

MAHARASHTRA UNIVERSITY OF HEALTH SCIENCES



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★ **Fellowship Course** ★

Title of the Course:

**“Post Graduate Fellowship Course
in Microdentistry (01 Year)”**

SYLLABUS

Approved By :-BOS/Faculty, Academic & Management Council

Post Graduate Certificate Course in Microdentistry

1) Course Duration ; 1 Year

2) Conducted by ; Maharashtra University of Health Sciences, Nashik. &
Government Dental College and Hospital Mumbai.

3) Venue ; Academy of Microdentistry, Department of
Conservative Dentistry & Endodontics, Government
Dental College and Hospital, Mumbai.

4) Eligibility ; B.D.S.or MDS or any other equivalent degree
recognized by the Dental Council of India.

5) Admission ; 10 seats.

6) Fees ; Rs. 50000/ (Rupees fifty thousand only)

7) Aim

To introduce a new method of practicing dentistry under high power magnification with the help of MICROSCOPE. This method is currently not taught at undergraduate level and also in most specialties. Along with

teaching Microscope use, many exclusive treatment methodologies can be taught in different fields of dentistry thus widening the range of treatment options. The course offers a rare chance to learn this latest and sophisticated way of performing dentistry under expert guidance and under the aegis of highly reputed MUHS at esteemed institution of GDC. With better visualization the dentistry becomes more perfect and some of the jobs which are difficult to perform without microscope aid can be easily carried out. This expands the scope by improving diagnosis and additional treatment options and also stimulates a dentist to be innovative in his work, thus making a dental professional more complete.

8) Objective

The quality of treatment performed by a practicing dentist improves drastically as the course helps to shorten the learning curve in using Microscope and also teaches many treatment options of advanced variety of various specialties. This will help dentist to hone his skills further and add more treatment options to his already existing repertoire.

9) Methodology: Will consist of Two Modules

- a) Contact Education
- b) Distance Education

a) Contact Education-Total duration 6 Months divided into lectures & workshops.

- **Lectures**

Stage I 1 Week 3 Lectures

Stage II 2 Weeks 3 Lectures

Stage III 3 Weeks 12 – 15 Lectures

- **Workshops**

Stage I 1 Week Hands on

Stage II 2 Weeks Hands on

Stage III 1 ½ month Hands on

- **Lectures**

Stage I: Introduction to Microscope (3 Lectures)

History of Microscope use

What is its scope and its features?

How does scope work? How does it magnify and What are the levels of Magnifications?

What are its different Parts and their functions like Lens, Binocular Tube, Fixed tilted and tiltable tubes, Focal Length, Magnification factor, Magnification changer etc., the Arm, Stand, and illumination?

What are different illumination methods?

Recording devices through different attachments like Beam splitter,

Co-observation port, Video objective lens etc.

Stage II: Getting started with Microscope (1 Week)

How to position yourself for different teeth?

On – a) Lab Cast

- b) Extracted Teeth
- c) Mannequin
- d) Phantom Head
- e) Patient Examination and detailed reporting
- f) Using different Magnifications
- g) Learning Micro dentistry Instruments
- h) Interpupillary Distance Parfocaling
- i) Learning Direct & Reflected vision
- j) Hand – eye Co-ordination
- k) Instrument Handling, gripping, passing over assisting
- l) Ergonomics Posture etc.

Stage III: Working with Microscope on Casts & Extracted teeth & Patients

Scaling

Rubber Dam Application

Pit & Fissure Sealants

Incision & Flap reflection

Cavity Preparation using Micro drills

Restorations

Finishing restorations

Veneer Preparations

Veneer Bonding & finishing

Margin placements for Crown & Bridge

Lab communication of fit of crowns and bridges

Access Opening of different teeth, Locating MB2 Canals in Upper Molar

Using Ultra Sonics

Instrumentation with Hand & Rotary files

Obturation

MTA placement on Perforation

Removal of Broken files

Opening Calcified Canals

Documentation before, during, after

Co-diagnosis with Patients

New Patient Examinations using SOM

Basic Positioning Skills & Clinical Ergonomics

Local Anesthesia Delivery

Suturing with 5.0, 6.0, 7.0 needles

Apisectomies – Incision, Flap, Apical Curettage, Ultrasonic Apical

Preparations, Placing MTA at Apex

b) Distance Education-

The Course Material for Distant Education is listed in the suggested reading in this booklet.

Admission & Registration

A printed Form, Online Registration

Announcement 2 months before

Registration Time 1 mont

Fees to be paid by DD in favour of MUHS,Nashik

Providing ID cards

Documents needed for admission

Degree Certificate

Post Graduation – Degree Certificate

Experience Certificate

Course Facility

Work Stations – 3 to 5 for Lab Hands on with microscope.

Tables

Chairs, stools

Classroom

Projection – LCD, Screen LCD TV

Computer with monitor & Capture card

Mannequins – phantom head simulator unit.

Personal Instruments for use – sets to be prepared for each stage

Models, Casts, Demo materials

Extracted Teeth

Course Materials

Books

Reading material in the form books notes CDs etc.

CDs with Case demos and Presentations

CDs of cases shown live and done by participants

Examination & Certifications

Examination of theory and practical along with a viva voce.

Post Graduation certificate course in Micro dentistry from MUHS

Ceremony for conferment of certificates.

Clinical procedures which can be performed under various Specialties are

Conservative Dentistry and Paediatric Dentistry

Pit & Fissure Sealants

Cavity Preparation using Micro drills

Restorations

Finishing restorations

Prosthodontics

Finishing restorations

Veneer Preparations

Veneer Bonding & finishing

Margin placements for Crown & Bridge

Periodontics

Scaling

Incision & Flap reflection

Local Anesthesia Delivery

Suturing with 5.0, 6.0, 7.0 needles

Endodontics

Access Opening of different teeth, Locating MB2 Canals in Upper Molar

Using Ultra Sonics

Instrumentation with Hand & Rotary files

Obturation

MTA placement on Perforation

Removal of Broken files

Opening Calcified Canals

Apisectomies – Incision, Flap, Apical Curettage, Ultrasonic Apical

Preparations, Placing MTA at Apex

General

Documentation before, during, after

Co-diagnosis with Patients

New Patient Examinations using SOM

Basic Positioning Skills & Clinical Ergonomics

Course Curriculum

Stage: 1 Introduction to Microscope

History of Microscope Use: -

- a) When was the scope first introduced in general?
- b) When was it introduced in Medicine? by whom?
- c) When was the scope introduced in Dentistry and by whom?
- d) What type of scopes were used in the past? and what was their application?

What is the Current application?

- e) What are the features of the scope that are added later on?

What is a Microscope and its features?

- a) It has magnifying lenses encased in a body, How do they work?
- b) Stand and Arm
- c) Light Beam
- d) Beam Splitter
- e) Eye piece

How does the scope work? How does it magnify? and what are different levels of magnification?

- a) What are different lenses or optics?
- b) Method of magnification change with
 - 1) Step magnification – with a changer knob
 - 2) Zoom or stepless magnification – with a continuous turning knob
 - 3) Motorised Zoom magnification – with a switch & foot control

c) What are different available magnification factors?

Formula for actual enlargement of image

d) How does calculation work with eyepiece and lenses

e) Some theory about optics

Describing Parts

a) Lens & Optics – Describe the body

b) Binocular tube or eye piece

Magnification

Interpupillary distance

How do you adjust IPD?

Fixed inclined Vs Tilttable Tubes

Corrections for User's eye numbers

c) Function of arm, and tilttable tube

d) Different types of stands

Floor mounted

Ceiling Mounted

Wall mounted

In future chair mounted?

What is a focal length?

How does it apply in work?

What are different focal lengths (200, 250, 300, 350mm)

How does focal length make difference in operating?

Or for tall or short or medium height people Or for passing on of instruments

Or for preventing fogging

What is depth of focus?

What is a fine focus and its adjustment?

What is Parfocaling?

f) How do you adjust the Parfocaling with eye nos, and image on the screen?

g) What are different illumination methods?

Halogen lamp with intensity adjustment

White light with LED Xenon lamp

Differences in different light sources and their applications, due to colour and visibility enhancement Describe the way light – source is placed on the Microscope like Co-axial Beam or angled with multifocus beam

h) What is Beam splitter How does it work with dividing image into two and transferring to additional lateral port

What is a Co – observation Port

What is a C – Mount

What is a Video objective lense

How does it work with different camera sources eg. Video Cameras, Digicams, Cam corders

Stage II - Getting Started --- Positioning For Different Teeth On

A) **Lab Cast** :- A cast is prepared with Teeth mounted from Incisors to Molars and Cast is placed in the Articulator (2 point)

- View teeth with Direct and Indirect Vision under the Microscope
- View teeth at different Magnifications
- Understand the Finger Rest positions
- Understand the Clockwise Positions for Upper & Lower Arch, Left Side and Right Side teeth individually
- Understand viewing of different surfaces and positioning of Scope, Operators and Mirror.
- Special attention for direct viewing of Labial surfaces and indirect viewing of Lingual & Palatal surfaces.
- Occlusal surfaces should be practiced for Mirror (indirect) viewing.
- All the surfaces to be viewed at different Magnifications.
- Special viewing of Indirect vision for Proximal areas.

1) Extracted teeth can be viewed directly in Hand

2) Extracted teeth to be viewed from all angles and different Magnifications

3 Knowledge of Anatomy of teeth is essential (Suggested reading of Anatomy)

4) Extracted teeth are examined at the Apices for location of Apical Foramen, Size & Shape of Apical Foramen

5) Identification of Lateral Canal openings on root - surfaces

6) Extracted teeth

C) Mannequin

D) Phantom Head

- 1) Mount the teeth in the arch and view at different openings with Direct & Indirect view
 - 2) For Phantom Head use Fingers, Mirror Handle for reflecting various Tissues like Cheeks, Lips, Tongue etc. and get indirect vision
 - 3) Learn positioning on both with different inclinations of head from 25 degree inclined to fully superior position.
 - 4) Work from 9.00 O clock to 12.00 O clock position and also check 1.00 O clock position. Check which is most comfortable.
 - 5) For studying Apical Foramen different Magnifications are used
 - 6) Carious Exposure in teeth is Located with Microscope
 - 7) Teeth are placed on table with Wax and Only the Microscope is moved to focus
 - 8) Microscope is in fixed position and teeth are moved to get them in focus (This helps in Hand-Eye Co-ordination)
- Position for each tooth of arch and upper & lower arches
 - Position : Anterior Vs Posterior
Upper Vs Lower
Left Vs Right
 - Learn to focus in different surfaces and use Probe to Point at it with different Magnifications (This improves Hand-Eye co-ordination)

- Practice passing of Probe by a partner student in your left hand placing the Probe in mouth to point at different surfaces while doing so eyes should not be lifted from scope and passing of instrument should be practiced
- Learn how to position your fingers, Mirror and bring the instrument in view in the mouth under the scope view
- Practice this at different Magnifications on various teeth and various surfaces (Buccal, Lingual, Palatal, Proximals)

E) Patient Examination & Detailed Reporting

- 1) Examine the patient under the microscope at 0.4 (4 X) magnification and report the individual teeth all surfaces status of Caries, Periodontal Status and other features like Wear & Tear, Cracks, Occlusion etc.
- 2) Record the entire arch (both individually) in the form of Video and capture stills of areas requiring attention
- 3) Examine soft tissue all around
- 4) Call the patient at every stage of treatment eg. After completion of Perio Treatment record the arches for evaluation after restorative treatment for occlusion & intactness of fillings and other features of restorations like margin finish, carving, contact points and contours.
- 5) Learn the postures and patient positioning, head position, chair position for different teeth and surfaces

F) Using Different Magnifications

- There are 5 steps of magnifications
- Lowest is at 0.4 ie. App 4 times (learn the formula for magnification)
- Highest is at app 25 times

- First carry out Examination of teeth on Phantom Head at low magnification
- Then try to check all the teeth at medium magnification
- Finally check at high magnification
- Learn the focusing at different magnifications
- Even when the simple techniques are performed, they are performed at different magnifications. Learn which treatment is performed at what magnifications
- Carry out viewing entire extracted tooth including Apices at different magnifications

G) Learning Microdentistry Instruments

Learn the Diagnostic instruments like

- 1) Mirror, Explorer, Tweezer
- 2) MicroMirrors, Explorer, Tweezer

Restorative Instruments

- 1) Micro Burs
- 2) Finishing & Polishing instruments
- 3) Different illumination arrangements to prevent Polymerization of Composite restorative materials
- 4) Isolation instruments like rubber Dam
- 5) Fine Artery Forceps, Carvers, Explorers and other instruments

Microsurgery Instruments Entire list is available

H) Inter pupillary Distance

Sit comfortably in erect posture. Bring Binocular tubes to the eyes

Adjust the Inter pupillary Distance if it is known. If not known, Close left eye see a small object or a figure like a + sign clearly with right eye in the center. Adjust the distance of object if not clear.

Close the right – eye now without moving anything ie. (you, microscope & object) and open the left eye and adjust the IPD by moving the tubes apart or close to see the same object clearly & in center in the left eye. Now open both eyes to see one object and not double. Record this distance on the Binocular tube this your IPD.

H) Parfocaling

If the vision is correct and the object is clear than on the screen the camera should give clear sharp image. Adjust the camera properly to see that it is fitted properly and all the imaging parameters like focal length of the Video objective Lens, Camera Lens diameter are correct than you can view the image clearly.

If image is clear on the screen and on in the eyes than on the Binocular tube adjust the number for each eye by closing one eye and seeing clearly with one eye. The No. is set on the right & left eye individually to get the clear vision in both eyes. Now both eyes vision & camera screen image sharpness will match.

I) Learning Direct & Reflected Vision

- Practice looking at all Lower teeth Occlusal Surfaces at direct vision
- All Labial Surfaces of Upper and Lower teeth in direct vision

- All Lingual Surfaces in direct vision
- Practice viewing all the Occlusal Surfaces of Upper & Lower teeth in Reflected vision through No. 4 or 5 Front Surface mirror
- Learn at what angle and at what positions of mirror different surfaces of different teeth are viewed
- Reduce the size of the mirror to 2 – 3 and practice viewing through it
- Finally use micro mirrors of 3mm diameter and view surfaces
- View Extracted teeth Apices in direct and micro mirror indirect view at different magnifications

J & K) Hand – Eye Co-ordination Instrument Handling

- 1) A Simple Exercise of Holding the instrument and passing it to the operator is carried out so that tip of instrument is in pen grip and in working angle for the operator
- 2) Same Exercise is carried out while Viewing through the microscope and without looking at the instrument
- 3) Learn how to get your fingers and instrument to get into view under the scope
- 4) The scope is adjusted to different magnifications and same exercise is performed
- 5) On Phantom Head also learn how to position the fingers rest

L) Ergonomics

- 1) Learn how to seat as operator for different surfaces, and Upper Lower arches

- 2) How to keep hands relaxed and adjust the working distance
- 3) Bring the Microscope in View
- 4) Adjust the chair position
- 5) Adjust the operator position
- 6) Adjust the patient position esp. Head position
- 7) Adjust the Binocular tubes to get a relaxed, but erect posture
- 8) Adjust the stretching of hands to get working position

Stage III - Working with Microscope on Casts & Extracted teeth & Patients

Scaling :-

- Learn to do Scaling on Extracted teeth in hand
- Learn to position Scaler on Casts and Phantom Head
- Do it in patient's mouth with direct & reflected vision
- Learn to work with mirror & Scaler both and at the same time keep mirror as clean as possible
- Learn to replace mirror quickly with looking out of microscope or get the mirror cleaned
- Learn to work with minor patient movements
- Learn to keep your mirror steady

Rubber Dam Application

Learn to place the suitable technique of Rubber Dam on different teeth on the Casts first and then Phantom Head and then practice on patients

Both the Winged & Wingless Clamps should be tried

Single tooth Vs multiple teeth isolation should be tried on both the Arches

Important steps would be preparing the

- Tray with required Rubber Dam accessories
- Placement of Clamp or the sheet , frame assembly
- Reflecting the Sheet to the tooth
- Using Floss for securing the Dam & placement through contact points
- Working under microscope with limited space of Rubber Dam

Pit & Fissure Sealants

- Place Rubber Dam
- Select the appropriate thin fissure or extra small round micro bur and select smaller head handpiece
- Orient yourself to prepare the pits & grooves to remove Caries and open the fissures
- Etch, rinse, dry turn the light beam of the scope to orange
- Apply sealant and run it in the groove, remove excess
- Polymerize – turn the light to normal
- Finish & Polish
- First on Cast of extracted teeth, Phantom Head & Patient

- Main learning is Orientation of the bur and handpiece to view the occlusal surface clearly

Incision & Flap Reflection

- Learn the various flap designs
- Their advantages & disadvantages
- Use the 15 – C blade for incision
- Continue to focus on the area with incising
- Practice on Phantom Head with gingival tissue made of rubber
- Learn the use of microsurgery instruments and various Periosteal Elevators for flap elevation
- Learn the use of various flap retractors and keep the flap away for the operating site
- Place the flap back and use 5.0, 6.0 and 7.0 sutures and needles for suturing
- Learning the technique of tying the knot under the scope is essential
- The edge of the flap should be properly approximated and there should be no tension on the tissue
- Practice this at various locations in the mouth and with different types of designs of the flap

Cavity Preparation using Microdrills

- Placement of Rubber Dam to isolate multiple teeth learning to place matrices
- Learning to place Matrices

- Use of long shanked, small sized microburs
- Orientation of Microscope and Hand piece to have view of the cavity without obstruction
- Practice using hand instruments like excavators
- Learn to use stropko Adaptor for clearing the cavity with 3 way syringe (For Assistant)
- Placement of restoration and polymerization
- Learn to do finishing & polishing, using burs, disks, cups, profin etc
- The finishing and polishings examined under wet & dry condition to match that of the tooth. Learn to do all class I , II, MOD, CI V Buccal & Lingual on both U&L teeth.
- Practice on Cast, Phantom Head & and then patient

Veneer Preparations

- Since Veneer is a labial surface restoration, it is done under direct vision for Maxillary teeth and indirect vision for Mandibular teeth
- Placement of margin near the gingival with Chamfer preparation bur
- Cord placement to retract Gingiva
- Refinishing the margin to carry it subgingival
- Examination of preparation in Incisal – gingival & Mesio – Distal plane
- Impression taking with a silicone material
- Examination of Impression under the scope to see the details.
- Work on Cast, Phantom Head & then patient

- Prepare Single tooth, and then Multiple teeth

Veneer Bonding & Finishing

1) Cleaning the tooth surface with brush & Pumice Try – in of Veneer

- Check for marginal fit, finish, thickness, colour, contour and over all Aesthetics

- Any Discrepancy is recorded and sent to the lab for correction

2) Carry out the bonding of veneer to the tooth as per the protocol

3) Remove excess with blade, sharp probe

4) Finishing & Polishing Margin Placement for Crown & Bridge

360 degree margin placement on Anterior, Posterior, Upper & Lower arch is practiced

- Shoulder
- Rounded Shoulder
- Chamfer
- Shoulder with bevel
- Parallelism of surfaces and abutments of teeth
- Checking clearance
- Cord placement
- Impression
- Bite registration
- Casting Fit, Metal finish on the margins

- PFM fit and Finish
- Lab communication through the imaging

For Use in Endodontics

Access Preparation :

Mount various Upper & Lower Extracted teeth in plaster Cast and carry out access opening. Carry out the same on Mannequin for learning direct & indirect vision

Learn different angles at which mirror is held to carry out Access

Learn how the suction is positioned and how 3 way syringe is used to keep mirrors continuously clean

Try & Locate canals like MB2, DL, C shaped canal second canal in Lower Premolar, Incisors etc

Learn the correct Expansion of Access Opening

Learn the use of different instruments like various burs and Ultrasonics to open these Canals

Learn to Carry out straight lining of Access orifices with drills

Learn to Clean the pulp chamber with irrigating solutions, use dye and illumination to identify orifices

Learn to produce the smooth flare, line angles & curves and identify the anatomy with floor map

Take pictures and videos of the Access Opening

Ultra Sonics Use :

Various Endodontic tips are attached on Ultrasonics and Access is refined

Deepen Groove between MB, & Palatal to open MB2 in Upper Molar

Deepen Channel between MB & ML in Lower Molars

Locate the floor map and follow it to refine the Access

Use Ultrasonics to remove the pulp stones, calcifications, covering canals to expose orifices and extend the floor

Use Ultrasonics to remove restorations like Cements, Amalgam, Composites, Crowns, Inlays, Onlays

Instrumentation with Hand & Rotary Files :

How to direct the instrument in the canal

Hand – Eye Co-ordination

Attaching instruments to Handles and directing them in the canals

Observing sequential instrumentation & cleaning

Using irrigation and checking for debris under higher magnification

Locating additional Canals using Ultrasonics

Removing Dentin roofs covering canals

Identifying blocks within the Canals and treating them

Identifying Curves & Bends in the Canals

Identifying Lateral Canals in the wall of main Canals

Identifying smoothings of shape

Imparting straight line access

Identifying recesses, fins, ledges and communications to other canals

Locating Apical foramen in a straight Canal

Learning different techniques of instrumentation and using different types of files and their sequences

Obturation :

To learn to observe the right shape & its smoothness

To observe Cleaning of the Canals totally debris free

To observe dryness of the Canals

To observe the fit of the MasterGP

To apply sealer evenly on the walls

To carry out different methods of Obturations including Lateral, Vertical Condensation and Thermoplastic GPs and to learn the use of different equipments and Gadgets for this application

MTA Placement on Perforation :

To Learn

The identification of Perforation

Cleaning of perforation site, isolation and debridement and disinfection of site

The protocol of MTA handling & application

To learn using Micro-apical placement instruments for MTA application

To learn Condensing MTA with different methods like GP, PP, Ultrasonics

Removal of Broken Files :

To Learn

To locate the separated file in the canal

To diagnose the retrievability of the broken files

To prepare the staging platform using GG drills

To use Ultrasonics – different tips for troughing around the instrument

To use retrieving instruments like IRS, Endo Extractor etc

Opening Calcified Canals :

To Learn

Locating the roof of pulp chamber and identifying calcification on the floor

Using Ultrasonics to selectively remove the Calcification from the floor and identify canal orifices

Using Ultrasonics and other instruments to remove the Calcification from the canal

Negotiating canal to the apex and shaping it

Correlating the anatomy with X-ray findings

Documentation before, during, after

To learn

About Beam Splitter mount

About video objective lenses with different focal length and their Co-relation to different imaging sources like 1 & 3 CCD Video Camera, Digital Cameras with & without SLR, Camcorders etc

Focusing the Camera Sources, Centering Objects and Picturising

To learn about lighting, brightness control, aperture size and zooming of cameras

To learn transferring images to Hard Disks, CDS, DVDS, Flash Drives and Camera Cards

To store the stills and videos in different formats and in a patient folder

To learn to use these documents for Educational, Awareness Creation, Patient Compliance, Staff and Student Training, Personal Improvement

Co – diagnosis with Patients and New Patient Exams :

To learn

To show the patient existing problems through mirror & imaging

To show the before & after of another similar case for patient's acceptance

To show morphed images of before & after along with diagnostic Casts for patient's understanding of estimated final result

To show the treatment live to patient like Caries Excavation, Pulp Exposures etc

To enhance patient communication and have written consent

To show the final result for better patient satisfaction

To help patient control diseases like perio problems, leave habits like tobacco chewing etc. Control diet like reduction in sugar intake

To spread awareness and better compliance

To use these documentations for mass communications

Basic Positioning Skills & Clinical Ergonomics

To Learn Various positions of Operator Microscope & Patient.

Staff and instrument delivery during different treatment modalities on different teeth for Upper & Lower jaw. Microinstruments and their handling for microscope

Apisectomies, Gingivectomies, Flap Surgeries, Oral and Maxillifacial Surgeries

To Learn The positioning of microscope, operator and patient

Local Anesthetic's delivery, Bleeding control

Flap design, incision & Flap reflection

To identify the anatomical structures like root – apices etc.

To remove / curette the lesion – Using Micro – Surgical Instruments

Retrograde preparation of Apical part of the canal

Using Micro – Ultrasonic Retro tips for preparation Under Microscope

Preparing root apex resection at a bevel

Sealing the Apical part of Canal with MTA Using Micro Apical placement instruments. Handling MTA.

Suturing with different types of sutures using 4.00 – 7.00 sutures

Stage I & II Instruments

1. Front surface mirrors # 4 and 5
2. Micro mirrors #2mm., and 3mm.
3. Diagnostic set (Mirrors, Tweezers,Probe)
4. Endoexplorer
5. Extracted Teeth---Maxillary, Mandibular
6. Mannequin, Phantom Heads

7. Scalers: Hand and Ultrasonic with various tips
8. Rubber Dam set
9. Micro preparation bur set
10. Casts prepared from extracted teeth
11. Cheek and Tongue retractors
12. Microsurgery instruments according to list
13. Apron, Mask, Gloves
14. Nameplate with student's name on it.

Instrument list for sage III-

1. Hand scalers
2. Piezo scalers
3. Suction
4. Cheek and Tongue retractors
5. Polishing Paste
6. Polishing Rubber cups and Brush
7. Entire Rubber Dam Set with clamps ,dams, frame, punching forceps and clamp holding forceps
8. Dental Floss, Wedge
9. Cavity and Pit and Fissure preparation Micro Burs round and tapered fissure
10. Etch , Sealant, Bonding agents
11. Various Composite shades
12. Light cure Machine
13. Composite finishing and polishing instruments, burs, disks etc. for Composite materials
14. Composite placement Instruments
15. Various Matrices and their Holders
16. Stropko Adapter
17. Veneer Preparation Burs
18. Retraction Cords and Placement Instruments
19. Impression Trays
20. Impression Material Alginate and Rubber Base
21. Veneer Cementation and Finishing and Polishing instruments
22. Crown Preparation burs
23. Wax for bite registration

24. Front surface mirrors\
25. Endo explorer – DG 16 explorer
26. Micro Opener
27. Endodontic access preparation burs
28. Stropko Irrigator
29. Files for instrumentation (Hand And Rotary)
30. Ultrasonic Scaler with various Endodontic Proultra or CPR tips
31. GG and Peeso Drills
32. Irrigation, Lubrication solutions with syringes
33. Air rotor handpiece
34. Micromotor with 1:1 handpiece, X Smart Motor
35. Reduction gear Handpiece (Anthogyr)
36. Gutta Percha Points
37. Spreaders and Pluggers
38. Root canal Sealers
39. Absorbent points
40. Pro Root MTA
41. MAP system
42. MTA placement instruments
43. IRS system
44. Camera sources
45. computer with Capture card
46. CDs DVDs
47. Micro surgical instruments
48. KiS microsurgical tips
49. Blade and Handle
50. Suturing Material and Needle holder
51. Bleeding control materials , METHYLENE BLUE dye

Suggested Reading

Stage - I

1. Basic reading of visual and clinical Examination(Burket)
2. Understanding of Patient assessment, Diagnosis, Treatment Plan
3. Isolation (Sturdevent)
4. Identification of various instruments and instrumentation of different specialties
5. Common Oral and Dental Diseases esp. Clinical Features and Pictures

6. Importance of Magnification and Historical Background of Magnification and Illumination
7. Basic Textbooks of All specialties
8. Glickmann-Currenza
9. Burket
10. Sturdevent for Ergonomics and Diagnosis and Operative procedures
11. Stone for Pathology
12. Pathways of Pulp by Cohen and Burns for Endodontics

Stage II and Stage III

Treatment Protocols of all Basics of Dentistry