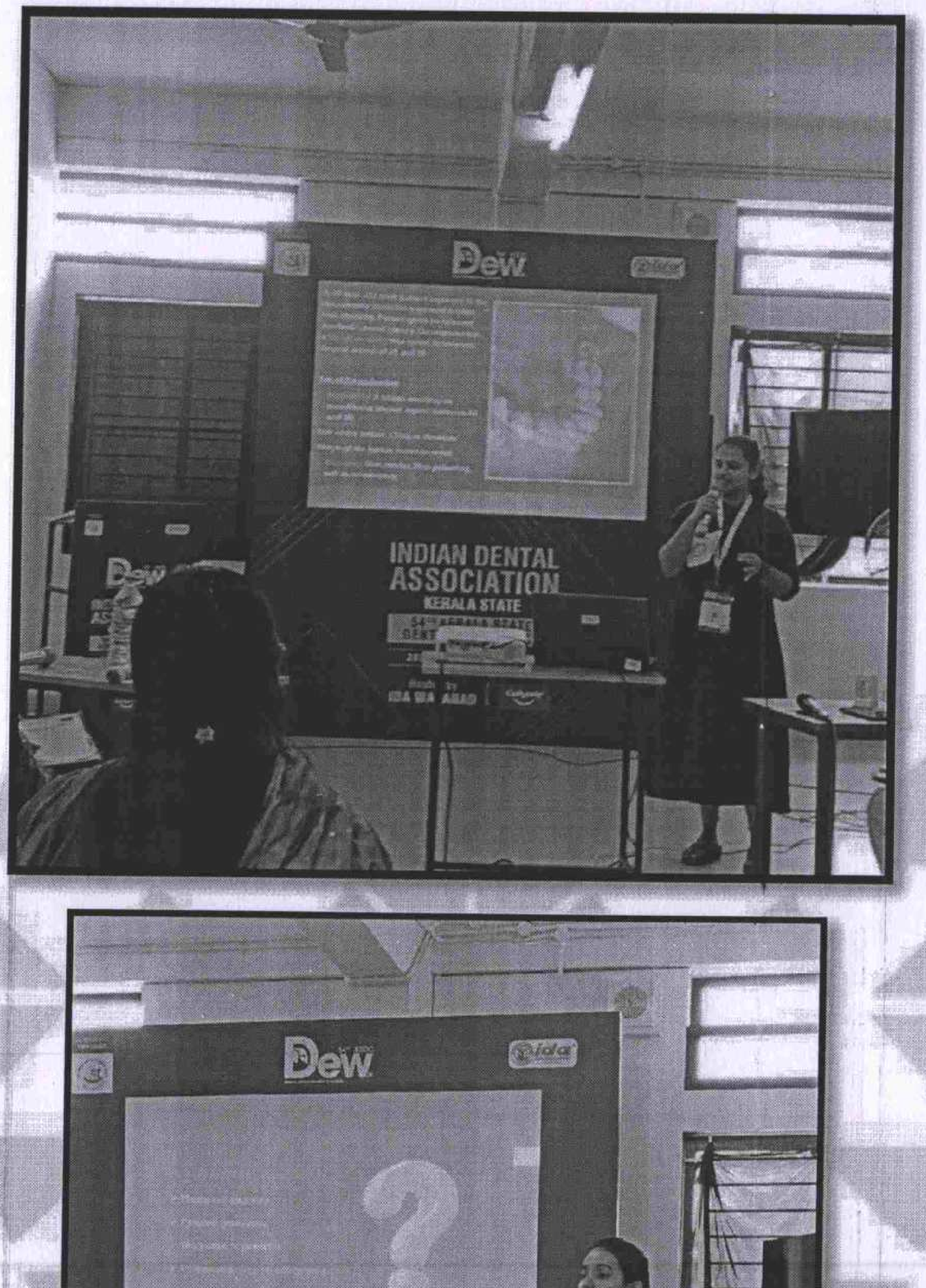
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**Undergraduate conferences and workshops:**

Special provisions are made for the students so that they engage with professionals, academicians and peers in their field, fostering learning, networking and skill development. The active participation of students in conferences and workshops has numerous advantages as:

- **Enhanced learning**
- **Improved communication**
- **Improving presentation skills**
- **Increased motivation and skills**
- **Professional developments.**

Its mandatory and our responsibility to encourage and support student participation in conferences and workshops which provides opportunities for them to learn, grow and succeed



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**Participation in research projects and publications**

Advanced learners actively involve in research projects under the guidance of faculty. Active participation of students in research projects under the mentorship of faculty emphasizes on the engagement, enthusiasm and contributions to academic and research community.

This active participation of students in research projects brings in following advantages:

- **Enhanced learning and understanding**
- **Development of research skills**
- **Increased motivation and engagement**
- **Career opportunities**
- **Contribution to knowledge.**

| Sl no | Name of the study | Investigators | Guide |
|---|---|---|---|
| 1 | Awareness and knowledge of periodontal, plastic and esthetic surgery among house surgeons ;An online survey | Suha ,<br>Sneha<br>,Smiya | Dr.NAVIA GEORGE |
| 2 | Prevalence of chronic periodontitis in individuals diagnosed with dementia:A hospital based cross sectional study | Navia L | Dr.Harish Kumar |
| 3 | Knowledge and practices about expired ,unused medicines among pharmacist healthcare providers and general population in Kozhikode district,kerala | Soorya TK | Dr.Sruthi VG |

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## Exposure to complex clinical situations and procedures

**Report**

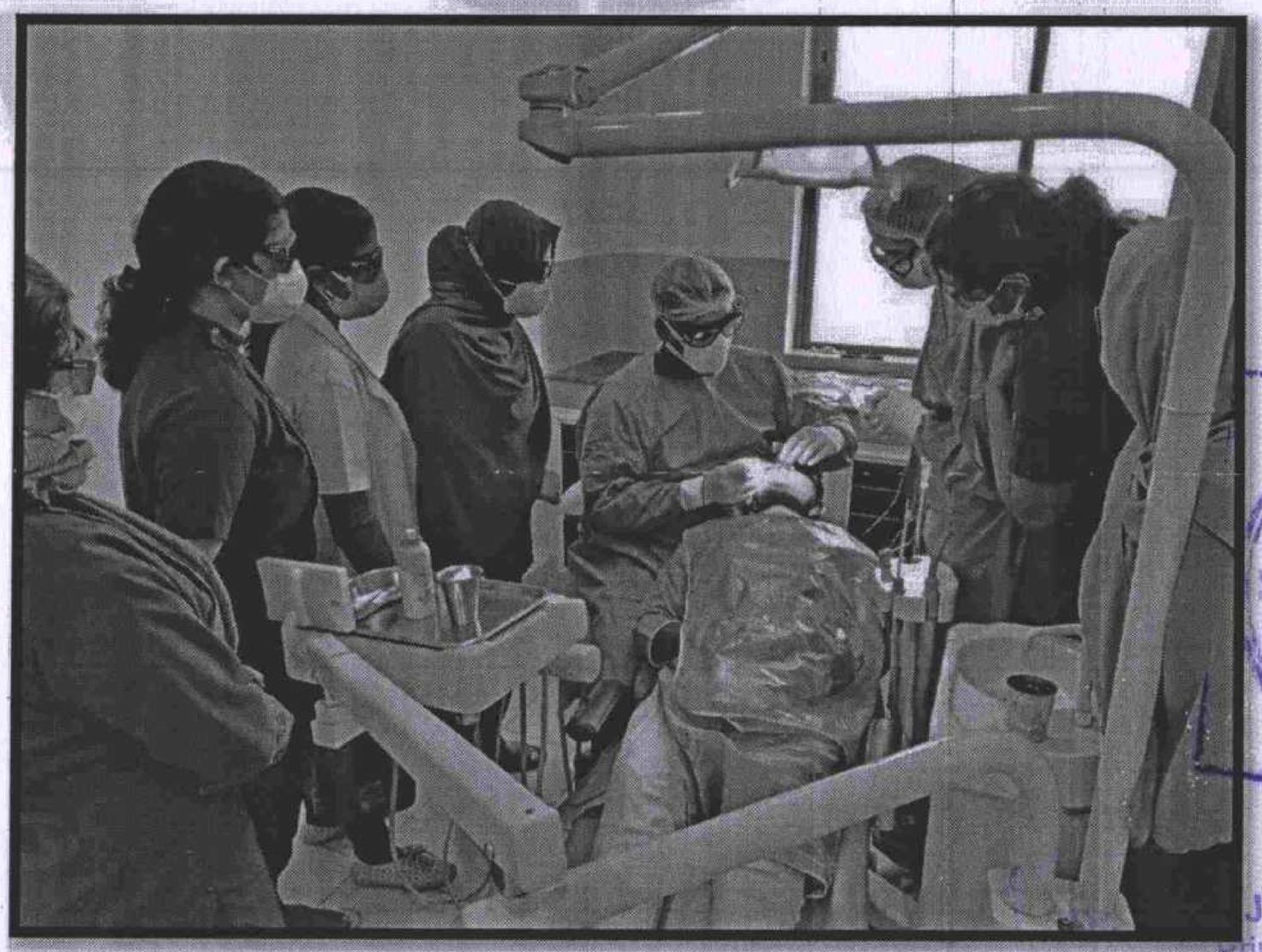
Students are allowed to observe periodontal cases which is necessary for them to equip knowledge, skill and confidence to handle challenging cases and scenarios in their future careers.

Students were exposed to a wide range of complex situations and procedures like:

- **Complex periodontal cases.**
- **Advanced surgical procedures**
- **Emergency situations**
- **Multidisciplinary care**
- **Case management.**

This act enhances clinical skills, increases confidence, improved critical thinking, better patient care and prepare students confidently for future careers.

Providing mentorship, encouraging critical thinking and evaluation of student performance provide positive reinforcement among students



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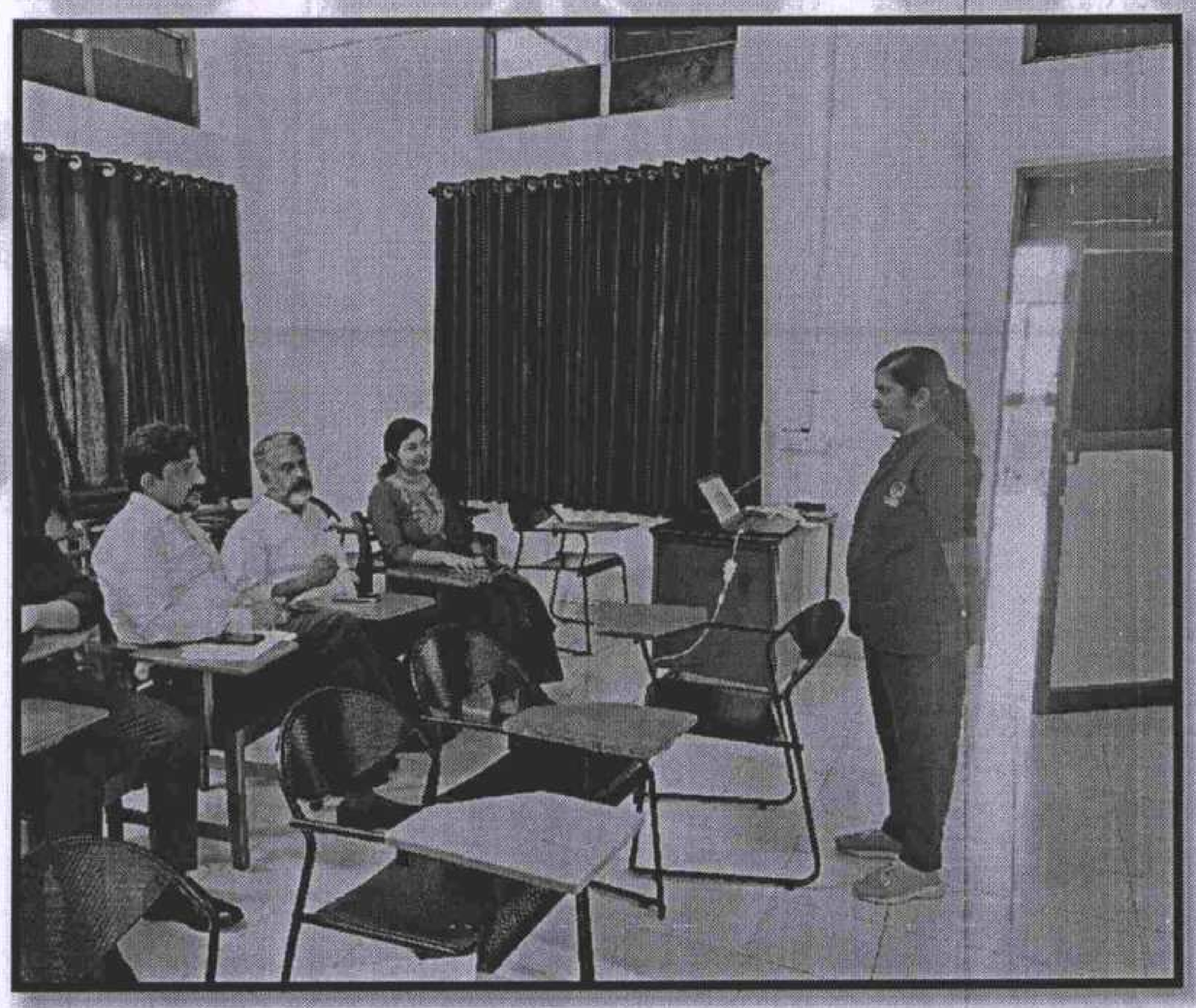
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**Seminar presentations**

**REPORT**

Part of the curriculum demands students to present seminars on various topics related to the field of interest. The seminar presentation allows students to demonstrate their knowledge, understanding and communication skills. Best seminar award is given based on the assessment criteria.

- Assessing criteria:
  - **Completeness of preparation**
  - **Ability to answer questions**
  - **Knowledge in the topics**
  - **Skill in presentation**
  - **Proper utilization of audio-visual aids**



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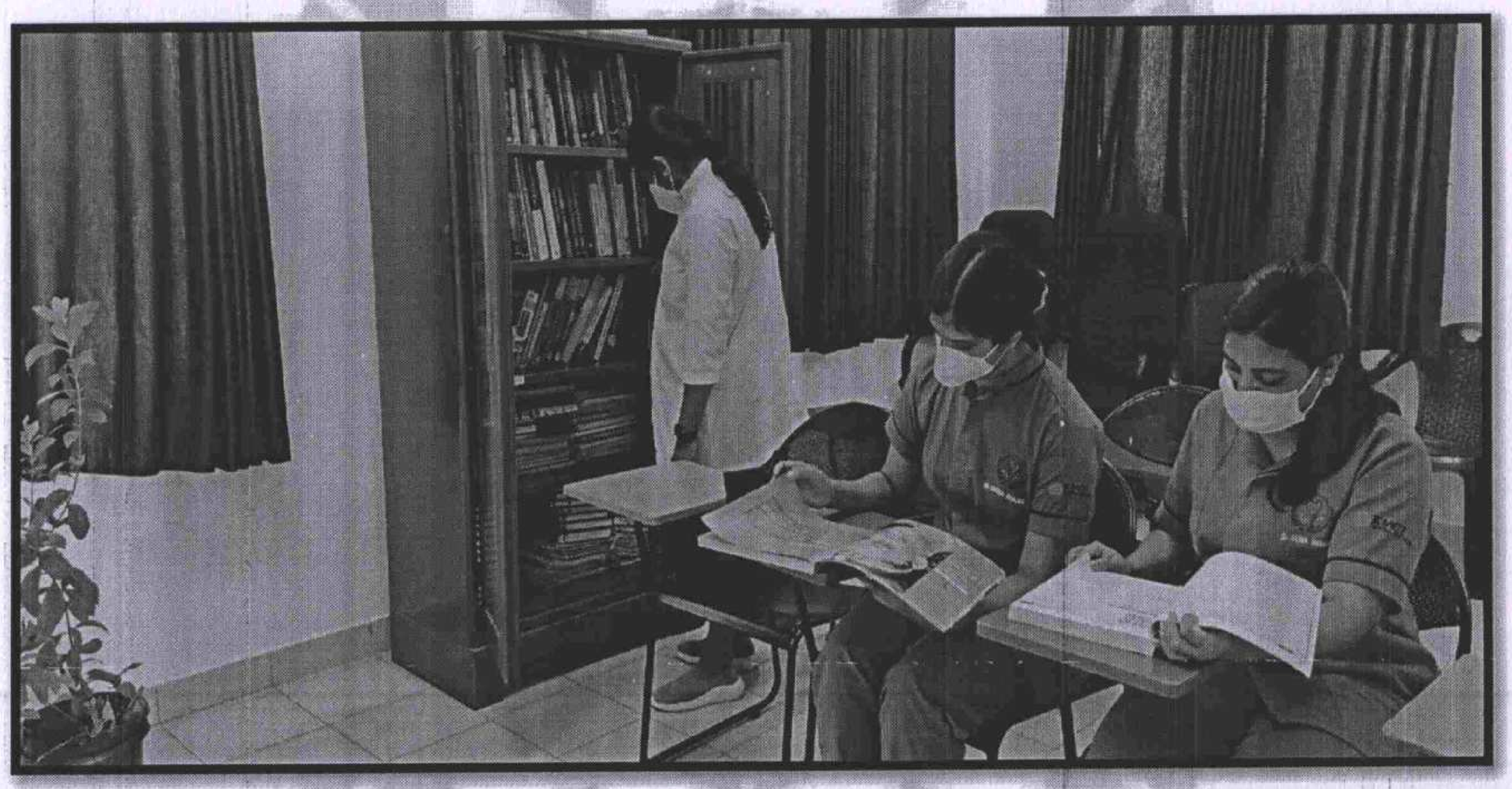
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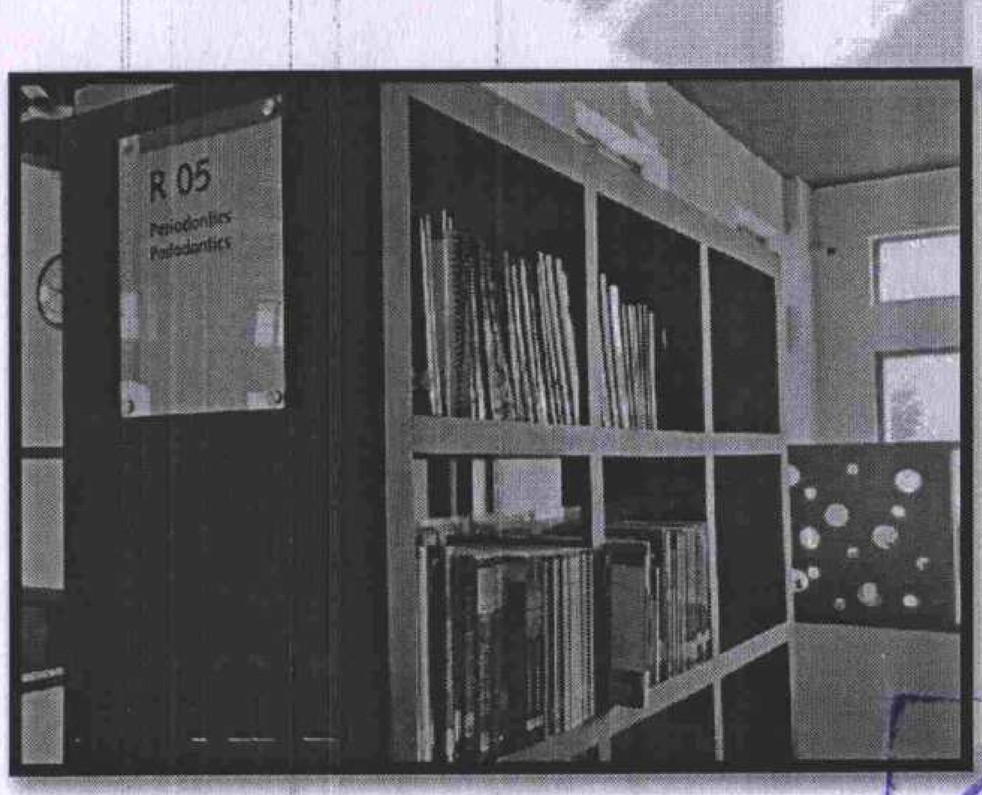
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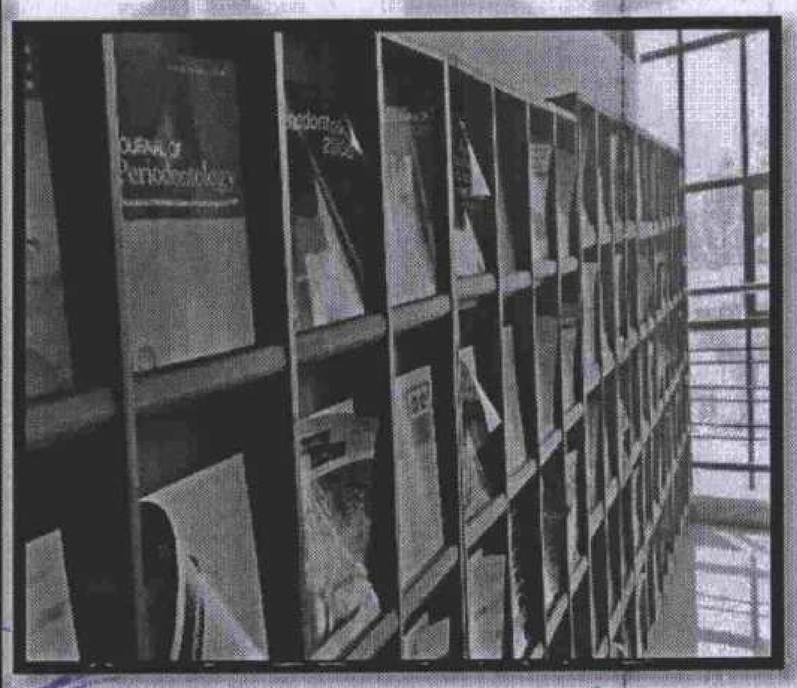
## Access to additional books, journals and E-library

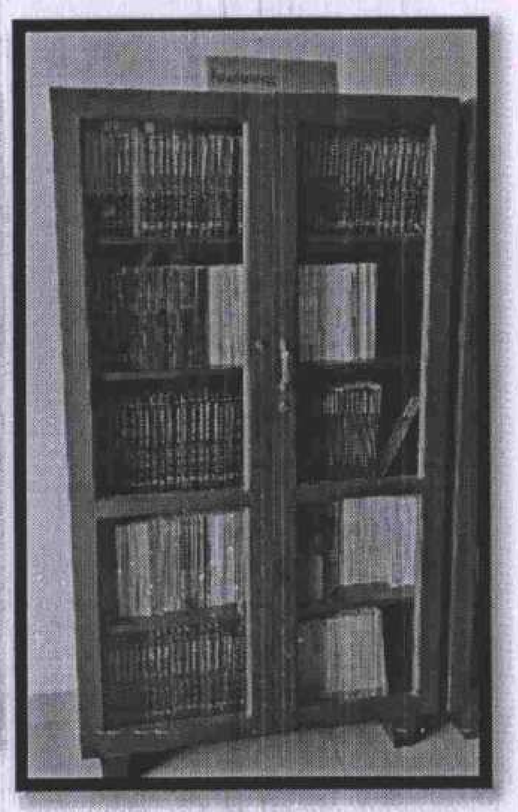
**REPORT**

College ensures that students have ample access to extensive collection of books, journals and online resources which provide them with comprehensive materials to span their knowledge beyond the standard curriculum









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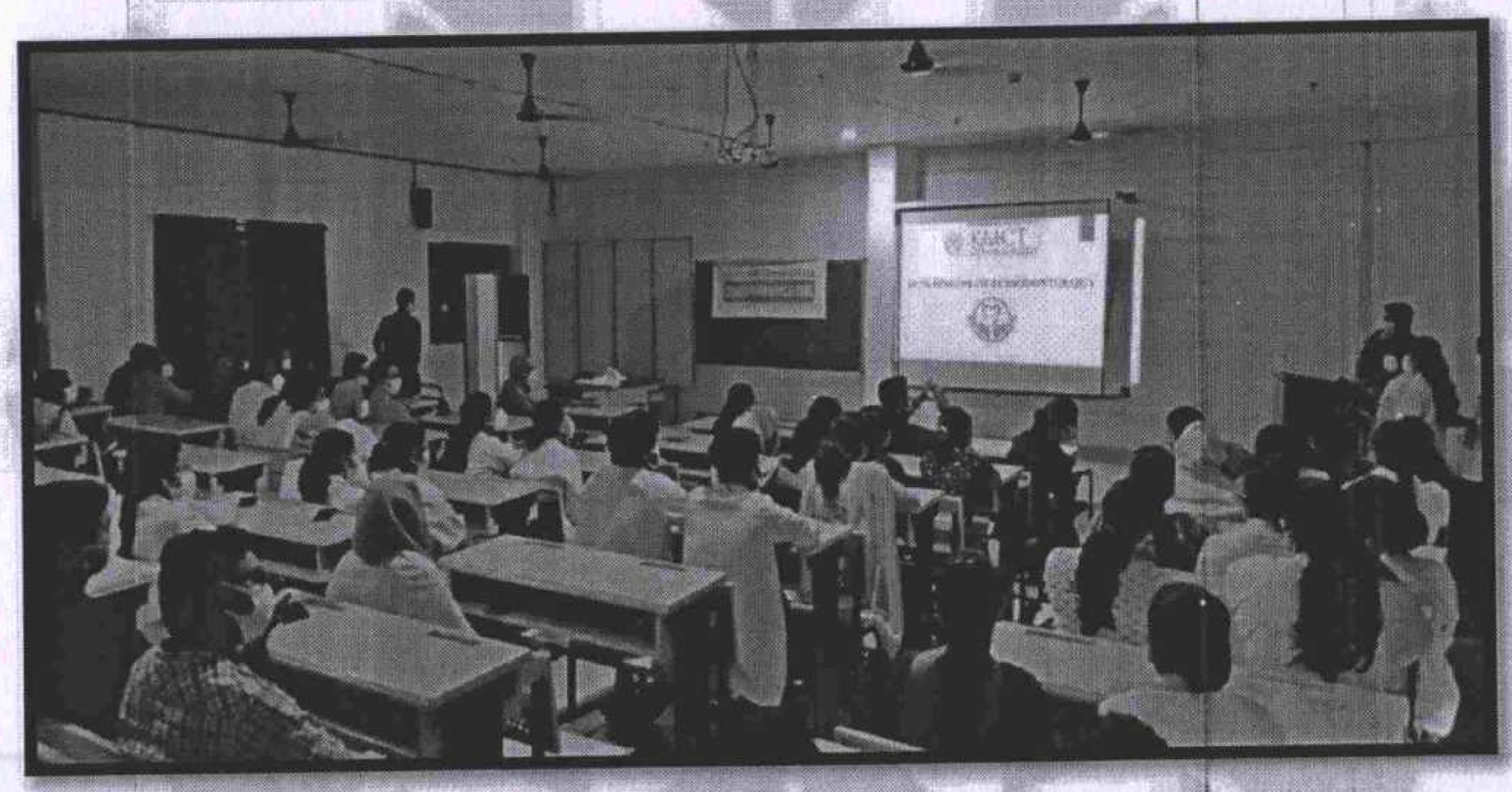
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## CLINICAL PATHOLOGICAL CLUB PARTICIPATIONS

**REPORT**

Being a vital component of medical education, provides a platform for healthcare professionals to discuss and learn from complex clinical cases.

Case presentations. group discussions, interactive sessions improve the knowledge, critical thinking which help them to provide a platform for discussion, learning and professional development.



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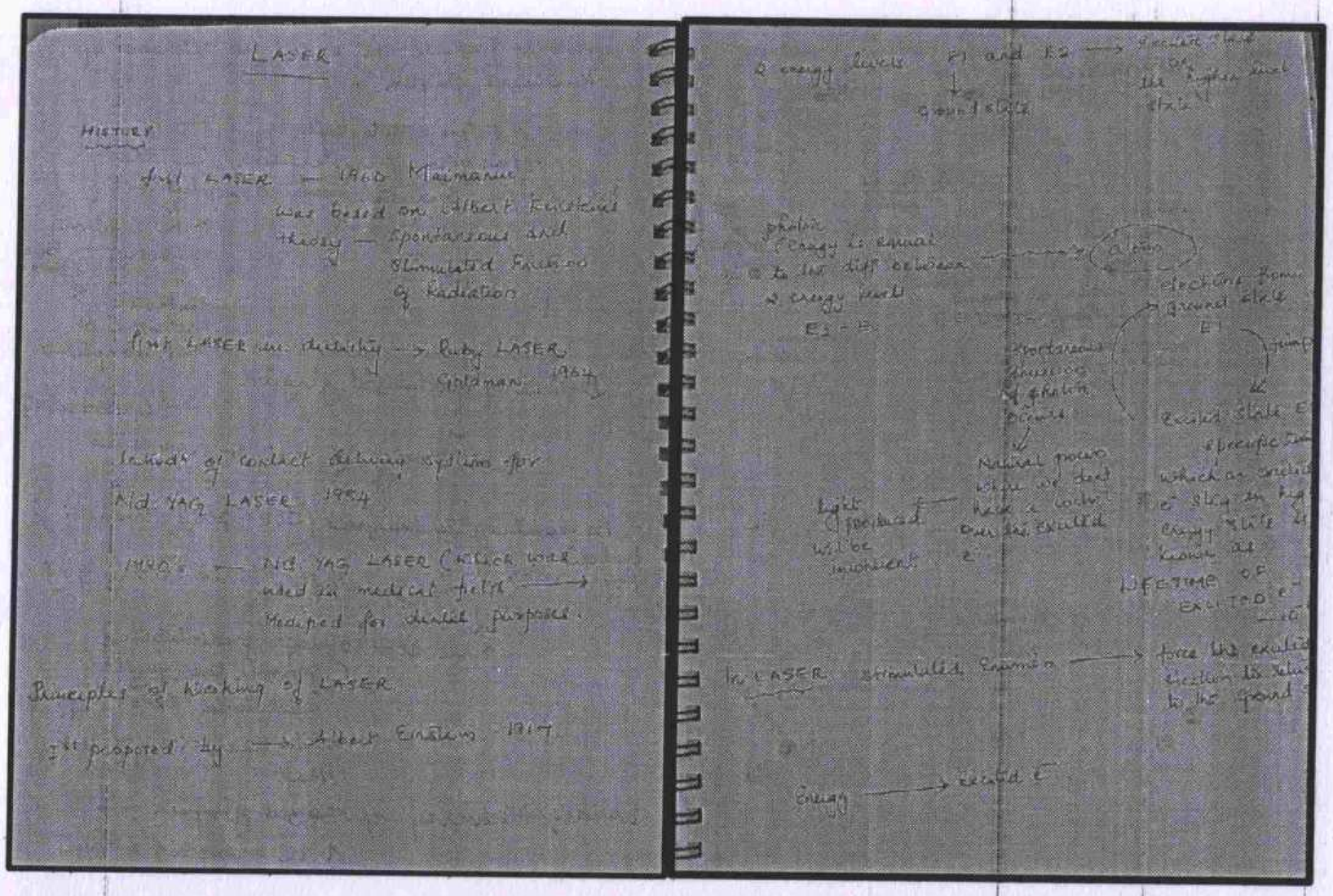


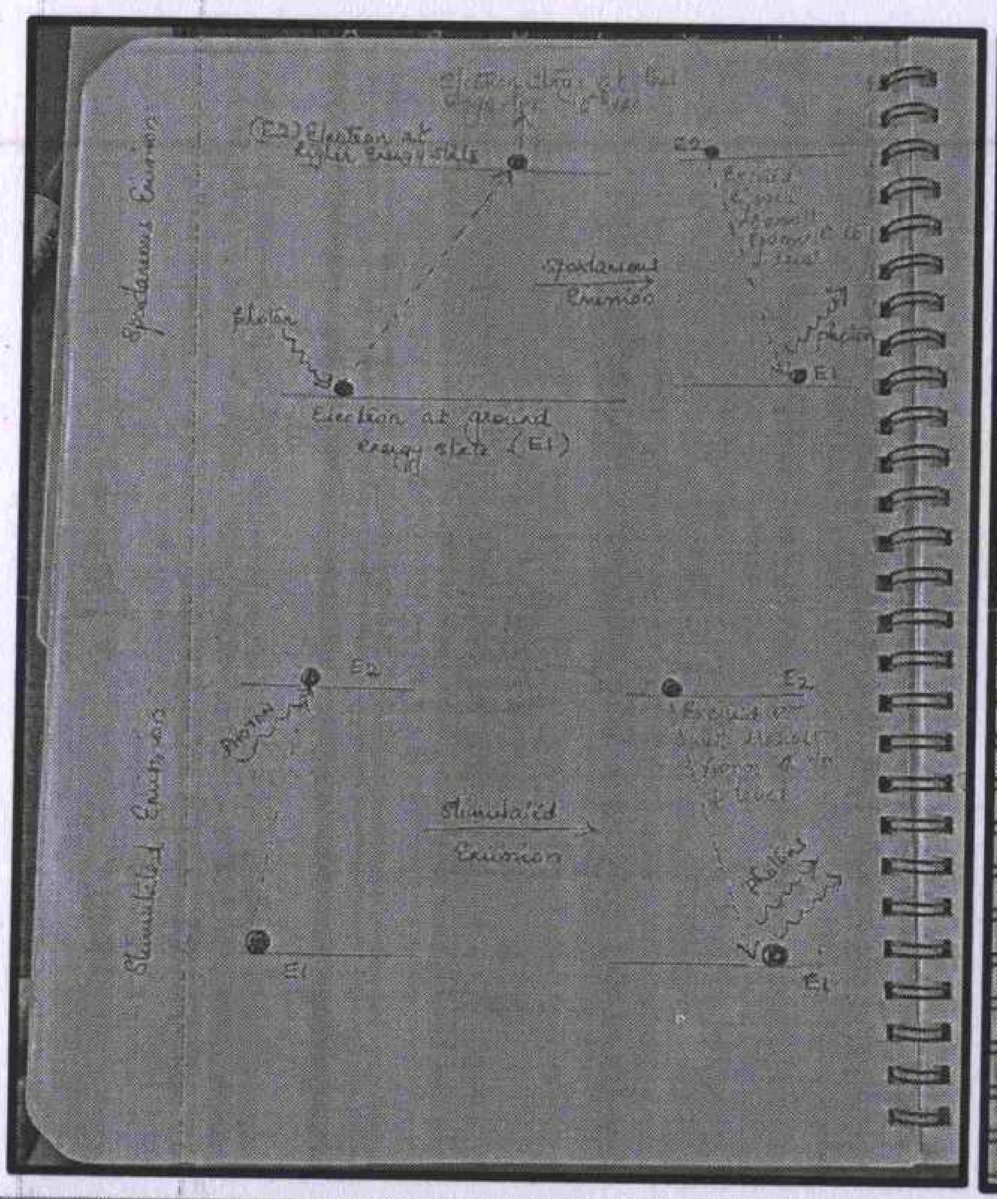
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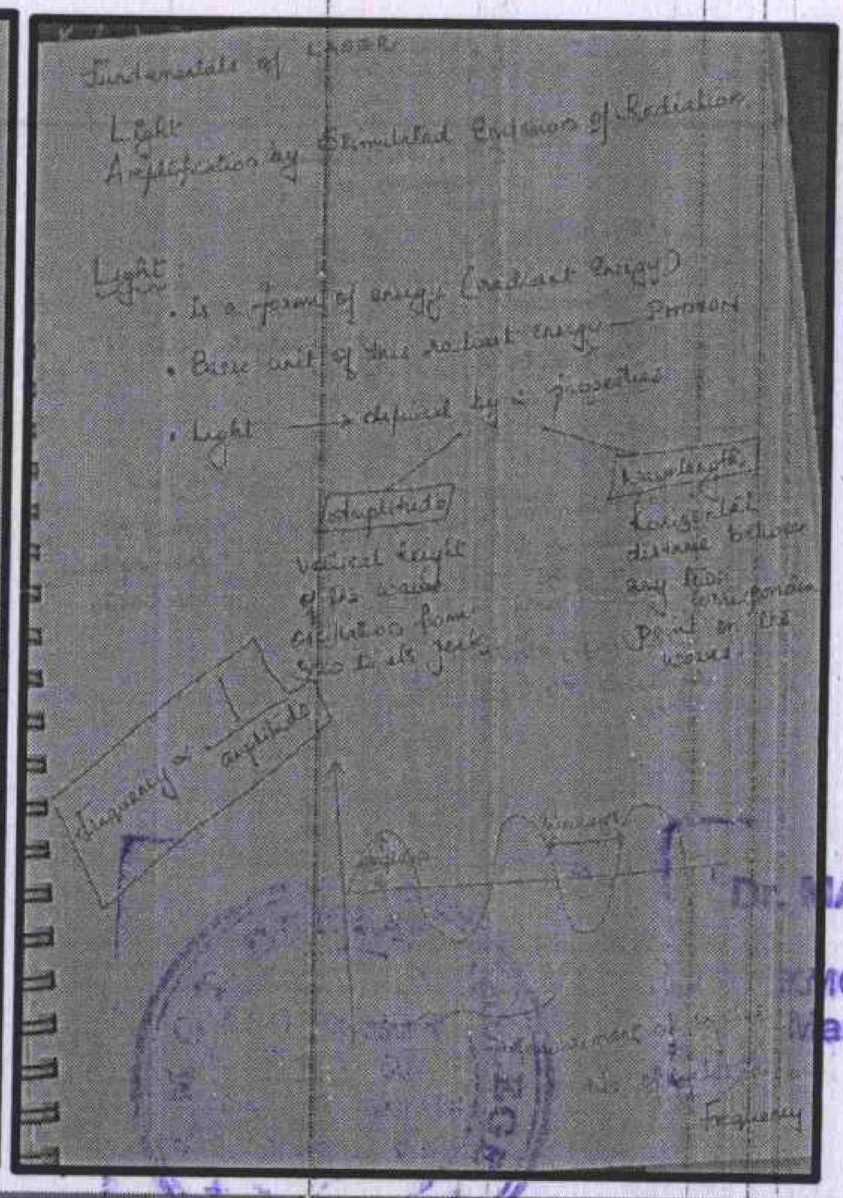
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**Provision of Special Notes:**

- Proficient study materials, with simplified notes and summaries, are provided to slow performers helping them in skilled learning and mastering how to reciprocate the same in exams.



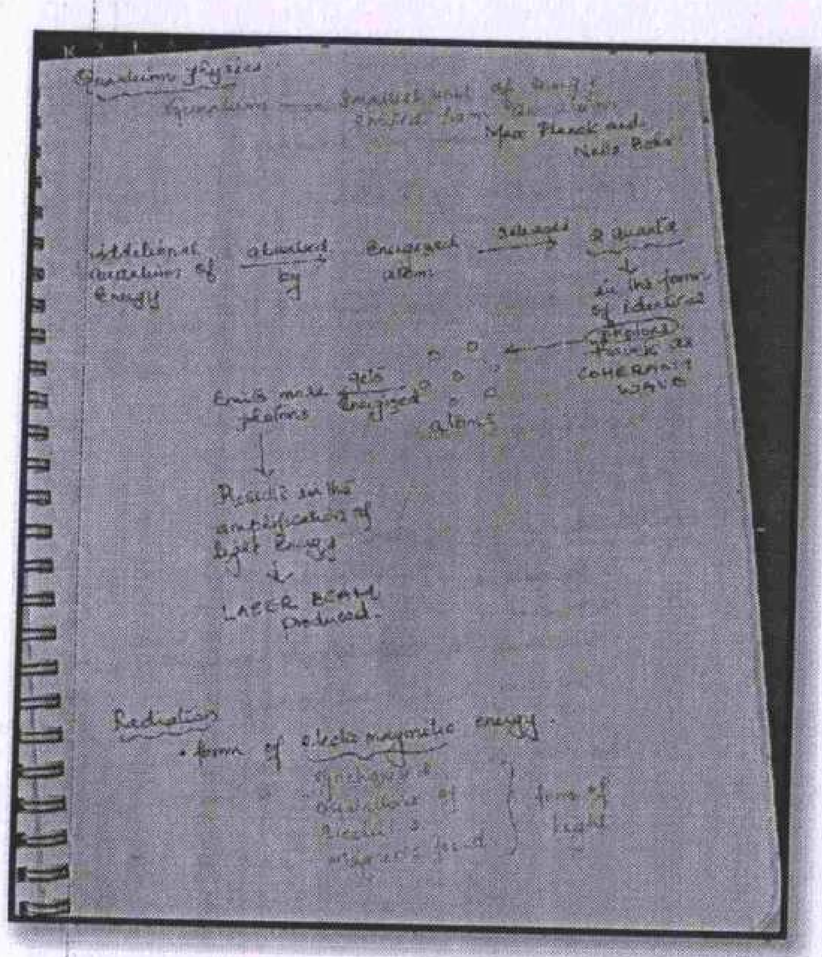



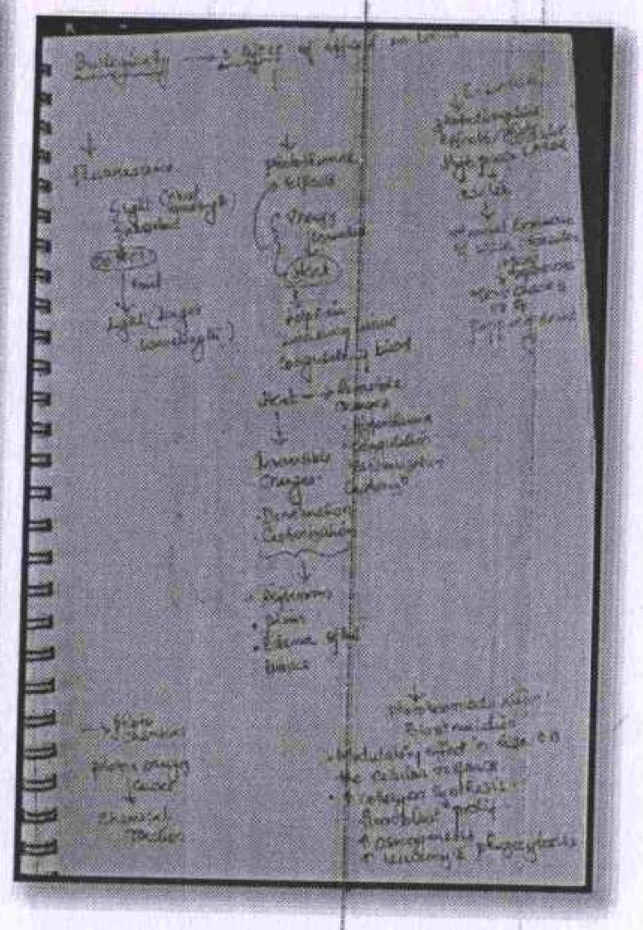

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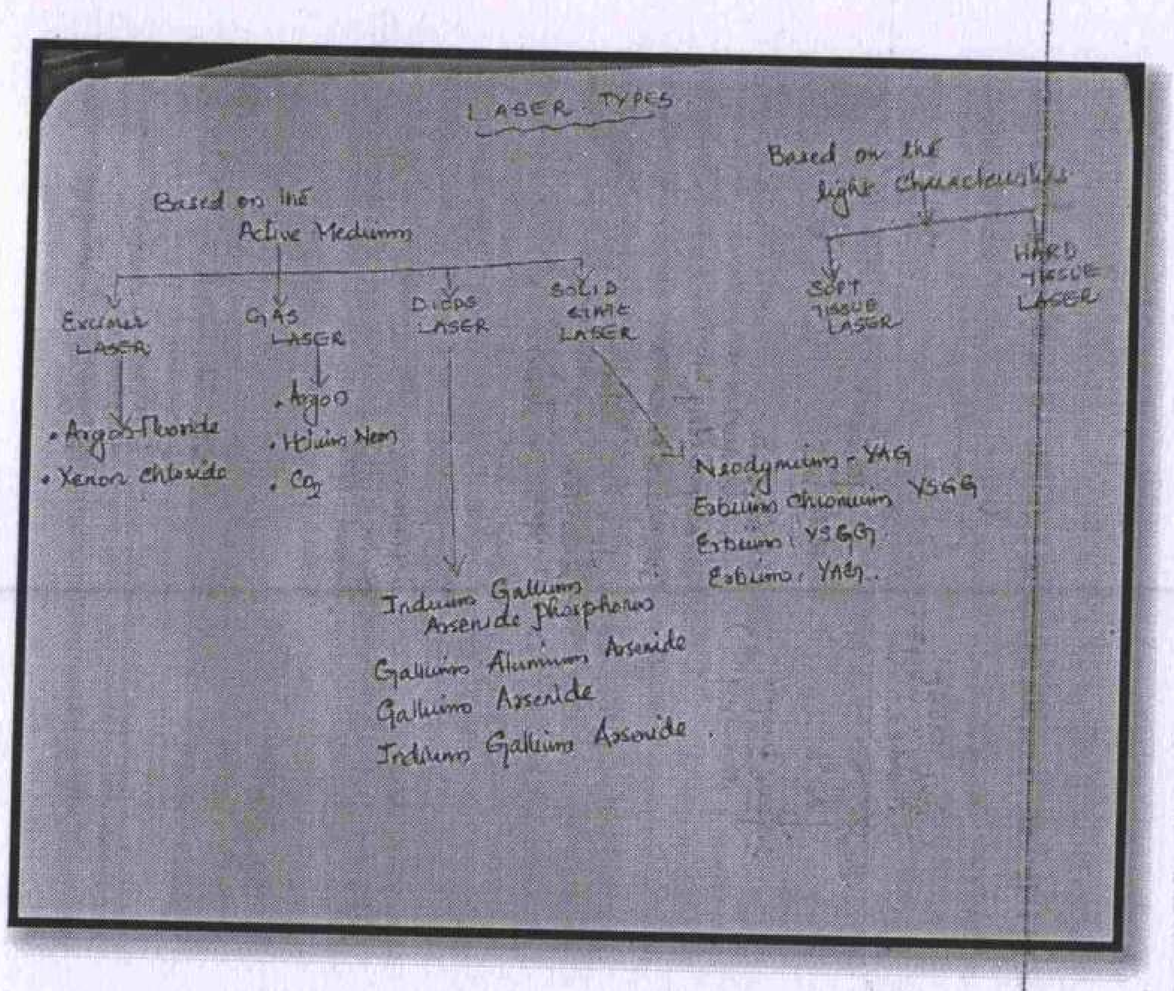


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