



SHAHEED ZULFIQAR ALI BHUTTO MEDICAL UNIVERSITY



Pediatric Dentistry

**Residency Training Program
Leading to the degree of**

Master of Dental Surgery (MDS)

**SHAHEED ZULFIQAR ALI BHUTTO MEDICAL UNIVERSITY
ISLAMABAD**



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CURRICULUM

Master of Dental Surgery

(MDS)

Pediatric Dentistry



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CURRICULUM DEVELOPMENT COMMITTEE

This Curriculum is developed by the following committee

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ROAD MAP OF MDS PEDIATRIC DENTISTRY

Eligibility

1. BDS degree or equivalent recognized by PM&DC.
2. One (1) year clinical experience.

Criteria for Admission

1. Entry examination by the University (MDS-Part-1)
2. Interview
3. Valid TOEFL score for foreign graduates

Number of candidates/program/year

Total of 08 candidates in 4 years program or as per University and PMC rules.

GENERAL INFORMATION AND PROGRAM GOALS:

The department of Pediatric Dentistry at Children's Hospital, PIMS will offer a 48 months MDS Program. The program intends to model a training atmosphere with state of the art clinical facilities. The curriculum is centered on daily clinical seminars and instruction with each individual class.

The goal of this program is to produce consultants and trainers who are proficient in the contemporary skills of all the domains of pediatric dentistry and are competent to carry out individual research and continuing professional development.



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COURSE DESCRIPTION:

A total of one hundred and twenty eight (128) credit hours of instruction and supervised activities are distributed over four years academic period. This comprises approximately 1152 contact hours of direct instruction and approximately 6672 scheduled hours including formal didactic, clinical, research and laboratory experience.

(1 credit hour will be equal to 9 hours of direct contact)

FIRST YEAR MDS		
CORE COURSES	COURSE TITTLE	CREDIT HOURS
1	Growth and development of dental arches and craniofacial complex	2
2	Tooth and occlusal development	1
3	Introduction to statistical inference	1
4	Introduction to research	1
5	Introduction to Cephalometrics	1
6	Restorative Dentistry-I	1
7	Oral Pathology-I	1
8	Dental Traumatology-I	1
9	Paedo-Ortho interface -I	1



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10	Sterilization	1
11	Radiology	1
12	Basics of Microsoft office	0.5
13	CPC Presentation	0.5
14	Literature review 1	1
15	Oral Surgery-I	1
16	History Taking & Clinical Examination	1
17	Preventive Dentistry-I	1
18	Pediatric Endodontics-I	1
19	Extractions in primary and mixed dentition	1
20	Journal Club	3
21	Research	10
		32
Second Year		
22	Diagnosis & Treatment Planning	1
23	Non pharmacological behavior management of anxious child	2



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24	Communication Skills	1
25	Oral Pathology-II	1
26	Space Management	1
27	Pedo-Ortho Interface-II	1
28	Restorative Dentistry-II	1
29	TMJ Disorders	1
30	Pharmacological behavior Management	2
31	Management of pain and anxiety	2
32	Inhalation sedation	2
33	General Anesthesia	2
34	Anomalies of size ,shape and number ,structure and colour	2
35	Cariology and Epidemiology of Dental Disease	2
36	Journal Club	3
37	Research	8
		32
MTA Examination		



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Third Year (Graduate Assistantship)		
38	Diagnosis & Treatment Planning	2
39	Dental management of Medically compromised children	3
40	Oral manifestation of systemic disorders /Syndromes	3
41	Preventive Dentistry-II	2
42	Oral Medicine	2
43	Dental Traumatology-II	2
44	Oral Surgery -II	2
45	Oral Habbits	1
46	Principals of Practice	1
47	Pedo-Ortho Interface-III	1
48	Restorative Dentistry-III	1
49	Oral pathology-III	1
50	Journal Club	4
51	Research	7
		32



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Fourth Year (Graduate Assistantship)		
52	History Taking, Clinical Examination, Diagnosis & Treatment Planning of multidisciplinary cases	3
53	Multidisciplinary Management of Cleft-Lip and Palate	2
54	Role of Radiology in Paediatric dentistry	1
55	Endodontics in Paediatric dentistry Vital and Non Vital pulp therapy / Revascularization	4
56	Restorative dentistry-IV	2
57	Tooth Discoloration	1
58	Pedo-Ortho Interface-IV	1
59	Dental Traumatology-III	2
60	Periodontal Diseases in Children	1
61	Dental Management of special (Handicapped) children	2
62	JOURNAL CLUB	4
63	RESEARCH	9
		32



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TOTAL=128
EXIT EXAMINATION
PAPER I (SPECIALITY)
PAPER II (SPECIALITY)

Requirements of MDS Degree for Graduate students Enrolled in the Pediatric Dentistry Program

- Fulfillment of University requirements for postgraduate study.
- Four (4) years of consecutive full time advanced study and clinical training **at Children's Hospital, PIMS/ Pediatric Dentistry Department** or School of Dentistry.
- Complete and approved master's thesis based on original research during the course of study in an area related to Pediatric Dentistry, suitable for publication in a reputable dental journal.
- Must complete all didactic & clinical work in the required curriculum and satisfactorily pass all the University examinations.
- Completion of allocated quota. (Log book should reflect all clinical work carried out).
- A minimum grade of "B (75%)" must be earned in all work/examinations attempted in the master's program. A grade below "B" will require re-examination.

A complete road map for postgraduate MS/MD/MDS can be accessed at University website <http://www.szabmu.edu.pk/content/downloads/road-map-for-postgraduate-residents.pdf>



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Introduction

This curriculum has been developed on the basis of SPICES model which is indicative of the competencies required at the varying levels of training within the specialty together with the knowledge, skills and attitudes achieved by the trainee in acquiring those competencies. The training has been based on the current thinking and the requirements for

- Greater protection of the public by providing clear information as to the level of training achieved.
- Improved access to specialty training to general practitioners.
- Greater flexibility of training through the availability of multiple instructors.
- Producing a competent workforce with the appropriate skills and knowledge necessary to meet the varying levels of treatment complexity, as well as considering the relative need and demand of potential patients.

Rationale:

Purpose of training

To provide guided training and assessment of specialty trainees in Pediatric Dentistry to produce consultants and trainers who are proficient in the contemporary skills of all the domains of operative dentistry and are competent to carry out individual research and continuing professional development.



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Context of Training

To provide an organized educational program with guidance and supervision, a structured training program will be followed so that each trainee is exposed to different aspects of the subject and acquires special knowledge and skill as expected from the program. The training will provide a basis for the candidate to develop into a lifelong learner who is capable of self-reflection and self-directed learning. It will provide a basis for further ongoing development in the field of Pediatric Dentistry.

Duration of training

The program leading to MDS in Pediatric Dentistry will be of 4 years full time

Content of Learning:

Aims of Training

The candidate should acquire and become proficient in the skills required for pediatric dentistry practice with an emphasis on multidisciplinary treatment planning, disease prevention and provision of advanced treatment techniques for those clinical cases meriting specialist care. The candidate should demonstrate attitudes necessary for the achievement of high standards of pediatric dentistry practice both in relation to the oral health needs of the population and to his/her own personal development.

Learning Outcomes

On completion of training, the trainee will be able to achieve following aptitudes



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Knowledge

- Demonstrate knowledge of clinical aspects of basic sciences as applied to pediatric dentistry
- Demonstrate knowledge of the etiology, pathophysiology and clinical presentations of diseases of oral and perioral tissues.
- Demonstrate knowledge of the impact of systemic diseases on oral tissues and of oral diseases on systemic health.
- Acquire knowledge and comprehend the principles of theory and practice of all the domains of pediatric dentistry and endodontics.

Skill

- Take history and conduct clinical examination and investigations that allow collection of information required to evaluate the oral and related medical conditions for all patients.
- Determine the differential, provisional and definitive diagnosis by interpreting and correlating findings from the history, clinical & radiographic examination together with other diagnostic tests.
- Devise treatment plans specific to the needs and expectations of individual patients.
- Execute conventional and contemporary techniques of all the domains of pediatric dentistry.
- Demonstrate competency in teaching methods, use of information technology, appraisal and assessment techniques and development of appropriate learning methods for lifelong learning.
- Show evidence of ability to undertake research.

Attitude

- Demonstrate a professional and ethical approach to patient care.
- Demonstrate a professional attitude to all the members of the dental team.
- Demonstrate full and clear understanding of equality and diversity legislation as it applies to the workplace and to professional practice.



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ENTRY CRITERIA:

Eligibility to apply for MDS Pediatric Dentistry

- Candidate must possess BDS or equivalent degree and one year house job from PMDC recognized Institutions.
- Permanent valid registration with PM&DC.
- Declared successful in MDS Part-I for Shaheed Zulfiqar Ali Bhutto Medical University, Islamabad.
- In case of foreign candidate, valid registration with Medical Council of their country of origin must be produced.

Required Documents

Attested photo copies of the following documents must be attached with application form:

- Computerized National Identity Card (CNIC)
- Domicile certificate
- Matric/O Level, F.Sc/A Level, Certificates or equivalent
- BDS degree with detail marks certificates of all professional
- BDS Attempts certificates of all professional
- NEB pass certificate (for foreign graduates)
- House Job certificates
- PMC valid permanent registration certificate
- MDS Part-I passing certificate



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- Experience Certificates (if any)
- Migration Certificate (To be produced at the time of admission)

Admission Procedure

- Details of admission procedure is available on university website at <http://www.szabmu.edu.pk/admission/postgraduate-admission>





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CURRICULUM FOR MDS IN PEDIATRIC DENTISTRY

1. PATIENT ASSESSMENT, EXAMINATION, DIAGNOSIS & TREATMENT PLANNING

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none"> History taking Examination of orofacial soft tissues Examination of Teeth & restorations Review of periodontium Examination of occlusion Various diagnostic tests & investigations Treatment plan sequencing Interdisciplinary considerations in treatment planning 	<p>The trainee should be able to:</p> <ul style="list-style-type: none"> Examine the patient thoroughly Make a differential diagnosis Perform relevant diagnostic tests & carry out investigations to establish definitive diagnosis Devise strategies and plans based on the likely prognosis and outcomes of the various treatment options, relating this to prognosis without treatment and establishing a resultant priority and sequence of treatment 	<ul style="list-style-type: none"> Workplace (clinical) experience Attend trainee seminars within department Attendance at suitable courses Attendance at suitable meetings Independent study 	<ul style="list-style-type: none"> Workplace based assessments (CBD, DOPS) Written Examination/ VIVA



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2. CARIOLOGY: THE LESION, ETIOLOGY, PREVENTION & CONTROL

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none"> • Etiology of caries • Clinical characteristics of the lesion • Histopathology of caries • Caries diagnosis • Caries prevention • Caries treatment 	<p>The trainee should be able to:</p> <ul style="list-style-type: none"> • Demonstrate an understanding of various aspects of cariology • Apply knowledge to diagnose & prevent caries • Devise a management plan tailored to patient's needs • Assess the risk of caries with the help of various activity tests 	<ul style="list-style-type: none"> • Workplace (clinical) experience • Clinical cases for observational and personal treatment • Extra mural training • Attend trainee seminars within department • Attendance at suitable courses • Attendance at suitable meetings • Independent study 	<ul style="list-style-type: none"> • Workplace based assessments (CBD, DOPS) • Written Examination/ VIVA • OSCE
<ul style="list-style-type: none"> • Non Carious Tooth Structure Loss. 	<ul style="list-style-type: none"> • Diagnose, manage and prevent non carious tooth structure loss. 	<ul style="list-style-type: none"> • Workplace (clinical) experience • Clinical cases for observational and personal treatment • Extra mural training • Attend trainee seminars within department • Attendance at suitable courses 	<ul style="list-style-type: none"> • Workplace based assessments (CBD, DOPS) • Written Examination/ VIVA • OSCE



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		<ul style="list-style-type: none">• Attendance at suitable meetings• Independent study	
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3. PRELIMINARY CONSIDERATIONS IN PEDIATRIC DENTISTRY

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none">• Operator and patient positioning• Isolation of the operating field• Pain control	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Demonstrate proper operator and patient positioning.• Properly isolate the operating field with rubber dam for different restorative procedures.	<ul style="list-style-type: none">• Systematic simulation laboratory exercises• Workplace (clinical) experience• Attendance at suitable courses• Independent study	<ul style="list-style-type: none">• Workplace based assessments (DOPS)• OSCE



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4. CASE SELECTION & TREATMENT PLANNING

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To improve the knowledge and skill in:</p> <ul style="list-style-type: none">• Dental, Medical and social history taking relevant to proposed management• Current best evidence for effectiveness of various treatment modalities and their execution• Prognostic and risk factors for various treatment modalities• Decision making	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Devise strategies and plans based on the likely prognosis and outcomes of the various treatment options, relating this to prognosis without treatment and establishing a resultant priority and sequence of treatment• Develop a treatment strategy in conjunction with the patient producing a plan or plans according to their needs and preferences, including future need for further corrective or supportive therapy.	<ul style="list-style-type: none">• Workplace (clinical) experience in OPD• Problem solving• Attendance at suitable courses• Attendance at clinical meetings• Self-directed & Independent study	<ul style="list-style-type: none">• Workplace based assessments (DOPS, CBD)• Written Examination/ VIVA• OSCE



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5. VITAL PULP THERAPIES

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none">• Relevant biology, anatomy, physiology, pathology, microbiology and technical requirements in relation to vital pulp management• Procedures for pulp diagnosis and their limitations• Procedures for vital pulp management and their expected outcome• Evidence based approaches for regenerative endodontics• Revascularization protocol• The features of an appropriate recall schedule	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Assess the condition of the pulp and recognise the limitations of diagnostic tests.• Understand the rationale for vital pulp therapies.• Execute vital pulp therapies, including regenerative techniques• Implement suitable recall schedules and plan further therapy when required.	<ul style="list-style-type: none">• Workplace (clinical) experience• Appropriate range of clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Self-directed & Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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6. PULPAL REACTIONS TO CARIES AND DENTAL PROCEDURES

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about :</p> <ul style="list-style-type: none">• Different types of pulpal reactions to caries• Correlation between clinical symptoms and actual pulpal inflammation• Dentin hypersensitivity and its management• Pulpal reactions to dental materials and procedures	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Appreciate the negative influences of dental procedures and materials on pulp and methods to overcome them• Assess the need for further intervention in the face of an uncertain outcome.	<ul style="list-style-type: none">• Workplace (clinical) experience• Attendance at suitable courses• Attendance at suitable meetings• Self-directed & Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination / VIVA



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7. RESTORATION OF ENDODONTICALLY TREATED TEETH

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none">• Special features of endodontically treated teeth• Restorative Materials and Options• Pre-treatment evaluation and treatment strategy• Clinical Procedures	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Demonstrate treatment planning and practical skills necessary for restoring endodontically treated teeth using different techniques.• Apply knowledge of occlusion in the assessment and management of endodontically involved teeth.• Integrate knowledge and practical expertise in the assessment of structurally compromised teeth.	<ul style="list-style-type: none">• Workplace (clinical) experience• Systematic simulation laboratory exercises• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Self-directed & Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ Viva



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8. TOOTH DISCOLOURATION AND BLEACHING

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• Etiology of tooth discoloration, bleaching agents, mechanism of action and associated complications / adverse effects• Execution of bleaching techniques• Knowledge and implementation of ICON infiltration in WSL's and mild fluorosis.	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Diagnose the cause of tooth discoloration and perform the bleaching procedures• Implement suitable recall schedules and plan further therapy when required.	<ul style="list-style-type: none">• Workplace (clinical) experience• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Self-directed & Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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9. DENTAL TRAUMATOLOGY

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• Classification of dental trauma• Evaluation and management of dental trauma• The biology of wound healing and tissue reaction patterns following trauma and emergency trauma management• Current best evidence on the expected outcomes of dental trauma after optimal and sub-optimal management• The clinical features which may indicate an unfavourable tissue response to trauma management	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Understand the nature and consequences of different soft and hard tissue wound healing/reaction patterns after trauma and their consequences for the oral tissues.• Communicate clearly and effectively with medical and dental specialists to safeguard patient safety and ensure continuity of care.• Appropriately evaluate and manage dental trauma• Understand the need for clear and effective communication with patients and their parents/guardians where children are involved.• Multidisciplinary team approach and its implementation.	<ul style="list-style-type: none">• Workplace (clinical) experience• Workplace training in the execution and evaluation of clinical techniques including splinting, management of open apices and restorative exercises• Appropriate range of clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination / VIVA• OSCE



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10. MANAGEMENT OF PAIN, ANXIETY & BEHAVIOUR

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• General behavioral concepts• Non pharmacologic and pharmacologic management of anxiety and behavior• Methods of pain control	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Recognize normal and abnormal behavior patterns in children/adolescents.• Apply knowledge of behavioral patterns and psychology in the management of anxiety and anxiety related behavior in the dental setting.• Deliver comprehensive dental care under Nitrous Oxide Inhalation Sedation.• Deliver comprehensive dental care using oral sedatives.• Deliver comprehensive restorative care and exodontia for children under GA.	<ul style="list-style-type: none">• Work place (clinical) experience• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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11. PREVENTION AND MANAGEMENT OF ORAL DISEASES IN CHILDREN

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• Prevention, diagnosis and management of dental caries• Diagnosis and management of pulpal diseases• Prevention, diagnosis and management of periodontal disease	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Construct and deliver effective and appropriate preventive, restorative (including endodontic) and surgical treatment plans for children• Deliver full coverage restorations for endodontically treated teeth & badly mutilated teeth• Deliver appropriate and effective preventive and interceptive periodontal programs for children/adolescents	<ul style="list-style-type: none">• Work place (clinical) experience• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS, Mini-CEX, MSF)• Written Examination/ VIVA• OSCE



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12. ANOMALIES OF PRIMARY AND PERMANENT DENTITION

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• Diagnosis and management of abnormalities in tooth eruption, structure, form and number• Diagnosis and management of intrinsic staining• Disturbances of eruption and exfoliation	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Diagnose and execute management options for anomalies of primary and permanent dentition	<ul style="list-style-type: none">• Work place (clinical) experience• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA• OSCE



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13. THE PEDODONTIC ORTHODONTIC INTERFACE

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none"> • Recognition of malocclusion • Extraction in mixed dentition • Analysis and management of space in the mixed dentition • Orthodontics and dental trauma • Complications of orthodontic treatment • TMJ disorders • Cleft lip & palate 	<p>The trainee should be able to:</p> <ul style="list-style-type: none"> • Recognize and diagnose problems in the developing dentition • Provide space maintainers • Communicate effectively with orthodontists to provide best possible treatment. • Assess various parafunctional habits and manage them accordingly. • Manage developing malocclusion using appliances in the scope of pediatric dentistry. • Assessment and management of CLAP patient, preventive therapies and counselling of parents. • Fabrication and delivery of feeding plates/ NAM appliances for CLAP patients. 	<ul style="list-style-type: none"> • Work place (clinical) experience • Clinical cases for observational and personal treatment • Attend trainee seminars in orthodontic department • Attendance at suitable courses • Attendance at suitable meetings • Independent study 	<ul style="list-style-type: none"> • Workplace based assessments (CBD, DOPS) • Written Examination/ VIVA



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14. MEDICALLY COMPROMISED CHILDREN

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none">• Medically compromised children• Children with special needs	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Demonstrate an understanding of the impact of systemic diseases and organ transplantation on soft and hard tissues and the delivery of oral and dental care.• Diagnose, plan and provide safe and effective treatment for children with conditions which may make them more prone to oral diseases or which may complicate the delivery of oral care.	<ul style="list-style-type: none">• Work place (clinical) experience• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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15. PAEDIATRIC ORAL MEDICINE AND PATHOLOGY

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none">• Oro facial infections• Ulcerative and vesiculobullous lesions• Pigmented, vascular and red lesions• Epulides and exophytic lesions• Gingival enlargements• Premature exfoliation of primary teeth• Oral pathology in the new born infant• Diseases of salivary glands	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Diagnose mucosal, soft and hard tissue pathology occurring in and around the mouth from birth through adolescence.• Recognize pathology which requires investigation and management with or by other specialties.• Manage dental related contributing factors.	<ul style="list-style-type: none">• Work place (clinical) experience• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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16. MULTIDISCIPLINARY APPROACH IN PAEDIATRIC DENTISTRY

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide information about and experience in:</p> <ul style="list-style-type: none">• Collaboration with various subspecialties' of Dentistry on different challenges faced• Craniofacial Anomalies• Child Abuse and Neglect	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Understand the role in Multi-disciplinary diagnosis and management of children and adolescent with complex Oro-facial Problems.• Principles of surgical, orthodontic and restorative management of children with craniofacial anomalies.• Recognize signs and symptoms of a child facing abuse or neglect, their management and implement policy of government and welfare societies in such cases.	<ul style="list-style-type: none">• Work place (clinical) experience• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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17. PERIODONTAL DISEASES

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide knowledge and skill in:</p> <ul style="list-style-type: none">• Classification of periodontal diseases• Local & systemic risk factors associated with periodontal diseases• Microbiology & histopathology• Evaluation of clinical & radiographic features• Evaluation of bone loss & pocket depth• Use of advanced diagnostic techniques & investigations• Non-surgical management• Surgical management (Periodontal flaps, osseous & mucogingival)	<p>The trainee should be able:</p> <ul style="list-style-type: none">• Demonstrate an understanding of the different types of periodontal diseases• Evaluate local & systemic risk factors contributing to the disease• Evaluate extent of periodontal disease• Diagnose, assess prognosis and plan treatment for patients who require non-surgical and surgical therapy• Demonstrate an understanding of various flap techniques• Execute non-surgical & surgical management• Monitor and evaluate the effectiveness of all forms of treatment	<ul style="list-style-type: none">• Work place (clinical) experience• Clinical cases for observational and personal treatment• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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18. PREVENTIVE DENTISTRY

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• Levels of prevention• Preventive strategies for dental caries and periodontal diseases• Association of caries and periodontal diseases with risk factors• Risk assessment• Minimal Invasive Dentistry	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Demonstrate an understanding of levels of preventive dentistry• Execute all the preventive strategies for caries and periodontal diseases• Assess risk factors for caries and periodontal diseases• Apply the principles of minimal invasive dentistry• Promote health education	<ul style="list-style-type: none">• Workplace (clinical) experience• Appropriate range of clinical cases for observational and personal treatment• Extramural training• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA• OSCE



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19. ORAL EPIDEMIOLOGY

Objectives	Learning Outcomes	Teaching & Learning Methods	Assessments
<p>To provide in depth knowledge and skill in:</p> <ul style="list-style-type: none">• Concepts of oral epidemiology• Epidemiological studies and tools• Epidemiology of oral diseases• Use of indices for oral conditions	<p>The trainee should be able to:</p> <ul style="list-style-type: none">• Apply knowledge to carry out epidemiological studies• Investigate disease problems in the community	<ul style="list-style-type: none">• Workplace (clinical) experience• Extramural training• Attend trainee seminars within department• Attendance at suitable courses• Attendance at suitable meetings• Independent study	<ul style="list-style-type: none">• Workplace based assessments (CBD, DOPS)• Written Examination/ VIVA



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Research

The resident will be required to undertake a research project and to present the result for examination in the form of a thesis. They will be encouraged to present and publish the results of the project in referred journals.

Rules and regulations regarding the research component is available at university website

<http://www.szabmu.edu.pk/downloads#thesis>

The guidelines for synopsis and thesis writing is available at University website

<http://www.szabmu.edu.pk/content/downloads/guidelines-for-synopsis-writing.pdf>

<http://www.szabmu.edu.pk/content/downloads/guidelines-for-thesis-writing.pdf>



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Models of Learning

Practice of this specialty requires a range of skills (thinking, mental visualization, knowledge, manual dexterity, communication, investigative, management) which will be developed systematically through a number of suitably designed learning opportunities. Learning outcomes will be matched with appropriate instructional strategies. Trainees will undertake their learning in following ways

- Guided theoretical learning during formal and timetabled periods which will be geared towards developing an understanding of the subject by critical appraisal and synthesis of the classical and contemporary literature through individual and group activities
- Technical skills development through systematic simulation laboratory exercises.
- Learning at the workplace by supervised clinical training sessions
- Clinical meetings
- Learning from peers through journal club review and case discussion sessions
- Problem solving exercises
- Extra mural training
- Self-directed and independent study

Methods of Assessment

Assessment of trainees will cover the cognitive, psychomotor and affective domains. It will take two forms

- Formative Assessment
- Summative Assessment

Formative Assessment

It is the continuous assessment of progress and competence. It will be conducted through workplace based assessment throughout the training. Assessment will be undertaken by a range of assessors and will cover a range of procedures appropriate to the stage of training. Formative assessment will include

- Directly observed practical skills (DOPS)
- Case based discussion (CBD)



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Summative Assessment

Summative assessment will be held twice

- Intermediate Module (At the end of second year)
- Final Examination (After the completion of 4 years of training)

The level of performance required for passing the exam will depend on the knowledge and skills necessary for acceptable performance and will not be adjusted to regulate the number or proportion of persons passing the examination. The pass point will be determined by careful analysis and judgment of acceptable performance.

Record of Clinical Cases

The trainees will be required to keep a record of the allocated clinical work in a log book. It will be the responsibility of trainee to keep the log book up to date with the signature of the faculty certifying the work.

Apart from the log book, a case book will also be maintained for the multidisciplinary cases.



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ALLOCATED CLINICAL WORK

Minimum number of pediatric dentistry procedure to be performed

(Clinical quota M.D.S pediatric dentistry)

Procedure	Number of procedure at 1 st /2 nd year	Level of performance	Number of procedure at 3 rd year	Level of performance	Number of procedure at 4 th year	Level of performance
History taking	30	2/3	15	$\frac{3}{4}$	15	3/4
Performing Clinical Examination	30	2/3	15	$\frac{3}{4}$	15	3/4
Ordering appropriate investigations	30	2/3	15	$\frac{3}{4}$	15	3/4
Diagnosis and treatment planning	30	2/3	15	$\frac{3}{4}$	15	3/4
Follow ups	30	2/3	15	$\frac{3}{4}$	15	3/4



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Restorative procedures:						
Restoration of primary tooth (Using GIC, Composite, silver alloy etc.)	50	2/3	40	3/4	30	3/4
Restoration of permanent tooth (Using GIC, Composite, silver alloy etc.)	50	2/3	40	3/4	30	3/4
Composite restoration for anterior primary teeth Using celluloid crowns or strip crown	05	2/3	25	3/4	25	3/4
Stainless steel crown for endodontically Treated primary tooth	10	2/3	20	3/4	25	3/4
Composite build-up of anterior permanent tooth						
* Using celluloid crowns	03	2/3	10	3/4	20	3/4
* free hand technique	03	2/3	10	3/4	20	3/4



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Surgical procedures:						
Extractions						
• Primary teeth	50	2/3	30	3/4	20	3/4
• Permanent teeth	30	2/3	30	3/4	20	3/4
• Extractions under GA	15	2/3	30	3/4	40	3/4
Surgical removal of supernumeraries and unerupted Permanent teeth	03	2/3	10	3/4	20	3/4
Removal of soft tissues lesions	0	2/3	5	3/4	10	3
Surgical endodontics of permanent anterior teeth	0	2/3	0	3/4	5	3
Trauma	03	2/3	10	3/4	10	3/4
Space maintainers:						
Band loop	02	2/3	10	3/4	10	3/4
Crown loop	02	2/3	10	3/4	10	3/4
Distal shoe	02	2/3	10	3/4	10	3/4



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Full mouth rehabilitation:						
Under local anaesthesia	02	2/3	10	¾	10	¾
Under general anaesthesia	02	2/3	10	¾	10	¾
Under Nitrous Oxide Inhalation Sedation	02	2/3	3	¾	5	¾
Under Oral Sedation	02	2/3	3	¾	5	¾
Composite Veneer						
• Direct veneers	0	2/3	15	¾	10	¾
• Indirect veneers	0	2/3	0	¾	10	¾
Bleaching of Discoloured Teeth						
• Vital bleaching	0	2/3	0	¾	5	¾
• Non-vital bleaching	0	2/3	0	¾	5	¾
Resin Bonded Bridges:						
• Maryland bridge	0	2/3	02	¾	5	¾
• Rochette bridge	0	2/3	02	¾	5	¾
Preventive Procedures:						
Fluoride Application	15	2/3	25	¾	25	04
Fissure Sealant	20	2/3	30	¾	30	04
• Preventive Resin Restorations	20	2/3	30	¾	30	04



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Endodontic Procedure:						
Pulp Capping (primary & permanent tooth)						
• Direct	05	2/3	15	$\frac{3}{4}$	15	3/4
• Indirect	20	2/3	20	$\frac{3}{4}$	25	3/4
Pulpotomies in Primary Teeth						
• Vital	10	2/3	20	$\frac{3}{4}$	20	3/4
Apexification (Calcium hydroxide)	05	2/3	20	$\frac{3}{4}$	40	3/4
Apexogenesis	03	2/3	20	$\frac{3}{4}$	15	$\frac{3}{4}$
Root canal treatment in permanent teeth	20	2/3	20	$\frac{3}{4}$	20	3/4
Use of MTA (apexifications, perforations)	0	2/3	5	3/4	15	3/4
Revascularization of Young Non-vital Permanent anterior teeth	0	02	5	$\frac{3}{4}$	10	04

1. Observer Status 2. Assistant Status 3. Performed under Direct Supervision 4. Performed Independently



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Supervision of Trainees and Feedback

In the early stages of training, trainees will be closely assessed to determine their competence base. The level of supervision initially will be close to ensure patient safety and allow the gauging of ability and potential for independent progression. As supervised tracking shows development of competence, the level of supervision may be tapered down in proportionate measure, ultimately leading to independent practice within the training period such that towards the end, the trainee will be primarily log monitored for procedures appropriate to the competencies of individual trainee. Informal appraisals by the trainer will be undertaken throughout the training period in order to monitor and advise on a trainee's progress and training needs. A confidential record between the trainer and trainee will be kept of these meetings, which will occur at least twice a year. All assessments will be supported by structured feedback for trainees. Trainees who are unable to achieve the appropriate standard in an assessment or examination may, with the agreement of their trainers, repeat that examination or assessment but they need to be aware of, and comply with examination regulations. Counseling is an important component of trainee care and access will be provided for educational support. Early identification of trainees unsuitable for a career in operative dentistry or experiencing difficulty with training is essential, in order to provide appropriate support and guidance.

Trainer and Supervisors' Training

The quality and ability of the trainers is an important element in successful training. Trainers must possess appropriate experience, commitment, knowledge and skill. All trainers and supervisors must undertake Continuing Professional Development and Audit. It is expected that trainers will be in possession of a teaching certificate or equivalent, and engage in a teaching and learning program depending on local arrangements.



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Learning Resources, Facilities

The resources and facilities of the Department of Pediatric Dentistry include state-of-the art clinics, phantom head laboratory, high-tech conference room, and a resident's work room. The clinic is modernized with LCD screens to access digital patient records and scheduling. All computers in the department are networked so information can be accessed from any area. Research laboratories are separate from the department and located nearby. The conference room is outfitted with the latest audiovisual technology to assist in presentations and teaching. Relevant journals and texts are available in the library. The resident's room is designed to be a work space for residents and is outfitted with network computers, helping students to become effective and independent learners.

Program evaluation

The program director will continue to ensure that the program is fit for purpose in that it provides the trainee with the appropriate knowledge, skills, attitudes and competencies required to meet the requirements of a specialist.

Program evaluation will be carried out after every two years according to the CIPP model of evaluation. Any suggested updates will only be made following appropriate consultation with stakeholders, including trainees and lay members.



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STANDARD ASSESSMENT PROTOCOLS / FORMAT OF EXAMINATIONS

MID TERM ASSESMENT (MTA)

➤ **Eligibility**

- Synopsis Approved
- Completion on 2 years of training
- Completion of Mandatory Rotations

Table of Specifications

Total number of MCQs: 100 (All the MCQs to be attempted)

S.No	Topics Areas	MCQs	Weight
1.	Growth of Face and Dental Arches, Cranio-facial Growth and development Craniofacial Growth Nasomaxillary Growth Mandibular Growth Regulation of craniofacial Growth Normal variation	10	10%
2.	Tooth Development and occlusal Development Primary Dentition Mixed Dentition Permanent Dentition	10	10%



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3.	Cephalometric and Facial aesthetics the key to complete Treatment planning Pedodontic orthodontic interface Recognition of malocclusion Orthodontic assessment Need and demand for orthodontic treatment Referral for Orthodontic Device	10	10%
4.	Interceptive Orthodontics in Pediatric Dentistry Extraction of Primary teeth Serial extraction Forced extraction of Primary teeth Enforced extraction of first permanent Molars	10	10%
5.	Appliance treatment in Primary mixed Dentition Anterior cross bite Posterior cross bite Increased over Jet Space maintenance Digital sucking Habits Incisor – spacing Midline Diastema	10	10%
6.	TMJ Disorders	5	5%
7.	Multi-Disciplinary team approach to cleft lip/palate management Sequence of treatment Birth to 18 months Primary Dentition Treatment in mixed Dentition and Permanent Dentition	10	10%
8.	Anomalies of the Development Dentition Anomalies of Number Hyperdontia Hypodontia		



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	Anomalies of size Microdontia/Macrodonia Fusion/Gamination Anomalies of Shape Dens Evaginatus Dens invaginatus Taurodontism Dilaceration Anomalies of Structure Enamel Dentine Cementum Anomalies of colour	15	15%
9.	Helping anxious patient to cope with dental care, Non pharmacological Management of children's Behaviour Reducing Uncertainty Modelling Cognitive approaches Relaxation Systematic Desensitization	10	10%
10.	Management of Pain, anxiety and Pain control (Pharmacologic management) Child perception to Pain Systemic Pain control Methods of pain control Sedation technique	10	10%
	Total	100	100%



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TOS for MTA Practical (MDS PEDIATRIC DENTISTRY)

Number of OSCE Stations: 10

Marks: 100

Time: 7 min each station

- 4 Subjective Stations
- 3 Objective Stations
- 3 Procedural stations

Final Postgraduate Examinations MDS

➤ Eligibility

- Thesis Approved
- Completion of 4 years of training
- Rotation Completion Form
- MTA passing Certificate
- Completion of Mandatory Workshops

Final Postgraduate examination of MDS comprises of following three (03) main components.

1. Theory Examination
2. OSCE & Clinical Examination
3. Defense of Thesis



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1. Theory Examination

➤ Format & Passing Criteria

Paper	Type	Marks	Duration	Passing Criteria
Paper – I	One Best Type MCQ Paper	100	03 Hours	75 % in Aggregate and Not Less than 70% in any Paper
Paper – II	One Best Type MCQ Paper	100	03 Hours	

➤ Table of Specification

PAEDIATRIC DENTISTRY PAPER- 1 (M.D.S Final)

Table of Specifications

Total number of MCQs: 100 (All MCQs to be attempted)

Area/Topics	MCQs	Weightage
Growth and development of face, Dental Arches and Cranio-Facial complex Craniofacial Growth Nasomaxillary Growth Mandibular Growth Normal variation in Growth	10	10%
Tooth development and occlusion development Primary Dentition Mixed Dentition Permanent Dentition	10	10%
Interceptive Orthodontics in Paediatric Dentistry Recognition of malocclusion Need and demand of orthodontic Treatment	20	20%



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Extractions in Primary and mixed Dentition Appliance treatment in Primary and mixed Dentition		
Dental management of Medically compromised children CVS Disorder Bleeding Disorder Respiratory Disorder CNS Disorder Neoplasm Organ transplant	10	10%
Oral Manifestations of Systematic Disorders/Diseases/syndromes	10	10%
Oral Medicine, Oral pathology and Oral surgery Infection Ulcers Soft tissue lesions Oral cysts Oral tumour	10	10%
Traumatology in Paediatric Dentistry Aetiology and Epidemiology in Primary and young permanent teeth Classification of traumatic injuries Management of Traumatic injuries Sequelae/complications	20	20%
Prevention of Dental disease Role of fluorides Systemic fluorides Fluoride supplements Topic fluorides Role of diet in prevention	10	10%
Total	100	100%



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Paper II-Total Number of MCQs: 100 (All the MCQs be to attempted)

Area/topics	MCQs	Weightage
Non pharmacological behaviour in Paediatric Dental office	15	15%
Pharmacological management of pain and anxiety in Paediatric Dentistry Child perception of Pain Systemic pain control Methods of Pain control Sedation technique Oral Sedation Local Anaesthesia General Anaesthesia	15	15%
Role of Radiology in Paediatric Dentistry	5	5%
Acquired or developmental disturbances in structure, shape, size and number of primary and permanent Dentition	15	15%
Dental diseases Epidemiology of Dental diseases Diagnosis/clinical features Treatment of Dental diseases in primary and permanent teeth	10	10%
Isolation techniques in Paediatric Dentistry	5	5%
Endodontics in Paediatric Dentistry Vital Pulp Therapy Non-vital Pulp Therapy Direct or Indirect pulp capping Materials used in Endodontics	15	15%
Restorative Dentistry in children Restorative techniques Restorative materials	15	15%
Dental management of special children (handicapped)	5	5%
Total	10	100%



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2. OSCE & Clinical Examinations

➤ Eligibility

A candidate shall be eligible for the OSCE & Clinical Examination after passing theory examination. He can avail three consecutive clinical examinations after passing a final theory examination of his own discipline.

A candidate availing/missed all the three consecutive chances of clinical examination after passing a theory examination, he shall appear again in the theory examination

➤ Format & Passing Criteria

OSCE & Clinical Examination is comprising of three components

- i. OSCE
- ii. Long Case
- iii. Short Case

Component	Protocol Description	Marks	Duration	Passing Criteria
OSCE	8-12 Stations. 60 % Interactive	100	5 to 6 minutes per stations	60 % in Aggregate and Not Less than 55% in any Paper
Long Case	One (01) Case	100	60 Minutes (30 min for History & examination, 30 min for Viva)	
Short Case	Four (04) Case	100	40-60 Minutes	



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			(10 Minutes for each Clinical case, 20 minutes each for Procedure)	
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Note: If a candidate securing 60% or more marks in OSCE component He/She shall be exempted from this component in the next clinical examination until & unless he reappear in the theory examination.

3. Defense of Thesis

➤ Eligibility

A candidate shall be eligible for defense of thesis examination whether he/she shall be declared pass or fail in the theory examination

➤ Format of Examination

Defense of thesis examination comprising of a presentation and question/Answer session with a panel of examination.

➤ Passing criteria

70% marks

Note: If a candidate shall be declared pass in the Defense of thesis examination, he/she shall be exempted from this component forever.

Provisional Certificate, Transcript and Degree will be awarded only after passing all the components of the final MDS examination.



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Recommended Reading Material

BOOKS: (Latest Edition)

Pediatric Dentistry

Welburry

Handbook of pediatric Dentistry

Cameron

Dentistry for Child and Adolescents

Mcdonald

Pediatric Dentistry

J Nowak

Clinical Cases in Pediatric Dentistry

Willey Blackwells

Pediatric Dentistry: A Clinical Approach 3rd ed

KOCH

JOURNALS: (Last four years)

1. Pediatric Dentistry(AAPD)
2. European Journal of Pediatric Dentistry